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Strategic Innovative Marketing and Tourism

8th ICSIMAT, Northern Aegean, Greece, 2019

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This volume and every of our ICSIMAT COMMUNITY volume is dedicated to Prof. Belch, Prof. Buhalis, Prof. Morgan, Prof. Gretzel, Niki, Diamantis Kitrides, Prof. Avlonitis, Prof. Kitchen, Prof. Zotos, the scientific and organizing committee, the editors who kindly offered space in their prestigious journals and all the ICSIMAT community, which have contributed to our success. All for one, one for all!

Preface

Aims and Scope of the Conference

The International Conference on Strategic Innovative Marketing and Tourism (ICSIMAT) 2019 was held from 17 to 21 July 2019 at the Northern Aegean while the conference included parallel sessions and workshops in three different Greek areas (Chios, Oinousses and Lesvos).

ICSIMAT provided a timely and interactive international platform for academics, government and industry practitioners in order to discuss and develop new perspectives in the field of marketing, innovative technologies and tourism. They were able to discuss and debate issues that affect the future direction of marketing research and practice in a digital and innovation era. ICSIMAT community includes worldwide well-known scholars, faculty members, doctorate students, researchers and business practitioners who network and exchange research work and inter-institutional co-operations.

More than 280 pre-registered authors submitted their work in the conference. ICSIMAT finally accepted and hosted 150 original research papers, after a double-blinded peer review process. Fifteen were part of the established industry session that is organized during ICSIMAT conferences. Seventeen sessions in total were held in order to advance and contribute to specific research areas in the field of strategic innovative marketing and tourism.

The sessions that were created under ICSIMAT were chaired by

Stephen Havlovic, Laurentian University, Canada, on POLICIES/STRATEGIES RELATED ISSUES IN MARKETING, MANAGEMENT, ECONOMICS, EDUCATION AND HOSPITALITY

Nikos Grammalidis, Information Technologies Institute, Centre for Research and Technology, Greece, on IT TECHNOLOGIES IN MARKETING, MANAGEMENT, TOURISM AND CULTURE

Victor-Alexandru Briciu, Transilvania University of Brașov, Romania, on HUMAN RESOURCES PERSPECTIVES

Eda Yasa, Mersin University, Turkey, and Emel Yarimoglu, Yaşar University, Izmir, Turkey, on CUSTOMERS'/TRAVELLERS'/AUDIENCES' PERSPECTIVES AND ROLE

Flavio Tiago and Teresa Borges Tiago, University of the Azores, Portugal, on MANAGEMENT/RELATED ISSUES IN MARKETING AND HOSPITALITY

Sofia Asonitou, University of West Attica, Greece, and Natalya Totskaya, Laurentian University, Canada, on SKILLS AND COMPETENCIES

Pinelopi Athanasopoulou, University of Peloponnese, Greece, on BRANDING RELATED ISSUES

Spyridon Nomicos, University of West Attica, Greece, on SMART APPROACHES

Alexios-Patapios Kontis, University of the Aegean, Greece, on MOTIVATION IN TOURISM/SPORT/MARKETING

Aikaterini Stavrianea, National and Kapodistrian University, Greece, on COMMUNICATION/ADVERTISEMENT PERSPECTIVES.

Maria Lekakou, University of the Aegean, Greece, on BLUE DEVELOPMENT AND MARITIME TOURISM

Hatice Ulusoy, Sivas Cumhuriyet University, Turkey, and Maria Tsirintani, University of West Attica, Greece, on HEALTH MANAGEMENT/TOURISM RELATED ISSUES

Kostas Fouskas, University of Macedonia, Greece, on IT TECHNOLOGIES, MOBILE AND WEB APPLICATIONS

Dorothea Papathanasiou, Hellenic Open University, Greece, on ENTREPRENEURSHIP PERSPECTIVES AND INNOVATION IN ORGANISATIONS, COMPANIES, COUNTRIES

Chara Agaliotou, Loukia Martha and Maria Vrasida, University of West Attica, Greece, on SUSTAINABLE TOURISM

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Topics

Marketing, Social Media Marketing, e-Branding and Brand Experience Management, Digital marketing, Marketing Analytics, Marketing Research, Services Marketing, Integrated Marketing Communications, Consumer Behaviour, New Product Design and Development, Sports Marketing, B2B and B2C Marketing, Pricing Strategies, Art and Cultural Marketing, Mobile Services, Gaming, Gamification and Augmented Reality, Location-based Services, Internet-of-Things, Heritage and Museum Management in the Digital Era, Cross-cultural marketing, Tourism and Destination Marketing, Enogastronomic Tourism, Event Tourism, Health Tourism, Transport Industry Marketing, Social Media, Experiential and Sensory Marketing, Customer Relationship Management and Social CRM, Collaborative Marketing, Safety Marketing, Economics of Business Strategy, Accounting Marketing, Global Business, Marketing Finance, Healthcare Management, Accounting Education, Skills and Competences, Higher Education, Retail Marketing, Sales Management, Public Relations and Crisis Management, E-commerce, Marketing Strategy, Sectoral Marketing, Safety Management and Marketing, Entrepreneurship.

Conference Details

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Anthony Gortzis, President, European Business Ethics Network (EBEN)

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- All members of the organizing committee for their help, support and spirited participation before, during and after the conference
- The session organizers for their willingness to organize sessions of high importance and for their editorial work, contributing in the development of valued services to the conference

Contents

xix

European Works Councils in the Airline Industry

Stephen J. Havlovic [iD]

Abstract European Works Councils (EWCs) have been present in most of the large airline carriers in the European Economic Area (EEA) since EWC Directive 94/45/EC in the mid 1990s. As privatization of the national EEA airlines and increased competition have occurred, the number of airline EWC agreements has decreased. There are now only three EEA major multinational airline groups with EWC agreements (Air France KLM; Lufthansa Group; International Airlines Group). The two EEA major discount airlines (Ryanair and easyjet) have recently added EWCs, but copies of these agreements are not available for analysis. Labour conflicts have plagued the EEA airline industry for the past three decades which has created work environments of low trust and frequent strikes. Until pay equity and working condition issues are resolved within the EEA airline conglomerates, it is unlikely that their EWCs will be able to contribute effectively to improving organizational outcomes.

Keywords European · Works councils · Airlines

1 Introduction

This paper aims to fill a void in the literature by providing a qualitative analysis of the airline EWC agreements in the European Trade Union Institute (ETUI) database [1]. EWCs have existed in most of the major European Union (EU) airlines since EWC Directive 94/45/EC took effect in 1996. "The EWC legislation covers MNCs [multinational corporations] which employ at least 1000 workers in the EU/EEA and, at the same time, at least 150 staff in two or more Member States" [2]. The intent being to improve transnational airline operations in Europe by sharing firm information and consulting with their EU/EEA employee representatives. Many of

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the national airlines have discontinued their original stand alone EWCs because of mergers (e.g., Iberian, KLM) and acquisitions (e.g., Aer Lingus, Alitalia). Most of the large European air carriers are now covered by EWC agreements of the new MNC airline conglomerates. There is also evidence that two of the major discount airlines (easyJet in 2011 and Ryanair—date unconfirmed) have also recently established EWCs, but copies of their EWC agreements are not available to ETUI which maintains the EWC database [1].

1.1 Select Committees

The establishment of a Select Committee (SC) within the EWC is encouraged by the Directive for firms such as airlines with large EWCs. A study by Marginson et al. found that 62% of all EWC agreements had SCs. They discovered that over half the SCs had responsibilities involving EWC communication, liaison, coordination, meeting preparation, and setting the meeting agenda [3].

1.2 Labour Conflict in European Airlines

In spite of the major European airlines operating with EWC consultations there have been considerable union-management conflicts and strikes in the European airline industry [4]. Privatization of the national airlines in Europe and increased competition from both start-up discount airlines (e.g., easyJet) and non-European international carriers (e.g., Emirates) have contributed to wage disputes and tensions over airline reorganizations [5]. The following are recent examples of European airline labour disputes. "Dutch airline KLM . . . lashed out at its partner Air France for allowing a 'destructive strike' . . . that threatens to disrupt travel to France during the Euro 2016 football championship" [5]. British Airways' cabin crews planned to strike on December 25 and 26, 2016 over a two-tiered pay scale that pays recent hires less than crew hired pre-2010 [6]. In April 2019, Aer Lingus Regional cabin crew staff threatened strike action during Easter over pay and working conditions [7].

2 Characteristics of Airline EWCs

The ETUI website and EWC database were utilized to download copies of the airline EWC agreements and information on their organizations [1, 2]. A qualitative analysis was conducted of this information which is presented and discussed in Sects. 2 (characteristics) and 3 (Scope) of this paper. As can be seen in Table 1, there are three European airline conglomerates (Air France—KLM; Lufthansa Group;

Table 1 Characteristics and scope of Airline European Works Council agreements [1]

	Air France KLM	Lufthansa Group	International Airlines Group[a]
Role of the EWC			
Information and consultation	X	X	X
Giving opinion/comments	X	X	X
Making recommendations	X	–	X
EWC Composition	n/a	Employee	Joint
Select Committee	Yes (7)	Yes (2)	Yes (7)
Competences of the EWC			
Economic and financial situation of the company	X	X	X
Corporate strategy and investment	X	X	X
Changes to working methods/organisation	X	X	X
Probable development of the business, production and sales	–	X	X
Employment situation and forecasts	X	X	X
Mergers, take-overs or acquisitions	X	X	X
Collective redundancies	–	X	X
Company structure	X	X	X
Closures or cutbacks	–	X	X
Equal opportunities	–	–	X
Health and safety	–	X	X
Environmental protection	–	X	–
Reorganisation of production	–	X	X
Transfers/relocation	X	X	X
New technology policy	–	–	–
Corporate social responsibility	–	–	–
Human resource management practices	–	–	–
Vocational training	–	–	–
Subsidiary and Partner Airlines	Martinair, Transavia	Austrian, Brussels, Dolomiti, Eurowings, Edelweiss, Swiss Air, Sun Express	Aer Lingus, British Airways, Iberian, LEVEL, Vueling

[a]EWC agreements analyzed by ETUI except IAG which was analyzed by the author

and International Airlines Group) that have EWCs covering some 17 airlines. It is surprising that Scandinavian Airlines (SAS) does not have an EWC given the tradition of industrial democracy in the Nordic countries.

2.1 Air France KLM

Air France KLM has operations in 16 EEA-EFTA (European Free Trade Association) and EU candidate countries. An Air France KLM EWC agreement in 2010 replaced their earlier individual company EWC agreements. Their EWC currently operates under a 2014 updated agreement which states that "... management and employee's representatives will seek to ensure the effectiveness of the Group's enterprises while also taking their employees into account. Particular attention will be paid to issues relating to employment, working conditions, health, safety, training, mobility, diversity and equal opportunities." The Air France KLM EWC has 33 representatives from 25 countries with France and the Netherlands having proportionately more members given the larger number of employees in these two countries. The EWC meets twice per year and the SC meets a minimum of three times per year. French, Dutch and English are the working languages of the EWC. In 2017, the total Air France KLM EEA workforce was 80,148 employees [1, 8].

2.2 Deutsche Lufthansa AG

Deutsche Lufthansa AG (Lufthansa) established an EWC agreement in 1996 which now covers the Lufthansa Group which has eight airlines including Austrian and Swiss Air. As of 2017, the Lufthansa Group has an EEA workforce of 83,817 in 22 EEA-EFTA and EU candidate countries. The Lufthansa EWC does not have a set number of meetings per year. The EWC agreement is only four pages long and does not provide a lot of detail in terms of procedures or membership. However, the Lufthansa EWC agreement states the intention that: "The information and consultation must occur early enough that the opinion of the responsible employees' representation bodies can still be included in DLH's decisions" [1, 9].

2.3 International Airlines Group

International Airlines Group (IAG) created their EWC in 2014 with the merger of British Airways, Iberia Airlines and Vueling. Aer Lingus was purchased by IAG and in 2017 a new EWC agreement was signed. IAG has operations in 24 EEA-EFTA and EU candidate countries with 37 EWC representatives (3 from Ireland, 5 from Spain, 8 from the UK, and 1 each from the other IAG countries) for 51,426

EEA employees as of 2017. "IAG and employee representatives recognise the value of information and consultation of its employees and the importance of working together in the spirit of co-operation to ensure the future success of the Group. To this end, both parties recognise the need to share information and have constructive dialogue about the activities of the Group." The EWC meets a minimum of twice each year with English being the working language and Spanish interpretation available. IAG is a Spanish legal company with its headquarters in Spain even though the UK has the largest number of IAG employees (55%) of any EEA-EFTA-EU country [1, 10]. This is likely a strategic business decision given the political and economic risks posed by Brexit.

3 Scope of EWC Practices in the Airline Industry

The scope of the Airline EWC agreements [1] can be found in Table 1. All three of the Airline EWC agreements have provisions for information sharing, consultation, and giving opinions and comments. The Air France KLM and IAG EWC agreements also encourage the representatives to make recommendations. EWC composition varied from employee only at the Lufthansa group, joint employee and management at IAG, and not specified at Air France KLM. All three of the Airline groups have an EWC Select Committee (SC) ranging in size from two to seven members. In the case of Air France KLM and IAG their SCs function as an executive committee of the EWC that meets separately with management (e.g., before and in between regular EWC meetings). The Lufthansa SC has the limited focus of EWC meeting facilitation and communication.

3.1 Competences of the EWCs

All three of the airline group EWCs have competences for their organization's economic and financial situation, corporate strategy and investment, changes in working methods, employment situation, mergers and acquisitions, and company structure. The Air France KLM EWC agreement was more limited in scope with the exclusion of business development, redundancies, closures, cutbacks, and reorganizations from their EWC discussions. IAG was the only EWC agreement to include equal opportunities, and Lufthansa was the only one to include environmental protection. While not listed as EWC competences, Air France KLM did include equal opportunities, health and safety, corporate social responsibility, and training in the preamble of their 2014 EWC agreement [1].

4   Conclusion

While the EWCs in the airline industry provide opportunities for improving EU airline operations and employee welfare, the ongoing conflicts between airline management and the trade unions appears to have diminished the consultative input of the EWCs. In particular, the pronounced pay inequities within the airline groups and across the industry have created a high conflict and low trust environment that has produced tension and strikes. For example, during 2015 and 2016, Lufthansa pilots went on strike 14 times demanding salary increases and improvements in working conditions. Pay for pilots in Eurowings (Lufthansa's discount airline) is 40% lower than their flagship brand. A series of job cuts across the Lufthansa Group has also further aggravated the situation [11]. Until relations between the airline employees and the unions improve across the airline industry in Europe, it will be difficult for the EWCs to fulfill their responsibilities as outlined in the agreements.

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From a Smart City to a Smart Destination: A Case Study

Sónia Avelar [ID]

Abstract From the array of definitions available for a smart city, the main buzzwords associated are technology; information; governance and management; economy; people and society; infrastructure and public services; education and training; innovation; sustainability; and quality of life. So, it is a multidisciplinary concept that serves as the basis for a natural development to the next level in the contemporary era of tourism—the smart tourism destination. Ponta Delgada, the largest Azorean city, serves as the motto for this case study. This city, located in a small island territory, is developing a series of efforts based on the smart city paradigm. The research (grounded on an initial survey to test the concept) has shown that the majority of the respondents does not recognize Ponta Delgada as a smart city and is much more concerned about sustainability and mobility, and expects improvements for the city regarding waste and residuals' treatment; public transportation; green spaces; cycle routes; less cars; and urban infrastructures. On the contrary, the tourism destination promotion is not rated as a priority, although the Strategic Plan for Tourism Development of Ponta Delgada 2017–2021 states the importance of tourism as giving new socioeconomic perspectives and better preparation for sustained success.

Keywords Smart city · Smart tourism · Smart tourism destination · Ponta Delgada · The Azores

1 Introduction

The concept of smart city is focused on Information and Communication Technology (ICT) infrastructure deployment and on permanent citizens. However, in this era of rapid global tourism growth, it is time to change the focus of the current

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common smart city practice to travellers (short-time citizens), switching from infrastructure-oriented development to service-oriented development. Therefore, a smart destination should be the natural evolution of a smart city, where technology can help to become a better place for both citizens and visitors [1].

The challenge is how to take advantage of a smart city and transform it into a smart destination. There are still scarce evidences in the literature supporting this transformation process. Nonetheless, some of the references found regarding smart tourism interlink these two paradigms [2]. To pursue the aim of establishing the development paths to turn a smart city into a smart destination, the case study of Ponta Delgada was adopted. The largest Azorean city has implemented the smart city paradigm as stated in its Strategic Development Plan 2014–2020 [3]: one of its strategic axis is "Ponta Delgada—a renewed, polarizing, cohesive and intelligent city" followed by the objective "To affirm Ponta Delgada as an intelligent city by means of the efficient use of ICT to guarantee the competitiveness, efficiency and effectiveness of services".

The City Council states that the efforts should be focused on reclassifying degraded urban areas and enhancing the historical center, seeking to develop new conditions, capabilities and functionalities, infrastructures and services, and to improve levels of efficiency and effectiveness in responding to citizens and institutions, in order to make Ponta Delgada a more attractive city in the economic, social, cultural, housing and environmental spheres. In addition, the municipality should create conditions to become an intelligent city, contributing, among other things, to a sustainable urban growth, an increasing active participation of citizens, increasing energy efficiency and a supply of better solutions in the area of transports [3].

It is notable that this island city is seeking to become a smart city, being aligned with many goals of more developed cities around the globe. Although the results of the case study cannot be generalized due to its geographical constraints, there are some interesting findings that can be used as policy guidelines for small cities and destinations worldwide.

2   Background

There is no single definition of the smart city concept. There are, however, different perspectives and subsequent description of what is considered to be a smart city. In a holistic perspective, this concept encompasses six distinctive features—smart economy, smart mobility, smart governance, smart environment, smart living and smart people [4]. Three main dimensions can also be mentioned—technology, people and institutions [5, 6]. Another way to theorize a smart city is to be an icon of a sustainable and livable city [7]: an integrative framework can be adopted since it contemplates inner factors (management and organization; technology; policy context) and outer factors (governance; people and communities; economy; built infrastructure; natural environment). Yigitcanlar et al. [8] define the assets and drivers of the smart city development as relating to technology, policy and

community, and the fields it applies to as economy, society, environment and governance. These authors also point eight areas that the smart city development seeks to improve: governance; planning; productivity; innovation; livability; wellbeing; sustainability; and accessibility.

Gretzel et al. [9] describe smart tourism as comprising five layers: (1) a physical layer (natural and human-made touristic resources, transportation and service infrastructures); (2) a smart technology layer (that links to the physical layer and provides business solutions and consumer applications); (3) a data layer (data storage, open data clearing houses and data-mining applications); (4) a business layer (innovation based on the available technologies and data sources); and (5) an experience layer (technology and data-enhanced experiences' consumption). Governance will be necessary to ensure investments, coordination and the establishment and achievement of objectives. Being considered as a tourism development and management approach, smart tourism would influence positively tourism governance and the strategic positioning of a destination [2].

The smart tourism destination theory has deserved great attention from academics and tourism professionals due to two trends: development and diffusion of ICTs as tourism allies [10, 11]; and opportunities that come from adopting the smart city paradigm to optimize the use of tourism resources, improving tourist experiences, increasing the competitiveness of the destination and contributing to the improvement of the residents' quality of life [12, 13]. A smart destination has to be seen as part of a broader smart tourism ecosystem, in which there is the integration of different business and tourism stakeholders, sharing objectives and interconnected technologies used to overcome the division between the physical and digital spheres [14].

From the literature review conducted [2, 15], it was noted that most research focus on tourist's perspective of the smart destination; nevertheless, locals are all year round users of the smart destination and, for this reason, it seems useful to survey them. Looking at the three concepts early presented, a common ground can be found, leading to the following questions: How can a smart city become a smart and sustainable destination? What dimensions need to be emphasized in this evolutionary path, from a local resident's and a tourist's perspective?

3 Research Methodology

Expecting to answer to the previous research questions, Ponta Delgada—a medium sized city that aims to position itself as a smart city—was chosen as a case study. This case study represents an effort to contribute to the fields of smart tourism and island studies since it aspires to understand the type of smart city approach and initiatives that are being held in the city, and can be enhanced to transform a smart city into a smart destination. A pilot survey was conducted during early 2019; the initial 37 responses were used in this study, and the data was treated in a mixed model combining qualitative and quantitative analysis. A questionnaire was adopted for data collection; it is an initial survey to test the concept with open

questions to learn more about the respondents' opinions. The main questions were if the respondents were familiar with the concept smart city; to evaluate smart city characteristics (33 items selected from the literature review [6, 16, 17], and measured by a Likert scale ranging from "Totally Agree" to "Totally Disagree"); to scale in terms of importance five areas of public intervention; to determine if Ponta Delgada was a smart city and what improvements were needed; and if the city was considered a tourism destination per se. Quantitative and qualitative analyses were applied as data treatment in order to understand the levels of knowledge and involvement of the citizens with the smart city paradigm and the possible evolution to a smart tourism destination.

4 Results

The sample represents 66% of residents in the city and 57% have their workplaces there. When asked if they were familiar with the concept smart city, 54% of the respondents answered positively. In terms of smart city characteristics, the options given represented different areas as sustainable related activities and practices, citizens' engagement in local governance and living, environmental awareness and concerns, mobility and transportation, local infrastructures, and technology and smart solutions.

When rating five areas of public intervention in terms of importance, the most valued is sustainability, followed by mobility and innovation, technology and economy; governance and community and social inclusion are considered the less important areas (see Fig. 1).
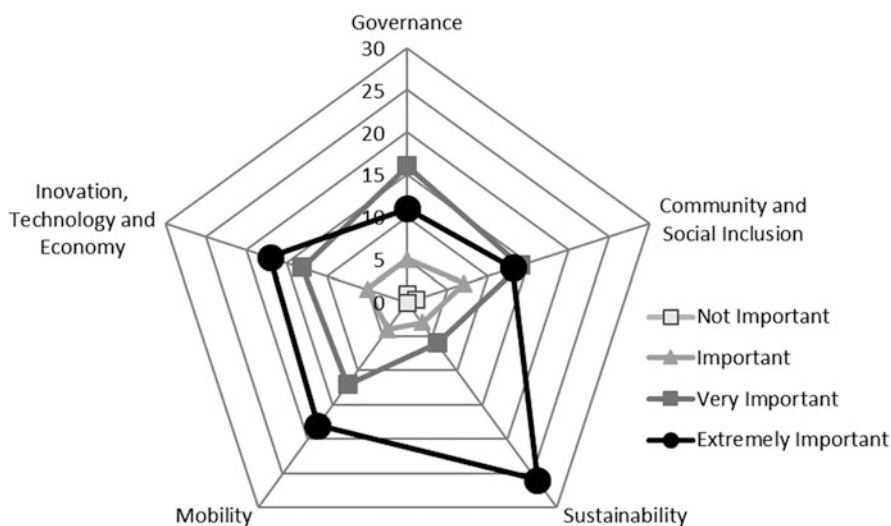
Fig. 1 The importance of areas of public intervention

The most valued features of a smart city were: awareness-raising activities for sustainable construction and rehabilitation; bicycle lanes; green public transports; electric vehicle charging stations; optimization of natural resources; incentive for recycling programs; information sharing; value creation for the community; better public service; innovation; and sustainability. These results show that the main concerns of citizens and tourists are related to sustainability, mainly social and environmental dimensions. It is also interesting to find that the intensive use of technology, one of the main characteristics cited in the smart city definitions, is the item most referred to as not being a characteristic of it, along with connectivity, public-private partnerships, and tourism destination promotion, revealing a new perspective from both citizens and visitors, not totally focused on technology (see Fig. 2).

Ponta Delgada is not considered a smart city yet (71% of the respondents). Figure 3 represents the analysis in terms of frequency of responses to the question "What
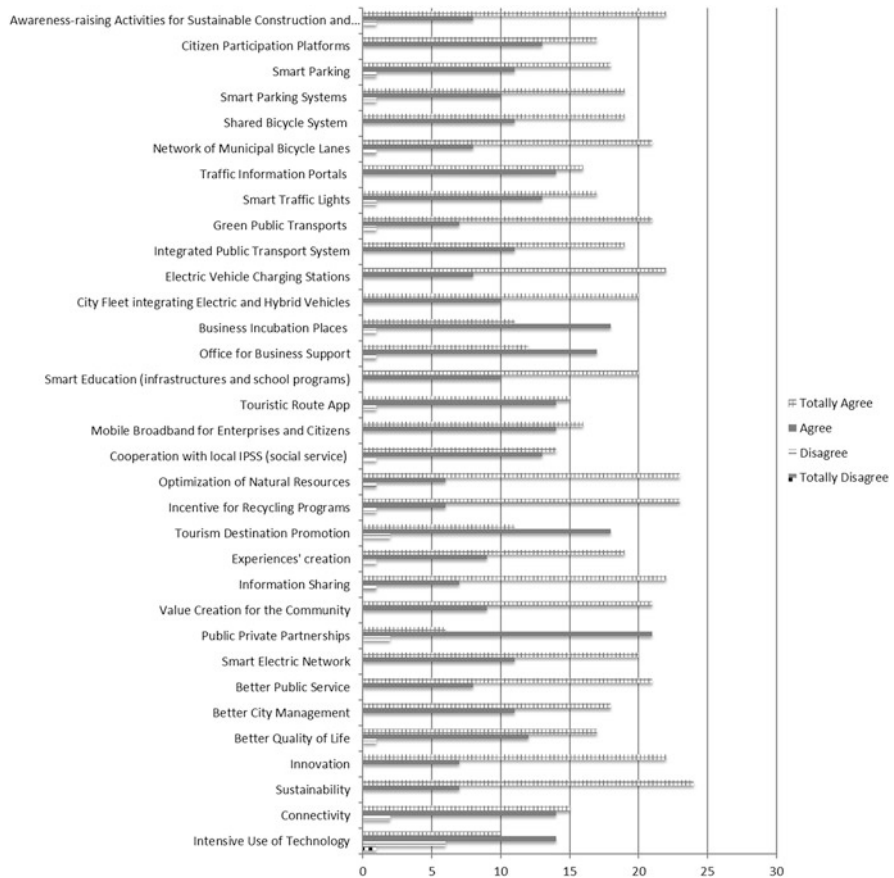
Fig. 2 Evaluation of smart city characteristics

Fig. 3 Improvements expected for Ponta Delgada

improvements do you consider necessary for Ponta Delgada?", an open question aiming to enlarge the concept view in the pilot survey. The main concerns and improvements that are expected for the city are waste and residuals' treatment; public transportation; green spaces; cycle routes; less cars; and urban infrastructures.

5   Final Considerations

The smart city framework, mostly based on ICT, knowledge and the environment, should result in citizen engagement, management innovation, technological innovation, environmental protection, and sustainable development. It is also relevant to consider the smart city ecosystem viewing a city as green, interconnected, instrumented, open, integrated, intelligent, and innovating [1].

In fact, smart cities act as boosters for the establishment of smart tourism destinations. Many smart tourism destinations are smart cities that utilize the information technology and innovations to enable memorable experiences for the tourist. The technological innovations associated with the smart city must be linked to smart policies and smart management, and those connected to conceptualizations of sustainable development and effective public participation. The public policies and programs should take into account the local context.

In the Strategic Plan for Tourism Development of Ponta Delgada 2017–2021 [18], the city assumes the importance of tourism as giving new socioeconomic perspectives and better preparation for sustained success. Ponta Delgada is a tourism destination, the touristic center of the Azores, with a structural importance for the region as per its emerging economic growth. The vision defined is to be the genesis of a creative and intelligent destination, highlighting urban tourism and a sustainable development based on competitive economic performance, and strengthening social cohesion.

As per the case study represented in this paper, Ponta Delgada has adopted the smart city paradigm, but its peers still don't have a clear notion of what this

concept means; this may reflect the need to a more actively engaging policy, firstly rooted in education and training. To become a smart city or destination, smartness acknowledgement is required regarding the main elements of the ecosystem [1].

Smart destinations have been identified as a new paradigm for destination management [19]. In the case of Ponta Delgada, there is still unawareness about the initiatives being held in the context of a smart city, as it is not recognized as one; subsequently, the promotion of the city as a tourism destination does not represent a priority for the citizens. The city and its citizens would have much more to gain if the implementation of the smart city paradigm succeeds as it will naturally support the existence of a smart tourism destination, and contribute to the sustainable development of Ponta Delgada's economy, environment and community.

The city as an urban space has an inherent social function and its citizens are the most valuable resources. Nowadays, most people use social networks, what facilitates the participation of residents in the city life—important data can be collected and updated, for example, on how the citizens represent their city in social networks (how they see and experience it). The policy makers must reinforce citizens' engagement and awareness through a regular exchange of ideas and solutions, and the clarification of benefits and opportunities. This exchange occurs via data platforms accessible to all the stakeholders, enhancing a flexible and dynamic planning, and promoting an experience economy. Transparent and authentic governance is synonymous of a smart city, where there is a shared set of values and the co-creation of a local culture.

This paper presents some limitations, namely the geographical constraints of the location under study: a small city located on an island, what signifies that the results of the case study cannot be generalized. The process of becoming a smart tourism destination as the evolution of a smart city, does not depend on its geographical distance, but rather on the use of the technologies and management instruments available, and the stakeholders' alignment in balancing the livability of a place for both residents and tourists. However, some of the findings can be considered interesting, allowing the creation of policy guidelines for small cities and destinations worldwide.

In terms of future research, as this was based on an initial survey to test the concept, the questionnaire applied could be refined in order to understand how the residents of a "smart-city-to-be" recognize their awareness and concerns on the livability of the city, and how they can involve themselves in the smart city process.

As a final note, the contributions of this initial stage of analysis can be used to enhance local policy focused on smart tourism strategies as well as serve as a guideline to other small and medium cities that undergo a similar route, perhaps reinforcing the communication strategies and a certain "proximity culture" with the residents to accomplish the multiple changes underlying the smart city process.

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Smart Tourism Approaches Through Intelligent Print Media

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Abstract The prospects for sustainable development in future cities are directly linked to the current smart city strategies. With cutting-edge internet and the co-sponsorship of other software, innovative systems are being developed on issues such as transport, health, culture, education, and consequently tourism. These systems are defined by numerous factors such as economy, environment, specific area of a region, etc. However, the success of such systems requires absolute cooperation between state and private factors to draw together a single strategy. The introduction of new technologies that facilitate and enhance long-distance links to tourism offer new horizons to tourism businesses. Printed media can be user friendly and can also provide to users quick and direct information.

Keywords Smart tourism · Smart cities · Smart phones · NFC technology · Smart document/smart poster

1 Introduction

Tourism has grown rapidly and in some countries such as Greece, the touristic product is a key driver of economic growth. The rapid technological developments of recent years have not only had a big impact on society, businesses and people, but also on cities, especially in relation to tourism. Continuing innovation in hardware, software and network development applications means that the smart tourist city can respond directly and effectively to touristic needs and can overcome its competitors, maintaining its long-term prosperity. However, due to the complexity of the tourist product, as it potentially targets a big number of customers and on the other hand offers a very large number of options of the available product, there is a great need

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to crystallize the desires of the prospective clients/tourists. This paper provides the way that new technologies may facilitate and enhance long-distance links to smart tourism.

2   Theoretical Background

According to Washburn and Associates [1], smart technology includes a variety of intelligent computer technologies that incorporate hardware, software and network technologies to deliver real-time world perception and advanced analytics to help people get more smart decisions about alternatives and actions that optimize business processes and business performance. Höjer and Wangel [2] argue that interconnection, synchronization, and coordinated use of different technologies make a function intelligent [3]. Technological changes have always been necessary for tourism [4]. Interaction with technological evolution of smart objects and devices has been recognized by the academic world as causing changes even to the tourism industry [5, 6].

In today's Internet scenario, new tools for cultural tourism have emerged, such as e-commerce sites, mobile site systems, and social media platforms. Contributing and offering better opportunities for travelers to organize their holidays, learn and discover unknown resources of a site or tourist area, discover traditions, food, arts, history and quick access to available services [7].

Today, smart tourism applications are widely used, as information and communication technology tools and applications (e.g. mobile devices) are widespread. People who have these intelligent tourism services can interact with cultural objects, share and produce data. They may also require useful personalized services to improve the quality of their cultural experience [8].

The next sections present the concept of smart tourism within the framework of smart cities and the significant role of smart phones and devices. Sources that were searched Google scholar, EBSCO, Emerald. The list is not exhaustive, yet it provides an overview on the role of smart phones on the strategic role of smart cities for effective tourism results. Concepts under search included smart cities, smart tourism, smart phones.

3   Smart Tourism

Smart tourism is a phenomenon based solely on technology. Therefore, the first step in trying to identify it, is the description of intelligent technology. Smart technology is a condensed term for specific technologies and technologically driven phenomena and provides data and connectivity in ways that were not possible before. Sensor technology is at the heart of smart technology, but it is also vital to create a smart technology infrastructure [3].

An application for smart tourism, concentrates high data collection, especially in urban areas there are increased needs for networks and infrastructures, and a high concentration of other resources and user-visitors. The density of urban business environments further facilitates the extensive co-ordination and collaboration required by various industry and government bodies described by Gretzel et al. [9]. Free Wi-Fi is also available in many areas. The wide variety of available tourist experiences in relatively small areas further contributes to the sustainability of smart tourism initiatives in cities. Most importantly, cities can serve as test areas for smart tourism efforts before they start on a larger scale. The tourism industry itself faces unprecedented high levels and continued growth potential [10].

With the tendency for smaller and more frequent excursions, cities are emerging as the ideal destinations that offer exciting experiences, even to high demanding travelers [11]. In an intelligent touristic destination, tour operators could use a central information platform to make a better business decision. The direct exchange of information would also create extremely large data sets known as Big Data, which could be analyzed to reveal patterns and trends. Intelligent tourism destinations should make optimal use of Big Data by offering the right services that suit users' preferences at the right time. With the availability of tourists' mass data, destinations are expected to offer personalized services to every different type of tourists in order to exceed their previous expectations and then to enhance their tourist experience. Probably, such an experience will enrich the way tourists appreciate their trip [12].

However, there are some implications that need to be addressed in Smart Tourism. The main thing is privacy and security of tourist's data. In addition, as huge data sizes are generated during tourists stay, digital footage should not be used for purposes other than providing tourists with better experiences. The greatest concern is the deep dependence on both technology and network services. However, it is impossible to implement such systems without the use of high-tech smart phones and infrastructures [13].

4 Smart Phones and Near Field Communication System for Tourism

Tourism is one of the research fields that has existed in recent years and explores fields of intrusion and influence at many levels of the affluent audience in tourism. However, the advertising tools that can be used so far to measure their effectiveness are conventional print media, magazines, posters, newspapers, triptychs, posters, etc., as well as the social media (Facebook, Instagram, etc.).

At this time, a tool that can deliver the most of its efficiency and penetration to the target audience is the mobile phone, which, as a communication device, has ready an application that is considered capable to communicate with technology near field communication (NFC).

This technology is integrated and incorporated into all forms that advertise the areas around a destination with activities that may take place in the proposed geographical area. The technology of NFC that exists through the mobile phone is the necessary tool for the customer who can communicate the quickest response, the demand and knowledge of the destination and the action of the destination.

Smart information technology needs to be employed within the framework of smart tourism and NFC contributes so that visitors can acquire information and experience various services while visitors' actual usage with real data is influenced by the organizational support for NFC affect actual use [14].

Near-field communication (NFC) technology has been recently employed for devices and smart phones while the application for smart posters can be used in tourism to provide collected information for tourists for a desired area [15]. NFC can provide data for taxi services in an area, bars, beaches and places of interest and the tourist who visits an area can download the map F connected with this system. This presupposes the interconnection of many different stakeholders. Smart Tourism Destinations could potentially enhance tourism experience through offering products/services that are more personalized to meet each of visitor's unique needs and preferences and interconnect stakeholders through a technological platform on which information relating to tourism activities could be exchanged instantly creating a Big Data [12].

Nowadays, people have quick and easy access to information wherever they are, all through existing computing systems and on-line internet access [16]. Although these systems have not been specifically developed for the tourism industry, they can have a significant impact on tourism as tourists use such services either before, during or even after their journey [17].

Mobile technology has a prominent position and offers great opportunities for development in the modern tourist industry. More specifically, NFC technology has a significant impact on tourism and tourism research [18]. NFC enabled mobile phones had a steady upward trend and reached 268.4 million, up 123% from 2012 [19]. This trend is directly related to the growing number of NFC readers and consumer interest [19].

Smart posters are particularly useful to service providers. They allow users to interact with and be instantly informed and receive personalized information according to each one's tastes. The smart forms and it is easy to print and generally have a low cost compared to other methods such as tablet use [20].

Smart posters utilizing NFC and they provide the user with digitalized information without a significant amount of user interaction while the tourism industry that may implement it, may focus on the easy use of such a tool and its quality with the minimum effort made [21].

Nowadays, there has been a focus on research into NFC application development and the benefits it offers to service providers. According to Fischer [22] there are benefits of applying NFC technology to promotional posters. Fischer References the simplicity of the use that's being offered from this system its self, where the user easily moves his cellphone over the embedded label and can get information instantly and directly. According to Sandner et al. [23] smart posters would be able

to increase the effectiveness of mobile marketing as users are increasingly looking for information. This type of advertising can be considered valuable as it is not considered as intrusive.

NFC systems can contribute so that Destination Management Organizations' websites can be downloaded and contribute to virtual visitor's navigation where the person can process the collected data while s/he is at home and decide for the places that s/he will visit. Since visitors of a destination, perform frequent visits at Destination Management Organizations (DMOs) before and during their visit, their digital footprint can be isolated via the provision of tools that may gather visitors performance online and satisfy their needs better [24].

5 How Does NFC Work?

The objects that surround us are already in position to communicate with each other and this enables us to create new forms of business related to the corresponding needs that will be created in the networked public, which they seem unthinkable for us today. The technology services are offered today, have the ability adapt according to actions taken by individuals, devices, infrastructures or surrounding physical space at the desired time. Internet of Things is a system based on a global infrastructure network that connects physical and virtual objects in a unique way, utilizing the data captured by the sensors, the equipment used for communication and localization.

RFID technology is at the base of this development, but the concept of Internet of Things has spread by incorporating technologies such as Near Field Communication [25]. In general, we can define RFID as a identification system by radio frequencies [26]. According to Nomikos et al. [27] RFID has the potential to become one of the largest communications systems in the world. It is a technology that uses electromagnetic fields to automatically identify objects by marking them with a chip or two antennas, called a tag/label. The label sends a unique e-code read by a reader that can be placed anywhere.

Near Field Communication (NFC) is a 13.56 MHz radio device that allows two objects to communicate to small distances up to 10 cm, usually under 5 cm. In the case of NFC, the data and exchange rate may reach a maximum of 424 kbit/s and the connection time is less than 1/10 of a second. It allows fast reading and data writing (as an example 48 B–9 kB) and is considered as proof of physical presence. It can also easily activate services. It is exploited by mobile devices and smartphones. In addition, NFC may be in various modes of operation: either can be a reader or a writer. Can also be active and/or passive, or both peer-to-peer devices are equally active (for example between two NFC chip phones), or Card emulation that the system appear to other devices be passive but in the matter of fact its active. The possible uses of NFC are non-contact payments (by simply tapping the mobile phone into a special reader), sharing information on networks, replacing identity cards or keys for entry doors, etc. [28].

The widespread and use of mobile phones brings potential users close and easy to use NFC in everyday life as almost everyone in our days carry's always at least one mobile phone. There are many advantages using NFC technology. First, it is easy to use because everything is done only by a simple touch. It can be a self-evident as contact is the best way to confirm a physical presence that the user is there and ready to perform whatever the action is. In addition, the data can be quite safe as there are ways to protect them, but one of their biggest drawbacks is security. NFC can be an effective solution to other usage scenarios, such as payments, tickets, advertising, and customer loyalty [29].

Nowadays, NFC labels are often placed on posters to spread or exchange data, thus transforming these forms into "smart posters". Smart Documents of all kind already exist and include a thin flexible part that carries the visible data that is printed. Smart Documents also have a magnetic strip or chip that is used for storage. Storing and encoding data is easy and done through a reader. Embedding such labels into smart posters/documents can be done without being visible as they can be incorporated into documents [30]. Smart posters are easy to use, provide consumers with digitized information and enable interaction [31].

6 Implications

This study offered implications for marketers to develop effective social media marketing. Popular travel experience communities can promote components of destination images by employing software that may illustrate behavioral intentions and in turn help destination managers in their web marketing strategies [32]. As has been discussed by Han et al. [33] organization's support of an event or an agent's in charge of an event associated with smart tourism may positively influence NFC's actual use. Therefore, stakeholders and DMOs may strategically employ NFC.

7 Conclusion

Modern cities are well suited to use intelligent systems, capable of creating a sense of security, and convenience for tourist visitors. The success of a Smart-cities program requires citizen participation and the necessary information before applying the new system. The use of such applications can help to promote cities, creating new dynamics and data to attract new tourists. Implementing such an implementation contributes to the creation of a centralized governance structure, the immediate implementation of political decisions and the achievement of high growth rates. The success of a smart city program can make a decisive contribution to creating a model city that could attract a multitude of tourists and would be an example for other tourist destinations. This study looked at some key factors, in assembling new technologies such as NFC, to support and promote tourist industry.

NFC technology is a promising short-range communication method currently available, and is user-friendly solution, especially when applied to smart posters to promote tourism.

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Smart Tourism Prospects: A Descriptive Sample Survey on a Sample of Potential Tourists

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Abstract Urbanization is in a phase of rapid growth around the world, as more people want to live in the city lights with more opportunities for growth and success. On one hand cities are developing like never again in the history of cities, in order to accommodate this development and in this process the idea of the smart cities were put into action. On one hand, tourism follows modern developments, innovation in hardware, software and network development applications. Can the use of these new technologies, smart tourist cities respond directly and effectively to tourism needs and overcome their competitors and maintain their long-term prosperity? This paper discusses the prospect of integrating smart features into the tourist product through a descriptive sample survey on a sample of potential tourists.

Keywords Smart tourism · Smart cities · Destination · City break

1 Introduction

In recent years, there has been a tendency to increase short-haul trips, usually destined to cities (city breaks). There are two types of short-haul travelers. One has culture as a springboard, and the second focuses on recreation and its ingredients such as gastronomy, entertainment, shopping, and more. In the above contexts, and especially in the short-term getaways, the term "smart tourism" appears increasingly. This research aims at exploring the prospects of smart tourism. This investigation takes place in three phases. In the first phase, interviews are conducted on a select sample of potential tourists with open-ended questions to explore the possible directions in which stakeholders should be geared towards tourism.

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In the second phase, a questionnaire with closed-ended questions is devised to identify and evaluate the factors detected in the first phase. In the third phase, different groups of tourists are compared to the basis of the answers, to identify a possible correlation between the prospects of smart tourism and the characteristics of different groups of tourists. In the context of this work, we have only dealt with the first two phases, and the transition to the third phase will take place in future work.

2 Theoretical Background

One of the most important changes in society in the twenty-first century is the growth of information and communication technologies. Technological developments in recent years have not only had a big impact on society, business and people in everyday situations, but also in cities and especially in tourism [1]. As Boes et al. [2] mention in their study, both economies and societies are constantly undergoing change. However, these changes have never been so intense, and they did not grow as fast as they have been developing in recent years [3]. The current powers that affect the world, have never been more complicated and did not cause much disruption to all aspects of society [4].

In today's changing societies, it is crucial to adapt to these current world powers and to use the mas an advantage. The word Smart has become an increasingly popular term that describes technological, economic and social developments that are powered by smart technologies and are based on sensors, large-scale and capacity-based data, information and new ways of interfacing people and machines. The mobile revolution, more in particular, the role of smartphones offers many opportunities for residents and for travelers to develop experiences for a place different from the past [3].

Since the rapid increase in internet use, it has been a new medium that mediates tourism at a more extensive level because it provides interactive opportunities both to the public and to the media. Studies have begun to examine the extent to which Internet-based systems mediate tourist experience [5]. Recent studies argue that national governments should include several tourism stakeholders with diverse interests in smart tourism development and the parts that should be interested about smart tourism are both tourists and residents [6]. Progress and development of technology can be applied to virtual reality and are expected to further push the boundaries of data that can be collected and the ways in which they can be exploited, presented and finally experienced. All the above, contributes to the development of technology, interconnection, synchronization and coordinated use of different technologies to create an environment that is considered intelligent [7, 8].

3   Smart Tourism

A touristic destination, in order to increase and develop in the new and modern environment, ought to know the existing resources to attract tourists. It then must identify the tourism capabilities, prioritize them and group them to create a complete service of attracting visitors [9]. Previously, the main criteria for selecting a destination, from the visitor side, were mainly summarized in the following [10]:

- Security
- Price
- Quality in relation to the price of services.
- Proximity and ease of access to the final destination.
- Alternative activity options at destination.
- Existence of important services.

However, recent conclusions from the World Tourism Organization's [11], Congress, in Valladolid, Spain, entitled "Creating Innovative Tourism Experiences", have to become smart tourist destinations. Their conversion into smart touristic destinations is necessary to offer their visitors authentic and diverse experiences, allied to tourism governance and the digital economy [12].

At each possible destination local government, in cooperation with state and public bodies, should bring guests the teamwork and coordination to achieve a consistent result, highlighting the positives of each place. Multi-agency collaboration is not easy, but it is necessary to show the uniqueness of the destination and to improve the overall quality of the services offered. The leaders of tourism in their discussions on management of the rising trend of city break, concluded that the above involve tourism stakeholders is a prerequisite for creating smart destinations, a key component in the improvement of service. Rational cooperation between them is a key point in acquiring knowledge and defining policies that cities need to meet the new demands of interconnected and over-informed tourists [12].

On one hand, intelligent tourism refers to intelligent destinations [16], which are special cases of smart cities. On the other hand, smart tourism includes smart tourism experiences. Smart tourism allows tourists to communicate better and interact with cities to establish closer relationships not only with residents, but also with local businesses, local government and city attractions. In addition, smart tourism refers to a new smart tourism economy with new resources, new players and new exchange models. As a result, smart tourism supports the development and services of the city in a variety of ways. Continuous innovation in hardware, software and network development applications means that a smart tourist city can respond directly, effectively and effectively to tourism needs and can overcome its competitors and maintain its long-term prosperity [8].

Another element of smart tourism is the smart destination. Its importance stems directly from smart cities. Lopez de Avila defines the smart tourism tradition as "an innovative tourist destination, based on a state-of-the-art infrastructure that guarantees the sustainable development of tourist areas, accessible to all,

which facilitates visitor interaction with and integration in his or her environment, increases the quality of the experience at the destination and improves the quality of life of the inhabitants" [13].

Tourism planning deserves greater visibility in planning debates on smart growth and new urban development. In the case of smart growth, any failure could be an obstacle to future management plans. In addition, developments in new urban development have the potential to turn them into standalone destinations that would affect the sense of the place and community of the new urban community and could be sought after by designers and their inhabitants. For example, Seaside Beach in the Florida area of Walton County [14]. It is one of the first communities in America designed based on the principles of New Urban Planning. This city has repeatedly been the subject of academic lectures and the attraction of visitors mainly from the architectural community.

4   Collection and Data Processing

Initially a questionnaire was distributed in the fourth semester of 2018 asking, "How many city-breaks you've been to in the past 2 years". This questionnaire was reprinted by 70 people. As reported by Jordan and Gibson [15] as presented by [16] Buhalis et al., the study of human experiences is most accomplished by using an interview by considering the possibility of requesting clarifications and treatments as special features of it the method [17].

Then we approached people with the largest number of trips to respond to open-ended questions in personal interviews. Finally, seven people were interviewed. In order to analyze the tourist experience as perceived by tourists, individual in-depth interviews, followed by content analysis, were selected [18]. In Table 1 shows the number of city-break trips that were given to those interviewed.

For these interviews, a standard set of common open questions was prepared, while the questions were sometimes adjusted and changed during the interview as the researchers learned more about the subject [19]. The reason the most experienced travelers were chosen for a personal interview is to make use of their experience in looking for features that would force a potential traveler to increase the probability of a trip. In addition, the semi-structured personal interview was chosen as a tool for this research because the purpose of the study is to analyze participants'

Table 1   Number of respondents/Number of city-break trips in the last 2 years

Number of respondents	Number of city break trips in the last 2 years
1	12
1	7
2	5
3	4

Table 2 Questionnaire

Suppose you plan to visit a city for a few days for a city break. Rate the effect of the following features that a city may have on your decision to visit it ultimately (0: the attribute does not affect my decision, 1: the attribute may affect my decision, 2: the feature has a significant impact on my decision)	
Smart tourist support: guides maps, itineraries, circuits, etc.	
Smart cultural support: museums, exhibitions, cinemas, concerts, shows, prices, ticket reservation	
Smart transport management support: air, land, schedules, check-in, prices, reservations, etc.	
Smart webcams: city view, locations, traffic, sites, security etc.	
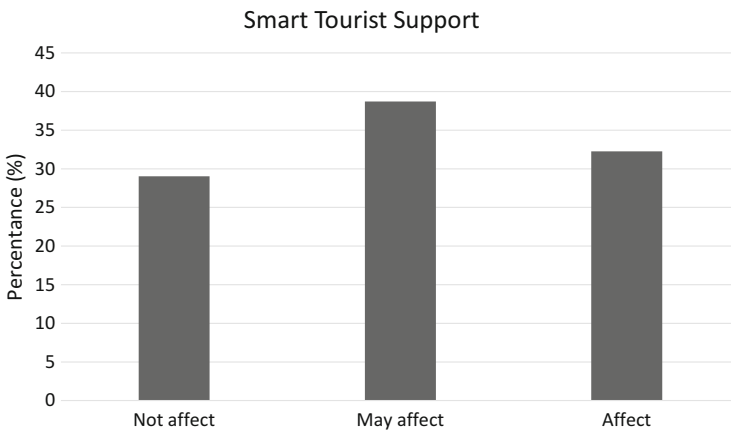
Fig. 1 Tourist support: guides maps, itineraries, circuits, etc.

perceptions of various subjects and this method allowed the researcher to collect descriptive data by answering open questions [16]. From the personal interviews, a number of features were explored, such as the smart Tourist support: (guides maps, itineraries, circuits, etc.), Cultural support: (museums, cinemas, exhibitions, shows, concerts, prices, ticket reservation), Transport support: air, land, sea, time schedules, check-in, prices, reservations, etc., Webcams: city view, locations, traffic, sites, security etc. (Tables 2; Figs. 1, 2, 3 and 4)

This questionnaire was responded by 62 people anonymously. Below are the results.

5   Discussion

Commenting on tables, cultural support systems affect significantly the decision of choosing a destination while Webcams contribute catalytically. Tourist support still makes an impact while Smart transport management support does not affect tourist's
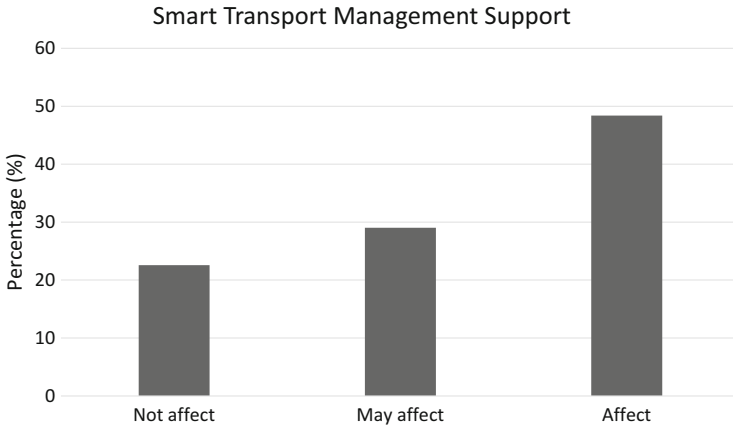
Smart Transport Management Support

Fig. 2 Cultural support: museums, exhibitions, cinemas, concerts, shows, prices, ticket reservation

Smart Transport Management Support
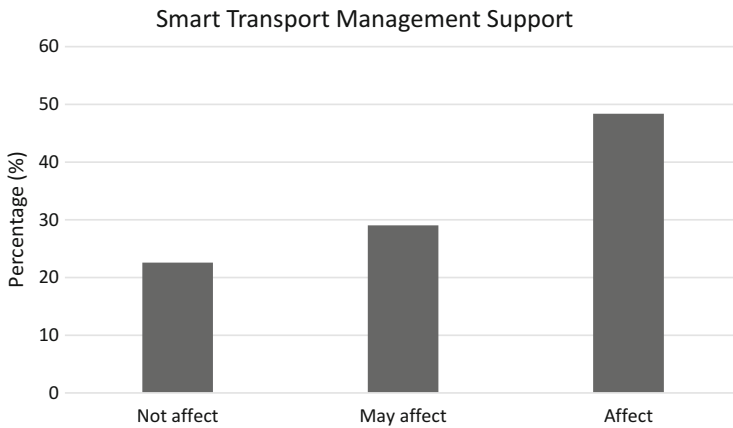
Fig. 3 Transport management support: air, land, schedules, check-in, prices, reservations, etc.

decision. It seems that features which already are part of smart phones (tourist support, transport management etc.) do not affect travelers' decisions, however we need to investigate further the above conclusion.

We should admit that the above research cannot provide reliable conclusions as the sample is small and not representative. But it is an introductory test of how it can be generalized in the future and give reliable conclusions. As a first step it should therefore be repeated with a larger and more representative sample. In the second phase, the results should be interpreted as a tool for the development of tourism businesses.
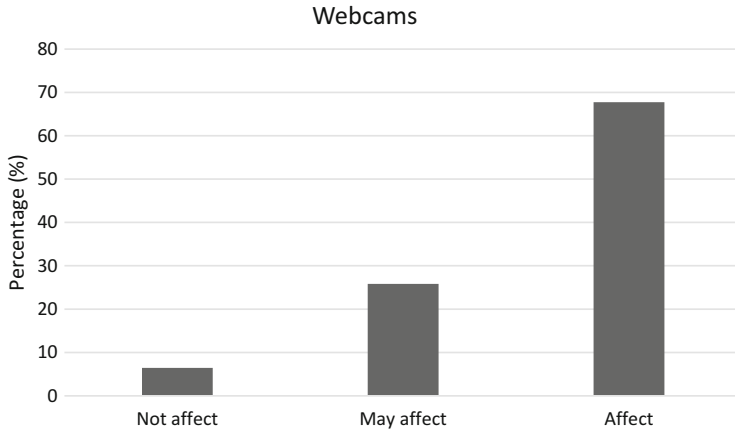
Fig. 4 Webcams: city view, locations, traffic, sites, security etc.

6 Conclusion

Our research is at an introductory stage and the conclusions for the time being are not clear enough. However, it appears that smart features are a factor for attracting visitors. Extending our research to a larger and more representative sample as well as further analysis of the results will provide a more accurate answer to our research case.

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Intelligent Packaging as a Dynamic Marketing Tool for Tourism

Athina Mountzouri, Apostolos Papapostolou, and Spyridon Nomikos

Abstract In the age of immense technological developments, a large percentage of tourists, regardless of age, educational level and place of residence, seek knowledge and dynamic interaction in communication and processing of data to the visitor of the tourist area. The development of new technologies as well as the need of the tourist market with increasing demands (qualitative and quantitative) began to redefine the term of packaging (in the wider context of the concept) to the new data. In the field of tourism, the concept of intelligent packaging identifies systems and applications implemented by the packaging industry. Through the new information systems, new communication relationships between transmitter and receiver, tourists and exhibits are supported. The scientific space of Marketing promotes and upgrades, through the technological developments of intelligent systems, to tourism, as a dynamic tool, adapting the new needs of tourists, to the capabilities offered by intelligent systems that mainly concern mobile phone communication. Through new approaches to intelligent communication systems, new interactions are supported. The new formulas that exist on many levels in our society, combined with the innovative developments in electronic communication, shape the human culture and approach of the tourist visitor.

Keywords Intelligent packaging · IoT · 5G · NFC · Marketing tool · Smart tourism

1   Introduction

This document aims to present the application of intelligent packaging to the tourism industry. With intelligent packaging in the tourism industry, we can approach intelligent systems where they have been applied in the field of packaging. The

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31

interdisciplinary nature of the intelligent packaging industry through the interaction it causes between transmitter and receiver (tourist/exhibit/tourist-archaeological space) shapes a new approach in the field of promotion and information e.g. marketing. The new approach adjusts the data we had on the way the tourism industry operates. Intelligent communication systems (mobile phone and NFC system) penetrate and create new management of the tourism industry to meet the new needs and requirements of the tourist community. Pilot applications have begun to be implemented in the field of tourism, where they are presented below, meeting the new requirements of the tourism market.

2 Background

2.1 Conventional Packaging

The term packaging is defined of the legal framework as a packaging the product made of any kind of material and is intended to be used as a protection and as a container [1]. Also, the packaging is described as a set of coordinated functions designed to transport, store, manage, protect, inform, promote and sell products [2]. In the tourism industry, the term of packaging describes the dynamic systems that act as a way of displaying the information (in the exhibit), where they aim to "transfer" the information to the tourist community. At the management level, there is a better diffusion of both information and the presentation of the tourist-archaeological exhibit. An example of a standard approach to packaging in the tourism industry is the label or tab, illustrative, next to an exhibit, e.g. sculpture, where the historical elements are mentioned.

2.2 Intelligent Packaging

Unlike conventional packaging, intelligent packaging is designed to interact with its content-information and/or environment [3]. Intelligent packaging states the state that exists and encompasses conceptually the communicative system of communication and, of course, the interactive relationship that develops between them. Intelligent packaging is determined, intelligent in terms of its use, Intelligent in terms of the interactive Information System and Hybrid Technology [4]. Intelligent packaging is formed in an interactive environment (physical and electronic world), which is shaped by digital technology, through the Near Field Communications system and the new 5G Internet of Things (IoT) communication systems that expand and develop new capabilities and applications. Kit L. Yam, defines intelligent packaging as a packaging system capable of performing smart functions (such as detection, recording, tracking, communication and application of scientific logic) to

facilitate decision-making and improve security, quality, information and prevention of possible problems [4, 5].

Intelligent packaging interacts through NFC system on Smartphones. Therefore, intelligent packaging systems can be supplemented and interrelated by radio-frequency identification systems (NFC) [6]. The radio frequency identification system consists of an antenna and a chip (NFC system), providing information on the status of the product, location, repeatability in the interaction, etc. In the field of tourism, the interaction is achieved through the wireless communication of the mobile phone of the receiver (the user-tourist), with the emitted transmitter signal (smart card or smart NFC sticker), which is placed on the exhibit.

2.3 Model of Intelligent Packaging

With the penetration of new forms of communication, the conceptual model of conventional packaging broadens the definition framework embracing the sophistication of new technologies and characterizing packaging as intelligent. The Conceptual model of Nomikos is proposed and illustrates the relevant capabilities in a new communication approach to a new intelligent system [7].

2.4 Intelligent Communication Systems

New communication systems have been integrated and are supportive to the holistic approach of intelligent applications. The NFC system, the upgraded 5g system and the Internet of things, relate to capabilities and new innovative communications systems, contributing to both the development of new applications and the promotion of the tourist—cultural heritage.

3 Near Field Communication

NFC technology is a subset of RFID technology. The RFID system is the identification and identification through radio frequencies [8]. The wireless communication of the package is made by RFID recognition from the reader and the antenna communicating through the system [9]. Near Field Communication (NFC) is a standard-based, short-range wireless connectivity technology and makes life easier and more convenient for users around the world, making it easier to exchange data, exchange digital content, and connect electronic devices with a simple, close-up move. The NFC is compatible with hundreds of millions smartphones and reading cards, already developed worldwide [10]. NFC technology enables wireless

short-range interaction between consumer electronics, mobile devices, personal computers, electrical appliances, and NFC labels.

4   Technical Analysis of the NFC System

NFC communication is nearby device proximity (a few centimeters) to exchange data or connect to more complex networks (Wi-Fi) by covering communication protocols. It is based on Radio Frequency Identification (RFID) and supports wireless communication between devices. There is always a transmitter and a receiver. Where the receiver is applied to (label, sticker, box, etc.) and connects—communicates with the transmitter that emits through an antenna from the mobile phone. It is supported by an information communication system. NFC technology is mainly used on mobile phones and tablets for short-distance data transfer. Users prefer short distance to avoid interference in data transfer.

The core elements of the RFID system include the following:

- Chip/memory
- The reader
- The receiving antenna
- The antenna
- Software Information System, in a corresponding application
- Communication protocol

5   5G

5G represents fifth-generation wireless technology. This is the latest iteration of cellular technology that has three key features: faster speed, slower latency and multi-device connectivity [11]. Technologies that will be built to integrate with 5G technology to meet future needs [12] will contribute to the technological improvement of networks [13], creating infrastructure for high-speed wireless communication. 5G will be a new revolution in the world of mobile communications, linking the world without limits [14]. The Global System for Mobile Association (GSMA) says that by 2025, around one in three mobile connections is estimated to use next-generation networks. Specifically, the penetration of 5G technology in Europe is estimated at 31% in 2025, which translates into 217 million connections [15].

The opportunities and challenges of the fifth generation (5G) quickly attract great attention from all sectors of society [16]. Especially in the tourism industry, applications vary. The key benefits of the wireless communication system 5g are high data speed, energy and money savings, reduced data traffic congestion, added security and reduced delay (fast response to receive/send) [17]. The services to

be used in the future 5g mobile phone network will exchange information and perform actions without the need for human assistance. The 5G wireless systems are being implemented by advanced countries as the devices are expected to be a significant part (due to technology) of the 5G network layout [18]. The requirement for high data rates, low latency, efficient use of radio spectrum and the coexistence of different network technologies are major issues in the fifth generation networks based on the Internet of Things [19].

6 Internet of Things

The Internet of Things (IOT) connects any object (e.g. packaging) equipped with sensors, software and wireless technologies (NFC, Bluetooth, etc.) to a stand-alone network [20]. This fact is captured through the conceptual model where it also records the general packaging tracking framework (NFC sticker label) based on IoT.

Bruce Sterling proposes a new futuristic approach that identifies intelligent packaging through IoT as the object of unique identification [21]. The Internet of Things (IoT), which refers to the expansion of the Internet into the world of objects and specific places. These smart objects, connected to a common network, can be controlled by users and can help improve the management of the environments in which they are located. The recent development of the Internet has led to different solutions for controlling smart applications, allowing users to accept—handle and process big data of information. Specifically, studies related to IoT have revealed that the user interaction is based on the standard-condition-action-action [22] or, more simply, on activation groups [23].

7 Marketing

Marketing is based on packaging and advertising. The packaging works with NFC technology and creates smart relationships and evolves intelligently when the information system gives us location and time. In the scientific field of marketing intelligent packaging comes to redistribute the way in which any marketing action is organized, implemented and applied, any marketing action associated with the Intelligent Interaction Systems that accompany a package. Users benefit from a range of value-added services through intelligent packaging systems (tag card) to which information can be linked and saved through a digital environment and improved interaction of new communication systems (NFC, IoT, 5g). Communication systems are the means of interacting with the user. Cutting-edge technologies where the communication systems of packaging are contributing and evolving are 5g, Internet of Things, and NFC technology. The innovative approaches to packaging, also referred to by Kalamarova and Parobek, are concerned with analyzing the comparison of

information and interactive interactions in the packaging industry with respect to the effects of the external environment,—communication with the tourist user defined as one new marketing tool. Han refers to intelligent communication systems as a marketing tool for increased quality assurance—information [24]. Intelligent communication systems provide a large amount of information—knowledge— information to both the manager and the user—the tourist. Information is both a government regulation and a marketing tool [25] which indicates the importance of information and the need to develop systems where it can be stored.

7.1   Marketing Tool for Intelligent Systems (Models)

The models consist of concepts which are a set of functions in which they are used as a marketing tool. The imprint of the model for understanding the packaging innovations (label, tab, etc.) regarding the Kano model functions in capturing the opinion of user-tourists according to the requirements of an observed object [26]. Based on the model, the newly formulated demands of the user-tourists were observed and recorded through indicators, where they formed a new approach to the scientific field of marketing through intelligent NFC label-tabs. Being certified to dynamic changes in current tourism-consumer demand and market trends, intelligent systems are gradually integrated into the entire scientific range of marketing, creating infrastructure for innovative approach to the tourism industry. As a new marketing tool, intelligent products, e.g. tag, tab, etc., make the tourist exhibit dynamic through the interaction of information (mobile phone and smart tag) in the user environment [27].

7.2   Applications of Intelligent Systems

Although NFC research in tourism is virtually non-existent through rapid technological advances, intelligent systems are increasingly gaining ground in the tourism industry, which is justified by the applications that have been implemented [28]. A large percentage of users—tourists, irrespective of age, educational level and place of residence, seek indirect and direct interaction in communication for data processing (archaeological site information, history, e-ticket, etc.). Indicative applications are listed below: Madlmayr and Scharinger have five communication streams for NFC devices that they can be used for Access, credit, payment, Bluetooth and WiFi configuration, VCard transfer, SmartPoster, data exchange, OTA (over-the-air), ticket loading and money payment, i.e. prepayment [29]. With NFC technology, tour users can simply touch the exhibit with an NFC reader by collecting information about the exhibit—archaeological site, etc. Madlmayr and Scharinger, show several examples of NFC use in tourism, which are categorized into information systems, workforce management and location-based services. The

re-search proposal focuses on tourism applications, examples related to tourism. An example where it depicted was a tourist destination in Germany, Sylt Island. On the tourist island of Sylt, a travel guide based on NFC technology was developed. Around the island were placed RFID tags in the tourist attractions of the island, and meeting points [30]. All-I-Touch is a NFC tourism related application described by Kneißl, Röttger, Sandner, Leimeister, and Krcmar. They state that NFC is used for a social component into NFC services. In order to increase the social component, the All-I-Touch application allows the user experience on social networks [31]. Borrego-Jaraba et al, propose as a solution an orientation and navigation system that uses NFC technology. The system is based on smart posters. Their suggestion is to offer services based on the visitor's location with maps and text information [32]. Ondrus and Pigneur, also suggest that the advantage of smart posters is to be able to get more information, with the proximity of the mobile device near the poster [33]. Two interactive museums in London (the London Museum and the London Docklands Museum) feature interactive NFC-based services in collaboration with Nokia. The test of the NFC technology of the two museums, focusing on the history of London, began in August 2011. Tourists can access additional information on about 90 RFID tags (thus 90 points-exhibits). Nevertheless, the various information points allow tourists to buy tickets for future exhibitions. The system has the ability to the business can host advertising campaigns, while tracking the use of each tag so that its effectiveness can be measured [34].

8   Conclusion and Further Research

In the scientific field of marketing, intelligent systems feed on the changing needs of the tourist landscape, achieving both the alignment of the services provided with the user's needs and the prediction of behavior. Automating the maximum sequence of regulatory decisions comes from its ability to provide real-time feedback data by ensuring that the next set decision (marketing campaign in tourism) will automatically be better than the previous one. However, the design and depiction of new systems may create the need to widen the possibilities of intelligent packaging. The conceptual model proposed by Schaefer and Cheung reflects the new technological trends in the field of intelligent packaging, where it can be applied to the tourism industry as well [35]. Due to the widespread influence of intelligent systems on all aspects of human life over the next decade, the growing applications will be applicable to all products—exhibits—archaeological sites [36, 37]. Developing intelligent systems can help develop such structures and actions in systems that define the growing intelligent environment through their many applications. This is particularly beneficial for business marketing models seeking to expand their activities into innovative systems and thus combine new systems and components from different industries and establish infrastructures for sustainable cross-business global action in the tourism industry. Excellent adaptability and learning enables intelligent systems to take action after automated decisions, meeting the tourist

needs of the user (trends in the tourism market) and at the same time shaping new dynamic marketing tools by analyzing data on easy-to-use knowledge. Further research is proposed to study and evaluate parameters, where related we offer data usable for the scientific field of marketing with. Indicative indicators to be studied and evaluated are: Location in terms of time, location and metadata, the type of tourist in terms of geographical origin, the widening of intelligent systems in tourism as regards the user-tourist's receptiveness. The aim of the survey is to quantify (quantitatively and qualitatively) the intelligent systems in the tourism sector through the user-tourist interaction with the new functionalities [38].

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Intelligent Ticket with Augmented Reality Applications for Archaeological Sites

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Abstract Tourism and archaeological sites can benefit from the science of Cultural Informatics combined with the intelligent ticket. This paper presents the transformation of an ordinary ticket into an intelligent one with the incorporation of NFC (Near Field Communication) technology to communicate with user's mobile devices through the use of AR (Augmented Reality) for audiovisual information with correspondence from a specific geographic position. The research approaches and adapts the technological evolution, communication, and dissemination of cultural information to benefit populations and special groups. The importance of receiving the necessary information to gain knowledge from the intelligent ticket is stated. A theoretical model of combining the intelligent ticket, audiovisual science and archeology with user interactions for cultural heritage is developed. Managerial implications for future practical implementation are discussed.

Keywords Augmented reality · Intelligent ticket · NFC · Archaeology · Edutainment

1 Introduction

This research is part of broader research in the fields of Cultural Informatics, Interactive Multimedia, and NFC technology. The goal is to develop a digital method for disseminating interactive multimedia content, to meet the needs of different user groups through an intelligent ticket. The paper focuses on the display of cultural data through the use of new technologies. The objective is to bridge the gap between user's needs, multimedia content and its presentation using the intelligent ticket with NFC communication according to the position of the user in archaeological places.

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Cultural information is related to the science of History and Archaeology and already from the early 1990s, the term "visualization" is used for archaeological data through computer technology with 3D modeling [1]. The oldest type of visualization in print or as a hard copy is defined as "data visualization" for efficient communication of information. Most visualizations are represented by symbolic representations, a combination of texts, images, colors and patterns [2], for predicting the archaeological sites of a region based on observed patterns (Geographical Information System—GIS, "Predictive Modeling" technique) [3].

Many AR applications have been designed recently for the dissemination of cultural heritage, providing a new way of displaying. The popularity of these applications lies in the user's rich experience. To date, most cultural related applications respond to visible—printed motives like QR codes (Quick Response Code) that, whilst easy to print and encode, have limited capabilities. In this research, NFC tags are chosen due to the advantages they offer as opposed to QR codes.

In summary, the research focuses on three main axes as shown in Fig. 1. The intelligent ticket today is a new research area with a connection between History and Archeology. The proposed NFC use enables the adaptation of cultural information to multimedia devices for each user's educational—research purposes, focusing on facilitating populations and special groups. Access to places and time that otherwise would not have been accessible is achieved by spatial visualization and by the application of AR it is possible to explore the content with the parallel development of critical skill [4]. Thus, a multidimensional learning tool with interactive guided features is approached.

Fig. 1 Presentation of key research axes to be considered
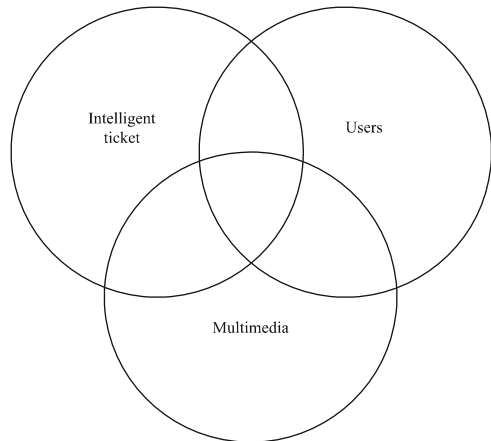
2 Background

2.1 Intelligent Ticket

The ticket today is used mostly in public transportations as paper tickets or in a digital form (e-ticket), defining a contract between the users and the provider [5]. The intelligence is related to the ability to store and process data, belonging to the bigger field of Intelligent Packaging as a system capable of performing intelligent functions [6].

Industry professionals have been skeptical about intelligent packaging, using barcodes and fast response codes (QR), which were considered the next great thing [7]. A QR code is printed on the package without interaction as the additional information operates in another digital space and is not organically included in the package as shown in its physical space. In an AR experience in using a package, the user has the ability to interact with 3D animation information with interactive buttons and gaming [8]. The interactive computerized media calls on users to click on a highlighted sentence to reveal another image and follow the pre-programmed cognitive associations. When new technologies emerge, usability plays a significant role in the ability of integration into the given social and cultural context [9].

In order to read a QR code, the device's used camera needs to be properly adjusted; errors can easily be encountered due to poor lighting or environmental obstructions. They are required to be printed only on flat surfaces and cannot be hidden behind layers. As a result, they are easily distorted and thus destroyed and become non-responsive. In addition, QR codes are not rewritable and can contain a limited amount of information [10]. The need for improvement leads to replacing these motives with NFC technologies to create an experience using the ticket as an access point.

The term NFC refers to short-range wireless communication technology derived from RFID (Radio Frequency Identification) recognition, allowing communication between two devices within a few centimeters [11]. The NFC works in the 13.56 MHz frequency ranges, requiring NFC-enabled items and devices to be close to each other, usually 3–4 cm, in order to exchange information. NFC works at a higher data rate than RFID allowing data transfer up to 424 Kbps [10]. The technology has many benefits for the industry and the user, ease of use (built-in simple approach to the physical transfer of two communication devices), simple communication setup and extremely low power consumption [12].

NFC tags can be personalized to the user's preferences, do not need to be visible on the product and are more secure, providing a one-to-one data exchange of one-way and two-way communication, so they can be coded to respond only through unique ID numbers that are verified by the NFC reader through a server's modified database [10].

2.2 Augmented Reality and Archaeology

The mainstream Virtual Reality (VR) does not cover the virtuality anymore, when technology is able to merge the digital with the real world, creating AR [13] with the difference between the two technologies to be on the surrounding environment. VR and its surroundings are virtual, on the contrary, AR is implemented in a real environment by adding or removing objects [14]. Unlike virtual reality (which leads to total immersion in the artificial world), augmented reality refers to a virtual interface, which enhances what we see by overlaying additional information (digital content) onto the real world. Immersion in the virtual world is not total, because we can always see the real world around us [15].

AR is applied in Archaeology in different ways on multimedia devices. The registration or the subtraction of a 2D or 3D audiovisual element constitutes the "Outdoor augmentation." Instead, the ability of interaction with the virtual content is referred as "On-site augmentation" or "Off-site augmentation" with the possibility of extension and transformation to different mixed environments with the development of interactive interfaces [16] of the archaeological information. In many cases, devices with limited view abilities, storage, and processing power create the need to develop alternative approaches to provide customized content for user accessibility.

Today, museums and archaeological places are considered ideal environments for experimenting with developing technologies, like "Gamification" engaging users in a non-game context to use the game thinking [17] as a reference to interactive experience and dedication to cultural exhibits, in order to improve engagement—interaction and education approaches [18]. Thus, "Edutainment" (Educational entertainment) includes content that is primarily educational but has recreational value, constituting a research area with increased information for the development of interactive growth [19].

Through the overall experience of engaging in AR environments a sense of user control is offered with positive or negative feelings about the ability to control educational history [20]. The emotional immersion is led by the user's contact with historical and archaeological content through the convergence of the technology. Content interaction is often an adaptation tool for both, general presentation of content and user requirements [19]. The interface mediates the interaction of the user or otherwise the engagement [21].

2.3 GIS and Augmented Reality Approach

GIS (Geographic Information System) is a spatial data processing system with a spatial database, analytical functionality and visualization capability mainly 2D based, though there is a high demand for 3D visualization and analysis [22].

Surface surveys increasingly use GIS capabilities along with Global Positioning Systems (GPS) to locate the position of an object (with Earth coordinates) with a high degree of precision. All GPS points can be registered in a GIS database and designed on a digitized map that can then be approached to analyze the distances between objects [23]. Systems already characterize a geographical location from user behavior patterns of mobile devices. The location is continually calculated and intersected with multiple sensors and data from external sources. User mobility is grouped according to the results of cross-checks [24]. To bridge the gap between the advantages of computer-based analysis, such as simulation and prediction as well as the embodiment and the ability to experience the landscape from a perspective, the AR technology is used [13].

3 Research Methodology

The research proposes a methodology for the intelligent ticket as an access point to provide educational AR utilities in a contemporary way. The implementation of educational content, with adaptive capabilities, focuses on the modeling of digital content, for educational and research applications. The paper examines the theoretical and technological approaches by creating a hypothetical process to meet existing user's needs, arising from new multimedia content in addition to NFC intelligent functions. The complexity of the user is related to many factors that define individual needs (age, physical disabilities, educational background and preferences). Archaeological content is considered ideal for interactive growth [19], as the information provided does not require maintenance over time. The research is based on a hypothetical learning method that combines knowledge (historical—archaeological content) and emotional immersion (AR, user experience), creating a learning process concerning conditions (edutainment) and way of implementation (interaction, tour, gamification) [25].

4 Procedure

The procedure, as shown in Fig. 2, is based on the combination of user experience and NFC communication through a multimedia device. First of all, the process of enrolling personal formation on the NFC tag should be clarified. A tourist will be able to pre-order a ticket online or via properly adapted machines placed in the archaeological area. They will be able to select and record personal information, e.g. their age, educational level, profession, disabilities, etc., which correspond to encoded ID digits. When receiving the tailor-made printed ticket at the entrance, by tapping the mobile device on it, if the application is not already installed, a
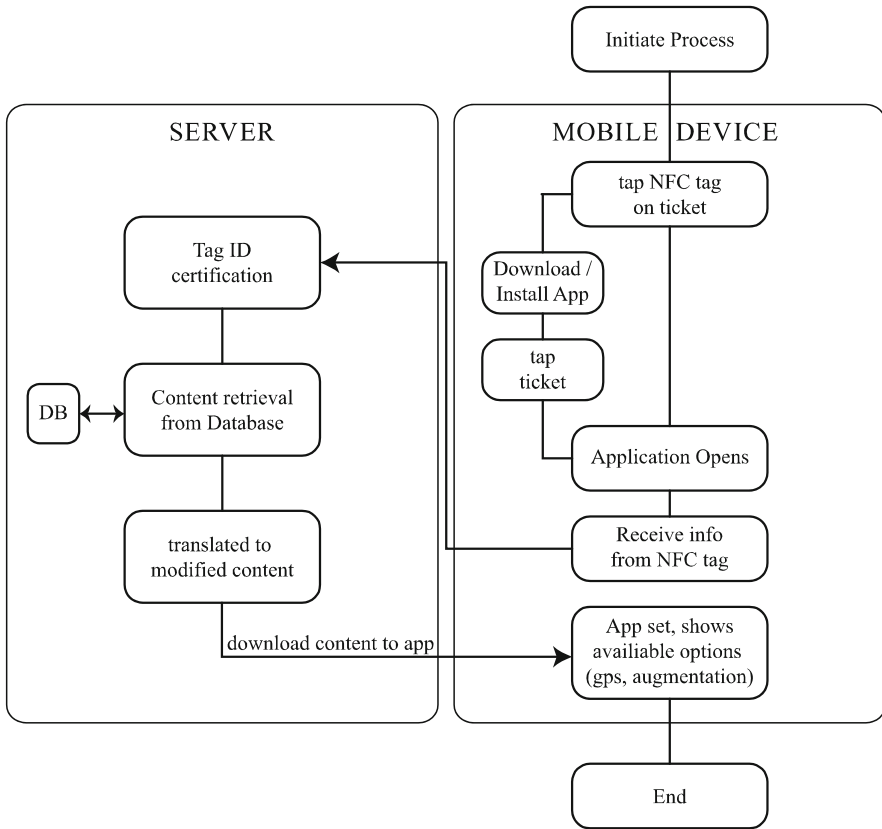
Fig. 2 Stages of NFC communication process

play/apple store page will be displayed in order to do so. After installation, a second tap on the ticket will be required, so the user's recognition process will be carried out. The ticket's unique ID number will be translated to a personally adapted content that will be downloaded on the application through the server's database. The application will be able to locate the user's spot on the digital map (linked with GIS) and when a site or a monument is in the vicinity, the augmentation will be initiated, while simultaneously providing information adjusted to accommodate each user. In addition, users will experience "Edutainment" via interaction with the AR environment. The development of an interactive presentation where visitors use their own devices in order to explore a site or a monument requires the availability of NFC communication on the user's device, networking and a server used to store and provide access to the content information.

5   Case Study

The main purpose of this section is to define a hypothetical application for the open archaeological area in Ancient Olympia in Greece. This area is selected due to its extent and the wide range of monuments. According to the website [26], some characteristics locations are the Temple of Zeus, Temple of Hera, Ancient Stadium, Palaestra of Olympia, etc. The referred user is 35 years of age, a university graduate with a disability that makes traveling possible only via wheelchair.

The process is initiated by tapping a mobile device on the intelligent ticket. In this case, the application is already installed (two possible cases are referred in Procedure section) and is opened by the first tap. Tag's id information is transmitted through the NFC reader (mobile device) to a server that decodes it according to a database and retrieves the user's adaptive content to the application. A database has been created for this specific archaeological area with information about the monuments. The updated digital map shown in the application locates the user's position, and they can be guided via GPS. Audiovisual information is retrieved from the GIS and when approaching a site or a monument the device's camera is turned on by the application and the augmentation begins. If an inaccessible path is encountered, a different wheelchair accessible route is proposed on the map. While viewing the AR, information that is predicted to interest the user according to the registered age and educational level is available.

6   Discussion and Conclusion

From a practical point of view, three fields are expected to be benefited, the users, archaeological areas and managing organizations. First of all, this personalized tool offers users a sense of unique access to knowledge through an entertaining experience (Edutainment). Many people nowadays could easier choose to visit and enjoy an archaeological area which offers special features (e.g. accessibility, augmentation, etc.) for each user and thus makes the overall experience more interesting. Due to the possibility of an increase in visitation numbers, archaeological areas' preservation, restoration, and conservation are predicted to be improved which contributes to the protection of cultural heritage. This theoretical model is in need of further research in order to achieve implementation as a real tool. The actual production of such a tool will benefit organizations and companies in management and promotional planning, financial growth and technological developments.

This paper aims to promote NFC technology for archaeological sites as an access point in order to adjust the particular needs of users to educational applications. The research uses the field of Cultural Informatics to link personal information to cultural data, creating a relationship between knowledge and its adaptation, to benefit populations and special groups. The need to overcome theoretical and technological constraints of disseminating and adapting data across multimedia devices,

lead to the concept of integrating three fields as shown in Fig. 1. A theoretical process, which can be utilized through NFC technology and AR applications, for existing and future user's needs, is developed and is intended to improve the overall experience of visitors in archaeological sites. In spite of the fact that more and more people become familiar with the concept of AR, its application through NFC is not yet widespread and may increase the frequency of visits to an archaeological site. Tourists and visitors of all ages and regardless of educational background could be benefited from the combination of the intelligent ticket, multimedia science and a theoretical model that visualizes cultural heritage with the use of AR.

The predicted content applying to each specific user according to the registered features needs to be fully researched and analyzed before a complete database that supports it can be created. Experimental models need to be developed and via real-life conducted case studies, user feedback should be gathered to help improve procedure and technologies involved, which is expected to constitute future research.

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Visualization of Folk-Dances in Virtual Reality Environments

Iris Kico, Milan Dolezal, Nikos Grammalidis, and Fotis Liarokapis

Abstract Cultural tourism helps with the preservation or revival of culture and traditions. It includes many different attractions including performing arts and festivals. Since folk dances are part of cultural heritage and their preservation has major importance, this paper presents applications for visualization and learning of folk dances. Based on different interactive motion capture technologies, new approaches for observing, analyzing and learning dances, and movements in general, have been created. A popular approach for learning purposes is to record a professional dancer using motion capture technologies and then visualize the dance. Users are supposed to watch and imitate the teacher's performances. In this paper, a similar approach is proposed, where users can choose the dance they want to watch through an interactive interface, and they can see the teacher's avatar performing the chosen dance. At the same time the avatar of the user can be seen, and users can track their performance. For recording teachers' and users' dance performances, an optical motion capture system, namely OptiTrack, has been used. The dance performance of the teacher is pre-recorded off-line, while users' performance is recorded and streamed in real-time to the application. Through the interface, users can choose to watch different folk dances and different ways of visualization for learning purposes.

Keywords Folk dances · Motion capture · Visualization · Virtual reality

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1 Introduction

Connecting culture and tourism can significantly help the development of any city or country. The most important resources a city or region can offer to tourists are tourist attractions. Tourist attractions include natural, cultural manifestations, folklore, contemporary buildings and events [1]. Cultural tourism addresses the experience of tangible and intangible cultural heritage [2]. Intangible cultural heritage (ICH) includes traditions or living expressions inherited from our ancestors and passed to our descendants [3]. Folk dances are part of ICH and their preservation should be important for every nation and ethnicity. In computer science, digitization and visualization of folk dances are an increasingly active area in computer science [4].

Folk dances are passed from one generation to the next and they are usually taught in person, imitating the teacher's dance moves. Currently, different types of digitization and visualization of dances are available [5, 6, 7] and can help towards the preservation and dissemination of folk dances. Digitization can also include audio, video or even 3-D sensor recordings but may also include additional motion representations e.g. a semantic description of dance or even a computer animation. Motion capture is a process of digital recording motion of a real-time object, usually a human performer [8]. Different systems can be used, such as optical systems with active or passive markers, magnetic, mechanic [4, 9, 10]. In this work, an optical motion capture system with passive markers was used. These systems can offer high precision for captured data, which is a significant advantage.

The process of digitization is not enough itself to pass the folk dances to the next generations. There is a need to visualize captured dances in order to make it available to the wide public. Currently, popular ways of visualization are serious games and gamification techniques as well as virtual reality (VR). Serious games are designed for a different purpose than just entertainment and can be used in various application domains, e.g. in teaching, since they can promote training, knowledge acquisition and development of skills through interactive and immersive activities [11], education [12] as well as cultural heritage [13]. The application for the visualization of folk dances described in this paper has been developed for the Terpsichore EU project [14].

In this paper, an interactive application in VR is presented for visualizing and learning folk dances in VR environments. The application is currently under development. Captured data are used for the animation of a three-dimensional (3D) virtual character that represents a dance teacher. Professional dancers were captured in order to capture a digital representation of specific folk dances. Applications like this one can be useful, not just for learning purposes, but to demonstrate different folk dances to different audiences, including tourists. For users (learners or tourists), an interactive interface in VR is provided. Using dedicated VR controllers, users can select between different folk dances (that have been previously captured). They can also choose to visualize either a male or female performance of the dance. The application provides personalized visualization for each user, i.e. they can adjust the view according to their needs. After watching a dance, they can try to reproduce professionals' dance movements.

2 Related Work

Many different applications for dance visualization and dance teaching have been proposed in the literature. In [15] a learning framework for folk dances was proposed. Dance teachers and students can use the 3D platform and interact with the animated dancers. Students observe teachers' performance and they can interact with the platform to better understand dances. Another approach for teaching dances is to use virtual environments, such as the cave automatic virtual environment (CAVE). In this approach, the projector's screen is placed between three to six walls of the room-sized cube [16]. The user observes and imitates teacher's movements and feedback is provided to the user [17]. Game-like applications also can be found in the literature for teaching dances. Several similar applications are proposed in [11, 18, 19]. In these applications, a game interface is available for the users. The avatars of the teacher and the user are displayed, and the user's movements are streamed to the application. Feedback with score and comments is provided to the user and if the performance is not good enough (i.e. the score is low), it is not possible to move to the next level.

In a similar approach [20], users are captured during the performance and avatar that visualizes their motion uses fused input from multiple sensors. Motion analysis and fuzzy logic are used for the evaluation of users' performance. Low-level skeletal data and high-level motion recognition probabilities are used as inputs for the two-level fuzzy system. Skeleton information is used for generating articulated human movement in [21]. In this work, pairs of a human skeleton as motion embedding and a single human image as appearance are used to train a GAN model to generate novel motion frames. Generating human movements is a very challenging task. Movement is continuous, highly dimensional, and fundamentally expressive. An approach for dance movement generation from audio is presented in [22]. An artificial neural network learns to synthesize dance movements for a given audio track in real time. The system was tested on a small database, but the audience can also provide their own music to interact with the avatar. An auto-conditioned Recurrent Neural Network for synthesizing highly complex human motions, including dances, was proposed in [23]. In [24], the authors combine insights from musical onset detection and statistical language modeling, to designed and evaluate a number of deep learning methods for learning to choreograph. More specifically, Dance Dance Revolution (DDR) is a rhythm-based video game, where the player performs steps on a platform, in synchronization with music following on-screen step charts. The goal of this work, namely Dance Dance Convolution, is to produce a new step chart from a raw audio track. Thus, the task of learning choreography is introduced, and neural networks are used to solve two subtasks: deciding when to place steps and which steps to select. VR applications can help the user to explore, learn and understand cultural heritage in a more immersive way. The concept for designing content of traditional dance based on interactive storytelling has been presented in [25].

Our approach is similar to mentioned work in a way that user's and teacher's avatars are streamed to the application and users can view both avatars at the same time. However, the application presented here is in VR and extends some functionalities. Except the users can choose between different dances, they can also choose between different avatars and different environments. Furthermore, all the dances have been synchronized with music and users can adjust the speed as they have playback and they can enable trail control.

3 Dance Recording Procedure

Motion capture is the process of recording moving objects or people. In our case, it is the process of recording the dance movements. In this work, an optical motion capture system with passive markers, namely OptiTrack, has been used. Passive markers used for motion capture are placed on specific predetermined positions on the body. More information about how to use the OptiTrack system for folk dances can be found in [8]. Five folk dances from Austria. Slovakia and the Czech Republic have been recorded in the Human-Computer Interaction Laboratory (HCI Lab), Masaryk University, Czech Republic. Dances were performed by professional dancers (a pair of dancers, male and female, was used in each recording). The recording procedure has three phases. First, the dance was performed by a single dancer (male or female) alone. The dancer was wearing a suit suitable for digital capturing during the recording. The second phase was to record the male or female performance of the dance performed within pair. The dancers danced together, but just one dancer was wearing a suit for digital capturing. In the third phase, dancing was performed again in pair, but both dancers were wearing suits. Suits are non-obtrusive, and they do not restrict freedom of the dancers' movements. All the dances were performed with corresponding music. Several recordings of each performance were made. In general, it is a good practice to repeat recording several times, when optical motion capture systems with passive markers are used for motion capture. Some errors and markers' occlusions were not obvious during recording and were discovered later. Recorded data were saved and then post-processed using Motive [26], although other software for editing data, such as MotionBuilder [27] can also be used. Motive offers different ways of interpolation for gaps in markers' trajectories. Interpolation can be a good solution if the gap size is relatively small. Also, low-pass filters with adjustable cutoff frequency were used for smoothing the data and unlabeled markers were deleted. After editing, data has been exported from Motive and imported into Unity3D [28], for visualization in immersive VR.

4 Visualization of Dances

Visualization and presentation of dances and human motion, in general, can be done in different ways. Video, VR environments and game-like applications (3D game environments) are currently the most popular. Usually, dances are visualized in applications for learning purposes. The interface of the application used for learning purposes should be simple, intuitive and interesting for the user. Since it is an application for learning how to dance, users should not spend too much time on learning how to use the application.

The application presented here is a VR application with an interactive interface. Using HTC Vive Headset and controllers, users interact with the application. HTC Vive Headset is connected to the computer and may be obtrusive for the user and limit the movements freedom, but user testing in the future should help us to investigate this problem. The software was developed in Unity 2018.2 using C# scripts. The recorded data are visualized by animating a virtual 3D character [29]. Figure 1 illustrates the two avatars: user's avatar (male) is following the professional's avatar (female), while both are performing the same version of the dance. Users can choose for the professional's avatar between three avatars: male, female or generic. Clothes and environments can play an important role in folk dances, e.g. in order to demonstrate surroundings from the past. Folk dances are often associated with traditions of groups that used to live in rural locations. In some cases, rural areas are now urbanized, but people are still interested in their traditional dance heritage. On the other hand, folk ensembles keep the folk dances tradition alive in both urban and rural areas. Performing folk dances in urban areas helps to ensure the survival of folk dances. The idea presented in this work is to use VR for recreating different rural, urban and/or modern environments that we can find today and place dancers' avatars there. In this way, we aim to bring folk dances closer to the users and attract new audiences such as young people or the elderly. Figure 2 shows an avatar of the professional dancer during the performance of one

Fig. 1 Female and male avatar used for animations

Fig. 2 Visualization of folk dances in rural environments

of the recorded folk dances in a rural environment. Through an interactive interface user can choose between different VR environments for folk dances.

On the scene, two avatars can be visualized. One is the pre-recorded animation of the professional dancer and the other is the user's avatar. Users should wear a suit and their performance is streamed from Motive to Unity in real-time (the lag during the streaming is not noticeable). All the dances are synchronized with the audio. Using the controller's touchpad, it is possible to change the animation speed, while, at the same time, the speed of playing music is also changed, since the animations are synchronized with the corresponding music. A user can stop and resume the dance, play the track forward or even backward. The dance can also be examined from different view angles. Just watching the dance, without having the intention to learn it, might be useful for tourist applications. Using proper VR equipment, e.g. any kind of headsets and controllers, tourists can get an immersive experience of the dancing performance in VR and thus familiarize with the culture and tradition of the place in a different way. Also, the desktop version of the application, presented in [8], can be used to present dances to the visitors that are not interested in trying VR. Using screens tourists can stop by and watch the dances.

5 Conclusion

The primary goal of the paper was to present a system able to visualize dances recorded using a motion capture system, to be used for learning purposes. An avatar, animated with the recording of the professional dancer, can demonstrate the dance to the users as well as the corresponding footsteps. By observation of this avatar and imitating the dance or following the footsteps, users are able to learn how to dance a folk dance available in the application. The application can also be used to just watch the dance. An interactive interface is provided to the users for a better experience. Through this interface, users can adjust the view of performance to their needs. Corresponding audio clips that are synchronized with the 3D animation were added to the application. User testing of the application is the next step for future work. The main goal is to evaluate learning process and improve the application according to user's experience. By using various algorithms for comparison, i.e. dynamic time warping (DTW), the user's performance will be compared with the performance of the professional dancer. Since the current version of the application provides no feedback to the user, it is very important to provide such feedback. Avatar poses should be compared in order to detect and show to the users their mistakes, so as to help them improve their dancing skills. Future work will also include improvements of the user interface, to make it easier to use. The recorded dances will also be segmented into sub-sequences, so that particular parts of the dance or dance figures could be used for learning.

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Internal Customer Satisfaction from an e-Procurement Information System: The Case of Greek Electronic Public Procurement System (ESIDIS)

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Abstract The Greek National Electronic Public Procurement System (ESIDIS) was developed with the aim to provide direct supplies of goods and services for the public administration more effectively and efficiently. The paper aims at investigating the factors that influence users' satisfaction from ESIDIS. Usefulness, ease-of-use, risk perception and willingness-to-learn were investigated. A structured questionnaire was used for empirical research. The regression model shows the existence of an important prediction model between three independent variables (usefulness, ease-of-use, and willingness-to-learn) and user satisfaction (dependent variable). The resulting regression model can be used to predict user satisfaction when interacting with ESIDIS.

Keywords Internal customers · Customer satisfaction · e-Procurement · Greece

1 Introduction

Public procurement has been defined as the "acquisition (through buying or purchasing) of goods and services by government or public organizations" [1, p. 20] and it involves important components of an organization like policy and strategy, procedures and methods, organization and personnel and information [2]. Different regulations and procurement processes ranging from selective outsourcing to large outsourcing deals, depending usually on the value and the type of contracts are being adopted by governments [3]. In Greece, the public procurement sector is large and complex, characterized by manual and paperwork, heavy bureaucracy, delays in making decisions, poor service delivery, lack of transparency and accountability and as in many other countries the most prone to fraud and corruption [4].

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Nowadays, governments both of rich and poor countries are under increasing pressures to "do more with less", as they are facing budget constraints and government downsizing [4]. Citizens demand increased transparency and have great concerns about efficiency, fairness, and equity in public procurement [5]. Thus, governments need to ensure that public resources are utilized in the most transparent, efficient, and ethical manner [6] to create value and to promote sustainable development of their economies.

Utilization of new technologies in public procurement systems are an important aspects of governance since it may facilitate the effective delivery of public goods and services, cut operational costs all across the supply chain, enhance procurement efficiency and transparency and increase public confidence in the policy making process as well [4, 7, 8]. Gunasekarana and Ngai [9] defined e-procurement as "a comprehensive process in which organizations use IT systems to establish agreements for the acquisition of products or services (contracting) or purchase products or services in exchange for payment (purchasing)". In this vein and within the framework of e-government, the General Secretariat of Commerce, which operates under the Greek Ministry of Development, implemented in cooperation with the section of Industrial Management and Operational Research of the National Technical University of Athens, an integrated information system, named National Electronic Public Procurement System (ESIDIS), aiming at providing direct supplies of goods and services for the public sector [10].

User-centered e-government suggests that governments provide services and resources tailored to the actual service and resource needs of the users [11]. However, governments usually design information systems and services "top-down", based on their understanding of what users, citizens, businesses and employees need, without taking into consideration users' needs and opinions and/or without measuring what increases users' willingness to adopt the systems [12]. As a result, quite often, information systems fail to adequately consider customers' needs. Moreover, in the public procurement sector, officers have a lack of appropriate skills and specialized knowledge to provide value for money and take into account strategic considerations [13]. The success of the implementation of the ESIDIS, as it happens for all e-government projects, dependents not only on the government support but also on users' willingness to accept and adopt the information system. Despite the fact that e-procurement is an important government function, to a large extent, it has been neglected by researchers and thus a knowledge gap has been created making it a challenge [14], especially in Greece where little if any limited efforts exist.

This paper aims at investigating the factors that influence users' satisfaction from ESIDIS. Usefulness, ease-of-use, risk perception and willingness-to-learn were investigated.

2   Internal User Satisfaction from e-Procurement Information Systems

Many counties have introduced legislation according to which it is mandatory for all procurements and finance operations of all public goods, works and services to be conducted through online platforms. However, the implementation of e-procurement in public procurement comes with organizational challenges such as restructuring difficulties and resistance to change [15] and requires resources, well-coordinated change management systems, good governance, specialized skills and users' training programs [16]. In case of mandatory use of a public e-procurement system, user satisfaction is a very important indicator of success [17].

End-user satisfaction and individual performance are critical determinants of the success of information systems. Taken that into consideration, Sharabati et al. [18] investigated the impact of three antecedents: processing, content and usability on end-user satisfaction and the relationships between end-user satisfaction, and individual end-user performance. They gathered data from 432 end-users of ePerole-han, the Malaysian government agencies information system. The findings provide strong support that processing, content and usability, significantly affect end-user satisfaction, while the higher levels of end-user satisfaction lead to improved individual performance.

At a different approach, Croom and Johnston [19] investigated the impact of e-procurement adoption on internal users' perceptions of service quality. An online survey was conducted in order to compare users' perceptions of pre-electronic and post-electronic procurement processes for two categories of supply: computer consumables and stationery. Their findings showed that users expressed 'delight' in many aspects of the service provision relating to the design characteristics of the e-procurement system, but dissatisfaction with issues concerning the actual system delivery.

Internal users (i.e. staff members working in procurement) were also surveyed by Kipkorir and Omwenga [20] to investigate the influence of technology on the progress of e-procurement in the County Government of Bomet. Their findings indicate that technology, environment, and organizational culture greatly influence the adoption of the e-procurement system.

3   Methodology

3.1   Research Hypothesis

The General Research Question of the article is: Given the mandatory adoption of ESIDIS which are the variables that are expected to influence and explain employees' satisfaction when using the system?

Technology Acceptance Model (TAM) is a robust and parsimonious theory that has been widely used to explain a particular Information system or technology use. TAM is placing an emphasis on the roles played by perceived ease-of-use and perceived usefulness in influencing the technology adoption decision. Perceived ease-of-use is defined as "the degree to which a person believes that using a particular system would be free of physical and mental effort" and perceived usefulness of the system as "the degree to which a person believes that using a particular system would enhance his or her job performance" [21]. If the use of a mandatory system is troublesome, then users will probably be disappointed as the effort to use the system would be relatively high [18]. In the mandatory use context, the dependent variable "use" is not suitable, thus Brown and Massey [22] recommended replacing it with the "satisfaction" variable. According to Bias and Mayhew [23] use-of-use improves user satisfaction.

H1 User satisfaction is positively influenced by ESIDIS e-procurement system ease-of-use.

Past research has revealed the role of usefulness in determining user satisfaction [22, 24]. In a mandatory situation, Mather Caputi and Jayasuriya [25] claimed that perceived usefulness is more important than perceived ease of use for satisfaction.

H2 User satisfaction is positively influenced by ESIDIS e-procurement system usability.

Willingness-to-learn is an important behavioral attribute that affects the users' overall performance, reveals the user's motivation power and determines the amount of effort the user makes. It is the users' willingness to try, persist, tinker and even study to learn how to use new technologies [26]. It can be easily detected in the user's behavior such as reading instructions, viewing video tutorials, searching on the web and using new features.

H3 User satisfaction is positively influenced by willingness-to-learn ESIDIS e-procurement system.

Risk is defined as the 'potential for the realization of unwanted, negative consequences of an event' [27]. In the information technology context, risk is the potential that a system is insufficiently protected from various types of damages [28] and in the context of e-government the risk is a main barrier towards acceptance [12].

H4 User satisfaction is negatively influenced by the perceived risk of ESIDIS e-procurement system.

3.2 Research Method

An empirical research study was conducted using an online survey. Certified users of ESIDIS have been chosen to be surveyed. An email notified users about the online questionnaire website. Users willing to participate visited a tailor-made website, from 15 January 2019 to 15 March 2019, and responded to the questionnaire. The data were recorded to a database.

The questionnaire used in this study was created by adopting constructs from previous studies [26, 29]. Five-point Likert scales were used ranging from strongly disagree to strongly agree. The questionnaire consists of five parts: (1) Perceived Ease-of-Use, (2) Perceived Usefulness, (3) Perceived risk, (4) Willingness-to-learn (5) Satisfaction (Table 1).

Table 1 Constructs, items and validity of the model

Construct	Items	Cronbach α
Perceived usefulness	ESIDIS is useful	0.911
	ESIDIS makes me more productive	
	ESIDIS makes me save time	
	ESIDIS satisfies my needs and requirements	
Ease-of-use	ESIDIS is easy to use	0.862
	I do not need to try too hard to use ESIDIS effectively	
	I can use ESIDIS without written instructions	
	I can learn how to use ESIDIS easily and fast	
	I can easily correct my mistakes while I use ESIDIS	
Willingness-to-learn	I wanted to learn how to use ESIDIS while I was using it	0.854
	I'd like to learn more about how to use ESIDIS	
	I'd like to learn how to use other similar systems too	
	In general, I enjoy learning new ICT related to ESIDIS	
Perceived risk	It was taking me time to decide how to move while using ESIDIS	0.826
	I felt nervous every time I took an action (e.g. pressed a button)	
	I checked well my actions before moving to the next steps	
	I had no hesitation to take an action	
	I had no difficulty to try which feature (among others) to use	
Satisfaction	ESIDIS is effective	0.899
	ESIDIS makes me more efficient	
	I am completely satisfied with ESIDIS	

4 Findings

The sample consists of 32 men and 90 women. The average age of users is 41–50 years. Most users are university graduates, have at least 3 years of experience in using ESIDIS and are familiar with computer use.

In Table 2 descriptive statistics are presented for the five constructs.

According to the findings, users have a medium to high perception of usability and a lower perception of ease of use. Internal customers find ESIDIS useful for their work; at the same time, they state that the system is rather difficult to use. High mean values of risk were also recorded, a fact that may point to doubt and hesitation on their work and may lead to double checking actions and to reduced speed and other confidence-related errors.

As it is evident from Table 3, user satisfaction is positively linear correlated with Usefulness, Ease of use and willingness-to-learn and negatively correlated with linear correlated with perceived risk. Thus, H1, H2, H3 and H4 are supported.

Then, regression analysis is used to examine the relationship between the variables of interest. Satisfaction is the main variable trying to understand and predict, while Usability, Ease-of-use, willingness-to-learn and perceived risk are the factors hypothesized that have an impact on satisfaction (Tables 4 and 5).

Thus,

$$\text{Satisfaction} = 0.669 \times \text{Usefulness} + 0.188 \times \text{Ease of use} + 0.180 \times \text{Willingness} - 0.22$$

Table 2 Descriptive statistics

Construct	Mean	St. D
Usefulness	3.32	0.95
Ease of use	2.86	0.81
Willingness-to-learn	3.60	0.91
Perceived risk	3.34	0.87
Satisfaction	3.18	0.96

Table 3 Pearson correlation coefficients among satisfaction and other constructs

Construct	Pearson correlation coefficient	Sig. (2-tailed)
Usefulness	0.876**	0.000
Ease of use	0.675**	0.000
Willingness-to-learn	0.647**	0.000
Perceived risk	−0.281**	0.001

**Correlation is significant at the 0.01 level (2-tailed)

Table 4 Summary of the regression model

R	R^2	Adjusted R^2	Std. error of the estimate
0.896	0.803	0.798	0.43154

Table 5 The coefficients of the model. B represents the unstandardized and Beta the standardized coefficients of the model. Satisfaction is the dependent variable of the model

	B	Std. error	Beta	t	Sig
(Constant)	−0.224	0.174		−1.287	0.200
Usefulness	0.669	0.060	0.668	11.147	0.000
Ease of use	0.188	0.063	0.159	2.986	0.003
Willingness-to-learn	0.180	0.053	0.171	3.398	0.001

5 Discussion and Conclusions

In the context of e-government the use of information systems is very often mandatory for the employees (public servants) who are the internal customers of governments. Governmental information systems and services are often designed "top-down" and as a result, quite often, fail to adequately consider internal customers' needs. The success of the implementation of the ESIDIS, as all e-government projects, dependents not only on the government support but also on users' willingness to accept and adopt the information system. The paper aims at investigating the factors that influence users' satisfaction from ESIDIS and explain employees' attitudes toward satisfaction using the system. Usefulness, ease-of-use, risk perception and willingness-to learn were investigated. Usefulness and use-of-use, as found in previous studies [22, 23, 24] have a significant role in determining user satisfaction. Perceived usefulness is more important than perceived ease of use for satisfaction in the mandatory situation of ESIDIS use. This finding is in accordance with the findings of Mather Caputi and Jayasuria [25]. User satisfaction, as also found by Karavasilis et al. [12] is negatively influenced by the perceived risk of ESIDIS e-procurement system. However, in the case of ESIDIS risk has no predictive value on user satisfaction. Finally, user satisfaction is positively influenced by willingness-to-learn as Tzafikou et al. [26] claimed. As all the factors under investigation are important, managers and policymakers should take them into consideration in order to improve internal customers' satisfaction from ESIDIS. Policymakers should give more emphasis on communicating the usefulness of the ESIDIS to users-employees. Moreover, friendly services meeting international usability standards should be developed along with an improved user interface and upgrade security mechanisms. The regression model shows the existence of an important prediction model between three independent variables and user satisfaction (dependent variable). Usefulness, ease-of-use, and willingness to learn have a significant effect on user satisfaction. The resulting regression model can be used to predict user satisfaction when interacting with ESIDIS.

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Mapping Island Tourism Research

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Abstract Tourism has been recognized as an essential industry to Islands' development and growth. Islands' diversity and uniqueness had posed various challenges and brought them to light in terms of relevance in the industry. However, most of the research in tourism has been more focused on mainland destinations, although there are several researchers studying islands as well. This paper focused on analyzing tourism and hospitality journals indexed in Scopus and belonging to the first and second quartiles within a period of 18 years (from 2000 to 2017). A concept map based on the selected articles was elaborated including the analysis of 13 associated themes, constituting one of the first literature review to map the research that has been conducted within the realm of tourism in islands.

Keywords Tourism · Island · Journals · Bibliometric analysis

1 Introduction

Around the world, there are over 180,000 islands, with distinctive political, socioeconomic and natural backgrounds [1]. For most island destinations, especially the smallest ones [2], tourism can be a major contributor to local economic development. Tourism in the islands is often perceived as exclusive and charming whereby island destinations offer frequently unique and different experiences as compared to continental or mainland tourism, thus making tourism in islands quite attractive [3, 4].

Additionally, tourism in island is quite different from tourism in mainland territories. In general, islands are characterized by the relative sparseness [5] such

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as in lodging, food and transportation, which usually makes them more expensive than they would be at a mainland destination. Island destinations are normally attractive based on weather, climate and scenery that tends to offer striking and desirable contrast to the tourist's everyday location. Historically speaking, islands used to economically support themselves, mostly through agriculture, fishing and sometimes handicraft [6]. This limitation of resources led to put more pressure on tourism. Hence, tourism came into the scene to contribute to the island development, even though sometimes local communities found tourism disrupting and it was also perceived negatively by them [7]. From a business diversification perspective, the increase of employment and infrastructure improvement, underlying socioeconomic growth for many islands, has been going for decades and promote the new dominant role of tourism in islands [8].

However, there is the other side of the coin that is related to the pitfalls or negative impacts of tourism [2], namely the wearing out that island destinations suffer from their limited resources and fragile environment. These sorts of consequences attached to tourism development have been mentioned by many authors [9–11]. In addition, if one considers lifecycle models of development, these cannot be applied to tourism in a straightforward way as there are a number of spatial scales and multidimensional products with different lifecycles [12–14]. Moreover, sustainability criteria analysis is rarely considered or integrated into the development options of interest groups [15].

Research on island tourism has focused on individual islands, such as Cyprus [16], Mauritius [17], Barbados [18] and Aruba [19]; archipelagos, like the Canary Islands [20], Madeira [21] and Azores [22]; regions [23], such as Asia/Pacific, the Caribbean, and Europe; and others have been purely theoretical [24, 25], addressing relevant issues. For instance, Kilic and Okumus [16] developed an empirical research study to identify influencing factors from the perspective of hotel managers in Cyprus. Other authors studied the impact of foreign direct investment (FDI) on the economic growth of islands, such as Mauritius [17], comparing FDI with both domestic private and public investment.

From an archipelago perspective, Santana-Gallego, Ledesma-Rodríguez and Pérez-Rodríguez [20] examined the relationship between tourism and international trade in small islands, using as case study the Canary Islands. Since rural tourism has been communicated as a counterpoint to mass tourism in island destinations, Almeida, Correia and Pimpão [21] decided to segment and profile rural tourists in Madeira. Considering the importance of repeat visits, Moniz [22] analyzed the underlying reasons behind precisely repeat visits to the Azores archipelago, finding overall satisfaction with the destination as well as specific satisfaction with destination attributes as paramount variables supporting the repeat tourist.

Butler [26, p. 88] pointed out that "small islands, for a variety of reasons, have long been viewed as attractive destinations for both recreational and touristic purposes.". Thus, many small islands developing states (SIDS) have shifted their economies towards the tourism industry, which is quite appropriate to small islands, considering their natural resources, peripheral locations, and unique attractions [1, 26]. Nonetheless, tourism growth in SIDS can deeply affect local capacity and

resources, leading to review the sustainability triple bottom framework [27, 28]. Since the sustainability of tourism can be potentially affected by climate change, Cashman and Moore [18] examined this issue in Barbados. Indeed, this SIDS might be negatively affected by an increase in conscious of tourists from its long-haul source markets of their carbon footprint.

Thus, there are an increasing number of scientific articles on island tourism published in top-ranked journals [27]. These authors noted the literature on island destinations was grown over the years, been almost half of the articles prior to 2011. After this year, they found a stable growth rate, that might indicate that the topic has achieved its maturity stage. Nonetheless, there are concerns and suggestions [27] found in the literature expressed by some authors that led us to analyze this topic.

The aim of this study is to present a review of the research done on island tourism in order to identify what insights does current literature offer regarding this topic, focusing on small islands. Small islands not only present unique and special landmarks and attractions that can foster tourism [27], as well as, posit challenges given their resources constraints [16, 18] and the intensive resource consumption of the tourism industry. These challenges are enlarged when the islands are also autonomous countries, without any legal-resource linkage to larger territories. As so, it is important to bring to academia a research contribution focused on the identification of convergent and divergent characteristics between several geographies and regions in island tourism, for these reasons the following literature analysis was performed.

2 Methodology

Due to the increasing amount of new manuscripts published in scientific journals, literature reviews are now being published with increasing frequency in many different areas in tourism, such as in outbound tourism [29], sustainable tourism [1, 30], adventure tourism [31], sports tourism [32], tourism networks [33]. This study presents the status of research on island tourism. A hybrid design, similar to the one of Tsang and Hsu [34] was adopted, whereby both narrative [35] and quantitative review [36] methods were applied, complemented by semantic network analysis (e.g., [37]). This approach allowed to identify journals with more publications in the area as well as the geographical spread of the papers by author, destination of interest and the research methods. The narrative discussion within each of the topical areas indicates research production in that area, explores merging themes and methods, and identifies knowledge gaps for future research directions. Finally, Leximancer was used for the semantic network analysis exploring the connections among key theme areas, and the concepts associated to them.

The selected database was the "Hospitality and Tourism Complete" from EBSCO Information Services considered a unique resource for information covering all areas of hospitality and tourism. The data collection consisted in the search of the term island tourism indexed in Scopus as Q1 or Q2, between 2000 and 2017. The database was composed by 395 articles.

3 Results and Discussion

395 articles appearing in 24 journals in tourism were found. Sixty-six were published in Tourism Management, the journal that by far has addressed more island tourism, 37 in the Journal of Sustainable Tourism, 33 in Asia Pacific Journal of Tourism Research, 31 in Tourism Economics, and 29 in Current Issues in Tourism and Tourism Geographies. The generated database was entered in the VOS viewer application in order to assess the citation structure for the island studies (see, Fig. 1).

The four most prolific author publishing articles found were Professor Robertico Croes (14 papers) from the University of Central Florida, USA. He is followed by Konstantinos Andriotis (9) from Middlesex University, UK, Jorge Ridderstaat (6) also from the University of Central Florida and Zibin Song (6) from Hainan University in China. Then, the main topics considered were analyzed. Tourism and island were the two most often used keywords in the papers. Studies on islands as tourist destinations [38], tourism development [39], and sustainable tourism [40] were the focus of many researchers. Attention was also given to small islands [19] due to their fragilities, scarce resources and in many cases high dependence from the tourism industry.

Leximancer generated a concept map with themes and concepts (see, Fig. 2) that revealed the main studied themes and their relationship with each other. Although many studies usually take the tourist perspective, a significant number were also concerned with the host community [41] and residents' [4] point of view. The management [25] and marketing [42] disciplines were brought to the table due to
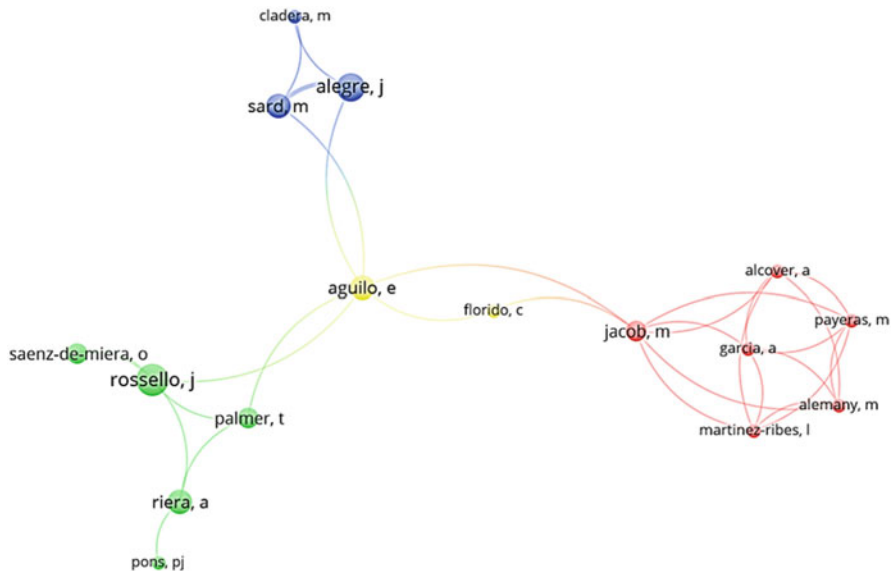
Fig. 1 Authors citations network structure
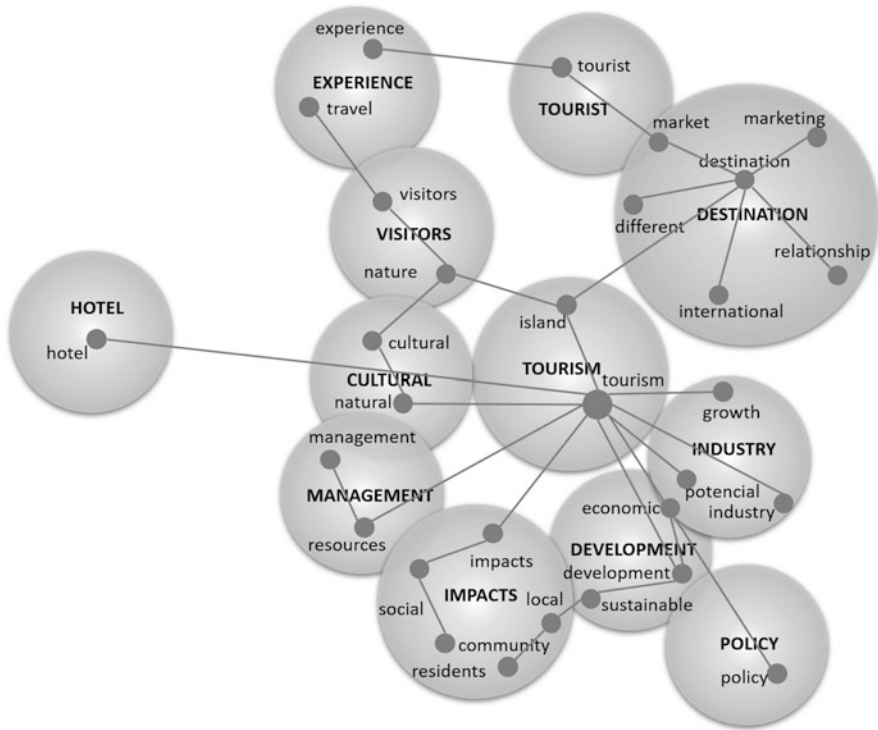
Fig. 2 Island tourism concept map and themes (based on 395 abstracts)

their recognized relevance for tourism in islands. Moreover, macro variables such as economic [43], cultural/heritage [35, 44], social [45], and environmental [31] factors and their respective impacts were also extensively researched. Furthermore, theory building and conceptual model development [45] were addressed in these studies as well as an emphasis placed in investigating tourist satisfaction.

The top researched islands were Cyprus (25), Mauritius (20), Aruba (19) and Barbados (18) most of them are located in Latin America and the Caribbean (6 islands), Europe (4) and Oceania (3), followed by Asia (2) and Africa (2). Most of the studies have researched islands in regions exhibiting higher tourism development. Africa and North America have a much smaller number of papers studying tourism in their islands. As results showed from all island studies, the SIDS are less represented. The less representativity of these typology of island maybe hidden specificities related to governance and tourism life cycle that need to be taken into consideration.

From the present work, 40% of respondents were tourists; managers/businesses accounted for nearly 16% and community residents for almost 14%. Interestingly, nearly 20% of the papers used multiple stakeholders when collecting primary data.

When focusing on small islands research the main topics are refined, and five topics clusters can be found: sustainability, governance, innovation, seasonality, and local communities. Nonetheless, most of this research is conducted in mature destinations, leaving unanswered a set of questions related to smart destinations, to destination co-creation or even niche tourism based on cultural or natural specificities of the islands.

4   Conclusion and Future Research

This review outlines current achievements and future directions for island tourism research, and it is pertinent to theory building, professional practice and to the society.

This study performs a comprehensive literature review on tourism in islands, from 2000 to 2017. Titles, keywords and abstracts from journals (quartiles 1 and 2 from Scopus) in the hospitality, tourism and leisure management area generating a total of 395 articles from 24 academic journals. Some of the top keywords most used in the journal articles on Island Tourism (included tourism, island, destination, development, sustainable, small, tourist, community, management, marketing, etc.). Latin America and the Caribbean and Europe are the leading researched regions being Cyprus, Mauritius, Aruba, Barbados and the Canary Islands the most researched islands. These results are consistent with the ones found by Parra-Lopez et al. [32] to the period 1980–2016, leading to conclude that these are the primary locations of research. Since it overlaps the more mature destination, clearly an effort needs to be made to include less development destination, especially SIDS.

Most studies reported tourists as being their focus respondents, but managers and business were also considerably researched as well as residents. Hence, both demand and supplier sides have been addressed as well as the community in the destinations. Primary data have been used most of the time rather than secondary data, with more emphasis being given to quantitative studies over qualitative ones. Nearly half of the quantitative papers used sample sizes between 100 and 400 respondents whereas in qualitative research most samples comprised between 20 and 50 subjects. The most studied themes included tourism destination, development, impacts, industry, management, being visitors' experience one of the least researched themes.

Despite Oceania having numerous islands, the Caribbean has been more studied. This might be due to population size, tourism being more developed for a longer time, better accessibility (e.g., more flights) and closeness to main generating markets. Currently, there is no holistic view about tourism in islands, which constitutes a research gap in the literature on island tourism. As Parra-Lopez et al. [45] referred some of the research gaps on island tourism may reflect the journals' publications interest and policy and not the true need for deeper analysis and contributions in island tourism studies. Future research could pay more attention to the role of government in island tourism and analyze small islands developing

states (SIDS) that lack tourism research. Foreseeable studies could consider other databases (e.g. web of knowledge) and other journals (e.g., Q3 and Q4 as well).

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Human Resources Role in Hospitality Service Quality

Flavio Tiago, Teresa Borges-Tiago, and João Couto

Abstract Hospitality industry has undergone many changes in the past years, reflecting the sharing economy and customer digital empowerment effects. In this context, the excellence of service provided is a key success factor. This study investigates the themes related to people influence in tourists' perception of service quality. The proposed model assesses the influence of human resource management on employee behavior and the latter in tourists' service quality perception in the hospitality sector. The results obtained allow to conclude that human resource management plays an important role, by placing efforts in frontline employees' values and attitudes and consequently shaping service encounters.

Keywords Tourism · Hospitality · Employees · Services quality · Marketing

1 Introduction

In recent years, hospitality has become a fast-growth industry, with spillovers for the local, national, and international economies. Alongside with increasing competitiveness, new business approaches arise as the sharing economy [1], relaying the success of these business models in a less explored perspective, deeply connected to human relationships: authentic tourism experience. As noted by several authors, tourists are seeking for "authentic, experientially oriented opportunities with more meaningful interactions" with local people, culture, and nature [2]. All over around the world, evidence can be found of hospitality firms highlighting in their communication campaigns the human touch provided by their employees; in an attempted not only to promote higher-value experiences, as well as to seek a competitive advantage driven by their human resources [3, 4].

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Human capital can be "used" to develop and implement service excellence [5] and to ensure differentiate and unique customer experiences [6]. Human resources skills are valuable, rare, and difficult to imitate; and, therefore, they can also be a source of sustainable competitive advantage if the organization can capitalize on them [6, 7]. However, despite the many works carried out over the years focusing on hospitality service quality, most have focused on tourists' perceptions and on managerial approaches to ensure the quality of the services delivered, neglecting the factors affecting employees' service quality [7]. Therefore, there is a gap on how human resources management practices influence employees' performance that needs to be addressed, linked to how these performances constrain or enhance service quality for tourists.

In this study, the model developed by Tsaur and Lin [8] is applied to a tourism region in a growth phase. Considering that small and medium-size hotels have been neglected in terms of research [9], and present HRM particularities, fourteen medium and small hotel units in the Azores were chosen and both tourists and employees were surveyed. The results unveil and reinforce the importance of HRM alignment.in order to achieved high-quality service. This study contributes to the hospitality discipline and extends the current knowledge regarding HRM practices affecting tourists' service quality perception.

2   Literature Review

The relevance of human resources has been widely documented [4, 10]; however, the complexity and evolution of human interactions demand a continuous visitation of this issue [3]. Despite the innumerous references to determinist and relevant role of human resources to the success of a service firm, some managerial decisions don't seem to reflect this thinking [7]. For service firms, the encounters and interactions between consumers and employees can be the core of the experience, becoming the "moment of truth" where (un)satisfaction takes place [8, 11]. Services have a set of specific features that make them difficult to measure in terms of quality and consumer-fit, such as intangibility, inseparability, variability, perishability, and possession [11]. The concept of quality in services comes often linked to theories of customer satisfaction and service performance. And, therefore, most research seeks to gauge a direct relationship between customer satisfaction and firm performance [12].

As a result, in the last 30 years, a wide range of definitions and models were presented trying to assess service quality since Grönroos [13] presented the technical and functional quality model and Parasuraman, Zeithaml and Berry [14] presented the SERVQUAL model. Early efforts to measure quality were mostly concentrated in the tangible components of the offer. According to these authors "SERVQUAL is a generic instrument with good reliability and validity and broad applicability" [14]. In their research, it was found consumers evaluate perceived service quality in terms of five dimensions: tangibility that is related

to the appearance of physical facilities, equipment, and personnel; responsiveness reflecting employees' willingness to help customers and provide prompt service; reliability is centered on the ability to perform the promised service accurately and dependably; empathy is the level of caring and individualized attention provide to customers; and assurance that reflects the knowledge and courtesy of employees and their ability to inspire trust and confidence. Despite the criticisms found in the literature, SERVQUAL remains a useful instrument for service-quality assessment [15, 16]. In the hospitality industry, service quality is a critical factor affecting not only customer satisfaction but also repurchase and recommendation intention [17]. Today, numerous models are used to improve service quality in the hospitality industry, ranging from SERVQUAL to LODGSERV [18]. Regardless of the model chosen, people are a common factor when looking at the different components affecting service quality.

In the tourist journey, a wide range of activities can be listed, starting with the search for information about the destination and ending with the sharing of memories after the experience. These activities occur alongside the tourism value chain and in the outbound region, stopover and inbound region; And all together compose the tourism journey experience [19]. In this value chain, people are the common element, grounding the following statement: "Few people would reject the proposition that the human element in tourism and hospitality organizations is critical for service quality, customer satisfaction and loyalty, competitive advantage, and organizational performance" [20]. Underlying this line of thought, it needs to be accounted on the evolution that has occurred in tourism and hospitality over the past quarter of a century; when globalization unleashed the potential of the industry worldwide, modified hospitality agents' behaviors, and posted several challenges to hoteliers related to their main functional areas [8, 21]. From a consumer perspective, the paradigm of tourism has evolved from the search for tourism products to tourism experiences [22, 23]. This shift led to rethinking the role of human resources, one of the critical elements needed to successfully create and deliver unique and memorable experiences [24]. More, during the investigation on the role of employees on tourism and hospitality experiences, it was noted that while in most service industries the service encounter is a means of production, in tourism service it can be the actual tourism experience [25]. Evidence found in several empirical works shows that human resources management practices, attitudes, and behaviors integrated into the organizational strategy can be linked to essential customer experiences [4, 7, 8, 20, 21, 24]. Lovelock and Wirtz [26] referred that hospitality employees assume multiples roles when pursuing both operational and marketing goals. This leads to the need for strategic alignment between marketing and human resources management, in what concerns people selection, training, motivation, empowerment and control [3, 6]. As noted by Yeh [27] hotel frontline employees can affect tourist overall value perception and satisfaction, since most hospitality services are produced and consumed simultaneously. Thus, confident and satisfied employees are better able to succeed than employees who are apprehensive and unsatisfied, leading to an increase in perceived quality by the client [24].

To pursuit a customer-oriented approach, hospitality firms need to understand employees' attitudes and values [28] and promote a service talent cycle [26]. As indicated above and found in several studies the most successful tourism and hospitality firms are characterized by having engaged or satisfied frontline employees [8, 27]. Due to the known effect of service quality on tourist satisfaction and behavioral intentions, tourism scholars have attempted to identify service quality assessment models. Additional attention was also being given to the role of employees in the service encounter. However, little attention has been paid to the human resource management impact on frontline employee's attitudes and how this affects service quality in tourism and hospitality industry.

3 Conceptual Model

Scholarly interest in assessing the elements influencing service quality of tourism encounters is well documented. The human resource perspective tends to emphasize the relevance of training, motivation, and retention [4], while a service quality approach tends to review quality from a customer standup point. Nevertheless, as mentioned by Tsaur and Lin [8], when researching the influence of employees' attitude and involvement on work-related outcomes, one must take into account the result of the service quality perceived by tourists. For success in hospitality services, it is necessary to focus on the guest, understands the role of the guest-contact employee, and weave a service culture. Several tourism and hospitality studies have found a close relationship between how an organization manages its human resources and the employee–employer connection [20, 21], reinforcing the results found in other service industries. However, most researches were conducted on medium or large-size corporations, that due to their bigger structures and resources can present significant differences [9].

This study used the model proposed by Tsaur and Lin [8] as the basis and referred to previous studies on hospitality service quality and human resource management in hotels, as well as the definition and service characteristics found in hotel units. Thus, the purpose of this paper is to examine the roles of human resource manager's strategies as a mediator of the relationship between frontline employees' behavior and tourist-related service quality assessment (Fig. 1).
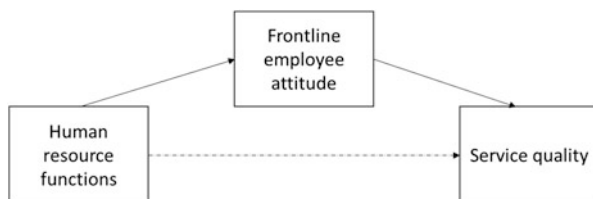
Fig. 1 Conceptual framework for this study

As noted by Jones and Siag [29], besides hotel size, type, location and age, the human factor affects the hotels' success story. The human factor is complex in nature and behavior, reflecting the particularities of the ecosystem in which is insert. Prior research considered as human resources management functional areas in hospitality staffing, human resources development, benefits and compensation, safety and health, and employee and labor relations [3, 6]. Juergen Gnoth recently recaptured the essence of the tourism experience, denoting that the challenge relies on changing people' mindset, from being to becoming part of the experience. In the literature, references can be found in the fact that employees tend to treat customers in the same manner as they are treated by management [30]. So, the strategies adopted by a hotel regarding human resources management will tend to launch the bridges for the employee–employer relationship, and consequently, to employee-customer [3]. Therefore, H1 is as follows: *Human resource management practices will influence employee service behavior in hotels*.

Interpersonal interactions between frontline employees and tourists occur uncountable times a day, and in each encounter, the service quality is assessed by the customer [8]. In the tourist's mind, the service encounter can be synonymous with the service experience quality. This premise leads to establishing H2 as follows: *Frontline employee service attitude will influence service quality in hotels*.

4 Methodology and Results

To assess the present model, tourist and employees were surveyed in 14 small and medium size, with three- and four-stars hotels presents in Sao Miguel island— Portugal. These 14 units correspond to almost 60% of all tourism offer in the island. The larger units have a similar background to the one presented by Tsaur and Lin [8] while the smaller due to their size and location present unique characteristics. In these last ones, the owners are actively engaged in the daily activities and directly responsible for the HR management.

Questionnaires were self-administered to tourists and employees from the different units. The final sample comprehended 250 employees and 224 tourists. The questionnaire applied to tourists was bilingual and covered the five dimensions of SERVQUAL—tangibles, reliability, responsiveness, assurance, and empathy [14]. While the questionnaire applied to frontline employees had two sections. The initial questions addressed referred to the human resource management practices mostly analyzed in human resource literature [6, 20, 24]: recruitment and selection, training and development, compensation and benefits and performance appraisal. The second set of question assesses employees' service capacity and self-reports service behavior [31].

The sample of employees composed 69.7% female, and 50.7% of employees were married. Of the employees, 85.9% were aged 40 years or less. Over half (80.9%) respondents had worked for their hotel over a 3 year-period, so 82.9% have long-time contracts. Only 2.9% of the employees were part-time. Most (85.2%)

of respondents' wages were under 700 € per month. 46.5% of the respondent are frontline employees working at reception and 33.1% in food and beverage services. Among the tourists, most (54.5%) respondents' ages ranged from 31 to 50 years old. Of the sample 53.8% were female and 60.7% of respondents were married. Of the clientele, 71.3% are first-time visitors to the destination, and those repeating the visit are mostly national tourists. Besides national tourists that represented 30.8% of the sample, Germans, Finish and Swedish were the most common nationalities present in the sample, respectively 30.8%, 11.1%, and 7.7%.

To establish the role of human resource manager's strategies as a mediator of the relationship between frontline employees' behavior and tourist-related services quality assessment, a three-phase analysis was conducted: (1) first the dimensions of the SERVQUAL were assessed for the 14 hotel units; (2) second, a quality index was composed for all the hotels, considering the five dimensions found; and (3) in a third phase comprehends the use of a partial least square-structural equation modeling (PLS-SEM) approach, which is a second-generation multivariate analysis technique that makes possible to test theoretical components-based models such as the present case.

Table 1 presents the values for the five dimensions driven form the SERVQUAL model. It can be noticed that the more human-linked dimensions are the ones that contribute the most to the index composition. Afterward, the PLS-SEM analysis was conducted, start by checking for unidimensionality of each block in the model. An exploratory factor analysis (EFA) was undertaken to better understand the relationships between the various constructs and some low-loading items were removed. All Cronbach's alpha values for the constructs exceeded the recommended 0.70 value, indicating good reliability of the scales and the average variance extracted (AVE) was bigger than 0.5, attesting the validity of the model. The estimated model shows a strong relationship between human resources practices and frontline employees' attitude (Reg = 0.752). Within the human resources practices construct training and performance are the most influencing variables. The human resources practices also show a positive relationship with the perceived quality (Reg = 0.257). In the present sample, frontline employees' attitude is mostly given by the ability to follow HR guidelines and process (w = 0.985). The estimation of the influence of both HR practices and employees' attitude allows to confirm H1, but no validation could be found regarding H2 (Reg = −0.109).

Table 1 Quality index composition

Index validity		Dimension values	
Cronbach's alpha	0.969	Tangibles	0.766
% of Variance	88.875	Reliability	0.822
		Responsiveness	0.943
		Assurance	0.946
		Empathy	0.968

5 Discussion and Conclusions

In the digital age, it is too easy for tourists to share a good or bad experience with hundreds or even thousands of potential customers regarding their traveling experience. Therefore, firms need to create a welcoming, memorable and friendly experience. As noted in the literature, frontline employees can be the most important element of any service experience. Thus, the "human touch" of the tourism experience can make a great difference in the tourist journey. Consequently, tourism and hospitality firms need to pay attention to their HR practices and their influence on employees' attitude, especially those in the front line that contact and influence tourist's overall service quality perception.

In the present study, the HR practices revealed a strong relationship with service quality and with employees' attitude. These strong links support H1 and Tsaur and Lin [8] findings, and allow to establish that resources management practices influence employees' attitude. Nonetheless, it wasn't found a solid relationship between employees' attitude and tourists quality perception. These results are in contrary to those found Tsaur and Lin [8]. And, therefore, leaving more questions answered, that can be a path for future research works: can the firms' dimension, labor stability, and background constrain employees' attitude or lead to more suitable performances? Our study also suggests several avenues for further research, trying to overcome some of the initial limitations found driven from a one-time sample collected in a specific context. Furthermore, considering the growing role of social media networks, the reviews shared by tourists, could also be considered as manifestations of service quality perception, and therefore, included in future models.

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The Role of Fellow-Feelings and Organisational Harmony to Organisational Performance: A Comparative Analysis Between Two National Contexts

Jashim Khan, Vivi Maltezou, Eddy M. Sutanto, and Meng Tao

Abstract This study aims to test and validate the mediating role of organisational harmony and fellow feelings in the relationship between market orientation and organisational performance across two national contexts—China and Indonesia. The relevant theoretical framework suggests that when market orientation (intelligence generation, dissemination and response implementation) is used as a determinant of business performance, organisational harmony emerged as the most significant contributor to organisational performance. For the present study a dataset of 108 Chinese and 67 Indonesian responses gathered via convenience sampling from senior managers and the multi-level sequential mediation path analysis is used to examine the above mediating role. The results from the multi-group analysis (MGA) of the above relationship between China and Indonesia demonstrate that the research framework's implications did not differ between the two countries. The findings of this paper contribute to the relevant theory by testing and validating fellow feeling and organisational harmony suggesting managers as well to devote resources on building harmonious organisations.

Keywords Market orientation · Organisational harmony · Fellow feelings · Organisational performance

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91

1   Introduction

The most important barrier to market orientation comes from within the organisation and is rooted in the lack of cooperation among departments and employee interactions between functional units [1, 2]. In this regard, inter-functional coordination is one of the typical barriers of the implementation of market orientation [3]. The inter-functional coordination is the degree of cooperation between the different functional units within an organisation [4, 5]. Though inter-functional coordination recognises functional level cooperation and minimisation of task conflicts between various functional units, it does not recognise harmony among employees and between functional units [6]. Organisational harmony is conceptualised in terms of positive effects of team-working and avoidance of direct conflicts among members and between functional units of an organisation [7]. Evidence has showed that organisational harmony is an essential component in market-orientated organisations [8].

In addition, there is extensive literature examining the relationship between market orientation and organisational performance. The findings from the relevant studies have been mainly focused on factors and variables that are emerged as significant mediating contributors to this relationship; for example organisational learning, radical service innovation, trust, commitment, collaboration, business strategy, environment uncertainty, competition intensity, channel structure, customer relationship and supply management proficiency are examined in justifying market orientation-organisational performance linkage [9–14].

The current conceptualisation of market orientation lump intelligence generation, intelligence dissemination and response implementation of business activities together [15–17] but do not explain how the above dimensions impact on fellow feelings and organisational harmony, which in turn will lead to organisational performance. The conceptualisation of fellow feelings relies on the perception of which employees within an organisation share emotions and concerns for well-being, team spirit and feelings of being part of large family, develop the sense of togetherness and they are emotionally attached to each other [18–20]. Fellow feelings empirically uphold the implications of social exchange theory as a contributor to organisational performance [21–23] and market orientation theory [17, 24]. Empirical findings of early work in the literature of this context suggest that organisational harmony might be perceived as a precursor to market orientation and organisational performance as its role is instrumental in the relationship [25]. This research builds on the framework suggested by [25] that retains the essence of building fellow feelings within functional departments to espouse harmony organisation wide. Our study goes beyond the current conceptualisation of market orientation and organisational behaviour literature in terms of fellow feelings and organisational harmony and tests and validates the proposed framework between two national contexts. Prominent scholars urged examining new emergent concepts across countries to test the predictability of the theoretical implications [26]. The aim of this research is to compare the role of fellow-feelings and organsiational harmony in the relationship between market orientation and business performance

across countries (China and Indonesia). Our research validates and extends [25] exiting literature in organisational behaviour context.

2 Literature Review

The role of organisational harmony and organisational performance has been well established in organisational behaviour and human resource management literature [27–29]. In harmonious organisations, employees in various departments maintain shared and common values which in turn create harmonious climate where they get along with each other uphold common organisational goals and make conscious efforts to minimize inter- and intra-departmental conflicts. However, previous studies ignore the logic that market-orientated organisations foster organisational harmony and within this harmonious climate employees' fellow feelings grow for each other assisting to meet organisational performance targets and achieve common goals.

The work by [25] might be seen as seminal in the literature of fellow feelings and organisational harmony. It is a key reference because it provides an early of example of examining the above two variables' relationship by interpreting the mediating role of fellow feelings and organisational harmony. Compared to previous studies, the findings of their research attempt to develop an understanding of fellow feelings, contributing to organisational harmony, resulting market orientation and hence organisational performance.

In particular, the authors proposed that the intelligence generation, dissemination and response implementation activities of an organisation allow employees to interact with each other, create a climate of collegiality and minimise conflict within and between departments. Simultaneously, these activities uphold team spirits and employees in various departments feel they are part of a bigger family and more importantly feel emotionally attached with each other and the organisation. Therefore, market orientation actions influence employees' togetherness and attachments within and outside the functional units. In this line of reasoning the fellow feelings and organisational harmony leads to greater overall organisational performance.

The findings of their study demonstrated that the relationship between various dimensions of market orientation and organisational performance is stronger when they are mediated by fellow feelings and organisational harmony; in particular, it is specifically addressed the important gap in the conceptualisation and demonstrated that intelligence dissemination and response implementation lead to organisational harmony within the organisation and fellow feelings among its employees. The results of their research support that the relationship between intelligence dissemination, intelligence implementation and overall organisational performance is mostly mediated by fellow feelings and followed by organisational harmony. Furthermore, when overall market orientation is used as a determinant of organisational performance, organisational harmony emerged as the most significant contributor to organisational performance, more so than fellow feelings. The findings of [25]

research are significant to create a springboard for future research exploring the established construct of fellow feelings and organisational harmony in business contexts as well as in terms of additional factors and variables that can affect the relationship of market orientation and organisational performance.

In line with reasoning and support from above literature [25], at organisational level where market orientation exists, organisational harmony will be stronger mediator than fellow feelings. Accordingly, drawing on the literature of market orientation and organisational behaviour relevant to policies and activities of fellow feelings and organisational harmony we propose a multi-level mediation as described in the following hypothesis:

H1. The relationship between market orientation and overall business performance is first mediated by organisational harmony and then by fellow feelings.

3   Research Methodology

The research context of this study is trading firms located in Dalian, China and Surabaya, Indonesia. The data collected, through the use of self-administered questionnaires; resulting 108 useable questionnaires from China and another 67 from Indonesia for the analysis. Sampling technique applied convenience sampling, data gathered from senior managers in China and Indonesia. The dependent variable of our study is organisational performance that was measured in terms of the respondents' overall assessment of the average financial and organisational performance relative to competitors in the last 3 years. Based on the research objectives of our study, the survey questionnaire consisted of five main parts each representative for the dependent variables of our study—intelligence generation, intelligence dissemination, response implementation, fellow feelings and organisational harmony—measuring relevant items for each. The items were measured on a five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). There was an additional section gathering information relevant to the respondents' managerial level, firm's year of establishment, nature of firms' ownership and number of employees employed by the firm.

3.1   Measurement

The factor analysis, incorporating the Varimax option, assessed the validity of the measurement (KMO = 0.85; Sig. = .000). Internal consistency reliability was tested, and the Cronbach alpha results supported the dimensional concepts and provided the fullest evidence of construct validity. In order to investigate convergent and discriminate validity, composite reliability (CR) and average variance extracted (AVE) indexes were also examined. The AVE of each construct was larger than 0.5 and CR was larger than 0.7. Thus, the analysis confirmed that the items measured

only one construct and convergent validity was satisfied. According to the Fornell-Larcker criterion [30], the square root of the AVE of each construct was used to investigate discriminant validity, if this value is larger than other correlation values among the constructs.

4 Results and Discussion

We found significant mediating effect of organisational harmony in the relationship between market orientation and organisational performance. The direct effect of market orientation on organisational performance was found to be insignificant ($\beta = .24$, $P > .05$). The mediating path (Market Orientation $\rightarrow$ Fellow Feelings $\rightarrow$ Organisational Performance) was found to be significant ($\beta = .12$, $P < .05$). The multi-level sequential mediation path (Market Orientation $\rightarrow$ Organisational Harmony $\rightarrow$ Fellow Feeling $\rightarrow$ Organisational Performance) was also found to be significant ($\beta = .13$, $P < .05$). Nevertheless, mediating path Market Orientation $\rightarrow$ Organisational Harmony $\rightarrow$ Organisational Performance was found to be insignificant. Thus, the results support our hypothesis H1 (See Fig. 1).

The path between market orientation and organisational performance relationship is stronger via organisational harmony. This relationship suggests that market orientation creates organisational harmony, which in turn affects fellow feelings within the organisation resulting in greater organisational performance. The underlying explanation is that when this relationship is viewed within functional units of an organisation they require effective employees' interactions and fellow feelings to build harmonious relations that create a market orientated organisation [31]. confirms that market orientation did not directly relate to organisational performance but human resource participation did directly relate to profitability. Firms that perform successfully in an external market but cannot perform well with their internal market may find themselves at a disadvantage in the long term [32]. At organisational level, the top management mobilises to construct harmonious environment between functional units and that results in fellow feelings. This relationship plays an important role in service organsiations that tend to rely on employee's (internal market) activities to generate organisational performance. Next, we investigate whether the proposed model of organisational harmony and fellow feelings differentiates between China and Indonesia. PLS Multi Group Analysis (PLS-MGA) tests if the research framework in cross- country (China and Indonesia) has significant differences in their specific parameter estimates [33]. Results of multi-group mediation assessment reveal that path coefficients of direct and indirect paths did not differ as per MGA PLS criteria. Overall, the result of this study is consistent with relevant literature [25].
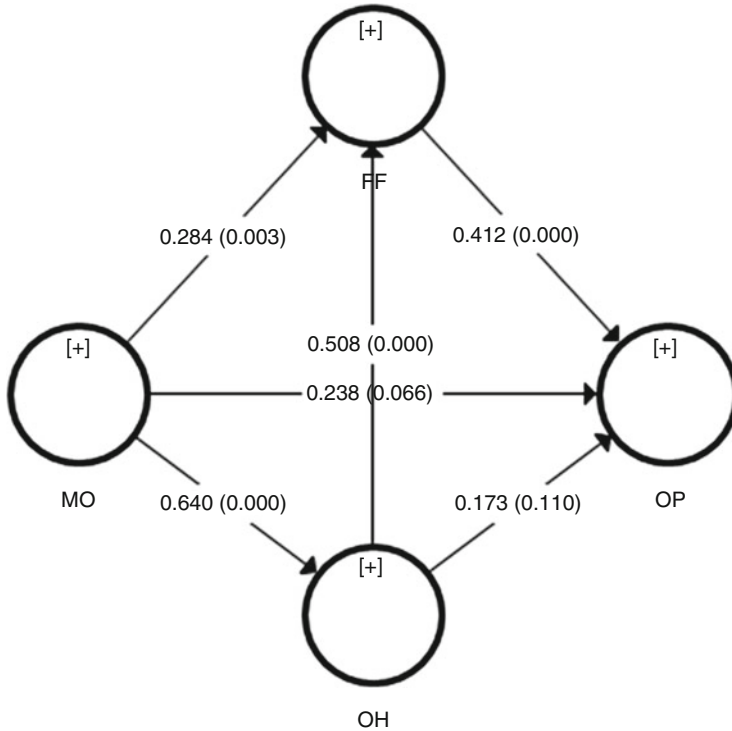
Fig. 1 Research framework. Note: *MO* market orientation, *FF* fellow-feelings, *OH* organsiational harmony, *OP* overall performance

5 Conclusion

The present study serves to enhance our understanding and validate further the theoretical implications from Khan et al. [25] work on market orientation and organisational performance by examining the role of organisational harmony and fellow feelings. The results of our research, acquiring a dataset from two different countries (China and Indonesia), are consistent with the relevant literature's suggestions. That is, the role of harmony becomes instrumental in the relationship between market orientation and organisational performance; market orientation and organisational performance is first mediated by organisational harmony and then by fellow feelings. The role of organisational harmony in delivering business performance contributes to explaining how market orientation operates organisation wide. Further research on the topic can examine and justify the extent to which cultural and societal differences might have a significant impact on the examined relationship.

The limitations of our study pertains on the sample's size that is relatively small, while the measures based on perception such as organisational performance and

harmony could compromise additional and more objective criteria. Expanding data collection to a larger sample in terms of employees, larger publically listed firms and across countries might permit more robust measures, overcoming potential self-reported bias and more generalised results. Overall, market-orientated organisations foster organisational harmony and within this harmonious climate employees' fellow feelings grow for each other assisting to meet organisational performance targets and achieve common goals. At practical standpoint thus, senior management needs to create an internal culture of cooperation, interaction and participation among employees. Acquiring and maintaining a clear organisational goal to ensure that there is a strategic alignment of activities within the firm, articulating an organisational culture that expresses organisational values and promoting organisational harmony, teamwork and minimisation of conflict for the betterment of the firm are some of the managerial implications that can be suggested.

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Cultural Identity, Innovation and Entrepreneurship

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Abstract Refugee crisis has gone hand in hand with the unprecedented economic and social crisis the Greek society has been recently facing. We strongly believe that sustainable development could be a catalyst to the aforementioned problem with respect to immigrant innovation and entrepreneurship. Starting with European immigration policy, we are proceeding with a theoretical review of refugee integration. Following, we describe forms of informal entrepreneurship and innovation. Finally, we consider an account of the context that refugees face with regards to problems, challenges and good practices of innovation and entrepreneurship in Greece and more broadly in Europe. Sustainable development requires entrepreneurship and innovation as a way out from policies, which rely on social benefits and see the foreigner as an outsider from the social fabric.

Keywords Refugee · Identity · Innovation · Entrepreneurship · Immigration

1 Introduction

The international developments following the strike of September 11, 2001 in the twin towers, the consequences of the Arab Spring, the rise of Islamic fundamentalists in Syria, Iraq, Yemen and the Middle East in general, and the growing conflict between the West and the East, have greatly influenced the entry of immigrants into Europe. Greece, in the context of its geopolitical position, is an important point of entry for immigrants, who, due to their number and cultural differences, put in question the concept of European solidarity on a daily basis [1]. More specifically, regarding the numerical part of the influx of immigrants, the following are noted:

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According to the Greek Police (ELAS), "about 875,000 people were arrested in 2015 illegally entering our country" (www.astynomia.gr). The influx of illegal migrants in the first 7 months of 2015 was extremely high, creating serious issues in the management, recording and possible inclusion of these people in the country's social fabric. In Greece the issue that is firmly raised is the crisis of hospitality due to the explosion of cultural difference. Thousands of irregular migrants flow into the Greek space, while at the same time existing structures are unable to capture, evaluate and ultimately accommodate or integrate these groups, reviving feelings of xenophobia, racism and nationalism [2].

The paper discusses the formation of the "foreign" identity, starting with a first European approach in the field of migration, proceeding to a theoretical analysis of different models of integration and ending with the analysis of entrepreneurship and innovation through the lenses of good practices in European countries and Greece. Studying the latter, which is a good practice of integrating first and second generation migrants, considerable identity issues and cultural elements arise. It is noted that in the context of a multi-ethnic and multicultural nation-state, which is part of the European family and a member of a globalized society, it is necessary to tolerate the cultural difference, namely the religious and linguistic differences, as well as the different values of the individual members. Through this path, our aim is to highlight the concepts of immigrant integration as well as the fertile attempts to effectively integrate them into the Greek social fabric.

2   European Immigration Policy

International protection and political asylum begin to occupy Europe after the Second World War when the Geneva Convention on Refugees was signed in 1951. The aformentioned Treaty is then complemented by the New York Protocol of 1967 with regards to the beneficiaries of international protection. In the 1970s, within the European Economic Community (EEC), intergovernmental cooperation on migration, policing, terrorism and internal security was developed. In the 1990s, the Schengen Treaty was signed and applied, which abolished the internal borders of the Member States of the Union and greater emphasis is placed on keeping external borders safe. At the same time, the procedures for implementing the "Dublin" Regulations [I (1990), II (2003) and III (2013)] are underway. The consistent principle of these regulations is that the responsible state for the processing of the asylum application is the first host state of the European Union (EU). In fact, the countries located geographically at the external borders of the Union are responsible for handling all the volume of applications for international protection. The European Dactyloscopy (Eurodac) program, which is essentially a database of fingerprints of asylum seekers in the EU, comes into force in 2003. In addition, in 2004 is set Frontières Extrasures (Frontex), the External Border Control Coordination Office, which controls and coordinates the procedures for controlling the EU's external borders. In May 2007, the Commission adopts the first directive on

the logic of integrating migration into the Union's foreign policy. In the same spirit, it is issued the 2008 Pact on Immigration, which includes "Border Control", "Return of undocumented migrants", "Legalizing of migrants by mutual agreement between Member States", "Asylum policy" and "Cooperation with countries of origin and transit and their development". In this line of thought it is set the Greek Asylum Service according to the Law 3190/2011 as amended by Law 4375/2016.

2.1 Integration or Marginalization

At this point, it is appropriate to see whether the massive influx of migrants into Greece have been transformed into socially integrated populations or, on the contrary, the national element tends to marginalize them more and more by displaying and enlarging the diversity stemming from their cultural identity. Cultural identity, according to Geertz (1973), as stated in Biehl and Prescott [3], is "a historically transmitted pattern of meanings, embedded in symbols, a system of legacy concepts expressed through symbolic forms, with which people communicate, perpetuate and develop their knowledge and attitudes about their lives". National identity has been established on the basis of solidarity, social responsibility and sustainable development. At the same time, it creates feelings of chauvinism, conservatism and inequality. It was established differently as a peaceful element, the indigenous element, which requires in terms of "purity" the cultural heritage of the place. But, the foreigner who "owes" to stay away from any cultural activity that connects this cultural heritage with its everyday life. Thus, the external element is marginalized or, at best, stays indecent, irresponsible, a mere spectator without the minimum requirement of participation or "osmosis" with the environment and the cultural institutions that are the guardians of this cultural heritage. And here comes the important question, in a globalized society where goods and people are interdependent and transported, what is the role of cultural actors in the context of sustainable development in relation to migrant populations, either just passing through the Greek territory and leaving as the intermediate destination either settling down and remaining on the sidelines without creating any relationship positive or negative with the established cultural heritage?

In this context, with regards to Greece, there is a crisis in hospitality. Papataxiarchis [4] examines the status of diversity through the simulator model. In particular, he considers that "equivalence has been put into the service of national homogenization" (page 48). In other words, the foreigner's diversity is gradually assimilated through everyday practice to similarity, provided, of course, that he does not claim any recognition in the official language. Papataxiarchis [4] borrows from Rogers Brubaker (2001) the distinction of assimilation into general and special. As a general assimilation, it defines the process of achieving similarity without being complete, while the special assimilation refers to full assimilation and integration, that is, the status of a common identity. In particular, Papataxiarchis [5] considers that the assimilative violence of the state is mitigated to some extent by the daily

social practices of assimilation—of general rank, according to Brubaker [5]—with the consequence that the general and special versions of assimilation coexist and create a regime with excellent plasticity and tolerance (my own addition). However, Brubaker's theory of general and special assimilation assumes that the indigenous element is homogeneous and that the difference comes to be added from the outside, without substantially enlightening the internal differentiations, economic, political, cultural.

In the opposite side, there is the perception that immigration actually disturbs the nation-state autonomy, constantly reminding how fragile the very constitution of the nation is [6]. In a process of integrating and producing migrant groups, what should be studied is the integration practices, the birth of new identities and the cultural perceptions that change both the newcomers and the natives, who before accepting the first exhibited a homogeneous on-fake identity [7].

The question that remains open is how this construction of identity is relevant and can be viewed through the lenses of innovation and entrepreneurship.

3   Immigration and Entrepreneurship

Recently, industrialized countries have been facing deep economic uncertainty and rising unemployment. As a consequence, a protectionist instinct may be developed that aims inter alia to limit international migration. This instinct is often based on the perception that the number of jobs is stable, or possibly downward, should be taken up by native, not foreign, migrants. When considering these issues, it is important to take into account the various forms of entrepreneurship of migrants. On the one hand, some of the immigrants start a business because they have no other employment options, while at the other end, highly skilled migrants often create very successful businesses, creating jobs [8].

In many OECD countries, immigrants show higher rates of self-employment than indigenous peoples. Migrants have significantly higher rates of self-employment in Belgium, France, the Scandinavian countries and particularly in Central and Eastern Europe [9]. High rates of self-employment of immigrants may indicate very different situations, as migrant entrepreneurship may be as diverse as immigrants themselves are. The extent, size and nature of the businesses created by migrants varies according to the skills and backgrounds of each one. Some of the immigrants set up a business because they have no other employment alternatives [10]. Such businesses may also be a preferable alternative to unemployment. While these firms may have limited growth prospects, they provide some limited income.

Another notable case of immigrant entrepreneurship comes from a specialized part of them, whose activity is rapidly developing in large enterprises. These firms, known as high growth companies, account for the bulk of job growth in many OECD countries. Highly qualified migrants are often the founders of such businesses in the United States economy. According to Wadhwa, Saxenian, Rissing and Gereff [11] 25.3% of technology firms established in the United States between 1995 and 2005

had at least one founder of different nationality. In Silicon Valley, a technology innovation center, more than half of technology firms and technical companies had migrant founders [9].

Because entrepreneurship can be a driving force for sustainable economic growth, many studies attempt to identify the factors that make someone become an entrepreneur. The usual reasons why an immigrant or anyone else could do business include, among other things, cultural and personal predispositions, a regulatory environment that supports entrepreneurship, a commercially viable business idea, access to capital, and alternative employment choices. These factors may have a particular impact on migrants and explain why they often choose the business route [8].

For example, if the immigrant comes from a more entrepreneurial society, he is more likely to start a business than the natives in his host country. Hout and Rosen found that while migrants have higher rates of self-employment, migrants with self-employed parents are less likely to become entrepreneurs than other migrants. This suggests that the migration factor is stronger than the parental factor. Many immigrants, mainly economic migrants and foreign students, have often left their homeland in search of better economic opportunities. They are, by definition, more ambitious, more independent and less risk-free than many of their counterparts who have remained in their country of origin [8].

Access to a coherent social network also tends to promote entrepreneurship. Immigrants tend to form close social networks with their compatriots. These networks can facilitate business by providing funds, support, knowledge and procurement, or even the customer base. The existence of these networks equalizes the fact that immigrants often do not have contacts, knowledge of local regulations and domestic culture, such as the natives do [8].

At the same time, unskilled immigrants with few other job choices are more likely to start their own business [10]. Fairlie in 2008 arguesd that in the United States, illiterate immigrants were much more likely to start a new business than illiterate natives. The relationship between ownership of a business and years of education for migrants follows a U-shaped model, while for the natives the probability of ownership of a business increases linearly according to years of education [12].

Blanchflower and Oswald [13] consider access to capital as the primary factor in determining the decision to establish a business. Following a survey they concluded, people who receive inheritances and donations are more likely to become entrepreneurs. Many new businesses receive initial capital from personal economies, informal investments, or business angels. "Investing angels" usually end up identifying with informal investment and providing funds to a relative or close friend. Immigrants can not have the same access to informal investment because their wider family members live in their homeland and may own less wealth. If they are young immigrants or those who have not succeeded in the labor market, they may have less savings to start a business. Alternatively, immigrants tend to form close social networks with their compatriots.

With regards to globalization and the exploitation of foreign markets, immigrants may have an advantage. According to an OECD 2008 report on obstacles to the internationalization of Small and Medium Enterprises (SMEs), the main problems are: access to sufficient capital, lack of information on business opportunities, limited knowledge of foreign markets and the lack of external contacts and the ability to communicate with foreign customers. But the immigrant is better prepared to overcome many of these obstacles because he/she has contacts and understanding at least for a foreign market, that of his country of origin. According to Saxenian [14], much of the remarkable success of some Silicon Valley entrepreneurs can be attributed to their ability to seize opportunities in foreign markets quickly. Evidence suggests that if immigrants are often founders of high-growth businesses, migrant entrepreneurship can be a major source of job creation for both migrants and the native [15].

The ability of immigrants to innovate, either by finding new production methods or by products and services, can promote the creation of new businesses wishing to benefit from new technology. Thus, the relationship between immigrants and innovation is an interaction that can have many implications for job creation [15].

3.1 Good Practices, Obstacles and Challenges from Greek and European Perspective

Asylum seekers have access to more social programs than family or economic migrants across Europe and are therefore entitled to more financial and educational resources when they settle in a country. In this line of thought, a study was conducted by the Refugee Studies Center (RSC) of Oxford University in collaboration with Deloitte, which examines the lives of Syrian refugees in Austria, the Netherlands and the United Kingdom on the opportunities they have to find work and thereby contribute to the local economy. The results of this study show the paradox that while 38% of them are university graduates, 82% of the total remain unemployed and rely mainly on state grants [16]. At the same time, contrary to the allegations about the prevalence of refugee inherent entrepreneurship, only a very small number of Syrian refugees manage their own businesses in the host country, officially or informally. This is despite the fact that a high percentage of them were entrepreneurs in their country of origin [16]. Also, the results of this research question the prevailing view that refugee entrepreneurship takes place in the informal economy. Since those who are unemployed, only two respondents (0.88%) reported that their main source of income is from the informal economy. However, it is important to note here that almost all the Syrians who participated in the survey arrived after 2014 and therefore did not have enough time to start and build new businesses. Therefore, we must not reject business opportunities within that community. In addition, there is some confidence among participants about their ability to raise the sum of € 10,000 to start a business. However, the ways through which they could achieve it

differ. More specifically, while 21% would be directed to friends or family, 21% would go to a state service and only 23% of the refugees would propose to approach a bank [16].

Coming now to Greece, from the point of view of international migration, we are facing a country with a migrant population equal to about 9% of its total population and 12% of its labor force. This population accounts for 80% of potentially economically active people, more men than women, mainly from Eastern and Southeastern Europe. The most common cause of migration is economic, followed by family reunification, repatriation and asylum.

The main problems faced by migrant entrepreneurs in Greece and which seem to affect them are: linguistic barriers, limited knowledge of business management and product promotion, limited to specific commercial activities, non-financing by the state, their access to financial funds, wealth inequality and discrimination. In addition, many researchers report that access to finance is at the same time one of the most important determinants of small businesses that are linked to their success [17].

As a result of the study, regarding the impact of demographic data on the successful entrepreneurship of immigrants, the migrant's good economic situation in his/her country of origin and the number of immigrant family members employed in the enterprise are positive. On the contrary, negative influence on the successful entrepreneurship of migrants is shown to have foreign accent. Concerning foreign accent, it is argued that lack of linguistic competence can lead migrants to self-employment [17].

4   Conclusion

On the one hand, the systematic rise of extremist parties in Greece and racist violence, while at the same time the cruel entry of irregular migrants in Greece due to the Middle East's war situation, significantly shakes the hospitality of the foreigner, and even more importantly the identity of the Greek. In this article, we tried to highlight the context of multicultural identities, as well as an expression of human action described as entrepreneurship when refugees enter the European 'roof'.

Bearing in mind the first steps—of course, in our view—of European immigration policy, we wanted to highlight a first picture of the entrepreneurship and innovation of these human groups. Also, in this context of a systematic influx of migrants and in addition to a Greek context of economic crisis, bankruptcy and systematic dissolution of the social fabric, it is important that initiatives such as the European Qualification Passport need to be strengthened, but also obstacles such as language, the accumulation of capital as well as the excess of bureaucracy as mentioned in the Refugee Studies Center (2017) survey must be overcome in order to allow newcomers to integrate their knowledge and pre-existing entrepreneurship into the new labor and economic-social context. It should also be noted that at

this stage a refugee's weakness, despite the highest level of education, has been observed to act in business and essentially remain the "guests" of the social benefits of European states, NGOs and international organizations. While the optimal, in our view, target requires healthy initiatives to support entrepreneurship, so that these populations will soon use past knowledge in an innovative and effective way.

Hence, if these obstacles are lifted then we could move a step towards integration not marginalization in the sense of new identities which mingle together the indigenous part and the newcomers. The construction of these new identities would be the optimal target and the drive through innovation, entrepreneurship and sustainable development.

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A Model of Brand Cocreation, Brand Immersion, Their Antecedents and Consequences in Café Brand Context

Fulya Acikgoz and Asli D. A. Tasci

Abstract This study develops and tests a model with complex relationships between brand cocreation and brand immersion as well as what affects them and what they affect in return. Considering cafe brands as micro destination brands, it is expected that both macro destination brand factors, namely sense of place, sense of community, and place attachment as well as the sense of brand community of the café brands will influence both café brand cocreation and immersion. In return, both café brand cocreation and immersion are expected to influence well-being of the consumer and the café brand.

Keywords Brand cocreation · Brand immersion · Brand loyalty

1 Introduction

Providing satisfying experiences to consumers has been one of the essential elements for prosperous marketing strategy [1, 2] however, satisfying experiences have been a moving target, continuously changing in line with the consumer preferences. In recent years, the notion of "co-creation" has been adopted for the right formula of satisfying experiences where the consumer is a creator of value, interacting with the organization to "co-create" value [3–5]. Co-creation experience has been applied in several industries such as marketing, psychology, entertainment, and especially tourism and hospitality [6–11]. Even though researchers have done many conceptual and empirical studies to explain different aspects of cocreation, the antecedents and the consequences of service experience co-creation have not been examined in the same study. This paper, therefore, aims to fill this gap in the

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literature and is to understand the factors which have potentials to affect the service experience co-creation as well as its consequences in this regard.

A close correlate of cocreation is brand immersion, the involvement of consumers when they experience and enjoy their consumption, to the point of forgetting the passing of time [12–16]. Brand immersion can occur under the right circumstances where consumers fully engage with the brand and tune out other stimuli in the environment. Even though brand immersion has been neglected in tourism and hospitality a similar concept, flow, has been used to explain delightful leisure experiences where the consumer is fully involved in the object or activity and "nothing else seems to matter" [17]. When in the flow state, consumers involve, absorb, and immerse in their activity [18, 19].

The current study aims to provide a holistic explanation of cocreation and immersion for café brands by modeling the complex relationships of their antecedents and consequences for café brands as well as consumers' well-being as displayed in Fig. 1. Assuming socioeconomic and cultural factors defining consumption of local and global brands, the model is tested for a local and traditional cafe brand and a global cafe brand, Starbucks. The influence of antecedents on cocreation and immersion as well as their influence on brand well-being and consumer well-being are expected to differ.

2   Literature Review

2.1   Sense of Place

The notion of "sense of place" is defined as the way in which individuals associate with, or think about the environment where they exist [20]. Sense of place is the result of personal values and beliefs shared by the citizens of a neighborhood or society to express the components that make the region unique for strangers [21]. Since an individual has lived in the same place for a long time, after a while, she or he feels like at home and feels secure, thus sense of place develops [22]. This means, the process of sense of place depends on the residential status of those who live around the place [22]. Hence, sense of place is mostly examined in psychology and sociology fields. In the current paper, sense place is considered as a macro level destination factor potentially influencing micro level café brand co-creation and immersion.

2.2   Sense of Community

Sense of community refers to the important human aspect of common experience with neighborhoods [23]. The sense of community is a hard emotion of
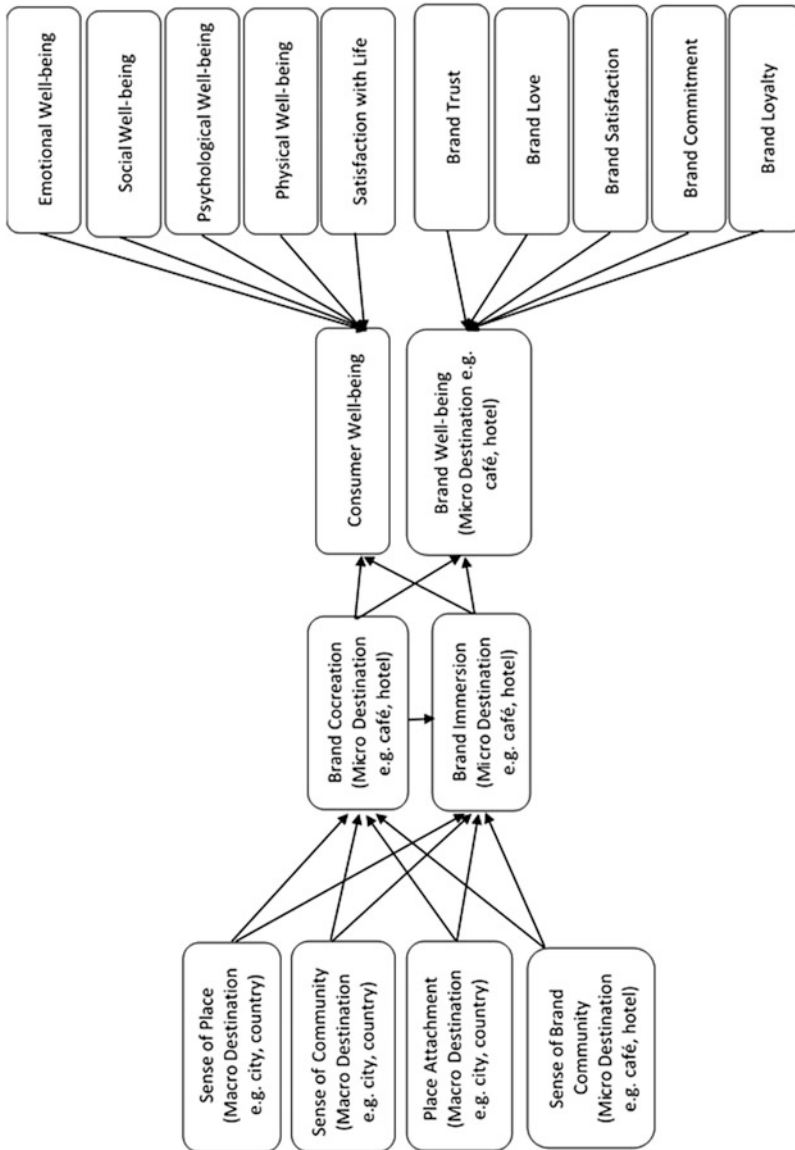
Fig. 1 The antecedents and consequences of brand cocreation and immersion

members who possess belongingness, share common faiths, and dedication for each other [24]. In light of this expression, [25] put forward that a sense of community consists of four elements including membership, influence, reinforcement, and shared emotional connection. Sense of community has been examined in different contexts such as community organizations [26], immigrant communities [27] and neighborhoods [28]. In the current study, it is treated as another potential antecedent of micro level café brand co-creation and immersion.

2.3   Place Attachment

Place attachment was initially obtained from the attachment theory [29]. It can be described as the emotional link between an individual and a place [30]. This bond generates "the sense of physical existence and feeling" [31]. The place attachment can be examined for distinct contexts like sociology or anthropology. In each field, place attachment is studied within one or more dimensions. For instance; in tourism; place attachment has resulted from place dependence, place identity, social bond, and affective attachment [32]. In the current study, place attachment is considered as a macro level destination factor potentially affecting micro level café brand co-creation and immersion.

2.4   Sense of Brand Community

Sense of brand community implies an individual's feeling of himself or herself to be part of any specific brand community [33]. According to [34], a brand community is a "specialized, non-geographically bound community based on a structured set of social relations among admirers of a brand" (p. 412). From those perspectives, the feeling of belongingness is one of the most important parts of brand community identification. To put it differently, if a person feels belonging to the brand or feel as a member of the brand community, the sense of brand community occurs. This community is totally different from other types of communities since the brand community reflects shared or common identity [35]. In the extant literature, various studies advise that sense of brand community form two dimensions; affective and cognitive dimensions [36, 37]. In the current study the sense of micro level café brand community, besides the macro level destination factors are considered as an antecedent of micro level café brand co-creation and immersion.

2.5 Brand Cocreation

Co-creation can be identified as the shared creation of value by both the firm and the consumer [11]. The concept of co-creation is based on customized experience, which means generating an environment where consumers can own effective discussion and co-idea individualized experiences. Moreover, even though any product or brand might be the same, consumers can experience it differently every time through co-creation of the brand or experience. In co-creation brand experience, there is a continuous information exchange between the company and the consumer. For this reason, direct communications with consumers and consumer communities are significant [11]. Based on this importance, we study brand co-creation of the micro level café brand as an antecedent of both consumers' and brands' wellbeing.

2.6 Brand Immersion

Perceived immersion is defined as partaking in any certain immersive media that generates an experience of extensive consumption, interaction, and involvement [38]. Following the mainstream definition of perceived immersion, we describe brand immersion as a person immersed with any specific brand related to product and services. In this process, the person interacts with the brand in terms of both cognition and affective components [13]. Particularly, perceived immersion is mostly examined at technological fields such as virtual reality [39]. In the current study, brand co-creation of the micro level café brand is considered as another antecedent, besides brand co-creation, of both consumers' and brands' wellbeing.

2.7 Consumer Well-Being

The notion of well-being is associated with the degree to which life has worth or purpose and is also called as "good life" [40]. Well-being tries to explain what makes individuals satisfied with their life [41]. Well-being has been attributed to both negative and positive outcomes such as depression or stress as opposed to high level of life satisfaction [42]. Generally, well-being contains various dimensions [43]. Even though these dimensions vary in each study, in this paper, we examine the antecedents of consumer well-being which constitute emotional, social, psychological, physical and satisfaction with life as the outcomes of micro level café brand co-creation and immersion.

2.8 Brand Well-Being

Parallel to consumer well-being, brand well-being is a composite construct used to refer to mainstream outcome variables including brand trust, brand love, satisfaction, commitment, and loyalty. These outcome variables have widely studied in literature. The uniqueness of the current study is combining them into a composite construct of brand well-being and testing the influence of micro level café brand co-creation and immersion on the café brand's well-being.

3 Methods

A comprehensive and concise questionnaire was developed to measure all concepts included in the model. The questionnaire consists multi-item scales to measure cocreation [44], brand immersion [45], sense of place [21], sense of community [23], place attachment [46], sense of brand community [33], brand trust [47], brand love [48], brand satisfaction [49], brand commitment [50], brand loyalty [51], social well-being, physical well-being, emotional well-being and psychological well-being [40], and quality of life [52]. Scales were either directly borrowed or slightly modified to fit into the current context. The model is tested on the data collected from the consumers of traditional Turkish cafes as well as consumers of a global café (Starbucks) to identify the explanatory power of variables for local and global café brands. The data will be analyzed using structural equation modelling (SEM).

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City Branding: Proposal of an Observation and Analysis Grid

Ezzohra Belkadi

Abstract The city branding has been very successful in recent years. There is an increasing number of cities, countries or regions that have invested in territorial brands. The theoretical field of city branding is very young and still in development. Several questions still remain and for which answers are needed. The aim of this article is to study the relevance and the role of city branding. The idea is to start with a review of literature of city branding and its role in place development to construct a grid of analysis and observation of place branding. This observation grid makes it possible to observe and analyze the branding experiences.

Keywords City branding · Observation grid · Value of the brand

1 Introduction

City Branding concerns the transposition of the principle of branding to cities. It was first developed in the field of tourism. Place Branding has developed because cities, regions and even countries have become very concerned about their image and are working hard on their brands. The question has become current issue and concerns today's both developed and developing countries. In recent years, several cities have developed city brands and some have had real success. Cities like Amsterdam, Berlin, Barcelona and Lyon are involved in a place marketing approach and have designed their own brand. For example, Barcelona is the world's sixth most powerful city brand after Los Angeles, New York, London, Paris and Seoul, according to the Guardian's City Brand Barometer.

The aim of this article is to study the relevance and the role of city branding. The idea is to start with a review of literature of city branding and its role in place development to construct a grid of analysis and observation of place branding. This

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observation grid makes it possible to observe and analyze the branding experiences. This grid is innovative because the city branding theory is still under construction and there are no tools yet to analyze the city branding experiences of cities and territories. The managerial implications of this grid concern its use by local authorities to make a diagnosis of the situation of their city before starting the city branding process.

2 Place Is Not a Product like any Other

City Branding is a way to improve the attractiveness of a city. In the same way a company seeks to attract and retain customers, a city aims to attract and retain tourists, investors and talent. However, a place offer is much more complex than a product offer. A place is much more complex than a commercial product. Kavaratzis [1] emphasises that the complexities involved in city branding are ever greater than corporate branding and the difficulties are more acute. Whereas Anholt [2] declares that the idea to 'do branding' to a country (or to a city or region) in the same way that companies 'do branding' to their products is both vain and foolish'. The development of a city branding is more difficult than the trade brand because of the complex and contradictory qualities of cities [3].

The first difference relates to the nature of the process and the actors involved. City branding is the result of the intervention of a plurality of actors and disciplines. It involves several actors: politicians, consultants, regional managers, associations, businesses and residents. The involvement of these actors is a prerequisite for the success of the process. City branding is also aims at several targets: investors, residents, tourists, creative class … etc. Taking into account the needs and expectations of these different publics in a single brand makes this very difficult. This multitude of actors represents a real challenge for the territorial brand [4]. The variety of actors in a city makes the process of developing the city branding difficult for practitioners [5]. Internal acceptance of the city brand is essential. Anholt [6] explains that the presence of several different agencies, associations and administrations making the promotion of the city makes the thing even more difficult.

The price component is also a source of difference compared to conventional marketing. While for a trademark, price is an element of control of the commercial offer of the firm. A city does not always control the prices of services and products. The price plays an important role in the perception or the image of the city but escapes in part the control of the territorial managers. Govers [7] reaffirm this by declaring that "some of the intrinsic characteristics of place make it difficult to control and manage place in a direct and straightforward sense as one might a commercial organization". The price is for services but also for premises and land.

Place Marketing differs from classical marketing by the fact that supply is built over the long term. Kavaratzis and Hatch [8] explain that there are complex interactions between these realities and psychological and emotional extensions.

These aspects constitute realities that make the city offer difficult to change in the short term. This specificity limits the margins of maneuver in the context of city marketing. The intrinsic characteristics of the city make management and control of city supply difficult, as is the case for commercial products.

3   City Branding: Proposal of an Observation and Analysis Grid

Brand analysis imposes a global approach. The success of the brand is the result of a creative design work but above all a product that is effective for consumers. To analyze a brand is to have an integral vision encompassing the brand, the territory, the actors ... etc. We propose an observation and analysis grid (Fig. 1) of the city branding based on four groups of variables. The grid includes, in addition to the visual elements of the brand, the promise of value of the brand. A brand is always accompanied by a slogan with a promise of value. The functional and symbolic elements of the territory constitute the backdrop to the success of a brand and define the identity of the city. The city branding must also correspond to the local identity and accepted internally, that is why it is important to integrate the notion of brand ambassadors.

Fig. 1 An observation and analysis grid of the city branding
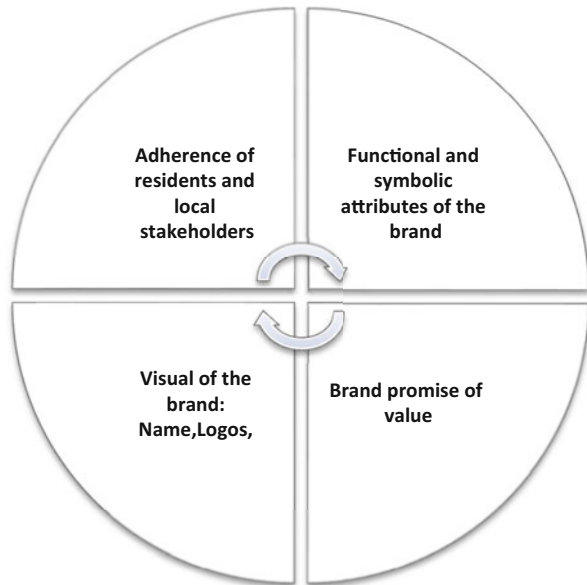
3.1 Visual of the Brand: Name and Logos

The name and logo are the visible elements of the brand and they play an important role in the success of the brand. The choice of the brand name is more complicated for a city because it already has a name. There are, moreover, names of cities or regions more attractive than others. These names can be assets as they can constitute handicaps. The existence of a name leaves little room for maneuver for cities to choose their brand name. The authors propose, as for corporate brands, to integrate music to accompany a brand name [9]. Moreover, for the marketing of products, the use of music has proved itself. The use of a jingle or a sound logo has been a success for several brands. The music must be able to reflect the identity of the city. In these cases, the audio logo becomes a sound medium to identify the brand.

Some authors propose to integrate the images to accompany the logos of the territorial brands. The choice of images like that of music must be very careful because it is the visual and sound identity of a territory that already has an identity. The point of departure is therefore this identity which must be studied, defined and even worked on. This identity can form the basis of the branding work through the use of history to communicate this identity.

Finally, it must be emphasized that the territorial brand is not limited to a slogan or a logo. So, Robert Govers [10] explains that an attractive logo or brand name is not enough to improve the attractiveness of a territory. He explains that Branding is the management of the brand's reputation and equity management. He explains that several politicians and practitioners think that a city branding is the definition of logos or slogans for the territories logos rather it is the identification of what makes a territory distinct.

3.2 Functional and Symbolic Attributes of the Brand

A strong brand is associated with a strong image. It must be associated with beneficiary goods or services. A strong brand is often justified by distinctive qualities of the product. This means that the brand can only fully play its role of creating value if it relies on the tangible performance of the product. The notion of image desired by the company also has a role to play. A brand is all the stronger when the product offer arrives to realize the promises advanced in the promise. Benko [11] explains that it is a matter of positioning itself in relation to the others, but above all within an economic unit in order to develop a competitive advantage. The choice of the desired image consists in conferring on a city offer salient features likely to make it attractive to the target, differentiating it as far as possible from the offers of the competing cities [12]. This situation of balance between the desired image and the real image perceived on the market is a factor of success of the brand.

The development of a brand requires thorough reflection and an internal and external diagnosis of the region or city concerned. Thus, for a city, the strength of

the brand is also linked with the city offer. A territorial brand is all the stronger as the city is recognized for its quality of life, its offshore zones, its advantageous tax system, its advantageous geographical characteristics, its climate, its political stability, its shopping offers... The idea is not to design a brand but to develop a competitive offer.

The choice of a city branding must also take into account the specificities of the city and be based on the history, culture, values and identity of city and be based on the history, culture, values and identity of the city. Several experiences and successes are cited in the literature as city branding Bretagne, Lyon and the Auvergne in France. Kavaratzis [13] Defines place branding as an activity aimed at creating new associations with the place. Eshuis and Klijn [14] claim that the role of branding influences the actors perceptions and motivation. Van Ham [15] argues that a place brand comprises "the totality of the thoughts, feelings, associations and expectations that come to mind when a prospect or consumer is exposed to an entity's name, logo, products, services, events or any design or symbol representing them". According to Maynadier [16], the brand is perceived as creating value; this practice "would therefore aim to add value to the city by the addition of a brand".

For Rainisto [17], the goal is to create a city brand and to value an identity. Kapferer [18] explains that place branding is a strategic tool for differentiation, identification and association with the place. Brand identity integrates facets of internal stakeholders, who constitute and live the brand. This work of conceptualizing the identity of the territorial brand is different from that of products in classical marketing. While for a product, talking about identity and personality of the brand goes through a work of imagination. Thus, in traditional marketing the identity of the brand is defined as the way the brand wants to be perceived by the consumer, what we are trying to express through the brand. Cities have an identity which is theirs on the international level, own by their history, nature, inhabitants, specificities... It is for this reason that the authors insist that the identity of the territorial brand must be understood and accepted by the actors internally [19]. Their involvement in the elaboration of this identity is primordial.

The elaboration of the elements of the identity of the brand constitutes the basis of the development of the promise of the brand. The identity of the brand encompasses the functional and emotional aspects of the brand. In a more sociological context, the identity of a territory is the result of an interconnection between the social and human characteristics and the physical and special characteristics of the city or the country. Hernandez, Salazar-Laplace and Hess [20] define the identity of a city as a composition of a social and personal identity. They define, place identity, as a component of personal and social identity, a "process by which, through interaction with places, people describe themselves in terms of belonging to a specific place". Place identity could best be understood as that which makes a place unique.

3.3 Brand Promise of Value

What promise can be made and for which target audience? This implies a real internal and external diagnostic work on the assets and handicaps of the territory. The strength of the brand depends on the product's ability to deliver its promises. Without a promise, a brand does not make sense. The promise constitutes the basis of the desired image of the city and is not always implicit. It can be declared as undeclared and underlying. When one speaks of France for example, we understand the luxury which constitutes its distinctive quality. We can therefore conclude that the first step in the development of a brand is to determine what the territory can offer; in what is it better? This work must be objective to keep in touch with the real image of the city. The promise of value is facilitated by communication programs to deliver this value [21].

3.4 Adherence of Residents and Local Stakeholders

Building a brand strategy must involve all stakeholders. The cities are characterized by the multiplicity of stakeholders. The process of elaborating the territorial mark must take into account the tangible and intangible attributes and the values of the various actors composing the territory [22]. Stakeholder management and citizen participation are regarded as essential factors in successful place branding in the western countries, as they have often developed formal place marketing policies to improve their image [23]. Ashworth and Kavartzis [24] reaffirm this by stating "all too often cities adopt only a part of the branding process, namely the development of a catchy slogan and/or the design of a new logo to be attached in promotional material'. Van Ham [25] reiterates this by declaring that "place branding involves multiple stakeholders, often with competing interests; unlike product branding, place branding is seldom under the control of one central authority". While place branding follows many of the principles of brand management, one of the key differences hinges on the diverse interests of multiple stakeholders.

A city is composed of several actors: residents, civil society, companies, politicians, territorial leaders… This multitude of actors also translates into different expectations and needs. The city brand must be the result of a process of consultation with all stakeholders. Residents constitute the very foundation of territorial identity, and their involvement is therefore paramount. Often the consultants in charge of city branding are internationals who do not know very well the territorial identity. Active involvement of residents enables them to clearly identify the key elements of this identity. Businesses are also a key player in the process of developing the city brand. Some territories allow companies that wish to use the territorial brand provided they meet a specific specification. This makes it possible to create a dynamic around the territorial brand and to involve local companies and products in the promotion of the city.

Residents must accept the brand. A city brand not accepted internally can not succeed. Acceptance of the brand is a first degree of the involvement of residents. But this involvement can go further as residents can be ambassadors of the brand. Residents can play a large role in the city branding process as long as they are an internal target and an integral part of the city branding, they have a political influence in the determination of policies and initiatives to legitimize the territorial brand. Thus, certain cities or regions choose certain in habitants to represent the brand of their city. These ambassadors are often sportsmen, artists, writers or famous people. Thus, to be ambassador of the brand of Berlin, the residents of the city had to explain with their history how they contributed to change Berlin.

4 Conclusion

City branding has become a global phenomenon. All major cities now have their own brands. Cities in developing countries have also invested in this exercise. But is a brand and a graphic charter enough for the attractiveness of a city region? The answer is no, provided that the notion of a brand is not just a slogan or a visual signature, but rather the result of a process of research into what the city or region has and can offer and that the other cities do not have. The brand is only the ultimate step towards achieving success or competitive advantage. City branding should start from the selection of a specific theme of attributes and the conversion of the desirable attributes to brand identity [26].

However, the city Branding experience is relatively young. Certainly the brand should not remain a slogan and a logo. The city branding of some cities has been a success but this is not the case for all cities. There is unfortunately often, a problem of integration between the project of development of the city and the city branding. The brand, thus, is not associated with any promise of value. The brand can only create value if it is based on a valuable offer. The present observation grid can be a tool to help local authorities identify the strong points of the city or region that can be used as the basis of the city brand. It also makes it possible to emphasize the need for accessions of the different actors: residents, associations and companies.

The city branding can never succeed without the adhesion of the residents. The city must ensure that the brand is accepted internally. A city whose residents do not have a good image can never have a good image externally. Residents must therefore be involved in the process of reflection and design of the city branding.

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City Branding of Casablanca in Morocco

Ezzohra Belkadi

Abstract The phenomenon of city branding has become global. City branding is the creation of a brand for places to improve its attractiveness. The goal of this research is to study the city branding theory based on Casablanca branding experience. The idea is to start with a review of literature of city branding and its role in place and to analyze the new city brand of Casablanca in Morocco. The objective is to determine the conditions of success of a city brand and to make recommendations to the managers of Casablanca to improve the image of the city of Casablanca.

Keywords City branding · Value of the brand · Brand success · Satisfaction of the residents · Image

1 Introduction

The use of city branding is very recent; it dates back to 1980 even if Ward [1] claims that it goes back to the nineteenth century. It has shaken up the field of management and territorial competitiveness. Kotler and Levy [2] were among the precursors how claim that marketing could be extended to places. As individuals, capital and knowledge have become mobile, the development of places as a brand helps them attract capital, and tourists and Creative class [3, 4].

A large majority of cities have invested in the experience of a city branding. The phenomenon is no longer limited to large cities and developed plays. Today, small towns and even cities in developing countries have begun to have a city brand. The aim is to improve their attractiveness, to attract tourists and investors. Place Branding or territorial brand has developed because cities, regions and even countries have become very concerned about their image and are seriously working

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on their brands. The issue has become topical and is now of interest to developing countries as well as developed countries.

The aim of this article is to study the city branding theory based on Casablanca branding experience. The idea is to start with a review of literature of city branding and its role in place and to analyze the new city brand of Casablanca in Morocco. The objective is to determine the conditions of success of a city brand and to make recommendations to the managers of Casablanca to improve the image of the city of Casablanca.

2   Review of Literature

The City Branding theory is a recent theoretical field which began to develop with territorial marketing in the 1980s. Being a relatively young discipline, it still suffers from a lack of consensus at the level of definitions and theoretical foundations. It is a theory at the crossroads of several disciplines such as territorial marketing, public management, and public diplomacy.

Place branding has enjoyed great success in recent years, as evidenced by the number of logos and brands developed for cities and regions. In this field, the concept has been very successful and has created a gold mine for consulting firms. Academically, things are more complicated. City branding is studied from several different disciplinary angles which lead to a certain dispersion in the results. The development process and the Analytical work of city branding still have a theoretical blurring attributed to the youth of this theory. Renaud Vuignier [5] explains the existence of a conceptual blurring, a divergence of definitions and a weak theoretical base; which contribute to a very wide spectrum of objects of study. By the way, several questions need to be asked about the relevance of the city branding process. Is City branding sufficient to improve the attractiveness of a city? What conditions or prerequisites must this brand have to play its full role in the city development? Originally, the brand played a role of a guarantee. It allowed companies to stand out from the competition. In the beginning, the first role of the brand was therefore legal and consisted in the authentication of the origin of the product. It fulfilled a certain promise of quality or value to customers. This promise made it possible for companies to differentiate themselves and create a competitive advantage. But the role of the brand today is the creation of value. When a strong brand is associated with a performing product, it translates into a value resulting in a price premium paid by the consumer.

In the Anglo-Saxon literature, we distinguish between destination branding and city branding. Destination branding concerns territorial brand for tourist destinations. The latter is only a special case of a place brand with the attraction and satisfaction of tourists as a target. In our review of literature, we found a large number of definitions of city branding. Table 1 summarizes the main definitions.

The development of a territorial brand is more difficult than a trademark because of the complex and contradictory qualities of the territories. Places are unique and

Table 1 Definitions of city branding

Author	Definition	
The American Marketing Association	A customer experience represented by a collection of images and ideas; often it refers to a symbol such as a name, logo, slogan, and design scheme.	
Aaker [6]	Multi-dimensional constructs, consisting of functional, emotional, relational and strategic elements that collectively generate a unique set of associations in the public mind.	
Batey [7]	A cluster of associations concerning attributes, benefits and values.	
Braun et al. [8]	A network of associations formed in the consumer's mind, and those that matter to the future of the place are developed from the visual, verbal and behavioral expression of a place.	
Zenker and Braun [9]	A network of associations in the consumers' mind based on the visual, verbal, and behavioural expression of a place, which is embodied through the aims, communication, values, and the general culture of the place's stakeholders and the overall place design.	
Kavaratzis and Ashworth [10]	Places are complex entities made up of numerous characteristics: environment, urban design, history, culture, politics, etc. A place brand can synthesize these components into an organized, unified image that signals content and differentiability.	
Kapferer [11]	The brand is a name (with its associated signs) that brings fame.	
Pasquinelli [12]	Place branding consists in an adaptation of business theories and practices to places with an emphasis on corporate branding in order to establish a fair reputation and build a brand equity supporting the pursued development path.	
Braun et al. [8]	An intangible idea based on the perceptions of internal and external audiences.	
Van Ham [13]	The totality of the thoughts, feelings, associations and expectations that come to mind when a prospect or consumer is exposed to an entity's name, logo, products, services, events or any design or symbol representing them.	
Eshuis et al. [14]	Symbolic constructions aimed at strengthening the meaning or interest of cities. Signs that make it possible to identify places and to evoke associations that permeate places of cultural significance.	

their commercializing is not a simple process of translating conventional marketing theory and practice derived from the marketing of goods and services. They see the role of events in the transformation of cities as a paradigmatic example of the peculiarities of territorial marketing. The goal for a city is to improve the attractiveness of the city. It is about improving the image of the city to attract the tourists, the investors, the creative class … etc.

The development of the city brand must begin with the determination of the promise of value of the city to its different stakeholders. The question is: what promise can be made and for which target audience? This implies a real internal and external diagnostic work on the assets and handicaps of the territory. Without a promise, a brand does not make sense. In the past, place marketing strategies centered primarily on functional attributes such as the beauty of particular environments, advanced infrastructures, etc. Recently, the focus of place marketing has shifted to promoting emotional and experiential attractions [15].

In the literature, we speak of the resident's adoption of the place brand which is the result of the integration of the residents in the elaboration project. Rehmet and Dinnie explain that internal stakeholders are in direct or indirect contact with the visitor and therefore form an important group which has the potential to be the determining factor as to whether the place brand promise and brand reality are consistent [16]. The adoption of the brand by residents improves the reputation of the city. This adoption depends on the acceptance of the new brand by residents and its ability to reflect the reality of the city as lived by the inhabitants. One of the consequences of this adoption is reflected in the role of the residents as ambassadors of their city. The literature names the formal ambassadors residents who are formally chosen to become ambassadors for their cities: athletes, artists … etc. Residents are always ambassadors of their cities and their quality of life, satisfaction, adoption of the city brand are all conditions for the good image of the city. Braun, Kavaratzis and Zenker highlight that residents play three key roles in place branding: through their characteristics and behavior, as an ambassadors for the place, giving credibility to communications about it, and as citizen and voters who are vital for the political legitimization of place branding [13].

The city brand must create value by making the city a privileged destination and a place with a good standard of living. Several researches have focused on the analysis of the branding experiences of cities. Rehmelt and Dinnie studied the Berlin branding experience and revealed new insight in the key factors of decision-making process determining whether citizens engage or not engage with ambassador programs [16]. Filareti Kotsi studied aligning multiple stakeholder perception of visual and auditory communication elements based on the case study of United Arab Emirates [17]. The study highlights the importance of resolving multiple stakeholder perspectives and the importance of the stories that can link various narratives that are important for nation branding and building, since common visuals have layered interpretations. But a question arises: is it enough to create a city brand to become a preferred destination? Are all city brand experiences successful? We will try to answer this question through the study of branding experience of the city of Casablanca.

3 Case Study: Casablanca Branding

The city of Casablanca has experienced the influence of several civilizations: Roman, Phoenician, Arab and Berber and then French. Geographically, the city is a gateway to Europe and Africa. Located on the Atlantic coast, the Greater Casablanca Region covers a total area of 105,000 hectares and is composed of two prefectures and two provinces. The city was built on the ruins of the ancient medieval city of Anfa and became the port of Dar-Al-Baida with the Sultan Alaouites Mohamed III of Morocco in about 1788 that the name of Casablanca saw the day. Under the French protectorate, it became one of the great ports of Africa with a large European community. In terms of number, the population of the city amounts to 4,270,750 inhabitants including 28,161 foreigners, which represents 12.6% of the total population of Morocco [18]. The city hosts 1,892,975 international visitors every year. Being the economic capital, the city is at the center of the economic concerns of the country. An envelope of 3.3 billion Euros is devoted to improving the infrastructure of the city and the living environment of Casablanca. The country wants to make the region a real international financial hub and improve the living environment of its inhabitants.

The city of Casablanca, the economic capital of Morocco, has acquired a territorial brand and a logo since the end of October 2016. The objective, according to the city officials, is to raise and affirm the identity of the city and reinforce the pride of being Casablanca and attract investors and tourists. The city of Casablanca, the economic capital of Morocco, has acquired a territorial brand and a logo since the end of October 2016. The objective, according to the city officials, is to raise and affirm the identity of the city and reinforce the pride of being a resident of Casablanca and attract investors and tourists [19].

3.1 Analysis of the Brand Logo of Casablanca

Part of a wide range of stimuli consists of the symbolic place brand elements, such as the name, logo, tagline and all other symbolic expressions of the place brand that represent the place in the mind of the person encountering it [20]. For Casablanca, WeCasablanca is the new territorial brand created to accompany the development project of the great Casablanca (PDGC). The brand was unveiled in October 2016. The visual identity of the city of Casablanca is made up of a wecasablanca logo. This brand was created by Ernest & Young. According to this consultancy firm, the blue color refers to the dominant color of the city (ocean, sky . . .) and the black color in counterpoint balances and stabilizes the whole. The arch above Casa symbolizes the mixing of Arab and Western culture and embodies the value of openness with an arch bridge between the two cultures and referring to the emblematic arcades of the metropolis. The starting point confirms the unifying character of the visual identity.

Fig. 1 The logo of the
Casablanca Brand

Fig. 2 The Arabic logo of
the Casablanca brand in
Arabic

Casa is drawn as a symbol at the heart of the name with a nested concept. The visual
identity was not accompanied by any audio signature (Fig. 1).

This visual identity was not well received by residents. It was very much
criticized by the residents. It can be noted that the logo does not include any identity
symbol of the city and that the languages used are English for (we) and French
for Casablanca. Even though the firm has planned logos for the Arabic and Berber
versions which are the native languages of the country, Casablanca residents seem
to sully this visual identity (Fig. 2).

3.2   Brand Promise of Value

The brand must rely on a promise that the place will offer to its different audiences.
The development of the brand must be preceded by a diagnosis to identify the assets
of the place. It's also about determining the image desired by the powers of the city.
To make Casablanca an international financial hub, is the will of Morocco for its
economic capital. The value promise must normally be linked to the competitiveness
or performance of Casablanca as a financial hub. But given the multitude of place
marketing targets, the promise of value can relate to other aspects of life in this city
in general. The value promise must normally be linked to the competitiveness or
performance of Casablanca as a financial hub. But given the multitude of territorial
marketing targets, the promise of value can relate to other aspects of life in this city
in general. The study of Casablanca branding and the advertisements that followed,
show that apart from the value of tacit sharing in the "we", no other promise of
value is advanced. Even this value of sharing was not deduced by residents until the
officials interpreted the graphic charter. In this context of value sharing, Casablanca
has always been a cosmopolitan city, Several Europeans have chosen to live in this
city. Besides, thanks to Morocco's open foreign policy, Morocco has welcomed a
large sub-Saharan community.

3.3 Functional and Symbolic Attributes of the Brand

One of the unique facets of place branding is the dynamic between the brand and the place infrastructure [21]. Place infrastructure constitutes the brand's existent, accessible and sufficient functional (tangible) and experiential (intangible) attributes [22]. For Casablanca, an ambitious project for the development and rehabilitation of the city was launched. But it is necessary to know what are the strengths by which stand out Casablanca today to become an international financial hub and what are the handicaps that weigh heavily on the competitiveness of this city?

In relation to the major metropolises that have invested in place marketing, Casablanca suffers from a set of problems that violate its policy. But the city still suffers from several handicaps on the human and social level. 12% of the inhabitants of the city live in housing representing 0.6% of the total area. Indeed, 72,000 households live in slums and 23% of the houses are still not supplied with drinking water and the rate of wastewater treatment reaches barely 45%. These findings lead to the question of the legitimacy of the practice of territorial marketing in the cities of developing countries. Can we practice city branding for cities still suffering from certain handicaps? Our answer is yes because Casablanca, for example, is a city with two speeds.

The city also has many assets. It is very attractive in terms of investment. Thus, with 4.2 million residents and 19.12%, it is the largest city in Morocco. It gathers a large part of the companies of the country with 31% of the industrial units and 38% of the jobs in the industry. Casablanca is also the first African destination for the offshoring trades. Besides, with regard to its offshoring strategy, Morocco is competing with countries such as India and Eastern Europe which are recognized for their competitiveness in offshoring. The city is recognized for its call centers that manages customer relations and technical assistance on behalf of European companies. It has a fleet dedicated to companies specializing in offshoring.

In terms of infrastructure, the city has upgraded public transport by building several Tramway lines to improve mobility within this city. Moreover, a global logistics strategy has been launched for the development of logistics platforms and the implementation of a new port operating plan with, in particular, the realization of a road and rail connection for the regulation of transport in this city. In terms of tourism, the city has a wide coast on the Atlantic. The city also has a very rich architectural heritage as some buildings date from the French protectorate and the ancient medina which is being rehabilitated.

3.4 Adherence of Residents and Local Stakeholders

Successful countries have developed efficient and systematic methods to develop and project themselves as brands. Their long term success depends on the aligned participation of key stakeholder groups [23]. Internal stakeholders, particularly

citizens, have been recognized as an important asset of places for the delivery of a brand-consistent message [16]. As Braun, Kavaratzis, and Zenker [24] note, residents play a fourfold role in place branding, since they are an internal target market, an integrated part of a place brand, possible brand ambassadors for the place and, last but not least, citizens wield influential political power in determining the political legitimization of place branding initiatives. Concerning the participation of local actors for Casablanca branding, several initiatives can be cited. For the city's development project, city leaders organized several think thank with professors and representatives of economic circles. Several thematic workshops have also been organized such as transport and mobility, employment, training, education and health etc. Concerning the Casablanca branding project, several focus groups were organized around six key themes: Entrepreneurship, Infrastructure and Major Projects, Tourism, International Outreach, Teaching and Research and Sport. The persons invited in each focus group constitute specialists in each of the themes. The objective was to know what they expected of the city of Casablanca and to know the DNA of this city for these different actors.

Following the communication of the Casablanca brand, a Wecasablanca site was created. On this site, a form has been made available to the residents of Casablanca who want to become ambassadors of their city. The objective according to this site is to give the possibility to all those who wish to testify, to share, to diffuse by example, spirit of initiative and creativity the promotion of Casablanca. Despite all these efforts, the new brand was not welcomed by the residents. One element of response may be the elitism that characterized the residents of Casablanca who participated in the think tank or focus groups and the lack of communication of research work on the identity of Casablanca. The residents, who are the key players in the identity of this city have not been much integrated into the consultation process.

City branding is the result of the transposition of corporate marketing to places. The study of the literature has shown that this transposition requires integrating the specificity of the places in relation to the consumer products. The interest of the application of the place marketing necessarily passes by the adaptation of the marketing principles to the specificity of the places. Places are defined through names, identity and image. All of these elements are the starting point of any city branding approach.

4   Conclusion

For Casablanca city, there is unfortunately, a problem of integration between the project of development of the city and the city branding. The brand, thus, is not associated with any promise of value as a financial hub. However, the Branding experience in Casablanca is relatively young. Certainly the brand should not remain a slogan and a logo. The young brand nevertheless marks the beginning of a major development project for the city. The brand has certainly not been unanimous, but it is a first step towards improving the competitiveness of the city of Casablanca. All

the projects and development projects of the city marks a real territorial dynamic. Much remains to be done for the rehabilitation of certain neighborhoods and infrastructures of the city, to anchor the brand in the true Casablanca identity and especially to put the brand at the service of the desired image of the city. This is a good start: Casablanca is one of the few cities in Africa to have a brand. The involvement of residents in the brand of their city is essential. This involvement certainly translates into their participation in the brand building process in particular and the management process of their city in general. But one thing is certain: the city must start by satisfying residents who are considered an internal target. Satisfaction necessarily involves improving the quality of life in the city. This requires the city's efforts on education, security, infrastructure, public transport, green spaces and entertainment. This satisfaction will guarantee a positive internal image prior to any city branding process. According to Vasudevan [25], a place's image reflects the affinity and relationship visitors had/have with the place but he does not refer to the internal image of the residents of their cities. Once the residents are satisfied, the city can do an internal and external diagnostic to find the right positioning. It's about defining how the city is unique or better than other cities. The result will be the promise of the city in the context of city branding. After, the city must choose a logo for the city brand.

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Gender Differences in Satisfaction from Hotel Room Attributes and Characteristics: Insights from Generation Z

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Abstract The tourism sector functions under intense competition and accommodation consist of an essential factor of satisfaction from a tourist destination as previous research have shown. While tourist destination and hotel satisfaction have been extensively studied, focus on satisfaction exclusively from the room attributes is an understudied subject. This paper presents the outcome of research regarding satisfaction from hotel room attributes. Specifically, it explores gender differences related to hotel room attributes and characteristics as regards satisfaction. The targeted population consists of the Greek generation Z cohort (N = 324). Data analysis involved descriptive statistics, reliability, factor analysis with Principle Component Analysis (Varimax Rotation), as well as non-parametric analysis. Factor analysis reduced the items to four dimensions and the Independent Samples Mann-Whitney U test revealed gender differences for two out of four dimensions, i.e., the Core room attributes, and Value for money dimension. Discussion based on results and hotel communication techniques is pointed out for hotels' marketing strategy.

Keywords Generation Z · Hotel room · Satisfaction · Marketing · Communication techniques

1 Introduction

The travel and tourism industry consist of five axes: the tourism lodgings, the transportation services, the food and beverage operations, the retail stores and the activities [1]. The tourism sector functions under intense competition and has as its ultimate goal to satisfy its customers [2] to enjoy revenues in the present and future

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too [3]. Accommodation, like earlier studies, reveals consist of an important factor in tourist destination satisfaction [2]. Hotel accommodation is a complex product that consists of various features and attributes [4]. Previous research has found that tangible and intangible hotel attributes impact on customers satisfaction (e.g., [5]). Hotels attempt to discover their customers' needs and desires and deliver suitable service and amenities to encounter these, as customers become more sophisticated compared to the past years while the market more diverse [6]. Though, satisfaction from the hotels' room attributes is an understudied topic, usually incorporated in the broader studies of hotel satisfaction. In this context, this study seeks to report gender differences as these are reflected in satisfaction outcome associated to hotel room accommodation, focusing on the behavior of adults aged 18–22 years old (namely, the Gen Z members in 2017). Thus, the authors' main aim in the present study is to address the gaps which were beforehand acknowledged in the literature, presented as follows:

1. The generation Z cohort (born 1995–2009) is an understudied topic as previous research points out. Generation Z, according to literature, are individuals born 1995–2009 [7].
2. Studies that focus solely on generation Z, satisfaction, and hotel room attributes have not been identified, at least to the authors' knowledge.
3. It focuses on gender differences from hotel room satisfaction.

2 Literature Review

As compared to destination studies or even hotel satisfaction studies, studies solely focusing on room satisfaction based on different attributes consist of a relatively understudied topic, as authors acknowledge. A search on Google scholar generated less than 50 studies. Most research on room attributes focuses on price [4, 8–11]. Additionally, there is an expanding interest in green attributes of hotel rooms (e.g., [12–14]). On the other hand, very few studies focus solely on room attributes and amenities (e.g., [4, 15]).

Chen, Severt, Shin, Knowlden, and Hilliard [15] studied business travelers' (N = 304) sleep experience in hotels and found differences were addressed regarding the factors influencing business travelers' total satisfaction with their sleep in mid-scale vs. upscale hotels, i.e., 2.5–3.5 stars vs. 4+ stars hotel rooms. Latinopoulos [4] examined the effect of sea view to room rates (N = 557 rooms), trying to quantify the associated aesthetic values of coastal areas and found that the effect of sea view to room rates, demonstrating that local natural and tourism resources may have a significant part in aesthetic values.

Kim, Jang, Kang, and Kim [10] explored spatial variations in modeling hotel room prices and further identified spatial clustering patterns of relationships between room price and hotel attributes across market segments with spatial Hedonic Price Models-HPM (s-HPM) using a geographically weighted regression

analysis (N = 387 hotels in the Chicago area). They found that the s-HPM identified spatially varying relationships between room price and hotel attributes. Herjanto, Erickson, and Calleja [16] explored amongst other, the antecedents of business traveler's satisfaction from hotels' bedroom attributes based on 216 business travelers' reviews and feedback on the TripAdvisor website, regarding Panama, and found that bedroom attributes help generate business travelers' satisfaction in the Panamanian context. Masiero et al. [17] studied the asymmetric preference in hotel room choice by performing a "stated-choice experiment" with guests in Hong Kong. Analysis with a mixed logit model revealed that the validity of reference-dependent specification in hotel room choice. Soler and Gémar [18], via a hedonic price model, applied to Malaga hotels, this study assessed the impact on hotel room prices of whether or not a hotel is a family business and found that a family-business hotel has a negative impact on prices of about € 10.

Heo and Hyun [6] studied whether luxury brand room amenities can be used as signals for customers (N = 377) to evaluate a hotel and found that when luxury amenities are placed in the room, customers' assessment of the room rate and their willingness to pay for it both increased. Masiero, Heo, and Pan [19] used a choice experiment and discrete choice modeling method to obtain hotel guests' willingness to pay (WTP) for a defined set of a hotels' room features. They found that leisure travelers versus business travelers, and first-time visitors versus repeat visitors, perceive different WTP values for various attributes.

Mei and Zhan [20] used the variable precision rough set (VPRS) approach to create a customer room choice model (CRCM) build upon the logit model and found that hotels can predict customer demand of each rate class. Millar, Mayer and Baloglu [21] assessed the level of importance of different green attributes in a hotel of 571 business and leisure travelers and found that that business travelers might have more concern for the environment than do leisure travelers, and both types of travelers felt similarly about the importance they placed on the green attributes.

Fleischer [22] using the hedonic price method and data from 2819 hotel rooms in high season and 2406 rooms in the low season (collected from Booking.com) regarding ten major Mediterranean regions, found that hotel room prices were found to be higher by about 10% for a room with a view than for one with no view specification. Millar and Baloglu [14] examined the environmentally friendly characteristics that customers (N = 571) search for in hotel rooms using conjoint analysis of bundles of seven hotel room features. They found that the most important single attribute on hotel room preference was green hotel certification.

Zhang, Zhang, Lu, Cheng, and Zhang [11], studied how site and situation factors differently affect lodging industry and room prices., using comparative analysis of four hedonic price models regarding Beijing's hotels (>3∗). Millar [12] recognized the green hotel room attributes that business and leisure travelers would most prefer and found that shampoo in a refillable dispenser, light bulbs that were energy efficient, and policies regarding towel and linen, as well as key cards, and green hotel certification hotel room were the most preferred. Millar and Baloglu

[13], via qualitative and quantitative research, identified a list of green attributes guests would prefer to have in the guest room of a hotel. They found that green attributes include such items as recycling bins in the guest room and energy saving lighting.

3 Methodology

A questionnaire that measured satisfaction from hotel room attributes was designed especially for this research based on previous studies, as well as a small-scale depth interview with individuals belonging in the Greek Generation Z cohort. Employing this method, a 20-item question referring to satisfaction from room attributes derived. The sampling method employed consisted of a combination of methods, i.e. criteria (individuals belonging in the generation Z cohort, i.e. 18–22 in 2017, the year that the research took place), convenience (through Facebook account with invitation to acquaintances) and snowball sampling (request to forward the questionnaire to others belonging in the Generation Z cohort). By this means, a total of 324 questionnaires suitable for data analysis were gathered. Data analysis involved descriptive statistics, reliability, factor analysis with Principle Component Analysis (Varimax Rotation), as well as non-parametric statistics.

4 Results

4.1 Sample Demographics

From the total sample, 35.2% were males (N = 114) and 64.8 females (N = 210), as regards age, the 20-years old respondents, which is overrepresented, while the 18 years old are underrepresented, as Table 1 presents. Additionally, 96.9% were single, while 3.1% were married, divorced, or widowed. As to profession, the vast majority were university students (87.0%), 7.4% were employed, and 5.6% were unemployed. As to the area of residence, 69.1% resides in urban areas and 30.9%

Table 1 Age distribution of the Generation Z participants

Age	Frequency	Percent (%)
18	14	4.3
19	46	14.2
20	120	37.0
21	74	22.8
22	70	21.6
Total	324	100.0

in rural. Lastly, as concerns their net individual income, 53.1% has up to 300 € per month, 25.9% has 300.01–600.00 €, and 21.0% more than 600.01 € per month.

4.2   Hotel Accommodation Behavior and Satisfaction

At first, respondents were asked to recall the last time that they went on a vacation and stayed at a hotel room for at least one night and answer a series of questions. As regards the country of the hotel, 96.2% stayed at a hotel in Greece, and 3.8% in another country, mainly Europe. As to month of vacation and room accommodation, it took place mainly during July (20.4%) and August (27.8%). As concerns nights spent at the hotel room, 48.1% stayed 1–3 nights, 43.9% 4–6 nights, and 8.0% stayed more than a week at the hotel's room. As to the hotel star system, 50.0% stayed at a hotel with 0–3 stars, 30.2% stayed at a 4-star hotel, and 19.8% stayed at a 5-star hotel.

Subsequently, the participants in the survey were asked to rate their satisfaction from the hotel room they were staying at, based on 20 of its characteristic features. The scale used was a 5-point satisfaction scale, whereas 1 = totally dissatisfied, 2 = dissatisfied, 3 = neither satisfied nor dissatisfied, 4 = satisfied and 5 = totally satisfied (Table 2). Analysis revealed that the 20 items were rated as follows: $5 \leq 4.00$; $4.0 > 12 \leq 3.50$, and $3.50 > 2 \leq 3.00$. More specifically, the highest rates concerned individual bathroom (MS = 4.25) and a heating or cooling system (MS = 4.17). The next three high means scores (≥ 4.00) have to do with the sleeping conditions i.e. mattress, pillows, bed, with means scores MS = 4.04; MS = 4.06; MS = 4.00 respectively. The most dissatisfied room characteristics come from "The room emits a sense of uniqueness" (MS = 3.41), and "History of the place is emitted in rooms and surroundings" (MS = 3.23), implying that the rooms lack thematic and authenticity.

4.3   Factor Analysis

Factor analysis was incorporated to reduce the items into fewer ones to employ other analysis. Factor analysis (Principle Component Analysis with Varimax Rotation). Factor analysis produced four factors accounting for 65.7% of the total variance (TV). Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO = 0.887), Bartlett's Test of Sphericity (Approx. Chi-Square = 4042.322, df = 190, sig. = 0.000) revealed that this analysis was suitable for this dataset. No item was discarded due to double loading, or loading <0.4. Additionally, total scale reliability was $\alpha = 0.926$ (n = 20 items). Factors, factor loadings, MS of items, and Cronbach α per construct are presented in Table 2. Factor Analysis, Loadings, and Mean Scores of hotel room items.

Table 2 Factor analysis based on room attributes

Room attributes	MS	Component			
		1	2	3	4
Factor 1: Room decoration and aura, TV = 24.2%; α = 0.896; MFS = 3.66 (Std = 0.69)					
Thematic decoration of room	3.47	0.786			
The room emits a sense of uniqueness	3.41	0.758			
The decoration is with taste	3.73	0.758			
History of the place is emitted in rooms and surroundings	3.23	0.755			
Impeccable cleanliness and hygiene	3.91	0.686			
The rooms are attractive	3.73	0.602			
The furniture is in good condition and with taste	3.80	0.586			
The room has a good "atmosphere"/ aura	3.88	0.577			
The room has good isolation and is quite	3.78	0.522			
Factor 2: Core room attributes; TV = 17.1%; α =0.896; MFS = 4.01(Std = 0.66)					
The mattress is suitable for sleeping	4.04		0.812		
The pillows are satisfactory	4.06		0.766		
The size of the bed is satisfactory	4.00		0.743		
Room size is satisfactory	3.96		0.662		
Factor 3: Basic room amenities; TV = 15.8%; α =0.800; MFS = 4.00 (Std = 0.57)					
There is a WC with a bathtub or shower	4.25			0.741	
There is a heating-cooling system	4.17			0.734	
The room lighting is appropriate	3.96			0.671	
The room has a view	3.77			0.550	
There are the required bath and electrical appliances (e.g., coffee machine, refrigerator, TV)	3.88			0.550	
Factor 4: Value for money; TV = 8.6%; α = 0.720; MFS = 3.83 (Std = 0.74)					
Satisfactory prices	3.84				0.839
Good quality-price ratio	3.83				0.693

4.4 Hypothesis Testing

The hypothesis was generated based on the four dimensions which refer to room satisfaction attributes, i.e., the new variable in hypothesis testing was: *Room decoration and aura, Core room attributes, Basic room amenities, and Value for money.*

The question that emerged from the qualitative research was: Are there gender differences as regards satisfaction dimensions of hotel room attributes?

Table 3 Results from the independent samples Mann-Whitney U regarding gender differences and the four satisfaction dimensions of hotel room attributes

Null Hypothesis	Sig.	Decision
The distribution of satisfaction from the *Room decoration and aura* is the same across the gender categories.	0.150	Retain the null hypothesis
The distribution of satisfaction from the *Core room attributes* is the same across the gender categories.	0.007	Reject the null hypothesis
The distribution of satisfaction from the *Basic room amenities* is the same across the gender categories.	0.087	Retain the null hypothesis
The distribution of satisfaction from the *Value for money* is the same across the gender categories.	0.028	Reject the null hypothesis

Normality tests revealed that Kolmogorov-Smirnov Test for N > 50 was p = 0.000. Thus non-parametric statistics were to be employed. Results from the Independent Samples Mann-Whitney U test is presented in Table 3.

The hypothesis was stated as: H0: The distribution of satisfaction from the hotel room attributes dimensions is the same across the gender categories.

H1: The distribution of satisfaction from the hotel room attributes dimensions is not the same across the gender categories.

5 Discussion: Conclusion—Limitations—Directions for Future Research

This research has a significant contribution to researchers who want to improve their understanding on gender differences of the Generation Z cohort towards their satisfaction from hotel room attributes and characteristics. First of all, it is apparent that the members of the Generation Z pay attention and highly value the decoration elements, and the room amenities and attributes as well as the value they receive for the money spent. Both male and female young travelers highly regard basic amenities since no gender differences were found.

Results made evident, though, that the members of this generation though differ regarding the significance they pay to two out of the above mentioned four factors that are related to the satisfaction they receive from the hotel. The female respondents of the study seem to value more than male ones the core room attributes, such as room and bed comfort and size. These findings are aligned with previous studies such as Liang et al. [23] that reported gender differences in the aesthetic dimension of experiential value since females are more sensitive to sensory stimuli. On the contrary, young males give great significance to room prices and also to the price they pay in relation to the amenities and the quality they receive. In addition to its academic contribution, the research offers valuable information and managerial suggestions for hotels and other accommodation businesses and tourism organizations. Hotels and accommodation services could benefit from the

findings of the current study since it provides information on how to improve the satisfaction of these young consumers taking also into consideration the differences in preferences amongst genders. In that way, they can form their strategies and communication tactics in such a way that can reinforce consumers' preferences to their businesses. Therefore, hotel marketers can function in a more targeted manner using in-depth information about the understudied generation Z, the youngest adult customers of today and the near future. This research has some unavoidable limitations, some of which derived from the a priori from the research frame and some from the time and economic barriers. First of all, this research a priori targeted only the Generation Z cohort individuals. Thus results and conclusions are limited only to this generation. This requires future research on other generational cohorts in order to validate these results. Additionally, due to economic restraints, an online survey took place, thus employing a non-probability sampling procedure. Certainly, a random sampling method employed in a future research will validate or compare these findings. Furthermore, the variables tested in this study were adequate for the aims and its objectives. In future research, other variables could be added and tested and compared with the study's results. Lastly, it is acknowledged that the sample size is considered small for generalizations to this targeted consumer cohort. Future research with larger sample size is desired in order to validate the findings of this study. Even though this study has the above limitations, it is still considered valuable due to its practical insights of the Generation Z cohort that is an understudied cohort.

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Renewable Energy Matters for Tourism Industry in BRICS Plus Turkey Countries

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Abstract The scope of this paper is to investigate whether or not the renewable energy influences the tourism industry in the case of BRICS plus Turkey countries. Due to the fact that the primary energy source in these countries is fossil fuels, this has risen up a serious concern on environmental issues. The motivation to select these countries lies in the fact that all of these six have recorded an exponential economic growth in the last few decades. As a consequence, the standard of living has been increased as well as the energy consumption. Thus, the annual panel data are collected in the period between 1995 and 2015 in the case of BRICS countries plus Turkey to explore the link of interest. We have employed the panel VAR methodology. The most important findings suggest a response of tourism industry to renewable energy to be significant and negative. However, this negative relationship holds true in the short-run while the long-run impact tends to be positive. These results can be of great importance for policy makers, thus this paper summarizes in detail the policy implications.

Keywords BRICS countries · Turkey · Renewable energy · Tourism

1 Introduction

Nowadays, both global warming and climate change are affecting human life. The main culprit of global warming is greenhouse gas (GHG), especially, carbon dioxide (CO_2) emissions. These problems can be solved by using the renewable energies in an efficient and proper way [1]. Renewable energy stars playing very important role in the global energy market in the last few decades. These forms of energy are

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recognized as clean and cheap and very suitable for a modern life. Thereby, it has experienced rapid worldwide development in the recent decades [1] and is found to be one of the best alternatives to the fossil fuels. On the other hand, the tourism industry has rising significantly in these countries. Tourism services are recognized as important energy gluttons.

The significant rise in both, renewable energy and tourism industry has been recorded in BRICS group countries. These countries have recorded one of the highest growth rates at the world level. In the line with the economic growth, the energy consumption has also been increasing tremendously rising up the question of the sufficient energy supply. Additionally, it is important to emphasize that these countries are one of the important energy gluttons and the producers of CO_2 at the global level. This was the motivation to investigate the link of interest in the case of BRICS countries (Brazil, Russia, India, China and South Africa). However, our analysis also includes Turkey. This is since the BRICS group has invited Turkey to 10th annual meeting (2018) as the term chair of the Organization of Islamic Cooperation (IOC) [2] and they signalized that Turkey can be a candidate of BRICS suggesting a new name BRICST. By joining BRICS group of the countries, Turkey may benefit very much from the cooperation.

Due to the incentives of both developed and developing countries for green energy and economy, this paper analyzes the potential link between renewable energy (REN), tourism industry (TOUR) and economic growth (GDP) in the case of BRICS+T countries. We have employed the panel VAR methodology. The rest of this paper presents a detailed literature review on the matter of interest. Moreover, we present the methodology employed together with the variables selected. The most important findings and discussion are presented in the results section while the paper ends with the concluding remarks.

2   Literature Review

Tourism industry has been recognized as industry that strongly depends on fossil fuels. Consequently, Gössling [3] describe this industry as one of the biggest emitters of CO_2. This raises a great concern among policy makers on environmental depletion connected with the CO_2 emissions. It is worthwhile noticing that fossils fuels based energy used by tourism sector in island states tended to have serious consequences. The evidence on the serious environmental concern connected with the tourism industry is also given by Gössling [3] in the case of 22 countries.

Despite to the serious environmental issues connected to the tourism industry, there are only a few studies providing the empirical evidence on the link between tourism industry and energy consumption [4], what was the motivation to conduct this study. In terms of Turkey, Katircioglu [5] suggests that tourism industry has increased significantly the energy consumption. Moreover, tourism industry is showed not only to increase the energy consumption but also to significantly contribute to the environmental depletion and climate change. Moreover, in the

case of Cyprus, Katircioglu et al. [6] have displayed the significant impact of the arrivals of tourists on the energy consumption. These authors also provide supportive evidence to the fact that it is necessary to analyze interdependency between energy consumption, economic growth and tourism. This is since tourism industry requires significant energy sources to operate many services. Apart from this, energy is of key factors of production and thus plays a crucial role in economic growth. Thus, the increase in tourist arrivals will not only influence the energy demand but also economic growth thanks to the tourism revenue. In addition, the increase in tourist arrivals will ask for the new infrastructure and thus consequently will tend to increase the opportunities for employment.

In addition to previous paragraphs, it is of crucial importance to emphasize that the actions to protect the environment have taken an important role among tourism scholars. The reasons behind can be summarized into the two big categories: first, the tendency for tourism industry to reduce the emissions of CO_2 and to transform towards the renewable sources [7] and the second is economic. Day and Cai [8] indicate that tourism industry tends to strongly influence the oil prices and consequently the economic growth and productivity. The supportive argument to the economic reason is the fact that green energy tends to be cheaper and more efficient.

Renewable energy stars playing very important role in the global energy market in the last few decades. These forms of energy are recognized as clean and cheap and very suitable for a modern life. In terms of the Brazil, strong evidence on the great potential for renewable energy is given by Pereira et al. [9]. Renewable energy is recognized as an important potential for the cooperation at the global level by Overland and Kjernet [10] in the case of Russia. Pillai and Banerjee [11] suggest that renewable energy can solve the problem of the availability of the energy caused by the exponential increase in population in India. China has been recognized as one of the biggest energy gluttons in the World and also one of the biggest producers of CO_2. Thus, renewable energy is recognized as a good way to deal with these issues [12]. Due to the great potential to reduce CO_2 emissions, the government of South Africa promotes strongly the renewable energy as well as the increase in energy efficiency [13]. With regards to Turkey, there is a great potential in the fields of renewable energy [14, 15].

3   Methodology and Variables

Vector autoregressive (VAR) models have been used comprehensively in last decades. One of the most important properties is they enable us to control for the heterogeneity among units of interest [16]. Moreover, these models control for the interdependencies that are dynamic while introducing the minimal number of restrictions comparing to the other models. Due to its great advantage over time-series VAR, panel VAR models have been used comprehensively in economic research. For instance, Canova and Pappa [17] have explored the convergence among the seven largest advanced economies. Moreover, it has been used in the

case of Mediterranean countries by Canova and Perez Forero [18]. To estimate the VAR model we use the GMM framework.

The data used in this paper are collected from The World Bank. The motivation behind the selected period is the availability of the data. Renewable energy is approximated using the share of renewable energy in the total consumption of energy—REN [15]. TOUR (the number of tourist arrivals) is used as a proxy of tourism industry [19]. At last, GDP (GDP per capita (constant 2010 US$)) is used as a proxy of economic growth [20]. As a part of methodological framework, it is important to emphasize that we have been using three different unit-root tests and have selected the panel VAR order following the propositions of Andrews and Lu [21].

4   Results of the Research and Discussion

The empirical part starts by presenting the most important measures of the descriptive statistics. Table 1 summarizes the data for all six countries of interest as well as the total values. In terms of the tourism industry, first ranked country in terms of tourist arrivals is China on average. Second best is Russia while third best is Turkey. These countries record the values above the group mean. The least ranked country is South Africa. The standard deviation indicates significant difference in terms of tourist arrivals among the BRICS+T countries.

With regards to the renewable energy, the highest percentage of renewable energy in the total consumption of energy is recorded in the case of Brazil and India respectively. The appealing fact is that these two countries are at the end of the list in terms of the tourist arrivals and are the only two countries that record the value above the group mean. The least ranked country is Russia which is quite expectable taking into account the reserves of natural gas what represents the major source of the energy supply in Russia. Thus, significant differences are reported in BRICS+T countries in the case of renewable energy consumption. At last, the economic growth varies in terms of these countries. On average, highest value is reported in the case of Brazil while the second best is Turkey. The least ranked is India. There are four countries that report the values above the group level. Those are: Brazil, Turkey, Russia and South Africa respectively. As indicated in the methodology section, this paper uses three different unit-root tests. Table 2 summarizes the obtained results.

These tests are applied for the variables in natural logarithmic form as well as for the first difference. With regards to the log levels, the evidence on the unit-root cannot be rejected in the case of REN and GDP. All three tests agree on the nonstationary properties of these variables. In terms of the tourism proxy variable, Im–Pesaran–Shin test and ADF—Fisher inverse chi-square suggest the non-stationary properties while Levin–Lin–Chu (LLC) t∗ test suggests the stationarity of the variables. Since most of the tests agree on the non-stationary, we have tested for the stationarity properties of the first difference. All of the three tests agree on the stationary properties of TOUR and REN for a 1% level of significance.

Table 1 Descriptive statistics

	Measur.	Brazil	Russia	India	China	South Africa	Turkey	Total
TOUR	Mean	4,780,952	22,500,000	4,809,524	42,500,000	7,252,381	21,300,000	17,200,000
	SD	1,125,886	5,582,285	3,159,257	13,700,000	1,683,930	12,100,000	15,600,000
	Max	6,400,000	34,000,000	13,000,000	58,000,000	9,600,000	40,000,000	58,000,000
	Min	2,000,000	10,000,000	2,100,000	20,000,000	4,500,000	6,900,000	2,000,000
REN	Mean	44.84	3.53	46.35	20.58	17.09	16.13	24.75
	SD	2.04	0.19	6.39	7.76	0.96	3.46	16.31
	Max	49.11	3.87	54.48	30.54	19.12	22.10	54.48
	Min	41.48	3.23	36.02	11.70	15.57	11.61	3.23
GDP	Mean	9909.36	8775.92	1058.58	3243.16	6597.35	9817.94	6567.05
	SD	1264.86	2358.48	356.33	1714.59	781.07	2024.30	3716.95
	Max	11,915.40	11,803.70	1758.84	6496.62	7582.55	13,898.70	13,898.70
	Min	8549.02	5505.63	622.30	1227.56	5528.17	7315.41	622.30

Table 2 Unit-root tests

Trend included in the model	lnTOUR		D.lnTOUR		lnREN		D.lnREN		lnGDP		D.lnGDP	
Method	Stat.	p-Value	Stat.	p-Value	Stat.	p-Value	Stat.	p-Value	Stat.	p-Value	Stat.	p-Value
Levin–Lin–Chu (LLC) t* test	−2.75***	0.003	−7.80***	0.000	−0.78	0.217	−4.08***	0.000	0.11	0.542	−3.36***	0.000
Im–Pesaran–shin test	−1.15	0.125	−6.94***	0.000	−0.51	0.306	−3.78***	0.000	1.15	0.876	−2.23**	0.013
ADF—Fisher inverse chisquare	8.12	0.776	33.55***	0.001	9.41	0.667	28.55***	0.005	6.83	0.869	12.76	0.387

Note: ***, **, *Significant at 1%, 5% and 10% respectively

In terms of the GDP, stationary properties are confirmed by two out of the three tests of interest, thus it is assumed to be stationary. To determine the order of the panel VAR, we have compared the values of MBIC, MAIC and MQIC for three orders. The values with the order 1 are found to be minimal, thus the first order panel VAR model will be estimated and interpreted. The first order panel VAR is estimated using the GMM model. The results are displayed in the Table 3. The results suggest a response of tourism industry to renewable energy to be significant and negative implying that BRICS+T countries are strongly dependent on the fossil fuels energy supply. Therefore, the intention to reduce the demand of fossil fuels based energy can initially have significant negative consequences on the economy. However, this impact is expected only in the short-run. These results can represent a very important insight for the decision makers to be very careful while creating the energy policies since those can have a significant consequence on the economy as a whole. The result of interest is the impact of economic growth that is not found to be significant. Thus, the exponential economic growth does not represent an attraction for tourists which can also be important insight for decision makers.

These results suggest that factors but economic growth attract tourist to visit BRICS+T countries and decision makers should do necessary changes to make these destinations more attractive for tourists. With regards to the renewable energy, none of the variables is found to have a significant impact on renewable energy. To present the potential differences between these impacts in the short- and long-run, we have calculated IRFs. This research moves on to the presentation and interpretation of the causal link between the variables of interest. Table 4 outlines the obtained results.

These results confirm the findings of the panel VAR suggesting a unidirectional causal link from renewable energy to tourism. Economic growth is not found to Granger cause tourism industry. However, the joint impact of these two variables is found to be significant implying that many determinants should be taken into consideration while analyzing the development of tourism industry and these determinants should be chosen very carefully. The proxy variable of tourism and economic growth were not found to have a causal impact on renewable energy. With regards to economic growth, both of the variables are found to have a causal impact on it. The joint impact of tourism industry and renewable energy on economic

Table 3 VAR model (trivariate—GMM estimation)

Independent variables	Dependent variables		
	D.lnTOUR	D.lnREN	D.lnGDP
D.TOUR$_{t-1}$	0.025 (0.061)	0.010 (0.044)	−0.058 (0.021)∗∗
D.lnREN$_{t-1}$	−0.368 (0.145)∗∗	0.147 (0.118)	0.129 (0.053)∗∗
D.lnGDP$_{t-1}$	−0.169 (0.242)	0.082 (0.162)	0.357 (0.094)∗∗∗

Note: ∗∗∗, ∗∗, ∗Significant at 1%, 5% and 10% respectively

Table 4 Results of the Granger causality tests

Equation	Excluded		
	D.lnREN	D.lnGDP	All
D.lnTOUR	6.413 (0.011)[a]	0.489 (0.484)	6.776 (0.034)
D.lnREN	D.lnTOUR 0.046 (0.830)	D.lnGDP 0.257 (0.612)	All 0.257 (0.879)
D.lnGDP	D.lnTOUR 7.286 (0.007)	D.lnREN 5.901 (0.015)	All 8.882 (0.012)

[a]p-Value

growth is found to be significant in the case of BRICS+T countries. Thus, it is important to consider the economic growth while displaying the link between the tourism industry and renewable energy. To test the percentage of the variability of the variables of interest explained by the other variables we have estimated the forecast-error variance decomposition (FEVD). It suggests that 2.6% of the variability of tourism is explained by REN emissions and 0.2% is explained by economic growth. The rest is explained by the variable itself. In terms of REN, tourism is found to explain 2.3% of the variability of renewable energy while GDP is found to explain 0.2%. The rest is explained by the variable itself. With regards to the third variable, tourism industry is found to explain 10.4% of the variability of economic growth while REN is found to explain 6.1%.

At last, IRF plots suggest that REN is found to react positive to the 1 standard deviation shock in economic growth in the short-run and this impact decreases in the long-run tending to reach zero. TOUR is found to react negative to the 1 standard deviation shock in economic growth in the short-run and this impact decreases in the long-run tending to reach zero. It is important to emphasize a positive reaction of GDP to the renewable energy in the short-run, but this impact decreases over the time. As indicated above, tourism industry reacts negatively to the 1 standard deviation shock in renewable energy in the short-run, but long-run impact tends to be positive. Thus, it takes a time for positive externalities from renewable energy to take place especially in emerging markets.

5 Conclusion

The potential positive link between renewable energy and tourism industry is of great importance for decision makers. It suggests the awareness of the BRICS+T countries on the necessity to take into account the environmental issues connected with the CO_2 emissions as a result of fossil fuels energy consumption. These results are even more important since tourism represents an important source of

economic growth. Moreover, tourism sector is found to be an important energy glutton. Thus, the introduction of green energy in tourism sector can have various positive externalities. At first, the emission of CO_2 will be reduced since tourist services are based on green energy and second tourism sector can serve as a role model for the other industries to introduce green energy. Very important fact is that green energy is not only clean it is also cheap and thus firms can operate with the lower production cost what can increase their economic profit. For this purpose, government plays a key role to attract investors in the renewable energy and to create regulations that will encourage rather than discourage the development of renewable energy. In addition, the results of this paper suggest that the exponential economic growth is not considered to be the attraction for tourists, thus governments need to make a necessary effort to improve the other tourism facilities and to base it on green energy which is the first policy implications. The second policy implications includes the necessity to create small solar and wind energy projects that are cheaper and easier to establish compared to bigger once. And the last recommendation is necessity to educate the society on the benefits of renewable energy.

As of recommendations for future research, it would be interesting to include the non-renewable energy and to make the comparison between these two influences. Moreover, instead of the real GDP per capita, it would be of great importance to analyze the role of standard of living by introducing human development index (HDI). As a last recommendation, the role of foreign direct investments can be introduced especially those investments directed to the renewable energy sector.

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Determining of Customer's Kansei Needs and Product Design Attributes by Rough Set Theory

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Abstract The trend of new product development taking into account a customer's feeling and needs has become very important for companies' development and competition in the market. Kansei engineering is a consumer-oriented technology that seeks to capture the voice of the customer to produce a successful product. This method helps to transform customers feeling into the design parameters. In order to improve customer satisfaction, it is very important to determine the design parameters that make up the product. This paper presents a design support system intended for use in designing new product. A product has a lots of design attributes. For this reason, the product design attributes are reduced with Rough sets theory and main design attributes are obtained for developing a new product. Rough sets theory deals with uncertain or conflicting data. After determining product design attributes, the different products are produced for evaluating customer's feel with Kansei adjectives. Customer evaluations were conducted using the semantic differential method to examine the relationship between users' assessments of product and design elements. Kansei results are analyzed by applied Principle Component Analysis to determine the relationships between products and emotions that affect the general preferences of customers. Baby cradle design is taken as a case study; but this method can be used to develop other products. As a result, this paper presents a design support system intended for use in designing new product, so the designed product can fit more closely to the consumers' desires.

Keywords Kansei engineering · Rough sets theory · Principle component analysis · Product design

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159

1   Introduction

An effective design can be defined not only the lowest possible cost and the shortest production time but also is able to entice consumer satisfaction so as to capture a large market share. The consumer-oriented design that is known as the consumer's satisfaction is a key role of market success in product development. Many manufacturers have realized the necessity for collaborating of their production capacity and customer needs for being successful in the market. Actually, customer needs and wants may change with time, so it is extremely difficult to maintain satisfaction of product. The design parameters of the product need to satisfy customer requirements for a product to be successful.

Kansei engineering is a well-known method that transform design elements into customer needs for capturing market successful. Kansei engineering is proposed by Mitsuo Nagamachi from Japan in 1970. Kansei engineering begins with a Kansei word which is the Japanese term, means customer's psychological feelings, sensations, and emotions [1]. This method can be used a large range of products from automotive sector to furniture sector.

To analyze association of Kansei to product design parameters, a various statistical techniques have been attempted such as multiple regression, the Quantification Theory type I (QT1), Fuzzy Logics, Neural Networks, Genetic Algorithm, Rough-Set Analysis and Partial Least Square Analysis. Hsiao used a fuzzy set theory to identify the relation between 15 car design styles and customer feelings by means of adjectival images words [2]. Lai et al. presented a new approach based on ANN and Quantitative Theory Type I to transform costumers' affective needs to product design forms and product color on mobile phones [3]. Quantitative Theory Type I was used to identify how product color and product design form can affect the product image of mobile phones. Poirson et al. implemented GA to identify the optimal product design form elements to improve the quality of musical instruments [4].

The creation of new design is a difficult task. Thus, market sales range is common topic for designers and manufacturers to decision in the development of new products. In this study, the evaluation of the designs in the market based on sales was conducted to identify the effective design parameters with Rough Sets Theory. Al-Mayyan et al. used Rough set approach for reducing set of nine features that were found to capture the essential characteristics required for signature identification [5]. Zhai et al. proposed a rough set based decision support approach to improving consumer affective satisfaction in product design [6]. After determining product design parameters, the alternative products were designed by designers. According to Kansei results, due to the different of customer needs, the principle component analysis was used to identify the basic customer needs in the market for help to designers.

The paper starts with the application of Rough sets theory method for choosing effective design parameters on present product sales in the market. Then, the designers derived different design alternatives from these design parameters. A various Kansei words were collected from internet, magazine and brochure, and were evaluated using an 11-point semantic scale. Finally, the principal component analysis is used as a method of determining customer feeling space with Kansei evaluation results.

1.1 Parameter Selection Using Rough Set

One of the important issues of the new product design is how settings of design parameters of new products. It can be determined from sales of present products in the market. Firstly, to achieve this, we need to model the relationship between sales of present products and design parameters.

The rough sets theory is proposed by Professor Pawlak for knowledge discovery in databases and experimental data sets [7]. It can be employed to extract concepts or decision rules from a given set of data and has been used successfully in many application domains [8, 9]. The rough set theory offers the benefits of efficiency, understandability, and results that can be interpreted directly [10].

In rough sets, an information system can be presented in the form of the decision table.

$$DT = \{U, R\,(C \cup D)\,, V, f\}$$

Assume that U is the universe containing all the alternatives which are registered in an information table. A data table is the 4-tuple $S = (U, R, V, f)$ where U is a finite set of objects (universe); is a set of attributes, subsets C and D are the condition attribute set and the decision attribute set, respectively; is domain of the attribute r, and is a total function such that for each called information function [11].

To every non-empty subset B of attributes is associated an indiscernibility relation on U, denoted by:

$$IND\,(B) = \{(x, y) \,/\, (x, y) \in UxU, \forall b \in B\,(b(x) = b(y))\} \tag{1}$$

Clearly, the indiscernibility relation defined is an equivalence relation (reflexive, symmetric and transitive). The family of all the equivalence classes of the relation IND(B) is denoted by U/IND(B).

Definition 1 Entropy H(P) of knowledge P (attributes set) is defined as

$$H\,(\mathrm{p}) = -\sum_{i=1}^{n} p\,(\mathrm{X}_i) \log p\,(\mathrm{X}_i) \tag{2}$$

where $p(X\_i) = |X\_i|/|U|$ and $p(X\_i)$ denotes the probability of X_i when P is on the partition X = {X_1,X_2,X_3 ... X_n} of universe U, i = 1,2,...,n.

Definition 2 Conditional entropy H(Q/P) which knowledge Q(U/IND(Q)) = ({Y_1,Y_2,...Y_n}) is relative to knowledge P(U/IND(P)) = ({X_1,X_2,X_3 ...X_n}) is defined as

$$H\,(\mathrm{Q/P}) = -\sum_{i=1}^{n} p\,(\mathrm{X}_i) \sum_{j=1}^{m} p\,(Y_j/X_i) \log p\,(Y_j/X_i) \tag{3}$$

where $p(Y\_j/X\_i)$ is conditional probability, i = 1, 2, ...,n, j = 1,2,...,m.

Definition 3 Suppose that decision table, subsets C and D are the condition attribute set and the decision attribute set, respectively, attribute subset. The attribute significance SGF(a, A, D) of attribute is defined as;

$$SGF\,(\mathrm{a, A, D}) = \mathrm{H}\,(D/A) - H\,(D/A \cup \{a\}) \tag{4}$$

Given attribute subset A, the greater the value of SGF (a, A, D), the more important attribute a is for decision D.

1.2   *Determining Emotional Design Space Using Principle Component Analysis*

The Principle Component Analysis (PCA) is a mathematical algorithm that is a linear combination of variables to access a compromised output with the purpose of reducing the data dimensions [12]. PCA aims to find a new set of dimensions that better captures the variability in multiple dimensions. The first dimension is chosen to capture as much of the variability as possible. The second dimension is orthogonal to the first, and, subject to that constraint, captures as much of the remaining variability as possible, and so on [13]. In other words, this process is to approach the maximum variance with respect to the distinctive features of data [14]. Further, it is effectively used to reduce the dimensions of data.

PCA is commonly used to find semantic space of Kansei and specimens, and Kansei strategy for designers could be determined by PCA results. Kansei strategy is important as it could be used by designer and manufacturer to determine new concept of product, with capturing a clue about customer emotional needs on product design. The Plot of PC loadings could be used to visualize how much the evaluation on Kansei affects variables, and the plot of PC Score shows which Kansei has strong relations to what specimen [15].

2 The Case Study

Kansei engineering methodology with a Rough sets and PCA is applied to determine design parameters and new product design area that related to customers' emotional needs for assisting product designers. To evaluate the method, the case study of baby cradle design was conducted. The steps of the method for application of Kansei Engineering with Rough sets and PCA are given as follows:

Step 1 Selection of a product.

The product is selected as a baby cradle because of the demand investigation (sales data), target users (parents) and the market share. Thus, baby cradle samples and sales data are collected from the market for this study.

Step 2 Identification of product's item & categories.

Product design are constituted from different design parameters. The baby cradle has 11 different design parameters such as legrest, front block, chest of drawers, back, headboard, bottom drawer, leg, colour, headboard-crown, UV press, handle. A legrest, front block, back and headboard are basic parameters of baby cradle. At the same time, each parameter has various categories. For example, the chest of drawers is investigated as not used, one cabinet, two drawer and three drawer.

Step 3 Definition of design parameters (decision rules) of the product for the decision of sales using Rough Sets methods.

The Rough set methods have been used to extract decision rules between sales data and design parameters. Parameters may be irrelevant that having no effect on the emotional design or relevant that having an impact on the emotional design. A design parameter may have a different discriminatory or predictive power. The sales data that was previously realized is used for the determining parameters. The sales data of the product to be designed are divided into two classes depending on whether the sales value is above or below the average sales value as a class 1 or class 2, respectively.

The data table was constructed with 7 design parameters and 22 different baby cradle to categorized response variables, meaning "1 = above or below the average sales value" and "2 = below the average sales value" values in Table 1.

Table 1 Decision table about design parameters

Baby cradle alternatives	Chest of drawers	Bottom drawer	Leg	Colour	Head board crown	Handle	UV press	Sales class
1	0	0	1	1	0	0	0	1
2	0	0	0	1	0	0	0	2
3	1	1	0	1	1	1	0	2
4	2	1	0	1	0	1	0	2
5	3	1	1	1	0	1	0	2
6	3	1	0	1	0	1	0	1
7	2	1	0	1	0	1	0	2
8	0	0	0	4	0	0	0	2
9	2	0	0	4	0	0	0	2
10	3	1	0	4	0	1	0	2
11	2	0	0	4	0	1	0	1
12	2	1	0	4	0	1	0	1
13	0	1	0	4	0	0	0	1
14	3	1	0	3	0	1	0	1
15	2	0	0	3	0	1	0	1
16	3	1	0	2	0	1	0	1
17	2	0	0	2	0	1	0	2
18	1	0	0	1	0	0	0	1
19	1	0	0	1	1	1	1	1
20	0	1	1	1	0	0	0	2
21	2	0	0	4	0	1	0	1
22	2	0	0	1	0	1	0	1

For the decision table of Table 1, we can get the significances of chest of drawers, bottom drawer, leg, colour, headboard-crown, handle, UV press by the following process:

$$U/IND \{chest\ of\ drawers, bottom\ drawer, leg, colour, headboard - crown,\ handle, uv\ press\}$$

$$= \{\{1\}, \{2\}, \{3\} \ldots \ldots \{12\}\}$$

$$U/IND \{sales\ value\} = \left\{ \begin{array}{l} \{1, 6, 11, 12, 13, 14, 15, 16, 18, 19, 21, 22\}, \\ \{2, 3, 4, 5, 7, 8, 9, 10, 17, 20\} \end{array} \right\}$$

$$= \{D1, D2\}$$

$$U/IND \{bottom\ drawer, leg, colour, headboard - crown,\ handle, uv\ press\}$$

$$= \{\{2, 8\}, \{10, 12\}, \{6, 7\}\}$$

$$= \{X_1, X_2, X_3\}$$

$P(X_1) = 2/22 P(D_1/X_1) = 1/2, P(D_2/X_1) = 1/2;$

$P(X_2) = 2/22 P(D_1/X_2) = 1/2, P(D_2/X_2) = 1/2;$

$P(X_3) = 2/22 P(D_1/X_3) = 1/2, P(D_2/X_3) = 1/2;$

SGF $\left(chest\ of\ drawers",\ \{bottom\ drawer, leg, colour, headboard - crown, handle, uv\ press\}, \{D\} \right)$

$= H(\{D\} / \{bottom\ drawer, leg, colour, headboard - crown, handle, uv\ press\})$

$-H(\{D\} / \{chest\ of\ drawers, bottom\ drawer, leg, colour, headboard - crown, handle, uv\ press\})$

$= -\frac{2}{22} \left(\frac{1}{2} \log \frac{1}{2} + \frac{1}{2} \log \frac{1}{2} \right) \times 3$

We obtain the significance of attribute "chest of drawers" as 0.0802, the significance of attribute "colour" as 0.1094, the significance of attribute "leg" as 0.0547, the significance of attribute "bottom drawer" as 0.032 and the significance of attribute "handle" as 0.0433, respectively. Headboard crown and UV-press are not obtained, because they are used one times in sales data sets. Thus, we do not take into account of them. Although, the design parameter of "colour" is seen the most important than others design parameter and affects the sales value, so "colour" which directly effects customer perception is not selected as design parameter. Except for basic parameters, the 3 parameters such as chest of drawers, leg and bottom drawer are selected for using new baby cradle design.

Step 4 Produce the design alternatives with decision rules.

According to Rough set results, seven parameters such that legrest, front block, chest of drawers, back, headboard, bottom drawer and leg are take into account for using new baby cradle design. The colour is not considered because of effect directly person's perceptions. 93 baby cradle alternatives are comprised by designer.

Step 5 Collection of Kansei words.

To determine new concept of baby cradle related to customer emotional needs and semantic space, the Kansei adjectives are collected from different sources such as magazines, articles, interviews with users, web sites of companies produce baby cradle, and marketing personnel of companies and product catalog. The 12 pairwise Kansei words that describe baby cradle were selected for use in this study. These 12 pairwise Kansei words that describe baby cradle were selected by a group composed with five experts who are academicians, furniture designers, from 80 Kansei words for use in this study because a larger set of adjectives might lead to decrease the reliability on the evaluation process. Table 2 shows the 12 Kansei adjectives that were most suitable for describing the baby cradle.

Step 6 Evaluation of product samples vs. Kansei words with Semantic Differential scales.

Table 2 The selected Kansei words

Modern-traditional	Charmless-cute
Ordinary-attractive	Poor quality view-quality appearance
Minimalist-decorative	Easy to clean-hard to clean
Feminine-masculine	Cheap-expensive
Romantic-adventurous	Indurable-durable
Useless-practice	Elegant-rough

Each adjective word such as modern-traditional, charmless-cute, ordinary-attractive, poor quality view-quality appearance, minimalist-decorative, easy to clean-hard to clean, feminine-masculine cheap-expensive, romantic-adventurous, indurable-durable, useless-practice, elegant-rough is evaluated using an 11-point semantic scale [16] by totally 384 volunteer subjects.

Step 7 Identification of the most representative Kansei Needs (customer emotional needs) of the market using PCA.

The PCA is used for reduction of customer emotional design space. The evaluated data on 93 baby cradle designs were analysed by PCA. The cumulative variance contribution rate is found % 84.531%. Three component is explained from Kansei data, the components 57%, 15.4%, 12.11%, respectively. Component 1 is grouped by the Kansei modern-traditional, ordinary-attractive, minimalist-decorative, charmless-cute, poor quality view-quality appearance, cheap-expensive, indurable-durable. Accordingly component 1 is named the 'Modern'. Component 2 is grouped by the Kansei feminine-masculine, romantic-adventurous, elegant-rough. Accordingly component 2 is named the 'Elegant'. Last component 3 is grouped by the Kansei easy to clean-hard to clean and useless-practice therefore named the 'Practice' component.

It is possible to show the PCA vector chart that illustrate each design alternatives and related to component 1 and 2. Figure 1 illustrates the PCA vector chart, which shows the positions of baby cradle alternatives on component 1 and component 2. This shows which samples are close to what Kansei. If there is a company strategy of Kansei concerning the next development Project a specific Kansei can be chosen. The resulting three components lead to a new baby cradle product and accordingly the designer is able to develop a new product applying these design points. Therefore, Kansei strategy is determined for baby cradle designer by PCA results. The emotional design knowledge extracted can be used to advise designers on the improvement of the product design towards higher affective satisfaction of consumers like in the study of Zhai [6]. The approach proposed is basic in implementation and can be easily applied to real industrial applications.

Biplot (axes F1 and F2: 72,42 %)
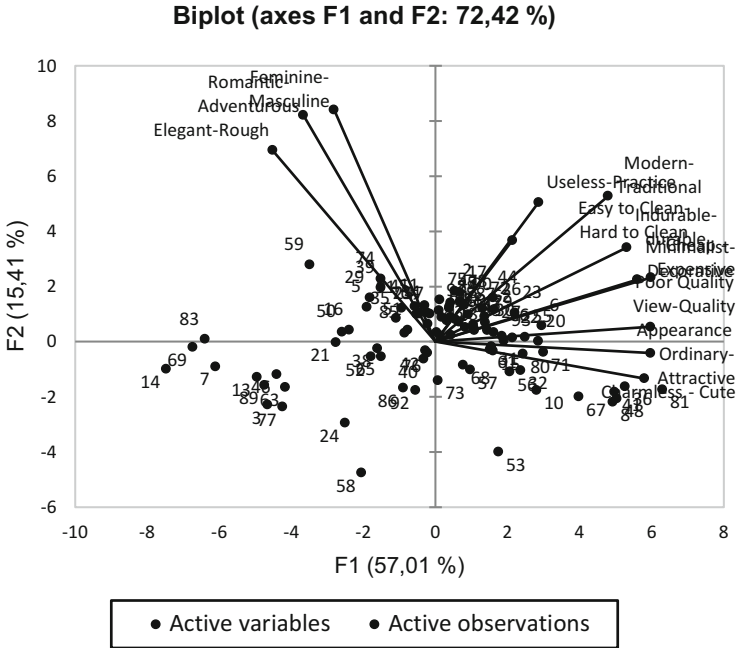
Fig. 1 PCA vector chart of components 1 and 2

3 Conclusion

Kansei Engineering is open to new models to translate more accurately the uncertain information of consumer feelings of a market to generate new product designs. In the present paper suggested the Kansei Engineering with Rough sets and PCA. With help of Rough sets, the product design parameters are determined and with help of PCA, Kansei strategy that comes from customer satisfaction needs is determined for product designer/engineer. We have applied proposed methodology to a new baby cradle design development. In the case study, a survey of 93 baby cradle was performed. The help of Rough Sets theory can be selected second degree design parameters that effect sales range for the design such as chest of drawers, leg and bottom drawer. Based on the survey results, the PCA was used to find emotional theme for relating customer satisfaction. We have determined which Kansei strategy are more important in terms of marketability for the baby cradle such as 'Modern, Elegant, Practice'. In future work, this Kansei Engineering methodology will be refined by applying it to more product development.

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Transformative Role of Work-Integrated Learning in Industrial and Post-Industrial Society: The Russian Experience

Natalya Totskaya and Natalia A. Bogdanova

Abstract This paper takes a look at historical trends and patterns of work-integrated education in Russian Federation as it transitions from planned to market economy. Prior literature and historical data on using "factory-to-college" educational system in planned Soviet economy illustrate the unique approach to integrating experiential learning into higher education. The methods of experiential teaching and learning have played the pivotal role in setting the pace of Soviet industrial development in 1920–1970s. Yet the system of work-integrated education had to be changed during the post-Soviet economic deregulation. The transition into market model of socio-economic development, and Russia's integration into global economy called for new methods of work-integrated education. Implications of this change included the growing number of service-oriented programs, the earlier introduction of experiential learning, and the broader set of knowledge and skills offered to students.

Keywords Experiential learning · Project work · Socio-economic development · Industrialization · Integration

1 Introduction

Work-integrated learning (WIL) and its various forms have become an important part of higher education worldwide. Theoretical approaches and models linking academic and practical aspects of learning differ around the globe and among various types and levels of academic programs. Yet the need for developing practical

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skills and use them for better employability of graduates is quite universal in various post-secondary institutions [1, 2].

The term "work-integrated learning" is an umbrella term referring to various types of experiential education that enhance student learning and allow them to acquire new knowledge, build competencies, and master skills that will be essential to their future employment [3]. During the past 50–60 years, institutions of higher education have practiced various models of experiential learning. The Soviet approach to WIL is among less known examples of these programs. Work-integrated education has been conceptualized and first tried in practice during the years of industrialization in 1920–1930s. Soviet researcher A.K. Gastev had contributed to creating a system of "scientific management" in Soviet Union [4], and WIL was included in that system. Gastev's ideas were introduced to Soviet higher education in late 1920s—early 1930s by requesting mandatory placements for all university students, and by providing opportunities for continuous education to factory workers. However, the early system of WIL was more of a "trial and error" approach with poor educational quality control of WIL [5]. These initial pitfalls, followed by the second World War have delayed the broader introduction of WIL in Soviet Union, even though individual "factory-to college" institutions continued to function and develop the standards of work-integrated education that were broadly introduced in the late 1950s.

In this paper we will review the progress of WIL in Soviet Union and later in Russian Federation, and we will identify the changes in experiential learning that reflect the broader changes in country's socio-economic environment. We will start the next section by reviewing the classic WIL model developed in Soviet Union. In the third section we'll move to its modification illustrated by current statistical data, and followed by theoretical propositions on WIL development. Fourth section will summarize the findings and implications.

2   The History of Success: WIL in Science and Engineering in 1960s–1980s

In late 1950s the Soviet Union had formally launched its WIL educational concept that was primary aimed at boosting economic growth and increasing the competitiveness of planned Soviet economy. The Resolution #1425 introduced by the Council of Ministers of the USSR on December 30, 1959 has initiated the creation of "Factories integrated with Higher Technical Educational Institutions" (FHTEIs). The FHTEI model combined academic study modules with extensive practical work at assigned industrial enterprises. Students were able to complete their education within 6 years, while working full-time and being promoted to advanced technical and managerial positions.

The system of FHTEI work-integrated education had quickly spread to various industries and regions of Soviet Union. Seven FHTEIs were initially established, and their number has increased through 1960–1980s, with 22 FHTEI providing work-integrated education in 1988 [6]. FHTEIs were preparing mostly engineers and other non-management specialists for their assigned industries. The study process included semester-long cycles of theory and practice, with designated study spaces for academic classes and research labs established directly at those factories.

Therefore, the "integration" of higher education and manufacturing enterprises was viewed quite literally, and implemented thorough both creation of designated study spaces at factories, and recruitment of leading specialists and top-level factory managers as course instructors. Industry practitioners with their rich knowledge and industry experience were supplementing faculty members who were coming to FHTEIs for delivering theory classes. Taken together FHTEIs not only contributed to supplying Soviet industrial production with thousands of new university graduates, but they also stimulated applied research and intensive technology development in 1960–1970s.

The history of FHTEIs in the Soviet Union, including their past success, struggle to adapt to changing socio-economic system, and their current development has raised some recent interest of Russian researchers, even though the number of publications on historical roots of FHTEI is very limited. For instance, Lyussev [6] has identified several external and internal factors that have defined the type and the outcomes of work-integrated education in Soviet Union. It seems that external environment had played the key role in setting FHTEIs for success. Soviet government intended to boost the pace of industrial development, and those intentions were in sync with societal needs for post-war development and growth [6]. FHTEIs and their WIL model have provided the opportunities for on-the-job education, professional development, and practice integrated research targeted for the needs of planned economy [7]. Yet the FHTEI system had targeted industrial production only, it required more flexibility to prepare students for work in non-industrial organizations [8]. Overall, the historical evidence demonstrates that the direct integration of academic and experiential learning through FHTEIs has contributed to high pace of innovations, technological development and post-war recovery (Fig. 1).

FHTEIs educational model allowed for boosting both industrial production and research; it helped to increase the level of post-secondary education, and the number of graduates in the fields of science and engineering. This model has also introduced some elements of work-integrated education (such as mandatory placements) to other institutions of Soviet higher education. Close integration between the institutions of higher education and industrial enterprises was the key to success of Soviet work-integrated education and FHTEIs. Figure 2 illustrates the data on the number of graduates in engineering, economics and legal studies in 1960–1980s showing that the main focus of Soviet higher education was on preparing qualified specialists for industrial production.
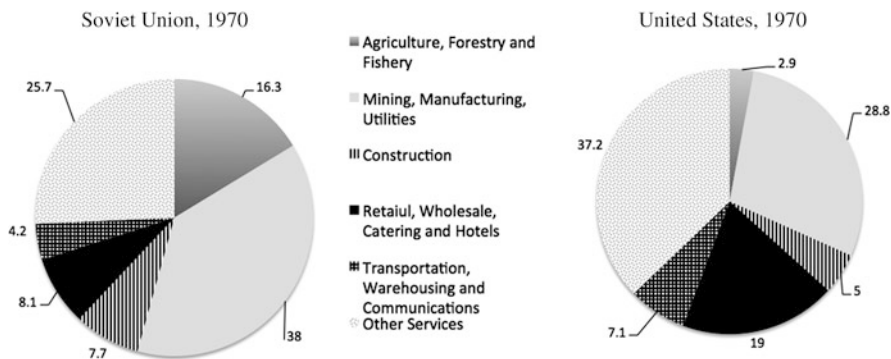
Fig. 1 Comparative structure of gross domestic product: Soviet Union and United States of America, % [9]
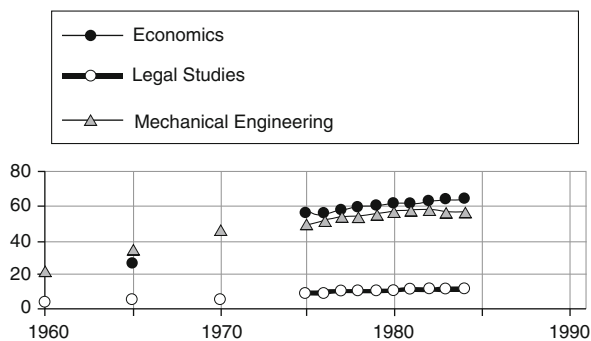
Fig. 2 Graduates of higher education institutions in Russian Federation (selected programs; measurement unit: thousands of graduates) [9]

3 Transition to Market: 1990s and Beyond

3.1 Expansion of WIL Model to Other Higher Education Programs

By the end of 1980s the Soviet system of experiential learning was in crisis as it tried to expand the FHTEI model to service organizations, and at the same time to adapt to changing political and socio-economic environment in Soviet Union and later in Russian Federation. Some FHTEIs have extended their WIL programs offering them to students in science, engineering, and management disciplines [10]. Other FHTEIs kept their focus on science and engineering programs only, but began to establish broader partnerships between state-owned and private industrial enterprises, research centers and institutions of higher education [11]. In turbulent 1990s the number of traditional FHTEIs and their WIL programs has decreased, partially due to the closure of some factories assigned for delivery of FHTEI

programs. The number of students enrolled in various types of programs has changed, too. Nowadays more students are interested in studying social sciences, and other service-oriented disciplines (Table 1).

With the change of programs and enrolment numbers the structure of WIL had to be updated, too. One element of WIL that has been successfully applied across institutions of higher education, and has survived the transition from planned to market economy was related to mandatory "placements". Most programs in various fields of study required one to two placements prior to graduation. However, both the duration and the content of placements became more tailored to specific academic programs.

In recent years the focus of WIL in Russia is shifting from developing and practicing fairly narrow professional skills to a broader set of professional and general competencies that allow students and graduates to be more flexible, and adapt to changing job market requirements. This change may be attributed to the fact that the system of post-secondary education in Russia is moving towards international educational models and standards. The elements of experiential learning are being introduced to Federal Educational Standards for various programs of professional (college), higher, and continuous education. Institutions of higher education are changing their WIL programs by introducing interdisciplinary skills and "cross-professional competencies" required in modern, service-oriented and "digital" economy [12, 13].

These changes are in line with global trends in WIL, and with the need to develop broader, or generic skills including individual and teamwork research, communication, and knowledge integration [16–18].

3.2 Modification of WIL Towards Development of Generic vs. Professional Skills

Russian Federal Educational Standards require that students be provided with various options of experiential learning, including individual and group projects, job placements, and graduation theses. To illustrate the modern approach to more generalized WIL experiences we have collected the data on individual projects completed by first-year students enrolled in six programs at Siberian University of Consumer Cooperation. Programs in science and technology included Information Technologies, Technology of Public Catering, and Commodity Research and Expertise of Consumer Goods. Social sciences and service programs included Economics and Management, Legal Studies and Social Services, Tourism and Hospitality. The convenience sample contains 597 individual projects completed in 2018–2019 academic year, and it illustrates the interest for developing pre-professional, generic skills across various programs of study (Table 2).

These individual projects can be considered an early introduction to experiential learning; they allow students to do independent research, develop critical thinking

Table 1 Number of students enrolled in various higher education programs (Russian Federation, thousands of students) [14, 15]

Enrolment in educational programs	1965	Share, %	1975	Share, %	2006	Share, %	2014	Share, %
Mathematical and Natural Sciences[a]	127.8	5.4	185.6	6.5	39.1	2.8	46.0	3.9
Engineering and Technology	1072.2	45.5	1259.4	44.1	391.7	28.5	326.9	27.4
Healthcare and Medical Sciences	132.0	5.6	193.0	6.8	40.2	2.9	53.1	4.5
Agriculture and Agricultural Sciences	191.0	8.1	245.0	8.6	46.9	3.4	45.5	3.8
Social Sciences	193.0	8.2	236.0	8.3	461.6	33.5	534.4	44.8
Education and Pedagogical Sciences	622.0	26.4	718.0	25.1	144.0	10.5	113.0	9.5
Humanities[b]	n/a		n/a		227.1	16.5	44.1	3.7
Arts and culture	16.0	0.7	20.0	0.7	26.1	1.9	28.8	2.4
Total	2354.0	100	2857.0	100	1376.7	100	1191.8	100

[a]In 1965 and 1975 reported as "university programs"
[b]Not available in 1960–1980s, most likely included in "Educational and Pedagogical Sciences"

Table 2 Subject areas selected for individual research projects by students in six academic programs (measurement unit: number of projects)

Focus of individual project	Information Technologies	Economics and Management	Legal Studies and Social Services	Commodity Research and Expertise of Consumer Goods	Technology of Public Catering	Tourism and Hospitality
Mathematics and Computer Sciences	12	34	45	15	11	16
Natural Sciences	10	9	45	43	19	7
Social Sciences	0	33	63	14	12	32
Humanities	3	6	42	20	20	17
Sports and recreation	0	17	23	4	5	20
Total	25	99	218	96	67	92

and communication skills. Analysis of the topics in our sample has indicated that projects were quite equally distributed among several disciplines: about 22% were related to mathematics and computer sciences, another 22%—to natural sciences, 26%—to social sciences, 18%—to humanities, and 12% to sports and recreation. Among all projects 11.2% covered inter-disciplinary topics. Students enrolled in science and technology programs were inclined to choose disciplines and topics closely related to their programs of study, while students enrolled in service-oriented programs worked on topics related to greater variety of disciplines, often outside of their core subject areas.

This example illustrates the point that nowadays experiential learning not only moves beyond development of professional skills, but it also focuses on developing generic, flexible skills that may be of value in areas beyond student's immediate study program and their future profession.

As part of further theory building we propose that the evolution of work-integrated education is associated with the type of socio-economic system (industrial vs. post-industrial society).

Proposition 1 The type of knowledge and skills expected of university graduates are based on the needs of modern economy that is service-oriented, fast changing, innovative and global in nature.

Proposition 2 Service-oriented programs will provide more opportunities for developing generic skills and competencies as part of experiential learning, while programs in science and engineering will focus on developing more specialized professional skills while allowing for some opportunities for developing generic skills and competencies.

4   Discussion and Conclusion

To test these propositions, it would be interesting to compare the structure of WIL components in various programs and see whether the elements of experiential learning, and associated skills and competencies would vary among science, engineering, management, and other service programs.

Better understanding of the types of experiential learning and associated skills has practical implications related to revision of existing programs, as well as development of the new ones so they would fit to fast-changing global economy. For instance, the data obtained from Siberian University of Consumer Cooperation indicates that early in their study students are interested in developing interdisciplinary, generic skills that in the future may enhance their chosen profession. The sample also shows that the interest to social sciences and service-based programs is high: 2/3 of first year students are enrolled in academic programs that are not related to science or technology. Service-oriented programs used to support the main "historic" programs of Siberian University of Consumer Cooperation, yet nowadays they have become the leading programs in terms of enrolment and revenue

generation. This is in line with country-wide trends in higher education. Therefore, institutions of higher education need to monitor the changes in manufacturing and service sectors of economy, and respond to emerging educational demands by developing new programs and approaches to experiential learning.

Lessons learnt from the past experiences of WIL demonstrate that experiential learning responds to the broader societal needs, including the changes in higher education, and the main directions of economic development. Recent changes in patterns of socio-economic development around the globe require more generic skills. Overall, flexible set of skills and competencies is expected of graduates in all disciplines.

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What Competencies Should Be Developed in Citizenship Education in the Twenty-First Century? Analysis of Being Active Citizens in Europe and the US

Josélia Fonseca and Teresa Borges-Tiago

Abstract In this paper we aim to discuss citizenship education along with the reflex and implications of the process in the people's concept of citizenship. We reflect on and discuss citizenship education demand to clarify the notion of citizenship and the differences between this and civic education. Citizenship education is more global than civic education, because citizenship is constitutive of human identity development. Citizenship education in the twenty-first century requires an educational process to promote competencies development so that citizens are capable of acting with autonomy and conscientiousness in society. In fact, it is important that the educational process enable citizens to think critically about their duties and about laws in order to promote good social welfare. Beyond the political dimension, the social conjuncture of this millennium requires that citizenships also assume an ethical stance. Thus, it is important to understand how some European powers—Germany, Finland, France—as well as the United States conceive of being a good citizen.

Keywords Citizenship · Education · Active citizen · Ethics

1 Introduction

Reflecting on the citizenship educational process and discussing the competencies that should be associated with it requires that we clarify and define citizenship education. Frequently, citizenship education is conceived as a synonym for civic education; the curricula of some countries, such as Portugal, designate the disciplinary area dedicated to citizenship issues as civic education.

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Citizenship education and civic education are not the same thing. Citizenship education encompasses civic education, but it is broader than this. Citizenship education concerns the development of the individual in personal and social dimensions, in which one must consider the formation of an identity process based on good self-esteem and the understanding of the relationship with the other Man and with the environment. The latter, and the rules and values that support it, affirms itself as intrinsic to the identity development of the individual and not as something that is imposed from outside.

Man is by nature a social animal. In the Aristotelian language a zoon politikon is built upon the relation with and by the other. Thus, citizenship as a sense of belonging to society is the space where each person negotiates with others a way to coexist with individual autonomies [1] and this is constitutive of the person's identity. Citizenship is not only a political and social sphere, it affirms itself as an ontological and ethical dimension that contributes to the progressive human improvement within personal and social dimensions. Following Cortina [2] citizenship is a way of being free. According to our view, this requires an individual to be an intervening, responsible being, one who responds to the challenges and demands of society.

Thus, the educational process for citizenship cannot be restricted to the imposition of social norms and rules, but must be viewed as a constructive process that promotes the formation of an autonomous moral consciousness, supported by the development of critical analysis and reflection competencies and of entrepreneurship.

The way in which the educational system contemplates and promotes citizen education will have implications for the way citizens conceive and execute their social intervention. In this sense, we understand that it is pertinent to understand how some European countries, namely Germany, Finland, France, and the U.S. consider the requirements of a good citizen and good conditions of citizenship. This paper aims to understand how these countries conceive the active citizen and what categories they associated to this concept.

2   What and How to Educate the Active Citizen?

The answer to the question of the title of this section presupposes that we define what is meant by an active citizen. As we mentioned in previous works [1, 3, 4] the expression "active citizen" is a pleonasm and enunciates in a certain way a paradox. From its origin in Greek antiquity, the concept of citizenship always was associated with a dimension of creativity. Being a citizen consisted of belonging to the polis, or Greek city-state, and to participate actively in it in view of the common good of the whole community.

So, how do we in the twenty-first century speak of active citizens appealing to their formation, if in its essence it always was? After all, the conditions have been created for it. Thomas Marshall [5], the British social scientist, distinguishes three

dimensions of citizenship: civic, political and social. The civic dimension refers to the set of rights of individual freedom, expression and thought, property and justice, developed by the liberal movement of the eighteenth century. The political dimension developed in the eighteenth and nineteenth centuries refers to the rights of political participation, which were the basis of universal suffrage. The social dimension covers issues related to social welfare and refers to rights of equal rights in access to basic social goods such as health care, housing and education. Adela Cortina [2] defines this dimension as second-generation rights, which are embodied in the 1948 Declaration of Human Rights and are complementary to political rights.

Despite being in the state of social welfare, today's citizens are accommodated under the "umbrella" of social rights, and a "dependent [...] apathetic and mediocre being, who is oblivious to all the free initiative, responsibility or creative enterprise" [2] [p. 28]. The current citizen is, in fact, a moral "vassal" [2] of the contemporary democratic society and politically autonomous, socially and axiological demanding, which asks for a proactive capacity for reaction and deliberation.

In fact, the current conjuncture does not adequately understand the welfare state from the political and legal point of view, but also from the ethical point of view, which Kant [6] designed as ethical civil status. In this the laws are not legal and coercive; it is moral laws, in which all men recognize themselves and each other as equals, with the duty and responsibility to act in society and to reconfigure it.

It is the recognition of this ethical civil state that is failing because, as Cortina [2] [p. 25] says, "[...] political citizenship is more recognized on paper that is practiced in reality, however farther to realize is the moral autonomy, because in moral questions the addiction of passivity predominates". Passivity in our opinion results from a low level of moral development of citizens [3] and the ineffective action of schools in this development process.

Schools continue to be committed to citizenship education "[...] of the lessons of civic morality and the inculcation of codes of conduct [...]" [7] [p. 81] which is recognized as outdated for the formation of the active citizen of the twenty-first century. The socio-cultural and axiological conjuncture of the society of the new millennium demands that today's citizens be permanently participatory members, able to hermeneutically criticise their society and to participate in dialogue with other citizens in order to build consensus and the common good, in line with Habermas' [8–10] theory of discourse ethics and communication action.

Citizenship education, based on Habermas's discourse ethics and communicational action, includes from our point of view [1] the promotion of citizenship education embodied in ethical responsibility—understanding responsibility not only as causality and imputability, but as a duty to respond. To respond to the challenges of the global and axiologically plural society of the twenty-first century, and in order to preserve and guarantee development of the society of the future, we assume a prospective meaning along the lines advocated by Hans Jonas [11] in his book *Le principe de la responsabilité—Une éthique pour la civilisation technologique*.

Thus, citizenship education should be promoted by abandoning the indoctrinal perspective and moving towards the transformation of school institutions that

Philippe Perrenoud [12] [p. 39] suggests and is affirmed in "[...] the active appropriation of knowledge and critical reason, the appropriation of a minimum of instruments of the social sciences, the practice of democracy and responsibility". The critical appropriation of knowledge that Perrenoud [12] reports, as well as the practice of democracy and responsibility, require the development of a pedagogical action of citizenship education. It is embodied in constructive strategies that promote the knowledge and deconstruction of concepts associated with issues of citizenship, and that create conditions for students to develop an autonomous moral conscience. Such a conscience allows them to understand themselves as beings of action with duties to intervene within the society in which they live to rebuild. To this end, it is also important that citizenship education be based on educational strategies that promote the hermeneutics of real problems and their resolution.

3   Citizenship Concept in Germany, Finland, France and the USA: Methodology and Results

Considering this constructive view of the development of the active citizen, it is important to understand how European citizens—notably Germany, Finland and France—and those of the U.S. view themselves. What does it take to be a good citizen and how do they attach this to democratic rights in the configuration of that definition?

To this end, we analysed a European database, International Social Survey Program: Citizenship II [13], from which it was possible to understand how the people of this countries conceive citizenship. The reasons for the choice of these countries were essentially as follows: (1) Germany, like the U.S., is considered an educational superpower as well as cultural and economic [14]; (2) Finland is a reference country in terms of education and is, according to some documents such as the PISA Report, at the top of the hierarchy in the field of education [14]; (3) France, because the French Revolution had important implications for the reconceptualization of the concept of citizenship; (4) the U.S. as the non-European superpower, which in the field of axiological education has manifested different educational options than European ones—often associated with a more indoctrinated teaching process [15].

The analysis of the European database International Social Survey Programme: Citizenship II [13] allows us to identify some categories that we think are very important to define the active citizen and how they conceive of citizenship— namely, rights in democracy: adequate standard of living for all, government authorities respecting minorities, people participating in public decision-making, people convicted of serious crime losing citizen rights, long-term resident having the right to vote in nation elections or not, and referendums as a good way to decide political questions and level of personal interest in politics. As we can see in Table 1, the countries studied reveal different points of view.

Table 1 Data citizenships conceptions from Germany, Finland, France and United States

Variable	Mean	Sign.	Mean difference
Rights in democracy: adequate standard of living for all	6.26	0.000	DE-W > US;DE-E;FI < FR
Rights in democracy: government authorities respect minorities	6.11	0.000	FI;DE-E;DE-W;US < FR
Rights in democracy: people participate in public decision-making	5.96	0.000	FI < FR < DE-W;US;DE-E
Rights in democracy: acts of civil disobedience	4.83	0.000	US;FI < FR < DE-W;DE-E
Rights in democracy: respect of democratic rights by	6.22	0.000	US;FI < FR < DE-W;DE-E
Rights in democracy: people convicted of serious crimes lose citizen rights	5.96	0.000	DE-W < FI;US;DE-E;FR
Rights in democracy: long-term residents have right to vote at national election	3.57	0.000	US;FI < FR < DE-W;DE-E
Rights in democracy: right for citizen NOT to vote	5.21	0.000	FR < DE-W;FI;DE-E > US
Referendum—a good way to decide political questions	2.23	0.000	DE-E > FR;DE-W > FI;US
Level of personal interest in politics	2.33	0.000	DE-E;DE-W < FR < US;FI

Subsct for alpha = 0.05

Legend: DE-E Germany East, DE-W Germany West, Fi Finland, Fr France, US United States

Analysing the results, we can see some interesting facts. East Germany and the United States (US) are the countries that more greatly valorise the rights of people to participate in public decision-making. We think that is one consequence of the education process. According to Hahn [16] [p. 235] "[. . .] secondary schools in Germany and the USA are likely to have student councils and curricular offerings that are deliberately planned to prepare youth for their roles as citizens in democracies." In US, these council are not promoted in the school's curriculum activities but in extracurricular activities. According Cohen, Schugurensky and Wiek [15] [p. 7].

Participation in extracurricular activities such as student councils positively impacts students' citizenship behavior as adults: they are more likely to register to vote, to be involved in political campaigns, to contact public officials, and to become members of political organizations.

Despite appreciating the democratic rights of people to participate in public decision-making, the US is the country that least values the democratic right to civil disobedience. In our point of view, the US results can be explained by the fact this country has a tradition of promoting a prescriptive educational process, focused on character training and the imposition of rule and conduct codes. Hahn [16] [pp. 235–236] observes:

"[i]n the USA, more than 75% students take a course in civics or government before they graduate from high school (National Centre for Education Statistics). [. . .] In the USA repeatedly researchers have concluded that social studies

instruction is often dull, and dominated by teacher lecture and student recitation. [. . .] However, in each of the schools I visited in the USA, I also observed teachers using a variety of instructional activities—more than I saw in the other countries".

We think that the fact that the US is a country that least values the democratic rights of civil disobedience can also be explained by the fact the in US the civic education to active participation not to be a lot valorised. This educational process is not concerned with the critical thinking, and be disobedient can be a way to be critical, to think by oneself. Cohen, Schugurensky and Wiek [15] [p. 6] observe:

[i]n the U.S., civic education has become deemphasized as public schools shifted their focus to areas prioritized by standardized testing like reading (. . .). Moreover, teaching citizenship for testing expectations requires primary attention to information and knowledge acquisition, at the expense of the skills, attitudes, and behaviors needed to engage in democratic processes (. . .). Indeed, whereas schools can be powerful venues for developing an engaged citizenry, participatory values and skills are typically excluded from civics courses, which often emphasize voting and responsibility.

On the other hand, the US attributes importance to public voices and valorises the level of personal interest in politics, referendums as a good way to decide political questions and the rights of citizens to vote. The US, as well as West Germany, has a political conception of citizenship. Hahn [16] [p. 236] notes: "In Germany, as well as the USA, students take courses that are designed to teach about the political arena and to prepare students for their role as citizens of a democracy". However, in Germany, the education process is less instructive than in the US. Hahn [16] [p. 237] stated: "I observed in all of the German schools I visited was a periodic lesson in which the teacher asked students to identify the advantages and disadvantages of, or arguments for and against, a particular policy and to justify their position on the issue. Topics analysed and discussed in that way included proposals to change the driving age, the voting age, the asylum law, and the abortion law, and policies on the unification of Germany, the prohibition of extremist groups, the direct election of mayors, gene manipulation, animal use in medical experiments, and cosmetic testing".

In fact, the German educational process values the development of autonomous moral awareness. It is thus understood that both West and East Germany attach great importance to specific rights in democracy: acts of civil disobedience and the respect of democratic rights by government. We think that these rights are valorised in Germany educational process. According Faas and Stret [17] [p. 475]:

"Students in citizenship classes in Berlin are to be reminded that democracy can be fragile and that its stability depends on the engagement of citizens. The special emphasis on democracy derives in part from the city's tumultuous twentieth-century experience. Besides democracy, key themes are children's rights and peace. Although there are few explicit references to the German constitution, it seems to be the source for various topics and phrases (e.g. "human dignity", the topic of the first line of the constitution)".

France and US are the countries that more greatly valorise other rights in democracy, including government authorities respecting minorities. This attitude

can be explained by the fact that these two countries have a heterogenic and multicultural population. On the other hand, Finland citizens don't consider this as an important right. Nor do they greatly valorise the rights of people participating in public decision-making. In our point of view, the Finnish attitude can be explained by the fact that the educational process does not emphasise student participation; students manifest a selective obedience. According to Kjellin, Stier, Einarson, Davis and Asunta [18] [p. 208] study: [t]he tones of the voices of Finnish pupils as a whole were very similar, i.e., as groups they sounded very secure, self-confident but laconic, 'low-key' (in two groups the pupils said only a few words), down-to-earth. Yet, the dialogue groups can be categorised as: (i) those where the tone of the pupils' voices expressed obedience towards all others at school; (ii) those selectively indifferent to other staff than teachers; and (iii) those who were obedient towards teachers, but not towards other school staff (thus, 'selectively obedient').

France was the country that surpassed most others regarding democratic rights, because it was the cradle of the French Revolution, and, as such, is a staunch defender of the rights of freedom, equality and fraternity. Thus we are surprised that it is one of the countries that least values the participation of the people in public decision-making and the right of citizens to not vote.

4   Conclusion

In conclusion, we can, from the data obtained, affirm that both in certain European countries and the United States, a politicized conception of citizenship continues, neglecting the ethical dimension that should be associated with it. Thus, those responsible for education of the citizens of the new century have the challenge and the duty to prepare them for the development of an ethical and moral conscience that promotes their effective participation under the paradigm of a communicational act in order to promote de development of entrepreneurship attitude.

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Technologies to Communicate Accounting Information in the Digital Era: Is Accounting Education Following the Evolutions?

Sofia Asonitou

Abstract This exploratory study investigates current accounting research with the aims: (a) to provide a picture of the evolutions in accounting technology that allow the reliable and real-time financial communication (b) to draw attention on the educational needs of future accountants by exploring whether there is a disconnect between technological trends in accounting reporting and accounting education. The research covered the period from 2013 to the first quarter of 2019 and reviewed the literature on technological accounting reporting tools and the literature on corresponding accounting education research. Comparison of research topics revealed four neglected topics in accounting education research: social media, big data, Blockchain technology and cloud accounting. The added value of this study is the identification of the research gap, the contribution towards their purposeful integration and the initiation of further research both for accounting reporting technologies and the accounting education research.

Keywords Accounting reporting · Technology · Communication · Skills · Accounting education

1 Introduction

Technology constitutes one of enterprises' most powerful assets in the competitive globalized environment and an indispensable strategic tool for those companies that wish to establish competitive advantage in their area of expertise [1]. Technological trends that can be used for digital corporate communication like social media, big data analysis and visual management constitute a new era that offers opportunities for growth in which accountants and finance executives should gain deep knowledge of their benefits and possible risks [2, 3]. Nowadays there is need for more

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interactive communication with the internal and external stakeholders, employees, customers, vendors, investors, creditors and many others. The era of digital financial reporting has arrived. Thus, social media, web pages, blogs and professional networks, as well as advanced technological tools like XBRL and Blockchain technology constitute the means for more open, interactive and modern practice of communication between organizations and people interested in the company's growth [4]. notes that technology has a major impact on practicing CPAs and the accounting profession, and the prevalence of technology in accounting is expected to increase in the future.

Professional bodies and academics have urged for changes in accounting education in order to modernize accounting curriculum and to keep abreast with the evolutions in the accounting profession [5–7]. It is the accounting educators' responsibility to lay the grounds for the creation of competent future professionals and to build bridges between current issues in the areas of accounting practice and accounting curriculum. The question is whether there is a gap between the two areas of research especially with regards to the technological evolutions in accounting reporting.

For the purpose of the present study we define Area 1 to include research topics on communication technology and digital accounting while Area 2 to include research topics which refer to learning and teaching methods that develop technology skills and digital awareness of accounting students. The Research Questions (RQ) are formulated as follows:

- RQ 1: Which are the most recent topics of research in Area 1?
- RQ 2: Which are the most recent topics of research in Area 2?
- RW 3: What topics of concern in Area 1 are underrepresented in Area 2?

2   Literature Review

Accounting reporting is at the heart of financial activities and is undergoing important changes given the fact that the fast changing, increasingly competitive global markets require real-time reporting to cover the needs of stakeholders with accurate and timely financial information. Enterprises have now at their disposal technological tools that can support them in the transition to the real time processing. These tools include among others interactive Accounting Information Systems (AIS), mobile devices, cloud computing, crowdsourcing, business intelligence, big data analytics, social media and Blockchain technology [8, 9]. On the other side, such processes as IFRS provide the overarching framework for the compilation of internationally comparative reporting. The next section presents the results of the research and includes the most up to date tools, processes and applications which are at the disposal of accounting practitioners and may allow for an interactive communication process between the interested parts.

3 Research Methodology

A broad although not exhaustive literature research was conducted within the two Areas. Professional publications, magazines and websites reports were also included in order to gain the pulse of practitioners on the same subject [10]. The author searched well-known databases which were Science Direct, Scopus, Emerald, Eric, E-List for available literature and search engines such as Google Scholar and Science Direct. The specific keywords under examination were the ones which were associated with accounting technology, accounting education, social media, and information systems and accounting reporting, mainly within publication years 2013-first quarter of 2019. A second literature review was conducted in Area 2 of research (accounting education) topics by analyzing studies within the same publication period. The review included the following journals: (1) Journal of Accounting Education, (2) Accounting Education: an International Journal, (3) Advances in Accounting Education, (4) Global Perspectives on Accounting Education, (5) AIS Educator Journal (6) The Accounting Educators' Journal. Comparison between the results of the two literature reviews provided the findings for research question 3.

4 Results

4.1 Literature Review Area 1

Accounting Information Systems (AIS) Accounting software development is directed towards workflow, simplification, customization and cloud computing. New features of accounting software include integration with Microsoft Office, better user interfaces, Outlook/Explorer interface, tighter integration of Workflow and Document Management, improved Financials with Business Intelligence (Analytics), the capability to pay invoices directly from the accounting software, the capability for a customer to pay invoice directly from the company's invoice, warehouse management improvements and integration, more sophisticated supply chain, logistics, Radio-frequency Identification technology (RFID), inventory and distribution issues as well as better handling of foreign currency issues. System wide functionality is required to include full web enablement and should meet the accounting standards of IFRS [11].

Extensible Business Reporting Language (XBRL) XBRL can be used for consolidation purposes, has the potential to significantly improve corporate governance and to affect the investment performance of nonprofessional investors [12]. US Securities and Exchange Commission (SEC) in its intention to provide users easier, efficient and accurate ways to obtain and analyse data, required in 2009 that public companies and foreign private issuers submit their financial statements in XBRL format in addition to the regular text format.

Cloud Computing Cloud accounting is embraced by the accounting practitioners however there are opportunities as well as risks inherent in the "next generation of computing" that make some organizations to be reluctant on its adoption [13]. From the perspective of external auditors, the reasons for non-adoption of cloud computing is associated with data confidentiality and the involvement of foreign jurisdictions. It seems that public cloud computing services are better suited for SMEs, whereas hybrid clouds are a better fit for larger firms [14, 15].

Financial Information in Social Media Financial Executives Research Foundation [16] comments that approximately three quarters (74%) of respondents are taking action continuously to improve their financial reporting. The benefits from improving disclosures, comprise favourable reactions from senior management, board members, investors and analysts who find the information easier to read and digest -allowing them to make more informed decisions. Social media influence financial performance reporting in a growing rhythm in US: 77% of Fortune 500 companies tweet, 70% have a Facebook presence, and 69% maintain a YouTube account [17]. In 2013, SEC confirmed that corporate social media sites may be a recognized channel of distribution of investor information but warned that personal social media sites of executives are unlikely to comply with Reg. FD [18].

Big Data Analytics Big data, due to its huge operational and strategic potential, spans a wide range of sectors from economic and business activities to public administration. Analysis of big data can inform merger and acquisition decisions [19] however managers should rethink on the way to integrate corporate strategy, firm structure and information systems design [20]. Companies use social media (webpages, social networking sites and microblogging) for different purposes, such as financial information sharing, market research, recruiting, public relations, and reputation management [21]. Successful exploitation of social media analytics (especially due to the massive volume of data) requires effective social media management strategies that can be supported by social media management tools (SMMTs) to gain insights into the users' perceptions, trending topics and competitors.

Visual Management Systems Business analytics (BA) systems and dashboards can provide competitive advantage to organizations and useful insights as long as they have specific characteristics and organizational support [22]. Interactive dashboards may support human and non-human resource management at run time, can enhance relative decision making [23] and become a communication tool to report information retrieved from the accounting information system of an organization that non-experts can easily understand [24].

Integrated Reporting Technology and Blockchain Technology According to International Integrated Reporting Council (IIRC) definition, integrated reporting is "a concise communication about how an organization's strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value in the short, medium and long term. IR is a relatively new domain of research and many questions regarding its applicability need to be answered

[25]. However, businesses face difficulties to develop the necessary technological framework in order to support IR.

Blockchain is fundamentally an accounting technology which can increase the efficiency of the process of accounting for transactions and assets, operating as a system of universal entry bookkeeping. It can also increase confidence over rights and obligations and provenance, thus empowering the accountancy profession to record more types of activity than before, and to drill down closer to the economic reality underpinning the transactions recorded [26].

4.2 Literature Review Area 2

The analysis and classification of accounting education literature review indicated that educators cover a wide, useful and important range of topics [27]. Most of the studies are directly or indirectly relevant and contributing to financial information reporting. For the purposes of comparison the following classification was made:

XBRL—AIS—Integrated Reporting (IR) The benefits of XBRL have an impact on strategies of implementation and on investment decisions [28]. Most research in the area of AIS concerns instructional cases on fraud and internal control issues [29], creating financial statements using Microsoft Dynamics [30] or instructions on how to choose a costing system. IR is an area emphasized by professionals and policy makers [31] and it refers on how an organization's strategy, governance, performance, and prospects, lead to the creation of value over time [32].

Visual Management—Big Data Articles that used methods and tools related to visual management tools included [33] who used graphic organizers to support accounting students to develop arguments and counter arguments when analysing cases. Other scholars [34] used interactive data visualization (IDV) interface with the aim for students to understand the potential impact of IDVs on preparers and users of accounting information [35] re-affirmed through their project the growing need for accountants to develop competency in predictive analytics [36] suggested a method for educators to facilitate integrating information systems and technological competencies relevant to Big Data and business analytics into the accounting curriculum.

Professional Skills and Social Media The skills and digital competences of modern professional accountants are much more demanding and interdisciplinary then they have been the previous decades [37]. Relevant research included methods and cases that ensure that all students obtain some experience in the professional environment, while according to the research of [38] today's accounting students are obtaining valuable experience with a wide array of IT tools—both hardware and software—in their accounting courses. However, there are some areas in which better use of technology could be made and which accounting educators should further consider.

5   Discussion and Conclusions

This study aimed to provide a research insight into the current technological trends for the accounting reporting in comparison to the corresponding accounting education studies. For this reason, three research questions were formulated. With regards to the first research question, the classification from the current study showed that the most recent topics of concern in Area 1 include: AIS, XBRL, Cloud Accounting, Social Media, Big Data Analytics, Visual Management Tools, Blockchain technology and Integrated Reporting. In Area 2, the most recent topics of concern: AIS, XBRL, Visual Management, digital professional skills and Integrated Reporting. With regards to the third research question, the topics of concern in Area 1 which are underrepresented in research topics in Area 2 are: cloud accounting, social media, big data analytics, and Blockchain.

Accounting professionals should be prepared to face turbulence and to engage with technological innovations. The new era requires new skills, education and training and determination to overcome challenges [39, 40]. Accounting education should include in its curricula all emerging technologies like social media, big data, cloud accounting, integrated reporting as well as the new "technological miracles" that will come in the decades ahead such as Robotic Process Automation (RPA), Artificial Intelligence and Internet of Things. This study was limited to databases and articles that the author had full access and there may be other resources able to provide a more comprehensive picture of the researched topics.

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Environmental Sensitivity of Business School Students and Their Attitudes Towards Social and Environmental Accounting

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Abstract The aim of the present research is threefold: firstly, to investigate the environmental values of Business Administration and Accounting (BAA) students, secondly to explore their views on environmental education and thirdly to examine students' attitudes towards social and environmental accounting (SEA). Data was collected by using a questionnaire distributed to the students of the Department of Business Administration and the Department of Accounting and Finance (BAA) of the University of West Attica. Results showed that students are environmentally sensitive. Environmental interest is found to be related to students' perceptions of the importance of environmental education. Students have limited knowledge of the scope of SEA although they expressed their strong interest to learn more about this new accounting area acknowledging at the same time the important role of accountants in informing society about issues related to the environmental footprint of businesses.

Keywords Environmental education · Social and environmental accounting education · NEP scale · Sustainable environmental management

1 Introduction

During the last decades, the phenomenon of the ever-increasing environmental burden due to rising in energy consumption, led scientific research, technology and

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education to turn their attention to the management in the use and consumption of energy, but also to environmental awareness. "Climate change" is at the center of scientific attention as it poses significant environmental, social and economic threats [1].

The strengthening of environmental sensitivity is becoming critical, since this is associated with environmental-friendly behavior [2]. Environmental education is attracting an ongoing interest from researchers all over the world. Raising environmental awareness and ecological consciousness through information and through formal education is a hot topic [3–5]. Accounting is also affected by environmental pressures not only as external reporting is concerned but also regarding changes in management accounting systems. SEA education is charged with the responsibility to raise, in future managers and accounting professionals, the necessary environmental awareness and contribute to their holistic environmental education and professional development [6–8].

Within the previous research context, this study aims to explore: (a) the environmental sensitivity of BAA students (b) the views of BAA students on environmental education and (c) the attitudes of BAA students towards social and environmental accounting education. The results of this study reveal implications about possible curriculum changes to include more and diverse environmental related courses.

2 Literature Review

The connectivity of environmental sensitivity to environmental education is an issue that has attracted the scientific community long time ago, while research was oriented to: unveiling the barriers to environmental education and the opportunities offered for educators to foresee developmental educational programs in urban sites [9]; the structuring of environment-oriented educational curricula in involving active participation of students [10]; the exploration of ways under which socially-marginalized citizens can overcome barriers to be educated [11]; increasing awareness of the social quality of life among human capital and trained manpower, thus impacting health-safety behavior at work and environmental sensitivity under economic, environmental, and social dimensions [12].

Other studies examine the contribution of nature education programs on the environmental awareness level of the elementary school students from different socioeconomic statuses, while it is noteworthy that the level of education affects the awareness of the relationship between lifestyle and the improvement of the immediate environment [13]. Greek students at secondary education level and at university level are environmentally sensitive, while motives should be given to them to improve the quality of their life under well-informed teaching upon renewable energy expansion [4, 5]. Students of humanistic and technical universities should be introduced to different models of culture, personal values, family principles, environmental sensitivity, and ecological worldviews [14, 15]. Therefore, a question

of what type of higher education correlates more with knowledge of environmental issues and the tendency to promote more sustainable solutions is aroused.

In this context, SEA education has a critical role since it reflects a broader view of accounting, aiming to enhance moral thought processes about accounting and management practices [7]. AAA [16] and AECC [17] urged accounting teachers to reconsider accounting education by broadening the scope and the role of accountants in order to respond to the challenges of a new era. Professional (soft) skills and strong technical knowledge instill the necessary awareness, social and ethical responsibilities, as well as a comprehensive appreciation upon the accounting profession (i.e. work areas, professional values) [18–21]. However, lack of teaching time and space in crowded accounting curricula seem to be one of the reasons of absence of SEA in teaching [22]. Other obstacles in developing professional (soft) skills to BAA students are lack of effective communication within HEIs and explicit planning/efforts to support the development of skills, promotion criteria, and impunity in case of non-conformance to rules [23].

Ecological consciousness is becoming critical as it is associated with environmental-friendly behavior. A widely used scale for measuring environmental consciousness is the NEP Scale (New Ecological Paradigm) by Dunlap [24]. A study on Greeks' millennials perception of green products reveals that they are environmentally sensitive and have a high preference for organic products. Furthermore, they were willing to pay extra money to buy them over conventional products [25].

According to the findings of the literature review section we will examine the ecological consciousness and the willingness of BAA students to learn more about environmental issues by the inclusion of environmental and SEA courses in their study program, through an empirical research conducted at the University of West Attica.

3   Research Methodology

A questionnaire survey took place at the University of West Attica. Data was collected between March and May 2019 by using the method of random sampling. Our sampling catalogue included around 2000 emails from the students of the Departments of Business Administration and Accounting and Finance. With random selection from this email catalogue (by applying Randbetween function in Excel after numbering the email addresses), a sample of 200 students was created (10% the population) and the questionnaire was emailed to those students. A total of 190 questionnaires were emailed back to us in a completed form. The survey included three sections. The first section measured students' ecological awareness by using the New Environmental Paradigm (NEP) Scale [24]. The second section was about environmental education perceptions; the third section included questions regarding SEA education and the role of accountants derived mainly from literature

review adjusted for the local context. The analysis of responses included descriptive statistics and analysis of variance (ANOVA).

The main research hypothesis of this research was to test whether the degree of ecological sensitivity is related to respondents' opinion concerning the importance of integrating environmental and SEA courses in their university education program.

4   Results

Concerning the sample's demographics, 45.3% were males, while 54.7% were females. Most of the students (78%) lived in an urban area, 60% had less than 1 year of work experience while 63% were in the first and second year of study at the University. Around 60% were students of the Department of Business Administration while 40% were students of the Department of Accounting and Finance. The reliability of the questionnaire was measured by the Cronbach's alpha for each section. The alpha values indicated good internal consistency among the items of each of the sections of the questionnaire, having average a = 0.802. Most of the students (82.7%) placed high importance in the inclusion of environmental education courses into the University's available subjects as presented in Fig. 1.

Concerning environmental education, most of the students (89%) agreed or strongly agreed that it would help them to obtain knowledge on environmental issues
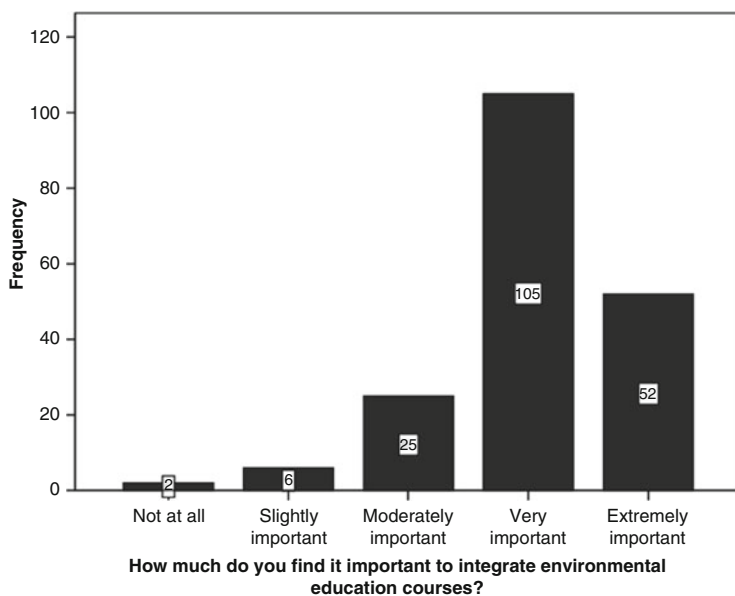
Fig. 1 Attitudes towards importance of environmental education into universities' programs

Table 1 Views on environmental education (%)

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Increase of environmental awareness	2.6	1.6	12.6	57.9	25.3
Knowledge on environmental issues	0.5	2.1	8.4	59.5	29.5

Table 2 Views on accountants' responsibilities and SEA (%)

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Importance of an accountant's role in informing society about issues on environmental behavior of a business	2.6	15.8	40.5	32.6	8.4
Interest in learning about the role of accountants in mapping the environmental costs of businesses	2.1	3.7	26.3	52.1	15.8
Informed upon "environmental" or "green" or "social" accounting	14.7	26.8	22.6	28.9	6.8

while the strengthening of environmental awareness seemed to be a strong benefit of ecological education courses, as it takes 83.2% of positive statements (Table 1). Concerning the role of accountants and the concept of SEA, the perceptions of business school students are summarized in Table 2.

According to the data of Table 2, most students did not have a clear knowledge of the concept of SEA. However, they would be interested in learning more about the role of accountants in mapping the environmental costs of businesses. Students confirmed their opinion that accountants have responsibility to provide to society all information related to the environmental footprint of a business.

The examination of NEP Scale's scores enabled the measurement of the respondents' environmental concern. Due to the fact that NEP Scale is measured by using a 5-point Likert scale in the current research, where 1 is equal to "strongly disagree" and 5 is equivalent to "strongly agree", it is concluded that the respondents seem to be environmentally sensitive, as the average score is calculated at 3.50/5 [25]. Since the standard deviation is low, it can be drawn that most of the respondents' views are somewhat similar. Using a one-way Analysis of Variance (ANOVA) the significance of the difference between the means of the importance of environmental education integration into universities' programs of study and the NEP Scale's mean score is examined.

The mean (average) score of NEP Scale is higher in the higher levels of importance of environmental education courses (Fig. 2). The above-mentioned
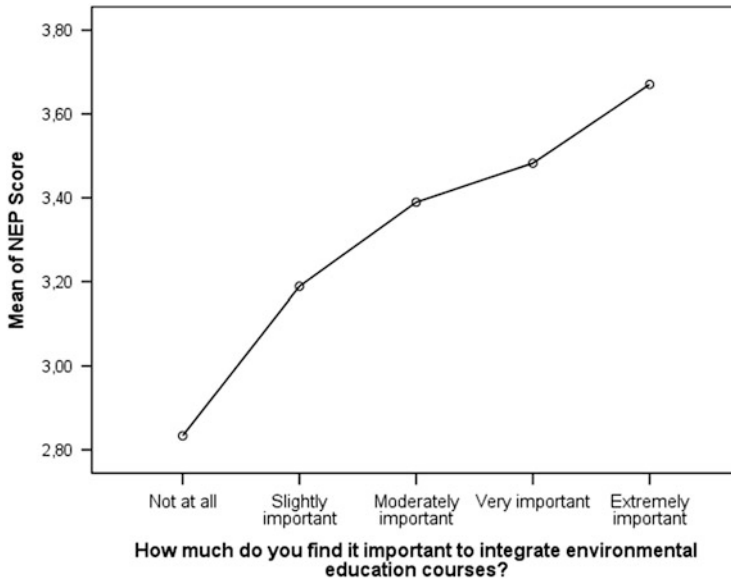
Fig. 2 ANOVA means plot of NEP Scale's score and the importance of environmental education integration into universities' programs of study

means difference is statistically significant (p-value = 0.000). This finding shows that the respondents with higher environmental sensitivity, place greater importance on the inclusion of environmental education courses.

5 Discussion and Conclusions

The results of our study look prominent: business students of University of West Attica have a relatively high score on ecological sensitivity, as captured by the NEP Scale (mean score = 3.5/5). Furthermore, most of the students believe it is important to integrate environmental courses in their University program of study. The students believe that environmental education helps in raising awareness for the environment and increases knowledge on environmental issues. A statistically significant relationship exists between the level of ecological awareness and the importance of environmental courses into the University program. Finally, although most students do not have a clear view of SEA, they would like to learn more about the accountants' role on recording accurately the environmental footprint of the organizations since they consider it as a responsibility of accountants.

According to the literature review and the results of this study, the primary goal of environmental education and training is to achieve knowledge acquisition and strengthen the pathway to attitude development and behavioral intentions. Educators

and managers should organize training to give enough knowledge and information and raise self-efficacy through the mastery of skills. Besides, training programs can build up sense of ownership into becoming a responsible citizen by encouraging to seek in-depth environmental knowledge, although it may take time to remove the barrier to pro-environmental behavior [26].

Future research planning upon environmental education can be matched with outdoor learning for teaching, thus supporting field work to be accompanied by students' portfolio. In this way, learning outcomes can be achieved under certain period/constraints of time. Other factors—such as socio-economy status, roles of media, geographical constraints and topography specifications—can be considered by education policymakers to be reviewed, making the curriculum of environmental education courses relevant and attractive for the developed and developing countries of the twenty-first century. Environmental-oriented curricula of the future can either integrate interdisciplinary topics which are related to environment into a systematic manner or make the "environmental issues and principles" as a separate taught-course under the existing national/formal education curricula [27].

Companies which wish to participate in environmentally sustainable development will have to bridge the world of environmental management with that of finance and economics. In addition, organizations should initiate environmental seminars and ecological events to increase managers' environmental awareness. Higher education institutions should restructure curricula to include environmental education and SEA education, in order to strengthen professional skills such as ethics, personal values and environmental awareness to prospective management staff of businesses [28, 29].

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A Comparative Approach of E-Learning Accounting Programs in Greece and China

Sofia Asonitou, Chara Kottara, Sijia Duan, and Linlin Yuan

Abstract Educational institutions worldwide are engaged in meeting the needs of lifelong learning of accounting professionals, graduates and prospective accountants. E-Learning Programs (E-LPs) aspire to be a driving force for developing skills since they integrate new technologies in order to support the communication between trainer and trainee in the best possible way. Greek Universities which implement E-Learning programs participate to this effort, through user-friendly learning platforms. This study uses a comparative approach in order to investigate similarities and differences of E-Learning Accounting Programs (E-LAPs) and skills development between Greek and Chinese Universities. The results show that China provides plethora of E-LPs leading to university degrees while Greece is rather focused on short courses and seminars. However, both countries should redefine the Accounting Education and Training to correlate the soft skills demand of modern enterprises with the provision of strong technical knowledge.

Keywords Accounting · E-learning · Lifelong learning · Digital skills · Universities · Greece · China

1 Introduction

The business world is striving to attain sustainable growth around the world. In this context, accounting as a scientific discipline and as a profession, is considered to be a lever of economic and social prosperity at national and international level [1].

Greece belongs to the European Union (EU) since 1981 and is constantly adjusting its educational system in order to keep pace with the European trends

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and the Bologna requirements [2, 3]. The accounting sector in Greece is emerging as one of the most popular choices in job search efforts [4]. Although there are good prospects for the growth of the accounting profession in Greece [5], there is low participation of Greeks in E-Learning and distance learning programs according to Eurostat [6]. Greece is ranked 26th among the 28 European Member States in the digital skills field [7]. The first Greek E-Learning Education and Training program was created in 2001 and nowadays some of the programs are implemented in collaboration with reputable institutions [8–13].

China is a country that has gone through radical changes in many levels during the last decades including its educational system [14]. E-Learning plays an increasingly important role in the Chinese educational system. It can meet the needs of on-the-job education and lifelong education of people [15]. The development of E-Learning requires lower investment in funds [16]. All the previous advantages constitute motivations for a huge country like China to undertake initiatives for the development of E-Learning programs for its citizens.

The aim of this study is threefold: (a) to present the E-LAPs offered by the Greek Universities (b) to explore which professional skills the E-LAPs claim to develop to their trainees (c) to make a comparative analysis between Greek and Chinese provision of E-LAPs. The research was conducted for the Academic year 2018–19, and the following research questions were formulated:

1. What percentage of the total eLearning programs (E-LPs) offered by Greek Universities are in the area of Accounting Education and Training (E-LAPs)?
2. Which professional skills can be developed through E-LAPs?
3. Which are the similarities or differences between the E-LAPs in Greece and China?

The present study reveals interesting features of E-LAPs between two countries with deep knowledge background but with huge differences in their size, culture and challenges they face. However, they both share willingness to promote lifelong learning skills in order to improve the future of their citizens.

2   Literature Review

Since the early 1970s, a number of international organizations such as UNESCO, OECD and relevant EU institutions have advocated that "learning is a lifelong activity and that all education should be organized around this principle".

The rapid development of technology provides conditions for lifelong learning activities including E-Learning programs. E-Learning can expand the scale of education by providing broad access to educational resources, while the open enrollment policy can guarantee the equality of educational opportunities [17, 18]. Higher Education Institutions (HEIs) offer E-LPs targeting to strengthen the knowledge and skills required for a successful accounting profession in the digital era of the twenty-first century [19]. Greece ranks 51st in matching skills and 89th in

Lifelong Learning [20] while 80% of employers believe that the educational system in Greece is unable to provide the mix of skills sought by the labor market [21].

In the late 1970s and early 1980s, China began to introduce Western lifelong learning theory officially. Since the beginning of twenty-first century, the speed of updating science, technology and knowledge has accelerated, the cycle of knowledge renewal has been shortened, and people's pursuit of knowledge has become more urgent. The Internet continues to develop in depth, and the popularity of computers and smartphones provides technical support for people to receive continuing education [22]. In 2007, the report of the 17th National Congress of the Communist Party of China emphasized: "Developing distance education and continuing education to build a learning society for all people to learn and learn for life" [23].

3   Methodology

The accessibility of internet creates huge opportunities for examining documents for both quantitative and qualitative data analysis. The authors conducted website research to all Greek Universities and in addition, effort was made to extract more detailed information through telephone contact. However, this method was unfruitful, and this study was based to websites analysis. A qualitative approach through documentary analysis of the contents of the Greek Universities websites was conducted by the researchers. In total, 19 Universities were visited online to examine which of them offered E- LP and which of them offered E-LAPs. The content of the course, the aim and description of all relevant material was concentrated and analyzed carefully looking for the E-LAPs but also for references on the development of skills and competences of students.

China is a huge country and has thousands of Universities. A convenient sample of 42 Universities were used which have been chosen by the Chinese government as the top and representative universities in China. Therefore, the authors surveyed these 42 universities, 30 of which have set up E-LPs. Qualitative methodology by researching internet websites of Chinese Universities in connection to bibliographic research provided rich and interesting information about Chinese E-LAPs.

4   Findings

4.1   Greek Universities Offering E-LAPs and Relevant Knowledge and Skills

In total 4 out of the 19 Greek Universities were found to provide 485 E-Learning programs, of which 44 concern E-LAPs covering 9.07% of total offered courses in the academic year 2018–2019 (Table 1).

In some occasions Universities collaborate with world leading professional membership organizations such as ICAEW (Institute of Chartered Accountants in England and Wales) as shown in Table 2.

The Athens University of Economics and Business implements 9 E-learning programs and provides not only basic but also specialized knowledge. Trainees can choose between the Accounting programs shown n Table 3.

Table 4 summarizes the accounting programs offered by University Of Macedonia.

Table 5 summarizes E-LAPs offered by NKUA.

The different areas of E-LAPs along with the total number of programs (in parenthesis) offered by the Greek Universities are: Internal & external audit (5), Greek Accounting Standards (6), IFRS (3), Management Accounting (4),

Table 1 E-LAPS offered by Greek universities

Universities	E-LPs	E-LAPs	Percentages %
National & Kapodistrian Univ. of Athens (NKUA)	300	20	5.00
University of Piraeus (UoPi)	105	7	6.67
Athens University of Economics and Business (AUEB)	51	9	17.65
University of Macedonia (UoM)	29	8	27.59
Total	485	44	9.07

Source: authors

Table 2 E-LAPs offered by university of Piraeus (in collaboration with ICAEW)

University of piraeus (UoPi)	Professional skills	Duration/E-LAP (Months)
1. Computerized accounting (class B)	Computer skills	3
2. Computerized accounting (class C)	Computer skills	3
3. Computerized payroll	Computer skills	3
4. Accounting (ICAEW)	–	6
5. Business and Finance (ICAEW)	–	6
6. Principles of Taxation (ICAEW)	–	6
7. Financial Management(ICAEW)	Goal achievement, Management, conflict	6

Table 3 E-LAPs offered by AUEB

Athens University of Economics (AUEB)	Professional Skills	Duration/E-LAP
1. Greek accounting standards	–	20 hours/8 weeks
2. Greek accounting standards	–	20 hours/8 weeks
3. Income taxation	–	80 hours
4. Accounting for lawyers	–	49 hours/14 weeks
5. Accounting for the public sector	–	40 hours
6. International accounting standards	–	52/100/152 hours
7. Greek accounting standards	–	100 hours/6 months
8. income taxation: Legal entities	–	120 hours
9. Greek accounting standards	–	60 hours/12 weeks

Source: authors

Table 4 E-LAPs offered by university Macedonia

University of Macedonia (UoM)/	Professional Skills	Duration/E-LAP (Hours)
1. Audit and public administration	–	30
2. Cost and management accounting	–	45
3. Accounting and taxation	–	50
4. Accounting enterprises and taxation	–	40
5. Computerized accounting	–	90
6. Computerized Payroll-Labor & Insurance law Issues	–	20
7. Accounting and taxation	–	160
8.Greek accounting standards	–	50

Source: authors

Accounting, banking and finance (6) Taxation (8), Computerized accounting (5), Business or Tourism management with emphasis on accounting/finance (5), Law and accounting (2). The professional skills developed through the attainment of Greek E-LAPs are: Evaluation and decision making, Organizational Skills, Flexibility, and Leadership, Dealing with Uncertainty, Managing Conflict, Goal Achievement, and Computer Skills. The duration of the programs varies between 20 hours and 12 months and accordingly the tuition fees vary between 210 euros and 1950 euros. However, the comparison for tuition fees is not easily made at this stage, since the duration is sometimes provided in hours and other times is provided in months.

Table 5 E-LAPs offered by NKUA

University of NKUA	Professional Skills	Duration/E-LAP (Months)
1. IFRS-international financial reporting standards	Risk management skills	4
2. International public sector auditing standards (ISSAIs)	Risk assessment and control skills	3
3. Business management finance	Evaluation & decision making, risk management	6
4. Business administration	Decision making, flexibility, leadership	9
5. Auditing accounting public sector	Risk management skills	3
6. Greek accounting standards	–	3
7. Organization and Management of Hotel Tourism Enterprises	Administration, organizational & control skills	10
8. Cost analyst	Evaluation skills, dealing with uncertainty	5
9. Accounting, Banking & International Finance	Organizational skills	12
10. Business administration (in accounting and investments)	Organizational, planning, leadership & decision making	12
11. Law and accounting	Administration skills	12
12. Business Strategy & Financial Accounting	Administration, organizational & skills	12
13. Financial expert in IFRS	–	5
14. Financial and Vat Planning	–	5
15. Risk Management and Internal Audit	Internal control skills, risk management	12
16. B.A. (in Accounting & Strategic Business Planning)	–	12
17. Taxation	Evaluation & decision making	7
18. Management Accounting and Finance	Leadership skills	12
19. Internal Audit & Management Consulting	–	7
20. Executive business management	Organizational, administration & decision making	8

Source: authors

4.2 Chinese Universities Offering E-LAPs and Relevant Knowledge and Skills

Data show that in 2018, the number of E-Learning users in China reached 135 million, an increase of 23.3% from previous year. It is expected that the growth rate of market scale will remain between 14–21% in the next 3–5 years, and the growth rate will continue to decline, but the growth momentum will remain steady. Higher education for academic qualifications and vocational training have always been the main market players of E-Learning in China, accounting for about 80% of the total E-Learning market. Because of strong self-control, clear learning objectives and limited free time, adults are the main users of E-Learning [24]. The Chinese Universities offer in total 495 E-Learning programs, 26 of which (5.2%) concern accounting studies. The number of offered E-LAPs is 25 and 1 course are offered in Accounting with Direction of Certified Public Accountant. However, it is worth noting that the E-LAPs offered by Chinese universities constitute long-term education aiming at providing academic degrees, rather than short-term education aiming at providing certificates. A Chinese student can undertake in parallel two academic programs, one "ordinary" (physical presence) with a duration of 4 years and a second one through E-LP. The average length of E-LPs is 2.5–5 years, depending on the intensity of studying, 80 credits are required, and the tuition fee is 70–130 yuan/credit (approximately 9–17 euro/credit). Although officially the "ordinary" and the E-LPs are of the same level and importance, the society considers the E-LP degrees to be of lower credibility and value. In China it is generally believed that the educational level of students in the adult education system is not as good as those in the ordinary school, and the diplomas and certificates they obtain are greatly discounted in the society [25]. The imperfection of lifelong learning in China is also reflected in the importance attached to formal academic education and the negligence attached to non-academic education. The educational system is mainly lecture-based, with less independent learning, cooperative learning and inquiry learning for students, while fewer opportunities are offered to students for practicing in enterprises [26].

5 Discussion and Conclusions

The aim of this study has been to present the E-LAPs in Greece and China and to make a comparative analysis between the two countries. Our findings indicate that both countries have entered the era of lifelong learning education and even more into the E-Learning due to high technological developments that make E-Learning achievable. Regarding the first research question we found that Greek Universities offer short accounting courses or longer programs dedicated to specific accounting areas i.e. taxation, auditing, management accounting and others that lead to a variety of certificates at a rate of 9.07% out of the total E-LPs. Their duration and fees vary

considerably, making it difficult to make credible comparisons. We notice that in Greece only Hellenic Open University (HOU) is allowed to offer distance learning programs that lead to University degrees. Also, students are not allowed to attend in parallel two public University programs. Regarding the second research question this study found that E-LAPs in Greece claim to offer a range of professional skills including decision making, leadership, flexibility, organizational and planning skills and others. However, we have not found any empirical evidence on the quality of E-LAPs in general and of the acquisition of professional skills specifically [18]. With regards to the third research question and the comparison between Greece and China, our research indicated that Chinese Universities do not offer short accounting courses or programs leading to certificates but E-LPs that lead to University degrees. In total 495 E-LPs are in effect by the 42 Universities that the authors examined, 26 of which (5.2%) concern accounting areas. Chinese students have the right to attend in parallel two University programs; an "ordinary" 4-year University program and an E-LP. The problems of distance education in China concern the lack of autonomous learning attitude, lack of appropriate guidance, inappropriate use of learning resources, and low tuition fees in relation to other countries [17]. E-LAPs in China face problems such as the fossilization of curriculum design, the slow updating of the teaching system, the emphasis on knowledge and the neglect of practice [21]. E-Laps do not pay enough attention to the development of professional ethics, so there is a gap between the cultivation of information technology application ability and work needs. In a word, accounting E-learning should not only focus to the study of basic knowledge, but also strengthen the refinement of students' professional qualities [27]. Overall this study has indicated that Greek E-LAPs could be further enriched to meet the demands of the digital economy transformations, promote the digital culture and the development of competitive knowledge and skills of trainees satisfying the market needs [28, 29]. Emphasis should be given to the International Public Sector Auditing Standards (ISSAIs) given their implementation by the Greek public sector within the next two or 3 years. On the other side, Chinese E-LAPs could expand to (professional) certificates given the rapid development of the market economy in this country and the need for knowledgeable accountants. Future research should examine in depth the quality and the satisfaction rate of participants of Greek E-LAPs as well as explore teaching and learning methods to develop professional (soft) skills of e-learners in parallel to their knowledge base for both countries.

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The Influence of the Big Five Personality Traits and Risk Aversion on Entrepreneurial Intention

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Abstract The purpose of this paper is to examine the influence of the Big-Five personality traits and risk aversion on entrepreneurial intention. A questionnaire-based survey was employed for the data collection. A total of 422 students and graduates (age 18–25) participated in the survey. The findings showed that extraversion, conscientiousness and risk aversion are important characteristics that influence entrepreneurial intention. Openness to experience, conscientiousness and extraversion have positive influence on entrepreneurial intention, while agreeableness, neuroticism and risk aversion have shown contrary results. The results confirm partially the theoretical approach and the hypotheses formed.

1 Introduction

The first studies that tried to determine the relation between personality types and entrepreneurship intention, appeared in the 1980s. However, researchers concluded that there was not a special correlation between them and any further study on this subject should be abandoned. Two decades later, this correlation was re-examined and the interest on how personality drives entrepreneurship re-emerged [1]. Researchers believe that discrepancies in previous literature findings, were caused by a lack of theoretical assumptions and a series of errors committed during research (sampling errors and unreliable data) [1].

In 1990, the emergence of the five-factor model of personality (FFM) helped create a commonly used instrument to organize vague personality variables in a broad set of personality constructs [2, 3]. These five factors (openness, consci-

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entiousness, extraversion, agreeableness, neuroticism) comprise the fundamental structure of human personality. The most important feature, which is also the subject of extensive research when it comes to entrepreneurship, is risk propensity [1]. Risk propensity is a complex personality trait that reflects a combination of personality factors (high extraversion and low neuroticism combined with low agreeableness and conscientiousness) [1, 4]. Some researchers consider risk propensity a sixth distinct trait of personality that is not included in the five personality traits. Due to its theoretical importance as wells as the difficultly to classify it into a certain category, risk propensity is usually considered an additional personality trait, separate from the five personality factors [1, 5, 6]. The aim of this paper is to examine the influence of the Big-Five personality traits and risk aversion on entrepreneurial intention.

2   The Big Five Personality Traits and Risk Aversion

An analysis of the big five personality traits and risk propensity is set out below [7]. In addition to this analysis, the hypotheses are formed, which are considered the basis for this research.

2.1   *Openness to Experience*

Openness to experience is a personality trait that describes a creative individual, intellectually curious, with an active imagination, adventurous, with unconventional ideas. Individuals that have this personality trait are unpredictable, risk takers, they lack concentration and appreciate the importance of spiritual and artistic quests [7–9]. This personality trait is directly related to a successful academic performance in students as well as a successful workplace performance [1, 10]. Enterprises demand constant information monitoring and continuous learning, in order to catch up with the changing market trends, with their competitors and new technologies [1]. In line then with the above mentioned, openness to experience is expected to relate positively with entrepreneurial intention [11, 12].

H1: Openness to experience is expected to relate positively with entrepreneurial intention.

2.2   *Conscientiousness*

This personality trait describes the level of self-competence, work discipline, organization and scheduling, self-control, the acceptance of conventional rules and the responsibility towards others [1, 7, 13]. Individuals that have this personality trait

are organized, reliable, self-disciplined, act with dignity, are attentive and persistent [14]. Taking into consideration that people tend to choose roles based on their personalities, it is expected that diligent people incline towards entrepreneurship [1]. As is apparent from the above mentioned, conscientiousness is expected to relate positively with entrepreneurial intention [11, 12].

H2: Conscientiousness is expected to relate positively with entrepreneurial intention.

2.3 Extraversion

Individuals with this personality trait are friendly, warm, social, extroverted, energetic, ambitious, confident and seek enthusiasm and stimulation through communication and conversation with others. This personality trait correlates with the entrepreneurial intention [7, 14, 15]. Individuals with this trait are attracted to entrepreneurship [1, 16]. As is apparent from the above mentioned, extraversion is expected to relate positively with entrepreneurial intention [11, 12].

H3: Extraversion is expected to relate positively with entrepreneurial intention.

2.4 Agreeableness

Agreeableness is a dimension that involves someone's behaviour towards others. Individuals with this personality trait are trustful, altruistic, cooperative and modest. They demonstrate sympathy and concern for the needs of others. They also show understanding in order to avoid conflict. Individuals that are not agreeable may be described as selfish, suspicious and unscrupulous [7, 14]. Agreeable individuals are inclined more towards social work (community work, teaching) and less towards enterprises, mainly due to their wish to work for the social well-being. Individuals with this personality trait are unlikely to be attracted to entrepreneurship due to the conflicting interpersonal relations of the entrepreneurial world and their own altruistic behaviour [1, 17]. As is apparent from the above mentioned, agreeableness is expected to negatively impact the entrepreneurial intention [11].

H4: Agreeableness is expected to have a negative relationship with entrepreneurial intention.

2.5 Neuroticism

This personality trait describes an individual's tendency to be under psychological stress [9]. Individuals with this personality trait are sensitive and usually face negative feelings such as anger, stress and depression [7]. Neuroticism is related to the degree of emotional stability. Emotionally stable individuals are described as calm, stable, mature and resilient. Individuals with low emotional stability are irritable. Low emotional stability can be observed in insecure individuals as well as dynamic individuals, since in many cases it incurs from their dynamism [1, 14].

The extant literature describes entrepreneurs as resilient, ambitious and stable when it comes to social pressure, stress and uncertainty [1, 15]. They face physical and emotional burdens with courage and they carry on, while others get discouraged by the hurdles, failures and doubts. These entrepreneurial behavioural traits describe individuals with high levels of emotional stability. Individuals with low emotional stability (referred to as neurotics), are susceptible to emotional stress and experience a series of negative emotions like stress, anxiety, depression and low self-esteem. They tend to be sensitive to negative comments and to get discouraged from petty failures, while reacting with panic and despair in difficult situations. The starting and operation of an enterprise, entails new unpredictable challenges, uncertain outcomes and a great amount of responsibility when it comes to the outcome. Individuals with low emotional stability are unlikely to undertake an entrepreneurial role, due to the degree of personal responsibility and deprivation that this role entails [1]. As is apparent from the above mentioned, neuroticism is expected to negatively impact the entrepreneurial intention [11].

H5: Neuroticism is expected to have a negative relationship with entrepreneurial intention.

2.6 Risk Aversion

Risk propensity is as a personality trait that involves the willingness to take decisions that entail an uncertain positive or negative outcome [1]. Personal predispositions affect an individual's reactions to situations that generate uncertainty or risk [1]. Risk propensity is treated as a separate personality dimension and is not included in the five personality traits [6]. As is concluded from the definitions of entrepreneur and entrepreneurship, risk propensity is a major personality trait that is directly linked to entrepreneurs. The most common definitions of an entrepreneur are usually based on the idea of an individual that takes risks [18]. However, entrepreneurs try to manage and minimize risks [19]. According to Chen et al. [20], entrepreneurs are individuals that take but also minimize risks. Individuals that take risks are drawn more to entrepreneurship, although risk-taking may end up being harmful for the enterprise in the long run [1]. As is apparent from the above mentioned, risk aversion is expected to negatively impact the entrepreneurial intention.
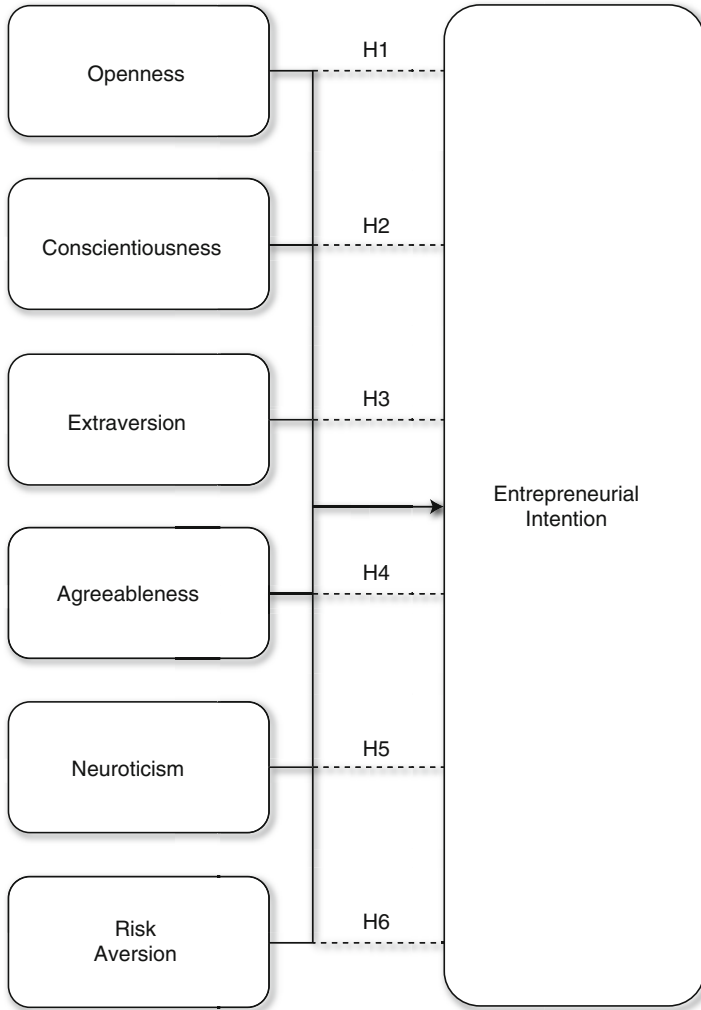
Fig. 1 Influence of the Big-Five personality traits and risk aversion on entrepreneurial intention

H6: Risk aversion is expected to have a negative relationship with entrepreneurial intention.

Figure 1 presents the relationships the six personality traits and entrepreneurial intention in a schematic way.

3 Methods

In order to analyse the most recent literature and to determine the main areas of specialization, a thorough search was conducted in all relevant studies that are available so far. After determining the purpose of the research and the conceptual definitions, the areas of the study were specified. The areas of the study consist of online databases, magazines and any other areas that fully cover the scope of this study. Furthermore, there was an extensive search, based on the existing literature, on how the big five personality traits and risk aversion affect the entrepreneurial intention.

After determining the initial aim and orientation of the proposed study and given its complexity, a questionnaire was used based on the literature to measure the concepts involved. There were overall of 422 questionnaires answered by students and graduates between the ages of 18 and 25 years old, who are studying or have graduated from a Public Greek University based in Athens. The sample was a convenience one given that the resources available were limited, but we expect that the size of it allows us to proceed with a reasonably and reliably statistical analyses and produce valid conclusions. In order to determine the relation between the five personality factors, risk aversion and entrepreneurial intention, there was an overall of 29 (7 point Likert scale) questions answered, that were classified, according to theory, into the following categories (openness, conscientiousness, extraversion, agreeableness, neuroticism, risk aversion, intention). Furthermore, a multiple regression analysis was used, with the intention as a dependent variable and the five personality factors and risk aversion as independent variables. The data was empirically tested using the multiple regression analysis through the SPSS software version 24. Through a literature review, the results of our research were compared with the already existing results, in order to certify and assure their credibility.

4 Results and Findings

The overall regression model was significant, the value of R^2 is significantly greater than zero. That means that the independent variables are able to measure and predict the dependent variable of our sample. Table 1 demonstrates the predictive power of the independent variables, in terms of entrepreneurial intention. The results have shown that 55.1% of the variance the depended variable is explained by the independent variables (openness, conscientiousness, extraversion, agreeableness, neuroticism, risk aversion) (Table 2). Table 3 shows the predictive ability of the five factors, plus risk aversion, concerning entrepreneurial intention and confirms our hypotheses. Openness to experience, conscientiousness and extraversion have positive relationship with entrepreneurial intention while agreeableness, neuroti-

Table 1 Model summary

Model summary									
Model	R	R square	Adjusted R square	Std. error of the estimate	R square change	Change statistics			Sig F change
						F change	df1	df2	
1	.746[a]	.557	.551	1.006420503	.557	87.036	6	415	.000

[a]Predictors: (Constant), Risk Aversion Agreeableness, Neuroticism, Conscientiousness, Extraversion, Openness

Table 2 ANOVA

ANOVA[a]						
Model		Sum of squares	df	Mean square	F	Sig
1	Regression	528.946	6	88.158	87.036	.000[b]
	Residual	420.346	415	1.013		
	Total	949.292	421			

[a]Dependent Variable: Intention
[b]Predictors: (Constant). Risk Aversion, Agreeableness, Neuroticism, Conscientiousness, Extraversion, Openness

cism and risk aversion have negative one. The variable that affects entrepreneurship in the greatest extent is extraversion. Openness, conscientiousness, extraversion and risk aversion have a statistically significant impact on the outcome variable (p values<0.05) but agreeableness and neuroticism were proven non-significant predictors (p value = .226, p value = .066 respectively).

All findings are to some extent in line with those of the literature [11] and support the following hypotheses:

H1: Openness to experience is expected to relate positively with entrepreneurial intention.

H2: Conscientiousness is expected to relate positively with entrepreneurial intention.

H3: Extraversion is expected to relate positively with entrepreneurial intention.

H4: Agreeableness is expected to have a negative relationship with entrepreneurial intention.

H5: Neuroticism is expected to have a negative relationship with entrepreneurial intention.

H6: Risk aversion is expected to have a negative relationship with entrepreneurial intention.

Table 3 Coefficients

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.638	.493		1.293	.197	−.332	1.607
	Openness	.199	.067	.130	2.980	.003	.068	.329
	Conscientiousness	.388	.062	.254	6.245	.000	.266	.510
	Extraversion	.497	.062	.352	8.076	.000	.376	.618
	Agreeableness	−.071	.059	−.043	−1.213	.226	−.187	.044
	Neuroticism	−.093	.050	−.062	−1.846	.066	−.192	.006
	Risk Aversion	−.301	.046	−.242	−6.518	.000	−.392	−.210

[a]Dependent Variable: Intention

5 Discussion and Conclusions

Entrepreneurship plays an important role in a dynamic modern economy. Developing a better understanding of entrepreneurial processes and the variables that attract people to entrepreneurship is an important undertaking. Overall, this study examined the relationship between the big five personality traits and entrepreneurial intention considering the influence of risk aversion. The findings of this study lend support the hypothesis posed above, based on the relevant literature. Some independent variables (openness, conscientiousness, extraversion) have demonstrated a positive correlation with the entrepreneurial intention, while other independent variables (agreeableness, neuroticism, risk aversion), have shown contrary results, minimizing the entrepreneurial intention of young people. The findings will become increasingly important, as research in the field of entrepreneurship continues to place models of entrepreneurial intentions at the centre of our understanding of the entrepreneurial process [21]. Future studies could investigate the validity of the findings reported here, in different contexts using more variables, not included in this study and inquire the potential existence of latent variables which may be confounding the relationships discussed above [11].

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Redefining City Experiences and Thematic City Walks: The Case of "Thessaloniki Walking Tours"

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Abstract Thessaloniki's recent attempts to transform into an extrovert and attractive urban destination, coincided with the anniversary celebrations and memorials of decisive historical events in the city's past and the concomitant growing appetite of the public for delving into the city's multilayered past. Along with numerous conferences, exhibitions, publications and lectures focused on a wide variety of specific issues, a different kind of guided tour undertook the challenge to negotiate the new fields of interest and to showcase less discussed aspects of Thessaloniki's heritage, approaching from new points of view. An interview with the founder of "Thessaloniki Walking Tours", the most active and sustainable partnership which offers thematic city walks and new "city experiences", as well as a mapping of the topics that it covers, highlights the basic aspects and perspectives of this nascent city trend. Starting from the initial approach and the birth of original thematic city tours which are being implemented using innovative guiding techniques, the paper discusses the founder's view on the market's response and the possible reasons why new cultural products can lead to successful entrepreneurship in the fields of urban and cultural tourism. The recent expansion of Thessaloniki Walking Tours to Athens, along with trips that it organizes in Greece and abroad, reveal a possible preexisting—or a recently developed—interest of citizens in rediscovering their city, the need for new city experiences, as well as the potential of such platforms to reinforce human relations and create communities.

Keywords Thessaloniki · City walks · Urban tourism · Storytelling

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225

1   Introduction and Literature Review

The paper examines the case of a platform called "Thessaloniki Walking Tours" (from now on, TWT) whose successful path from 2013 and on, as well as its recent expansion to Athens, poses revealing questions about the potential combination of culture with entrepreneurship and the constant need for new cultural products in old cities with rich cultural heritage, a plethora of monuments from different historical periods and a multilayered urban fabric, such as Thessaloniki.

The main keywords that were used for the needs of the literature review were "city walks", "guided tours", "urban tourism", "cultural tourism", and "tourist guides", as well as the "storytelling" technique. Due to the wide range of concepts and fields involved (tourism industry, heritage, urban cities, city walks and interpretation), the research cannot be exhaustive in the framework of this paper.

Only in recent years it seems have the tourism industry and tourism literature recognized the important role of tour guides in the entire tourism system [1]. Given the ubiquity of tour guiding in most areas of industrialized tourism, it is somewhat surprising that it has received so little attention from the academic tourism community [2]. Although tour guiding is one of the oldest human activities, it has relatively recently received more attention in academic literature, which coincides with a growing concern about heritage sustainability. Today it has an important and multifaceted role in contemporary tourism and it is difficult to conceive of the organized tourism without the service of guides [3].

Nowadays, since tourism is a highly human oriented leisure industry, it is difficult to run the industry without maintaining the support of tour facilitators including tour guides, as Sandurawani and Gnanapala observe [4]. According to them, an essential element for sustainable tourism development in any destination is the participation of active stakeholders and collaborations with them. Among them the tourist guides play a major role in the tourism industry.

In the above framework the activity of "city walks" seem to emerge as an informal and formal tool to "identify legacy" which, according to Ashour and Lababidi [5] is a critical component in identifying and narrating the threads of urban heritage appreciated through architecture, monuments, sites, streets and alleyways, the urban legacies connect us to the food, music, religion, literature and traditional crafts of the people and events that have come before. They are the images, words, expressions, and "stories" of the past.

More specifically this "storytelling" is being positioned nowadays as an important component of guiding process. Through walking and talking, tour guides weave together an array of stories and facts in order to re-produce varied urban cultures and local histories [6]. Jeroen Bryon [7] mentions that due to changing tourist desires, the rise of the experience economy and technological innovations, the demand for stories has dramatically increased over the last few years. Furthermore, he continues, 'there is a clear development towards more topical and less historical stories, the use of experiential techniques and a focus on niche tourists".

In 2005 Jonathan R. Wynn [6] observed that academic and popular presentations on tourism ignore walking tour guides who serve as creative, improvisational thinkers, intelligent historians and passionate storytellers of the urban landscape, but also conflates a larger context, that is comprised of three interconnected forces: The rise of urban tourism, growing interest in heritage and a new "festivalized" culture.

2 Case Study: A New Profile for Thessaloniki

The case of Thessaloniki, a city with complex urban layers and an abundance of tangible remains from all its historical phases from the Hellenistic period to the modern day, comprises a challenge for any activity or profession that involve possible interpretations of the urban space, such as tours and thematic city walks addressed to residents and visitors.

Thessaloniki's local authorities' attempts to transform the city into an extrovert and attractive urban destination, especially from 2010 and on, coincided with the anniversary celebrations and memorials of decisive events in the city's history, such as the city's incorporation into the modern Greek state in 1912, which was "celebrated" in 2012, and the calamitous fire that ruined the center of the city in 1917 and was commemorated in 2017. The above, as well as other occasions provoked the implementation of numerous conferences, exhibitions, publications and lectures which raised the public's interest in special aspects of the city's history and especially in those less discussed until then. Universities, museums, historical centers, municipal authorities and archives presented precious known or recently studied material which included old maps, photographs, cityscapes, documents, texts and urban grids. Citizens and visitors to Thessaloniki started to discover a lost world of social relations, urban networks, co-existence of religious and ethnic communities and "sacred geographies" of a multimodal city of amalgamation, blending and, at the same time, interspersing [8]. Issues such as the destruction of the Jewish cemetery, a prologue for the fatal extermination of the Jewish community during WWII, or the city's own track record of modernization and "transition" from a confined, walled-in medieval city to a cosmopolitan hub, after the demolition of the waterfront walls in 1870, have dynamically entered the public debate. More than ever, the public seemed ready to explore what the historian Mark Mazower meant as "ghosts" in his chronicle, "Salonica, City of Ghosts: Christians, Muslims and Jews 1430–1950" published in 2012 [9].

At the same time the archaeological findings brought to light during the excavations for the construction of the city's Metro, caused a series of interdisciplinary public meetings where transport engineers, archaeologists, architects, city planners and representatives of local authorities took part in a public dialogue in order to investigate the feasibility of preserving in situ the archeological discoveries of unique value without jeopardizing the completion of the major technical project [10].

Finally, the creation of pages on social media specializing in presenting old photos and documents of the city, gave birth to public platforms of "oral history" which intensified the exchange of information and discussions about lost districts, or occasions for rethinking the parameters of the fire of 1917 that triggered the redesign of the city's urban fabric through the plans of the Ernest Hébrard.

3 City Walks in Thessaloniki and the Case of "Thessaloniki Walking Tours"

Along with the above mentioned events and concomitant trends, from 2013 and on, a new kind of guided tour emerged in Thessaloniki, which undertook the challenge of negotiating the new fields of interest and to showcasing lesser known aspects of Thessaloniki's heritage. Newly founded groups under various forms of incorporation, started to offer guides focused on new thematic topics like industrial heritage, old markets, or contemporary creative studios and workshops.

The new trend coincided with crucial alterations with regards to the education of tour guides in Greece. The former state School for Tourist Guides whose course duration was two and a half years, remained inactive from 2010, while simultaneously the training of guides was modified so that graduates from specific disciplines of tertiary education could be licensed as guides after a 2-months top-up training course. Despite some negative reactions mainly due to the short duration of the course, many of the historians, archaeologists and anthropologists that became licensed guides, were of considerably experienced academic origins and were capable of handling complex and interdisciplinary theoretical issues concerning the past. The training, offered mainly by universities, enforced alternative, multifaceted and in-depth approaches towards the guiding process, instead of the stereotypes of the earlier guides addressed to mass tourism and groups.

3.1 The Case of "Thessaloniki Walking Tours"

The "Thessaloniki Walking Tours" [11] cultural partnership is a broad platform for the production of cultural products centered on the city of Thessaloniki though often also extending beyond. It came into being in 2013 with the ambition to retrieve memories of the multicultural city's long history and to connect the past with the present through well-designed thematic walks. The journalist Evi Karkiti, the original founder of the partnership, decided to start up during a transitional period for the city, where Thessaloniki "was slowly coming out of its former introversion". Until that time, its signs and its places were "silent".

3.2 The Company

From the very first moment Evi Karkiti conceived "city walks" in terms of entrepreneurship and not being funded, sponsored or subsidized. She "trusted the market" and the local audience's response, in the first place. Afterwards she had to win the necessary struggle to convince her colleagues about the idea.

At the beginning the team was not sure about which target group (visitors or residents) to which they would mainly address the city walks to. Nowadays it works with both audiences. The percentage split varies from the time of the year, with tourist group bookings more frequent during the summer period and the Greek attendants participating in city walks almost all year-round and definitely during winter months.

3.3 The Philosophy and the Guiding Techniques

The basic approach is based on a triptych: entertainment—experience—knowledge. The tours are entertaining yet historically documented and they usually focus on the human stories that hide behind the major monuments, the busy streets and the traditional neighborhoods.

The founder's vision for city tours excluded the previous hasty spotting and put emphasis on "storytelling" as well as to the combination of oral and written history and the value of everyday stories and narrations. The occasional exploitation of actors in special cases has also enriched the quality of the experience.

3.4 The Human Factor

TWT collaborates with licensed tour guides who, apart from their communication skills, have great academic knowledge, are well trained in conducting research and are always alert and willing to update their readings with new theoretic approaches. Evi Karkiti and her colleagues also estimate a lot the guide's possible "obsessions" on fields of literature, cinema, fiction, music, collecting or others.

Given the important role of the skillful guide which has been characterized as "one of the most valuable assets a tourism company can have" [12] the TWT's choice seems to have been decisive for the successful establishment and reliability of the company thus far. Furthermore, one could say that, according to Erik Cohen's model about tour guides which, based on historical elements, distinguishes the roles of "pathfinder" and "mentor" [13], TWT seem to emphasize the mediatory role of the guide who is faced not only as a 'middleman' whose role is the dissemination of precise information, but also the interpretation of it, especially in intercultural tourism where cultural gaps ordinarily exist between the visitors and locals [12].

Nowadays that the attendants' access to any form of digital data is immediate, the role of the mentor is much more demanding and crucial for a tour guide.

Apart from the tour guides who implement the city walks, TWT often exploits the specialization that guest participants could add to the walk in order to enrich the experience. Researchers, writers, scholars, charismatic speakers, TV presenters and comedians are often invited to participate to some of the walks, not only attracting attendants but also maximizing the quality of the cultural experience.

3.5   The Promotion

After being a involved in the media for around 30 years and having put in countless hours in radio studios, writing for magazines and newspapers, Evi Karkiti was able to exploit all her experience and development to promote the new platform (utilizing influential text writing, press releases, cultural sites, radio and TV broadcasts, among others). She claims that, for her "it was a natural consequence to come up with the idea of TWT".

3.6   Examples of the Offered City Walks

I, Galerius   Under a title inspired by the British TV series "I, Claudius" this city walk takes place among the monuments erected at the time of Caesar Galerius, a leader who was linked to the twilight of the ancient world and the birth of a new, Christian era at the beginning of fourth century A.D. The guide exploits his skills in performance in order to switch often from the third to first person of narrating.

Jewish Walk   This walk browses points related to the virtually annihilated Jewish community of Thessaloniki starting out from the only preserved synagogue in the city. Seeking the visible and invisible traces of the human stories, it aspires to connect places, spaces, streets, buildings, squares and markets with the Jewish presence and consequently with the painful losses of the Holocaust. At the end, participants discover the flavors of Sephardic Jewish cuisine by making a stop at a restaurant where they taste unique dishes inspired by Nina Benroubi's book, "Taste of Sephardic Thessaloniki".

Rebetiko in Thessaloniki   This thematic city walk focuses on intangible heritage by presenting the notorious "rebetes", the composers that proved to be the soul of the musical genre known as "rebetiko". The walk succeeds in connecting their incredible experiences with the meeting points, the narrow cobblestone streets of the Upper Town, squares and cemeteries, the Dervishes' tekke, and the Yedi Kule fortress that was also used as a prison, shedding light on the fascinating relationship between the city and rebetiko.

Cine Walk A tour that unfolds over 100 years of Thessaloniki's cinematic history identifying the points and places in the historic city center associated with films, people and events, such as the Thessaloniki Film Festival and the Thessaloniki Cinema Museum at the Port, where the attendants watch audiovisual material. Approaching the city even from the perspective of film history, the walk also gives an idea of the city as it is reflected in movies.

Streets, Buildings, Galleries & Commercial Arcades (Stoas) & Hotels of Thessaloniki Three walks which explore the architectural profile of Thessaloniki, mainly focused on the decade of the 1920s, a period of intense reconstruction of the city after the fire of 1917. The walks are implemented on commercial streets with buildings constructed to house offices, companies, hotels and department stores, many following the architectural idiom associated with Thessaloniki, that of eclecticism.

Art in the Street The walk starts from the entrance gate of the Thessaloniki International Trade Fair (TIF) where the first public sculpture of contemporary art in Greece was placed in 1966. The tour discusses the perception of abstraction in the Greek artistic scene [14], encourages the familiarization with the modern and contemporary means of expression and identifies important moments of sculpture in public space, solely using common semiotic and interpretive tools to investigate the interplay of the material-symbolic and political dimension in which monuments and memorials were created [15].

Dark Memories, Cemeteries of Thessaloniki & The Pagkratidis Case From the assassinations of journalist George Polk in 1948 and that of the politician Grigoris Lambrakis in 1963, to the execution of the so-called "Ogre of Seikh Sou" whose innocence or otherwise, still remains debatable, these three walks have come closer than any other to the idea of "dark tourism", on which considerable literature has already been published in the past 20 years [16].

3.7 The Expansion

The "City Experiences" These are mainly sea routes in the Thermaikos Gulf via Yachting with the Nautical Club of Thessaloniki. The skipper and the tour guide follow a route accompanied by good wine and a light meal, enriched with plenty of lesser known stories about sunken city walls, merchant ships a shipwreck and many others.

The "Open Culture" Seminars Series of cultural workshops and lectures with topics related to history, literature, architecture and photography which are often the first step of thematic tours that may go beyond the borders of the country, as TWT, apart from innovative urban walks, designs and implements journeys in Greece and also abroad.

Athens Walking Stories From 2018 the company also organizes city walks and experiences in Athens. Coordinators for the corresponding "Athens Walking Stories" are the creator Evi Karkiti, the writer and journalist Elias Maglinis along with the writer Thanassis Triaridis, together with a team of twenty more distinguished specialists.

4 Conclusions

The fact that TWT started up in a transitional period for the city's awareness of itself, with a parallel effort to transform itself into a city-break destination, seems to be very crucial for entrepreneurship in the field of city-walks. Up to now TWT not only seem to have faced the challenges of our era regarding city walks, but also to have managed to act as a "trailblazer" by creating a kind of new mentality and trend around city walks in Thessaloniki and by gradually developing its audience, reinforcing the creation of new social communities, whose members share the same interests, with social media and online platforms being able to contribute to that purpose [17–19]. In terms of local or global urban tourism one could say that the experience of TWT touches the concept of cities which has attracted a great deal of research interest, most notably in urban geography and sociology and where knowledge is transformed into productive activities, as well as for tourism, in terms of the creative development of experiences and products [20].

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Setting the Ground for Successful Film Tourism Practices in Greece: A SWOT Analysis

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Abstract Film tourism is one of the most rapidly growing sectors of tourism industry. Recent years testimonials witness that top destinations have implemented successful marketing strategies of film tourism with a view of attracting more tourists. A film can provide a wide display promotion of a tourist destination. Indeed, the literature highlights a number of benefits for those countries which adopt film tourism practices. However, it is a perspective that has not yet been fully exploited by Greece despite the fact that the country offers a landscape of incomparable beauty, including various attractions and archaeological findings. Through a literature review and interviews of Greek stakeholders, this paper conducts a SWOT analysis and examines the strengths, weaknesses, opportunities and threats faced by Greece when adopting film tourism practices. Based on the main outcomes of the SWOT analysis, this study provides valuable insights for stakeholders involved about how to develop and promote a film tourism promotion. Finally, the paper sets the ground for future research about Greek tourist destinations and film promotion product practices.

Keywords Film tourism · SWOT · Greece · Destination

1 Introduction

Films influence tourism significantly by inspiring travelers and creating new or altering negative images; icons have been considered as a crucial element in tourism promotion [1]. Films attract tourists to visit a destination and provide an advertising that millions of people will watch [2]. Various studies have delved into the research of film tourism and have confirmed the strong influence of films on travelers'

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decisions to visit the destination where the film is shot [3–9]. Some researchers have investigated film tourism in Greece or have presented relevant case studies [10–11].

However, no single study investigates the progress of film tourism in Greece or delineates the strengths, weaknesses, opportunities and threats when applying film tourism practices in the country. Based on a literature review analysis and semi-structured interviews with the national channel's directors, our aim is to present the situation of film tourism in Greece. The research herein emphasizes on the extension of the current knowledge with the purpose to yield new understanding of film tourism concepts through a SWOT analysis and the suggestion of some relevant strategies.

2   Film Tourism: A Short Review

Literature correlates film tourism with travelers' visits to destinations that have drawn attention through media (television, video, cinema screen) and involves tourist experiences connected with film; apart from being considered as part of cultural tourism, it is also one of the most rapidly growing sectors of tourism industry [6, 9, 12–14]. Film tourism offers a wide social, economic and cultural context with important and long-term benefits, although yet underestimated [15–16]. These benefits include all-year and all-weather attention that could possibly alleviate problems of seasonality that many touristic areas may face [1, 6]. The benefits may be continuing given that a film may pull visitors year after year [10]. Social interactions, practice of communication or language skills among hosts and tourists are also included as benefits [16]. On the other hand, impact of film tourism on environment is mostly negative [10, 13, 17–18], like traffic congestion and noise pollution [10, 16, 18].

Films are profitable tools that create time-resistant images important for the process of selecting a travel destination while their influence seems to last longer than advertisements [15, 19–20]. On this ground, films become a destination marketing tool of paramount importance, where viewers transform into potential tourists, who highly identify and want to connect with the film's settings [21]. Thanks to effective marketing strategies, some films may positively influence a country's tourism and economy, as demonstrated by a relevant study in New Zealand [22].

On the Greek side, the Hellenic Film Commission performs an intermediate role aiming to attract foreign productions while providing information to international audiovisual productions for filming in Greece [23].

3   Research Methodology

A literature review combined with information obtained from the Hellenic Film Commission, provided some basic research questions formulated with a view to compiling the interview guide, which was the basic research tool for this paper. Keywords under search were "Film Tourism" and "Movie Tourism". A pilot research took place employing interviews as a tool. The respondents were two representatives of the area of the Greek television and cinema, having wide expertise and work experience as directors in the national Greek channels. Thus, the sample employed was a purposive one. The interviews, which lasted 50 minutes each, were conducted in December 2018. The results revealed the strengths, weaknesses, opportunities and threats of film tourism situation in Greece. A SWOT analysis was performed and recommendations for improving the situation were presented.

4   Research Questions

SWOT analysis remains a planning tool that has been extended from companies to countries [24]. The main research questions stemming from the literature review are presented below.

4.1   Strengths

Q1. What are the strengths of Greece that could differentiate it from other competitor countries when adopting film tourism practices?
    The participants could be asked to express their opinion for questions such as:

- Which Greek locations may be operated as film shooting locations?
- How could the Hellenic Film Commission further contribute to the promotion of Greece as a film location?

4.2   Weaknesses

Q2. What are the weaknesses when Greece performs film tourism?
    The participants could be asked to express their opinion for questions such as:

- Is there something that is not made correctly during the promotion of film tourism?
- Which are the weaknesses that Greece faces against its competitors?
- Which impediments prevent Greece from being further strengthened as a film tourism destination?

4.3 Opportunities

Q3. What are the opportunities that Greece can exploit so as to develop film tourism?
The participants could be asked to express their opinion for questions such as:

- What kind of incentives could Greece offer to attract new cinematographic productions?
- What would you propose for the establishment of film tourism in the country?

4.4 Threats

Q4. What are the threats when adopting film tourism practices in Greece?
The participants could be asked to express their opinion for questions such as:

- Have you ever noted a large influx of visitors in a Greek film tourism destination with insufficient infrastructure?
- Are the supporting facilities sufficient to support a film tourism practice?

5 SWOT Analysis

An account of the SWOTs on Film Tourism in Greece is presented in Table 1 and developed below.

5.1 Strengths

Greece is a country of physical environment, incalculable environmental wealth and impressive landscapes that any tourist will wish to visit and sense closely. Many Greek locations are suitable spots for shooting every kind film and documentary. Starting from the traditional mountain villages or the islands with the lacy beaches and reaching until the modern cities, along with the archeological sites, all of them may serve as ideal film shooting locations. The most important elements for outdoor shootings are the light and the sun. Indeed, the abundant sunshine of Greece with the "film-friendly" light makes the country an ideal scenery for filming. Modern facilities like Calatrava Olympic Stadium and Rio Antirio Bridge are only few of the country's strong points that differentiate it from its competitors. Greece combines the traditional with the modern architectural element and represents a strong image in comparison with other countries.

Table 1 SWOT analysis on film tourism in Greece

Internal conditions	External conditions
Strengths	**Opportunities**
S1. Incalculable environmental wealth	O1. An alternative way of marketing
S2. Sites—Archaeological Findings	O2. Unexplored parts of the country
S3. Ideal scenery for shooting	O3. Film industry in need of new images
S4. Plenty of sunshine—film friendly light	
S5. Modern facilities for the shooting	
S6. Combines traditional with modern	
S7. Strong image in comparison with other countries	
Weakness	**Threats**
W1. Absence of relevant technology and know-how	T1. International and mediterranean competition
W2. Lack of coordination among the decision makers	T2. Unstable political condition
W3. Lack of technical infrastructure, suitable facilities, and large studios	T3. Lack of cooperation between public and private sector
W4. Insufficient marketing of Greece as a shooting place	T4. Risk of losing authenticity
W5. Insufficient cinema culture in Greece	T5. Scene break-up after the end of the shooting
W6. Lack of preparation in areas with rapid growth of film tourism	
W7. Bureaucratic problems regarding licensing in areas of particular archeological interest	

5.2 Weaknesses

Film tourism is a new and unexplored area for Greece. Several documentary producers choose Greek locations to make their shootings due to its archaeological history; yet, the lack of a consistent policy and a satisfactory cooperation among the stakeholders of the Ministry of Tourism, the Ministry of Culture and the local authorities makes these projects more difficult to accomplish. Elementary substructures along with individual efforts are often not enough. It is mainly the producers those who choose Greece as a film location and only after specific occasions/circumstances (i.e. if and when the scenario complies with the location). Moreover, in Greece there is a notable number of actors and directors but not of producers that would be able to afford the required budget in order to create qualitative and high profile productions. Thus, several incentives from the Greek side should be provided. In addition, lack of proper infrastructure for a movie shooting is alarming; some illustrative examples include the lack of relevant technology and know-how, of technical equipment and suitable facilities (i.e. large studios). Tourism managers mainly invest in the promotion of other kinds of alternative tourism in Greece, like religious tourism, city tourism, conference tourism and medical tourism. There are neither sufficient marketing campaigns of Greece as a shooting place nor adequate cinema culture. We also see unsatisfactory quality of tourism services, insufficient infrastructure and lack of proper organization in places that have already received public attention (e.g. Mama Mia movie in Sporades) and were expected to receive a massive influx of tourists afterwards. Finally, producers often face bureaucratic problems regarding licensing in areas of particular archeological interest.

5.3 Opportunities

Film tourism could become an alternative way of promoting Greek tourism in a period where many parts of the country still remain unexplored. Film industry needs new images, which will have been slightly or not at all displayed.

5.4 Threats

International (mainly from the Mediterranean countries) competition is among the main threats that film tourism in Greece may face. For example, Turkish soap operas, displayed in several countries, have become increasingly popular. The lack of cooperation between the public and the private sector, with few exceptions, remains a threat. The unstable political condition and the varying policies of tourism ministries, which usually adapt to the strategies of the relevant government, have not contributed to the growth of film tourism in Greece. Besides, the risk of losing

authenticity due to illegally built constructions in some locations, largely remains. Another major threat is the fact that there were cases whereby filming scenery was destroyed after completion of shooting and no keepsake of the movie was retained, indicating the indifference towards similar future events.

6 Strategies for Establishing Successful Film Tourism Practices in Greece

Based on the SWOTs identified above, some essential strategies are recommended as following:

6.1 Raising Film Tourism Awareness via Cultivating Cinema Culture

There is an imperative need to widen and broaden the field of cinema culture in Greece via the inauguration of more film festivals and the establishment of additional film-related institutions and organizations. Film, as a means of communication, should start to obtain stability and be taken more seriously in an effort to attract more tourism.

6.2 Increasing the Country's Brand as Filming Location Through Promotion Activities

Greece has the potential to become a "friendly-film" country and several marketing campaigns should take place, mainly before a film release—as mentioned in previous studies [6]. Public relations should be used in order to ensure maximum exposure of the country, emphasizing on its strengths as a film location. Information and communication technologies with their growing impact on the promotion of tourism destination could be adopted as a strategic tool in various film tourism marketing activities [25].

6.3 Cooperation Among Stakeholders

Establishing mechanisms that will facilitate the cooperation among stakeholders and will overcome the obstacles that relate with bureaucracy issues in licensing is a key issue. Flexibility is the most crucial challenge that the stakeholders should adopt in

order to avoid bureaucracy. A lot of work is needed both at an inter-ministerial and at a regional level, at all stages of production.

6.4 Developing Technical Infrastructure

Developing technical infrastructure with suitable facilities and studios should be a priority. Open space, wide areas and suitable facilities that would be able to attract international film producers and support big and demanding productions are required. Solid structures to comply with filming requirements would include stages and offices, along with alternative working areas/spaces. Innovative technology, qualitative delivery of sound and picture, animation and visual effects should be provided.

6.5 Promulgating Regulations for the Preservation of the Filming Locations After the Shooting

Taken into account the case of Captain Corelli's Mandolin movie, where the set was destroyed [10], film tourism related regulations in Greece seem to be incomplete. Consequently, the Greek government should implement relevant rules/regulations that both stakeholders and tourists could easily comply with. For example, setting up spaces whereby filming equipment or other items (including costumes, photographs of the shooting procedure and other reminiscent) could be exposed without the danger of being damaged or lost at the end of the production.

7   Discussion

Human beings have a tendency to cover all their senses and to acquire integrated experiences. Visiting filming locations may prove as one of the most fascinating experiences that tourists can gain. Movies are an essential tool for promoting a country and may act as an "ambassador" of the country that hosts them. Films motivate travellers to visit a destination, influenced by the scenery, the landscape and the attractions they watch. There are many reasons to proceed with a movie production in Greece, the most important being the sun abundance and the picturesque locations (traditional mountain villages, green highlands, beautiful islands with white sandy seashores)—many of which remaining unexplored. However, film tourism remains an ignored or underestimated, until now, field for promoting Greek tourism. In order to set the ground for successful film tourism practices, some actions should be taken on behalf of the Greek stakeholders. All stakeholders involved (ministries,

tourism organizations, local authorities and communities) should relate and agree on cooperating so as to develop film tourism in Greece and get the most benefit from it. They should acquire substantial tourism and film knowledge, establish flexible mechanisms for overcoming bureaucracy and maintain the scenery equipment so that they act as a reminiscent of the movies to the visitors. The infrastructure of the filming area should be ready to receive an increased flow of tourists that will follow after the release of the movie. Synergies are necessary in order for co-creation to take place as is the cases in different activities and fields [26–28]. The weaknesses should transform to strengths and the threats should be minimized through the five proposed critical strategies in order to face the problems and establish successful film tourism practices.

8   Conclusion

The aim of this paper was to add to the main body in the field of film tourism in Greece by displaying a SWOT analysis. The paper contributes in the advancement of research in this topic and also highlights the prospects that main stakeholders can take advantage of, in order to apply successful film tourism practices. More specifically, it serves as a valuable starting point for researchers as it is the first study that investigates the strengths, weaknesses, opportunities and threats in the country while providing relevant strategies for a successful establishment of film tourism practices. It also offers valuable insights for stakeholders involved on developing and promoting a film tourism production. Yet, this study is confined by the limited literature available and the qualitative survey. Future research would benefit from in-depth case-studies as well as application of empirical methods, such as questionnaires on film tourists and participants' observations on shooting locations. More studies could be conducted in neighboring countries and Mediterranean destinations, in a comparative way with the present study, in order to enhance the literature and increase film tourism understanding.

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Selective Key Studies in Seasonality Tourism: A Literature Review

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Abstract Seasonality and its disciplines have been a central theme in tourism literature. This paper aims to examine the progress of research in Seasonality Tourism through the description of the main authors, papers and methodologies applied over the last 30 years, from 1987 until 2017. An in-depth review of published scholar papers was performed and a classification of the bibliography is presented in order to define and classify the research in Seasonality Tourism. The papers are sorted by (1) year of publication, (2) research methods applied and (3) geographical distribution of methodologies followed. The main interest of this study lies in the better understanding of the methodologies used over the last 30 years as a toolbox for future analysis of tourism seasonality.

Keywords Seasonality tourism · Measurement

1 Introduction

Seasonality in Tourism has been long analyzed and measured, covering various aspects, like its definition, its characteristics and causes of seasonal patterns, its impacts, the measurements, and the policies and strategies in order to investigate how tourism destinations could mitigate it. Seasonality is a complicated organizational and marketing theme with several consequences [1]. Literature has generally perceived seasonality as a problem for the tourism industry, a situation that generates difficulties and mainly negative effects for destination areas [2–10]. This "temporal imbalance in the phenomenon of tourism", as described by Butler [11] is one of the most notable characteristics of tourism but also one of the least understood [8, 9, 12]. Baum and Hagen [1] distinguish a range of causes that may be categorized

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as: natural (i.e. weather), institutional (i.e. school holidays) and other (i.e. labor availability). Next studies identify these causes as well [3, 5, 7, 8, 10, 13].

2   Research Methodology

A literature review is implemented by identifying, assessing and synopsizing the relevant studies based on the results of the following keywords: "Seasonality Tourism", "Seasonal Visits" and "Seasonal Variations". The purpose of this review is to identify the literature and the methods used for the research of seasonality tourism from 1987 until 2017 with a view to pointing out the trends. Thus, the time boundary on the period of the articles publication for review is between 1987 and 2017 and the pertinent articles to the purposes of this study are 58. The article reviews the tourism literature on seasonality and explores the following questions: (1) Who conducted the research? (2) When was it published? (3) Which geographical location was chosen as a research area? (4) Which methodologies were applied?

3   Findings and Discussion

The current study attempts to highlight the classification of seasonality tourism methodology. The papers under search were classified in quantitative and qualitative research work accordingly. Tables 1 and 2 provide valuable information regarding the distribution per publication year in the research period 1987–2017 and the methodology used. Most authors (42 out of 58) opt to use the quantitative methodology. Among the different kinds of methods that have been applied to measure seasonality in tourism and the relevant indicators that have been provided by several authors, the Gini index has been the most extensively used. Many research papers have focused on the identification, development and improvement of the measurement tools to obtain seasonal adjusted data and design seasonal strategies.

The next Table (Table 1) illustrates the authors that used the quantitative methodology and what each research informs us about.

Table 2 describes the qualitative research for the 30-year period we examine. The researchers obtained their data via literature review, interviews with stakeholders or case studies.

As far as the regions that tourism seasonality research has taken place, Europe is the one from where the majority takes place and this may be an issue for further research to be conducted (Table 3).

Table 1 Classification of quantitative methodology studies on tourism seasonality on author per year

Author (year)	Quantitative methodology
Þórhallsdóttir and Ólafsson (2017) [13]	Analysis in the number of tourists in lowland destinations in Iceland with Gini coefficient
Rosselló and Sansó (2017) [14]	The entropy and relative redundancy measures as alternative seasonality indicators in the Balearic islands
Turrion-Prats and Duro (2017) [15]	Analysis of monthly concentration of tourist demand in Catalonia, Spain for the 2000–2014 period
Vergori (2017) [16]	Analysis of monthly tourist overnight stays in Austria, Finland, Portugal and the Netherlands between 1990-2014
Fernández-Morales et al. (2016) [17]	Seasonality analysis in UK with the use of the decomposition of the Gini index combined with biplots
Cisneros-Martínez and Fernández-Morales (2015) [5]	Tourist segment separation on the Andalusian coastline and application of the additive decomposition of the Gini index and the relative marginal effect (RME)
Connell et al. (2015) [6]	An empirical study in Scotland through questionnaires
Coshall et al. (2015) [18]	Disaggregation of quarterly numbers of overnight stays by trip purpose in Scotland, with the use of GC and AR
Guzman-Parra et al. (2015) [19]	Time-series analyses of seasonal variations affecting tourism in Spain
Ćorluka and Matošević (2014) [20]	Application of seasonality ratio (to identify monthly deviations from annual average) and of Lorenz curve (to identify seasonal concentration of tourist flows) in Adriatic Croatia
Martín et al. (2014) [21]	Estimation of tourism seasonality with the use of Gini index in the region of Andalusia Spain according to destination category (coastal capitals, coastal areas, inland capitals, inland areas)
Gasmi (2013) [22]	Presentation of different techniques of seasonality detection and of various methods of treatment of seasonality in Tunisia
Vilchez (2013) [23]	Analysis of destination and seasonality valuation in hotel price with the use of quantile regression in the Mediterranean coast
Chen and Pearce (2012) [24]	Examination of monthly tourist arrivals at five key Asian destinations and four top Chinese tourist areas
Figini and Vici (2012) [25]	Investigation of the cultural offer of Rimini, in Italy, on a sample of 800 off season tourists

(continued)

Table 1 (continued)

Author (year)	Quantitative methodology
Kulendran and Dwyer (2012) [26]	Modelling and forecasting seasonal variation with the use of climate variables
Vergori (2012) [27]	Analysis of tourist arrivals in the province of Lecce, southern Italy
Bigović (2011) [28]	Investigation based on data concerning the number of tourist arrivals in Montenegro
Chan and Lim (2011) [29]	Spectral analysis of the seasonality in New Zealand tourism demand
Cuccia and Rizzo (2011) [30]	Examination of tourism seasonality in different destinations in Sicily, according to their cultural attractiveness, based on a regression analysis approach
De Cantis et al. (2011) [31]	Investigation of the accommodation sector in Sicily
Koenig-Lewis and Bischoff (2010) [32]	An empirical quantitative research of the serviced accommodation industry in Wales
Shen et al. (2009) [33]	Econometric and time-series models in forecasting seasonal tourism demand by UK residents to seven destination countries
Kastenholz and Lopes de Almeida (2008) [34]	A large-scale survey at tourists staying in rural areas in North Portugal
Ahas et al. (2007) [35]	Analysis of the seasonality of foreign tourists' space consumption in Estonia with the use of mobile positioning roaming datasets
Koc and Altinay (2007) [36]	An analysis of seasonal variations in monthly per person tourist spending in Turkish inbound tourism
Bender et al. (2005) [37]	Tourism data from territories of Germany and Austria
Jang (2004) [38]	Quantitative approach—financial portfolio model
Koenig and Bischoff (2004) [39]	Seasonal Variations in occupancy rates for the accommodation sector in Wales based on principal components and cluster analysis combination
Koenig and Bischoff (2003) [40]	Examination of the seasonal pattern for different types of domestic tourism demand in Wales, compared with other UK regions, notably Scotland
Mitchell and Hall (2003) [41]	A national study on wine tourism with the use of questionnaires to visitors of New Zealand's wine regions
Goh and Law (2002) [42]	Tourist arrival series of ten countries to Hong Kong
Lim and McAleer (2001) [43]	Analysis of international tourist arrivals (From Hong Kong, Malaysia, Singapore) to Australia
Ashworth and Thomas (1999) [44]	Seasonality in tourism employment in UK with the use of econometrics
Bar-On (1999) [45]	Hotel occupancy for 16 countries and seasonal patterns of tourism by air to Israel

Jeffrey and Barden (1999) [46]	Principal components analysis of seasonality from the monthly occupancy time series of 279 English hotels
Sørensen (1999) [47]	A univariate econometric modelling of seasonality of hotel nights in Denmark by country and nationality
Butler (1998) [11]	Examination of a specific area of Scotland with the aim of exploring if there has been spatial variation of seasonality over time
Donatos and Zairis (1991) [48]	Estimation of the seasonal tourism patterns in Greek islands on nights spent
Ball (1988) [49]	Investigation of Seasonal Workers in Hotel Industry in north and north-west Wales
Drakatos (1987) [50]	Data referring to the number of arrivals of tourists at frontiers
Soesilo and Mings (1987) [51]	Examination of the seasonal behavior of tourism in sales tax collection data for Scottsdale, Arizona

Table 2 Classification of qualitative methodology studies on tourism seasonality on author per year

Author (year)	Qualitative methodology
Banki et al. (2016) [52]	Analysis in the number of tourists in lowland destinations in Iceland with Gini coefficient
Camas (2012) [53]	Literature review
Pegg et al. (2012) [54]	Semi-structure interviewing with hospitality managers of the alpine region of New South Wales, Australia
Karamustafa and Ulama (2010) [55]	Literature review
Chung (2009) [56]	Personal interviewing with golfers in Mallorca
Garau-Vadell and de Borja-Solé (2008) [57]	The Case of Rugby Union in New Zealand
Higham (2005) [7]	A review of tourism seasonality
Koenig–Lewis and Bischoff (2005) [58]	Interviews and questionnaires with family business owners of Bornholm, Denmark
Getz and Nilsson (2004) [59]	Interviews and questionnaires with family business owners of Bornholm, Denmark
Jolliffe and Farnsworth (2003) [60]	Examination of seasonal tourism employment in Canada
Andriotis (2002) [61]	A survey on local authorities in the island of Crete through interview questionnaires
Higham and Hinch (2002) [8]	A case study analysis of the professional development of Rugby Union in New Zealand
Hinch and Jackson (2000) [62]	The adoption of a leisure constraints framework to examine tourism seasonality
Baum and Hagen (1999) [1]	A field research in several locations in the British Isles, Scandinavia and Canada and an analysis of various local responses to the seasonality challenge
Owens (1994) [63]	An analysis of the all-season-resort in Canada
Phelps (1988) [64]	Distinguish of tourist destinations and recreation resources in terms of seasonal partners using the case of Country Park in England and a resort on a Spanish island

Table 3 Geographical
distribution of research areas
chosen by seasonality tourism
studies

Region	Number of studies
Europe	38
Australia	7
America	6
Asia	3
Africa	2
Middle East	1
Europe and America	1

4   Conclusion and Limitations

This paper extends the current knowledge by providing a summary of the methodologies used in studies of seasonality tourism. It is concluded that, since the majority of studies are quantitative and concentrated in Europe, there is a need for research at an international level (mainly Asia and Africa) in order to compare the results with Europe and to advance knowledge of seasonality tourism. Moreover, in future lines of research, we suggest the study of seasonality tourism as regards the mitigation strategies and their effects during the years. This research is not exhaustive and as it is part of a project in progress, further work is needed to assess the visitor satisfaction as a factor that affects the re-visitation.

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Importance of Teacher Training Incorporating Sustainability in their Subjects from the Life Cycle Approach in Higher School of Computation (ESCOM-IPN)

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Abstract The quality of education in a country is not superior to the quality of its teaching staff. If the teacher is the key to the quality of teaching, it is necessary that the educational action of the teachers is improved taking into consideration a specific social and cultural context, and specific educational and work conditions. Likewise, as part of the Accreditation Council of the Teaching of Engineering, CA (CACEI), the design of engineering, the integration of natural sciences and engineering sciences should be evaluated. This is a process that can refer to safety, environmental and social factors. In complementary courses it must include sustainable development, the impact of technology on society, care for the environment, professional ethics, etc. From this perspective, this article exposes the importance of the incorporation of energy focused on the life cycle in the projects and subjects that the teacher has in the Higher School of Computing.

Keywords Sustainability · Teacher training · Higher education · Technological solutions

1 Introduction

In order to internalize the concept of sustainable development, it is necessary to influence each of the educational levels; from the preschool level to the university level, but in the light of programs that guarantee the permanence (in time) and

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constancy (in frequency) of contents that are considered significant to the educator and the student. Therefore, in order to achieve this ideal, sound and clearly structured educational policies are required, as explained by CACEI in the field of Engineering Sciences, since it describes that basic science must be based on it, but its focus is to develop knowledge in the student of the discipline and technological competences for the interpretation and creative application of knowledge in the engineering context. The fundamental principles of the different disciplines must be treated with the appropriate-ate depth for their clear identification and application in the solutions of basic problems of Engineering. These studies should be the connection between the Basic Sciences and the application of Engineering and will address, among other topics: Fluid Mechanics, Thermodynamics, Electrical and Electronic Circuits, Materials Sciences, Transport Phenomena and Computer Sciences (no tool for computation), together with various aspects related to the specific discipline.

Thus, CACEI indicated that they would include an engineering design where it specifies that this should be understood as the integration of mathematics, natural sciences, engineering sciences and complementary studies for the development of elements, systems and processes to meet specific needs. This is a creative, interactive and open process subject to the limitations that can be governed by norms or legislation in different degrees depending on the discipline, can refer to economic, health, safety, environmental, social or other interdisciplinary factors [1].

As a result of this research, we take as a starting point three aspects: first, from the perspective of the teacher analyzing their concept of sustainable development. Second, the current situation of the learning unit in relation to the subject, and third, the incorporation of the life cycle topics of sustainable technological solutions. Later a methodology is developed incorporating these topics as the main theme: "sustainability" in the learning units, since it is seen as an innovative and sustainable proposal in the educational field.

1.1 Training of Teachers in the Sustainable Field

In November 1990, experts from Latin America who participated in the international seminar on Professional Environmental Training, held in Mexico, warned that:

"... one of the basic difficulties of the incorporation of sustainable development in higher education comes from the scarcity of researchers and teachers who have ad-vanned, from the traditional scientific and pedagogical methods to the elaboration of interdisciplinary research methods and curricular contents that integrate knowledge from different fields of knowledge" [2]. Subsequently, in June 1992, within the framework of the United Nations Conference on Environment and Development, the Ibero-American Postgraduate University (UIP), the Polytech-nick

University of Madrid, together with other universities in Spain and Latin America presented a Plan of Action of the Ibero-American Universities, among whose recitals affirm that: " . . . to incorporate sustainable development in different sub-jects, it is necessary to establish criteria in order to know which contents are lacking in traditional subjects. In addition, it is necessary to know in which courses or programs it would be possible and convenient to incorporate this dimension" [3].

Based on the above, it is important to implement sustainability for those university disciplines in which the student is offered contents of a high technical, logical-mathematical or scientific level, without an apparent relationship with the environ-mental, social or economic reality. In Mexico, the concern to include these topics in the higher education curricula, the environmental dimension and sustainable development is a necessity and not only a commercial demand arising from ecological fashions.

Because it is a topic of recent discussion, what emerges from this article is the con-corn of being able to verify whether the incorporation of the environmental dimension and sustainable development as a curricular content could have positive results. That a teacher encourages a change in their practice, which can make the student reflect on these contents when developing projects and/or practices, and that is evidenced in the concrete manifestations of daily life.

1.2   Lifecycle

As a rule, a product goes through different phases (introduction, growth, maturity, decline and death) to stay in the market, a phenomenon like the biological life cycle. However, the life cycle also allows us to understand, from a theoretical point of view, the evolution of technological products; from a practical point of view, operate or influence such evolution so that death does not become a self-fulfilling prophecy. In addition to focusing on sustainable technological solutions, they are those that use less energy to carry out processes, use a smaller amount of limited resources and, ultimately, do not exhaust natural resources either in their creation, start-up or use.

On the other hand, the technology that influences sustainable development does not directly or indirectly pollute the environment, and the tools can be reused or recycled at the end of their useful life. These technologies must always refer to a context, always keeping in mind the needs of societies and countries. In our case, the life cycle, we focus on some sustainable topics such as: energy consumption, processing waste, reuse and reduction, among others. It also addresses issues of impact of technological materials that teachers use in their learning unit such as: False obsolescence, e-waste, manufacturing costs, among others. With the purpose that teachers develop an innovative and sustainable proposal, in their learning unit within the Higher School of Computing.

2 Topics for Curriculum Sustainability Related to the Lifecycle

The topics that are related to the life cycle are essential in the professional training of the engineer, likewise, these must add values and levels of sustainable knowledge, therefore when including them in the didactic material of the teachers, they will be developed later in their practices and/or projects. That is why it is necessary to reinforce competencies for sustainability in students trained at the university and that teachers can develop flexible curricular models of teaching that facilitate the perspective of sustainable development focused on the life cycle [4].

Some of these topics are:

- Ecological footprint
- Manufacturing costs
- Energy consumption

2.1 Materials

- Processing residues
- E-waste (waste of electrical and electronic equipment)
- Reuse and reduction
- Social and environmental impacts
- False obsolescence

3 Methodology Used

We know that one of the most important topics for an investigation is sampling, so the methodology used in this article is based on the "simple random" sampling, since it is the technique in which all the elements form the universe, therefore, they are described in the sampling frame, they have the same probability of being selected for the sample.

A quantitative survey was conducted for all teachers (200) of the Higher School of Computing, with a level of confidence of 95% and a margin of error of 3%, for which 169 teachers were our sample. This was done from September 3, 2018 to October 8, 2019, with the aim that absolutely all teachers participated and were part of this investigation.

4   Results and Discussion

Of the 169 teachers that were our main sample or universe, 27.2% (46) of them taught 19% of the 42 units of learning that corresponds to the area of Engineering where the main sample was taken, relates the life cycle within the Higher School of Computing, some of these subjects are: Fundamental of digital design, fundamental circuit analysis, computer architecture, introduction to microcontrollers, analog electronics, etc. Even also learning units of the administrative area such as: Business management, business administration and software engineering. They were part of the results shown below, as these learning units contribute to the implementation or development of practices or projects with hardware materials such as: microcontrollers, GAL, Arduino, capacitors, LEDs, FPG. At the same time, the administrative and financial economic evaluation of the raw material, machinery and computer equipment, study of the environment, estimation of labor requirements is also implemented, since an evaluation criterion is that the project must be sustainable, social and financial.

Derived from the previous analysis, in Fig. 1, we identified that of the 27.2% of the teachers that teach these learning units, 14.7% do not deposit the electronic materials in special containers, however 9.3% could implement it and 3.2% if they do, while 72.8% of teachers who have no relationship with learning units in the area of engineering, does not apply throwing electronic materials in special containers, because they do not use it in their learning unit.

The question was analyzed no. 10 (The electronic waste generated by the implementation of projects in their learning units are deposited in special containers?) For the channeling of electronic materials. In Fig. 2. the 27.2% (46) of the teachers mentioned above, develop a final project or practices in their learning units that, when implemented, could impact society. Of the 72.8% of the teachers who are not related to their learning unit, 47.3% (80) of the teachers do not apply it in their
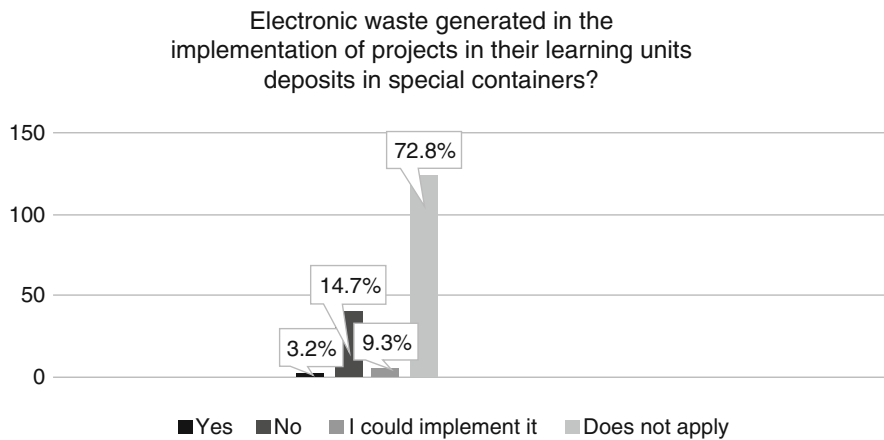
Fig. 1 From the form "sustainable practices in the computer systems engineering program"
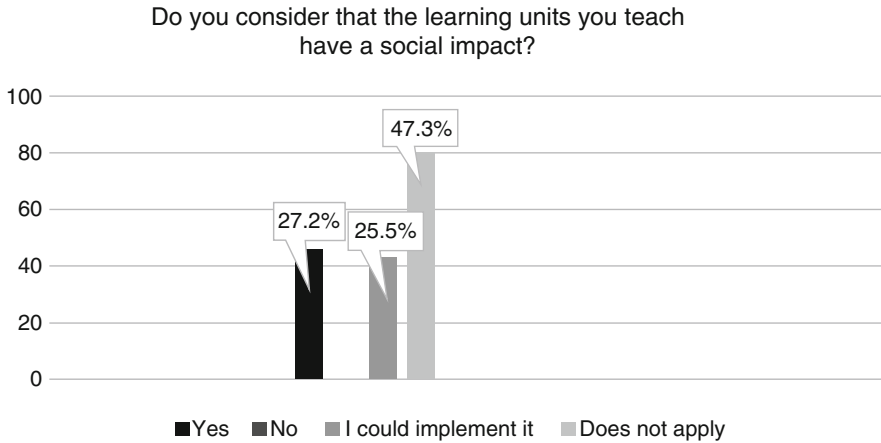
Do you consider that the learning units you teach
have a social impact?

Do you promote the use of renewable or clean
energy in your learning units?
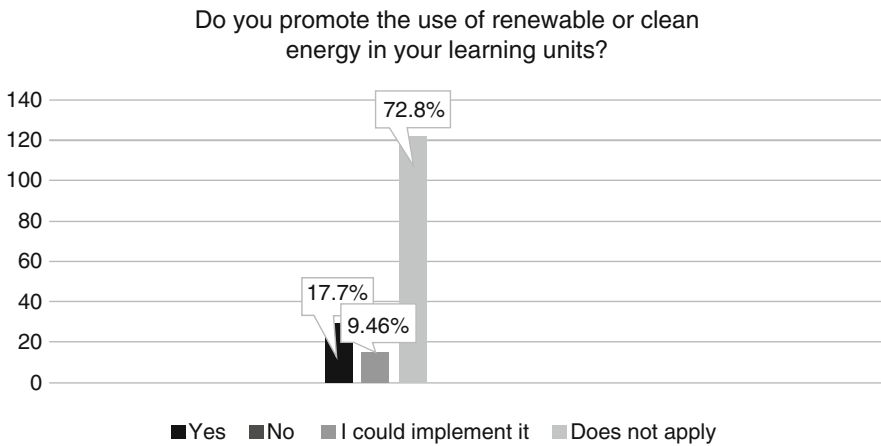
learning unit, since in the development of the projects they do not evaluate the social impact and the 25.5% (43) of teachers could implement it.

In this graph the question no. 2 (Do you consider that the learning units you teach have a social impact?) Of the form "Sustainable Practices in the Computer Systems Engineering Program" helped us to observe that the great majority of teachers develop the social impact with their unit. Learning. However, it is necessary to implement it more in each learning unit, since most of the social impact is not implemented in its final projects and not throughout the subject, considering that it is an important factor in the sustainability and training of students of the Higher School of Computation.

Figure 3 shows that 17.7% (30) of teachers do not promote the use of clean energy in the development of their projects and/or practices, so that 9.46% (16)

could implement it and 72.8% of Teachers who have no relationship with their learning unit and do not apply it in any practice and/or project.

In question no. 5 of the form "Sustainable Practices in the Computer Systems Engineering Program", no teacher promotes clean or renewable energies, since the "yes" metric is empty.

That leaves us thinking that it is necessary to make teachers see the importance of clean and renewable energies, and students of higher computing school as graduates of the computer systems engineering career, are interacting all the time with these.

5 Conclusions

In this research we observed that the teacher does not explicitly or implicitly implement the incorporation of sustainability, as it does not relate it due to lack of information. This is how we deduced that teachers have to be sensitized, explained or implemented courses for curricular sustainability (learning methodologies, didactics and sustainability topics), in order to develop teacher sustainability skills and they can tackle projects where students develop sustainable solutions that can be adapted at any stage of the technological life cycle, in order to relate innovation, technology and some of the 3 main factors of sustainability (social, economic, environmental), or it is in its entirety.

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Tourism in Mexico and the Use of Cultural Heritage as a Commodification's Product

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Abstract In 2018 Mexico occupied the sixth place worldwide of the most visited countries this is a sample of the importance of the tourist industry in the country especially in the visited communities, many of these communities possess a wide principally cultural heritage which can be used as a product of commodification. The aim of the present research is to give a deep look to national tourism since it interacts with the cultural heritage finally to define its utilization as a product of tourist commodification. In the present research the tourism shows itself in numbers in Mexico like that also the concept of tourism, and cultural heritage for the comprehension of the topic, cultural, equally it is investigated in the relation of the cultural heritage with their utilization tourist, cases are exposed to commodification of the culture as a tourist product, demonstrating some problems and advantages that the activity has left in regions where tourism is an economically important activity for the local development. Since conclusion has that, the participation of the original groups performs great importance for the tourist management of the patrimonial resources, in a set with the actions thought by the government and the institutions involved with the tourist industry.

Keywords Tourism in Mexico · Cultural heritage · Tourism commodification

1 Introduction

The tourism has been seen as a strategy of economic, social development and inclusive as tool for the environmental conservation, nevertheless, there exist many cases in which these plans have not developed of a suitable form, generating social inequalities, as well as the exploitation of natural and cultural resources, favoring to

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small groups of power taken charge of legislation, investments for the infrastructure, territorial planning and the development of tourist products.

This situation has been demonstrated in one of the most famous tourist centers of Mexico, Cancún. In this Integrally planned Center (CIP) there has been constructed a great number of hotels and centers of amusement to satisfy the demands of the tourists who travel to this destination, using workforce of the region and taking advantage of the settlers' ethnic identity that lives in the zone, as well as, the natural diversity, constructing the imaginary one of the Mayan culture having like proved commercializing it culturally. This panorama is not exclusive of the Riviera Maya, many cases exist that, though they are not so big as Cancún has been in use the identity and cultural production of the population for its commodification, since it is in Veracruz with the "Voladores", Nayarit with the Wixarikas, Gentlemanly with the Hñähñus, etc.

On the other hand, the utilization of the cultural and natural heritage of some regions they have benefited to the local population, with the entry of economic resources used for the social development as better infrastructure, services of health and social security, fulfilling this way some of the bylaws of the sustainable tourism. This has been achieved principally because the persons who manage the tourist activity are belonging to the zone where it develops and among the inhabitants believe networks, strengthening the share capital and generating solutions to problems that they affect directly.

The objective of this research is to give importance to the heritage of the original peoples, and thus to give the opportunity to transform it into a commodity and to give greater benefit to the original peoples.

The methodology of this paper is ethnographic because it involves social interaction between researchers and communities.

2 Development

2.1 Original Groups

According to article 2 of the Mexican constitution, the original groups are those who descend from populations that lived in the country's current territory at the beginning of colonization and who conserve their own social, economic, cultural and political institutions, or part of them.

2.2 Tourism in Mexico

In order to begin to deepen the topic, some key concepts will be used for better understanding, the first of which is tourism. The World Tourism Organization

(WTO) defines it as a social, cultural and economic phenomenon related to the movement of people to places outside their usual place of residence for personal or business-related reasons [1].

Moreover, the Ministry of Tourism (SECTUR, s.f.) defines tourism as: "Activities carried out by persons during their journeys and stays in other places than their usual environment, for a consecutive period of less than 1 year, for leisure purposes, and other reasons unrelated to the exercise of a paid activity in the place visited". Zuñiga [2] comments that tourism is a set of symbolic and technical devices in which through transactions, interactions, crossings or encounters transport practices are facilitated" [3]. One thing that can be said about the concept of tourism is the mobility of people for personal reasons and the acquisition of services and products from a specific area. Tourism in international figures is of great importance for the global economies, with information from UNWTO (2018) last year the international tourist arrivals registered a remarkable increase of 7% in 2017 to reach a total of 1.322 million having an income of approximately 1332 billion dollars [2].

In Mexico, as tourism is of great economic importance in many countries, in 2016 Mexico was in the eighth position of the most visited countries in the world and the representation of the sector in the Gross Domestic Product (GDP) was 8.6% is a total of 1,646,554 million pesos and a total of 2,271,112 equivalent paid jobs, certainly very important participation in the Mexican economy.

It is necessary to highlight that the tourist activity is segmented according to its characteristics, the country has differed for having a great number of destinies that decide for its physical, natural and cultural qualities being cataloged as cultural tourisms, of the Sun and beach, of adventure, rural, indigenous, etc. Nevertheless, and by the characteristic of this research it will be appealed only to the definition of cultural tourism and its characteristics will be explained.

Though it is possible to affirm that the tourism is a social phenomenon that motivates the persons to move of their place of residence or I half-close another one for personal motives, covering certain temporality and consuming some "goods" or services. In the cultural tourism, the latter is the basic motivation, the culture.

Tylor was affirming that the culture is this quite complex one who understands (includes) knowledge, beliefs, art, mulberry tree (morality), right, customs and any other capacities and habits acquired by the man while he is a member of the company(society) [4].

Only this one will use definition, since, one does not try to penetrate the concepts, but to understand in outline which is the composition of the cultural tourism and the way in which this one has been used by the institutions to commercialize the destinations(destinies) and the culture.

The cultural tourism is "that tourist trip motivated for knowing, understanding and to enjoy the set of features and distinctive, spiritual and material, intellectual and affective elements that characterize to a company(society) or social group of a specific destination(destiny)" [5].

The attractions in the cultural tourism can divide into diverse typologies since they are:

– Historical and natural attractions.
– Attractions with a scientific nature.
– Attractions related to the primary sector.
– Sociocultural attractions.
– Attractions associated with public figures.
– Attractions based on the art of show business.
– Galleries.
– Religious attractions.
– Theme parks.
– Attractive landscapes [6]

Mexico has 33 world heritage sites, 27 of which are cultural, 10 heritage cities; 187 archaeological sites open to the public; 111 Magical Villages; 174 religious' shrines, 1121 museums and a diverse and internationally recognized gastronomy. It should be noted that, for its World Heritage Sites, the country ranks sixth only after Italy, China, Spain, Germany and France [7].

Undoubtedly, the country has a wide range of references that are included in the Categorization of cultural tourism, however, it is necessary to carry out an observation, within all this compiled of destinations, buildings, sanctuaries, etc., it was ruled that the exploitation of the patrimony would be the key for the success of the tourist destination.

2.3   Cultural Heritage

The cultural heritage is a key for the tourist product development and the success of this one. "The cultural heritage on its wider sense is simultaneously a product and a process that supplies to the societies a wealth of resources that are inherited from the past, believe themselves in the present and they are transmitted to the future generations for their benefit. It is important to admit that it includes not only the material heritage but also the natural and immaterial heritage" [8].

In this respect, the cultural heritage is an expression of the human being and his transcendence across the time formed of different artistic expressions, and cosmogony; same that is reflected in an anthropologic sense and can be understood really by means of otherness or altered.

The problem takes root in that these expressions have been used in its great majority by financial, governmental institutions deprived for the benefit of some few ones, leaving of side the population who is belonging of this identity and in many cases, it is not even consulted for its diffusion and commodification by means of commodification processes.

This one is a fundamental problem that one has come transporting from already decades ago, in which the capitalist system has tried to commercialize and to

appropriate of all that that could be sold, granting a monetary value to them, as the case of the culture and nature.

The nature is a fundamental piece of the cultural heritage, due to the fact that the interaction with this one has like the expression ensued cosmogony from the original groups, nevertheless, today we face an anthropocentric problem, where this dualism of humanity—nature has got lost due to the development of the human mercantile activity.

Manuel Arias (2016) gives a solution before this problem based on 3 key concepts:

The frugality, as a vision of the classic, moralized ecologism that he leads to a sustainable society and that implies protection to the natural world and therefore to the heritage. The containment like a new contract on the global sustainability and the illustration, where there must be established new social values that re-conceptualize the place of the human being in the world, this way proposes a more humanist vision centered on the personal development, based on the cooperation [9].

2.4 Cultural Heritage and Touristic Commodification

The cultural heritage has been used to give a major attraction to the tourist destinies, since the visitors every time look for more complete experiences, at least the new trends in tourism they go towards this side.

Nevertheless, it is necessary to emphasize that tourism has been one of the industries that more has exploited the cultural and natural resources of the regions, with alone this the gentrification has left in many cultural sites and natural devastation, provoking phenomena as the acculturation, social inequality, delinquency, etc.

This panorama is discerned in regions as the Riviera Maya and the Mayan culture, creating spectacles in historical sites for the enjoyment of the tourist, however, not the whole Mayan population has been of benefit for the creation of these products, since the governmental institutions and the private initiative are those who manage these activities and they name what can or not to be part of heritage and that you present or groups can take part in these spectacles.

Another similar case is that of the ritual of the "Voladores", naming only to Papantla's region in Veracruz as the cradle of this expression, being that exists in diverse regions and conditions of the country. With this the local governments with help of the initiative believe massive events, taking the culture as a totonaca base, the case is that of the Tajín festival.

The use of the culture not alone heritage has been in use in holidays and artistic expressions, also in handcrafted production and the interaction with the nature, such it is the case of spirits as the pulque, liquor made from the American agave or the tequila, creating brands and zones of name of origin, which alone gives like proved the appropriation of a legitimate zone for the manufacture of these products.

Another case is that of the appointment of the immaterial heritage of humanity to the Mexican cuisine when this appointment only was granted to the Michoacan

cuisine, but it has been in use for spreading the traditional recipes of conditions as Oaxaca, Puebla, Hidalgo, etc.

The fundamental problem of the undue use of the cultural heritage and its commodification is that the persons who for heredity and custom have inherited it, have not benefited completely from the economic assessment that stops and on the other hand the tourist mass-production, has brought other problems that ensue from acculturation.

Where you present with customs and ancient traditions modify them for a western way of life, prioritizing the enormous consumption of products and services that can be seen as banalities, likewise in the traditional practices, as the agriculture or medicine, due to the fact that if some tourist company wants to establish in territories of original groups, is an example, and where the rate of employment is almost void, the persons of this zone will stop realizing these customs, to devote itself to employment offered by the companies and to be able to have an economic profit to survive.

Another one of the problems of the heritage, is the appointment, due to the fact that this one becomes by institutions that do not have a direct relationship with that one that they want to transform it on heritage, imposing procedure from a vision and perspective different from the groups that are belonging to this heritage.

The use of the cultural heritage like tourist product or a complement of a product must be used for the development endogenous and managed by the persons who really are belonging to it.

One of the exits that have arisen for the use of the heritage, so much cultural as native in the tourist activity is; the indigenous tourism, where ethnic groups have been organized to manage their territory and inclusive to commercialize some ritual practices, nevertheless they have not been developed of a way adapted due to the lack of training that these persons have, their void notion of the strategic management, administration of goods, commercialization and use of earnings for the improvement in facilities.

3   Conclusion

The tourism has importance for the countries, states, and municipalities, this due to their economic contribution, as well as for the social and environmental benefits that are obtained for managing of correct form the activity. In order that the tourism contributes to the development of a region of a suitable way, there is necessary the intervention of companies that can provide products and quality services to satisfy the need of the tourists and the settlers. The new ways of doing business have generated practices that improve the relations among the companies and this way worked of collaborative form managerial groups that belong to an economic similar sector, besides the intervention of the government and social actors who interfere in the development of some locality.

The tourism promotes the identification and integration, hardens the traditions and the cultural inheritance, sensitize on the importance of the environmental care and is also a sector of great importance for the economic and social development in any part of the world.

The use of the heritage must be used and managed from the core and the governmental institutions must generate public clear policies in order that the persons who are belonging to a region could manage their resources being these the first beneficiaries, it is not honest that international or multinational companies appropriate of the cultural expression of a social group for benefit of some few ones.

The participation of original groups is fundamental for the management of the cultural and natural resources, as well as the appointments and the policies, from a personal point of view, a solution to this is the creation of community groups or productive local systems that take charge generating synergy from the cores, to generate an endogenous development, giving internal solutions to problems that afflict the zone.

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Proposal of Training in Topics for the Curriculum Sustainability of the Program of Engineering in Systems of the Escuela Superior de Cómputo of the Instituto Politécnico Nacional, México

Jessie Paulina Guzmán Flores, Benjamin Cruz Torres, and Miguel Ángel Maldonado Muñoz

Abstract The paper aims to provide a proposal of training in topics for the curriculum sustainability of the program of engineering in systems of the escuela superior de cómputo of the Instituto Politécnico Nacional, México. In this sense, the Educational Model of the National Polytechnic Institute seeks to contribute to the sustainable development of the nation. For the purposes of this research, we previously conducted an investigation of teachers' sustainability competencies, training received and implementation in the learning units via random sampling interviewing. This allowed us to validate the need to develop a training proposal that gives the teachers the basis to include it in their practice, since the process of redesigning takes place.

Keywords Training · Higher education · Sustainability · Technological development

1 Theoretical Framework

There are precedents that identify Higher Education as a tool to develop sustainable proposals, which is documented in Agenda 21, the Talloires Declaration (1990), the Copernicus Charter (CRE, 1993) and UNESCO [1]. To do the Institutions of Higher Education can give direction to models based on paradigms consistent with sustainability promoting the scenarios that science has in the twenty-first century:

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multiple intelligences, sustainable development, teoria chaos, learning communities, planetary consciousness, global citizenship, holism, ecoeducation, among others.

To do so, we took Sladogna [2] as a reference, who defined that professional competences are the set of knowledge, skills, abilities and activities required in the field of each profession, where real situations are confronted which must incorporate the criteria of social responsibility in their professional area. This concept leads us to define the concept of competencies for sustainability, which integrates the knowledge, skills, abilities, attitudes and values that people consider in different contexts (social, educational, work, family) to solve situations related to development problems, as well as operating and transforming reality with criteria of sustainability [3]; for this we must be trained in sustainability content to provide solutions from a knowledge, know how and value.

In the Technical Document was approved by the Executive Committee and the Plenary of the Sustainability Commission (CADEP Group), held in León on May 29, 2015. Establishes that the Conference of Rectors of the Spanish Universities (Crue) [4], promote a new social model, in which it incorporates in its formative model teaching and learning practices that adequately integrate the preparation for professional practice and for the exercise of social responsibility of its students and graduates. To this end, they have incorporated "curricular sustainability" as a strategy, which establishes the path to achieve the objectives of the development of sustainability competencies in university graduates, through the reorientation of the thematic contents from the disciplinary approach, to Incorporate sustainability criteria. This led to the curricular design, which included cognitive, procedural and attitudinal contents; methodologies and practices that explicitly develop sustainability competencies.

In this sense, the Educational Model of the National Polytechnic Institute seeks to contribute to the sustainable development of the nation in its programs [5]. For ESCOM social and environmental aspects are included in two units of learned, which is insufficient for students to develop competence of sustainability for incorporating this approach in the development of products generated in their academic career. For the purposes of this research, we previously conducted an investigation of teachers' sustainability competencies, training received and implementation in the learning units; This allowed us to validate the need to develop a training proposal that gives the teachers the basis to include it in their practice, since we are in the process of redesign for the Acreditación of the Programa Academic before himConsejo de Acreditación de la Enseñanza de la Ingeniería, A.C., (CACEI).

2 Methodology

The methodology used is based on the methodology of simple random sampling, since it is the technique in which all the elements form the universe and which, therefore, in the sampling frame are described, have the same probability of being selected for the sample.

To determine the sample, the population was considered to be 200 teachers, with a confidence level of 95% and a margin of error of 3%, which resulted in a sample size of 169 teachers. The instrument was applied in August 2018.

3   Results and Discussion

The instrument was applied in August 2018 yielded the following results: Teachers surveyed cover 88.09% of the compulsory Learning Units (UA), 100% of the optional UAs that are taught, since they give two or three UA the two categories mentioned. Only 13.2% incorporate sustainability into their learning unit, two learning units deal with it explicitly and four implicitly.

We identify the training received on sustainability issues for inclusion in their teaching practice. Figure 1 shows that 57% of the sample has not received training in this area, 9.4% has taken environmental education courses, 7.7% of principles of sustainable development and environmental awareness courses and 7.1% on environmental issues (RSU, GIRSU, separation, composting and orchard, water, waste and use, biodiversity).

Considering the training received, we proceeded to identify if they used any teaching methodology to incorporate sustainability into their practice, which is represented in Fig. 2, in which they express that 75% of the respondents do not implement it.

In Fig. 3, we can see that teachers evaluate with practices in 45%, 13% with problems, 7% with simulators, 2% with training projects, 30% use other methodologies. This allows us to identify that most of them employ active teaching methodologies in which the development of sustainability competencies can be implemented.

On the other hand, in Fig. 4, we can see that teachers identify that nine units of learning are promoted to develop skills for decision making and 18 could incorporate it; 4 teachers identify strategies and 17 could incorporate it; 6 teachers identify techniques and 26 consider that it could be incorporated; Finally, the procedures for decision making and actions related to sustainability are incorporated into 7 learning units and 35 can be added.

Regarding the incorporation of sustainability assessment criteria, see Fig. 5, only 12% implement it in their practice.

Despite having received training in sustainability topics, teachers have not been able to link the application in their teaching practice, so we consider it necessary to formulate it as a diploma from the pedagogical approach, to contextualize them in environmental issues, as well as the participation of future engineers in the professional field developing sustainable software and hardware proposals. For this we will use the success stories of the companies that develop: Mobiles, mobile applications, games, augmented reality, artificial intelligence, georeferencing applications, internet of things, social networks, information systems, global business,

Fig. 1 Training received on sustainability topics

Strategies and methodology (The development of strategies and methodologies to elaborate environmental education programs in an interdisciplinary way, Strategies and methodologies for the adaptation of environmental contents)
2%

Social Responsibility as a model of Management, Ethics of Care, economic and social projections in the medium and long term
5%

Sustainability criteria and evaluation systems
1%

Environmental themes (RSU, GIRSU, Separation, Composting and Vegetable Garden, Water, use and waste, Biodiversity)
7%

Calls from International Organizations (Earth Charter, Sustainable Development Goals of the United Nations, Encyclical Laudato Si)
2%

Problems of sustainability and its incorporation into the teaching practice
2%

Inclusion of transversal sustainability contents for inclusion in the terminal work (Qualification)
0%

Principles of sustainable development and environmental awareness
8%

Creation of new companies and autonomous jobs, directly or indirectly related to the ecological economy
3%

Competencies in Education for Sustainability
1%

Diploma FORTAS
2%

Environmental education (Characterization, importance and transversality)
10%

None
57%

Fig. 2 Result of teachers who implement a methodology to develop sustainability competencies
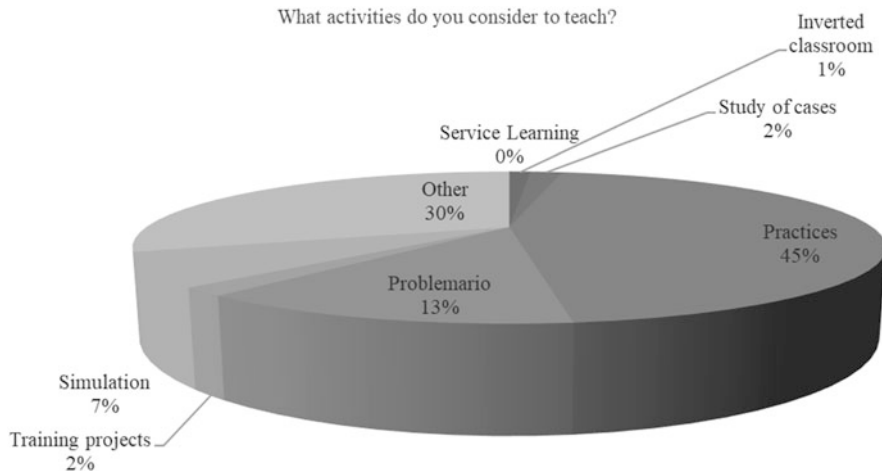
Fig. 3 Results of the activities implemented

e-commerce, digital marketing, informatics security, administration of IT resources, among others.

Therefore, 4 modules are proposed, which address: (1) Environmental issues; (2) The international and national antecedents of eco education and institutional sustainability (management, teaching, research, community participation); (3)Guidelines for the introduction of sustainability in teaching and learning processes (sustainability competences, methodologies, strategies, evaluation criteria, evaluation instruments, etc.); (4) Sustainability issues; for the selection of topics, we took as reference the study carried out in the Faculty of Informatics of Barcelona by Fermín Sánchez [6], in which they established the thematic areas for sustainability in three categories, for inclusion in the subjects: life cycle, usability and social aspects.

The Program of the Unit (s) of learning that it teaches has promotes the development of methodological Competences for the acquisition of …

■ Yes   ■ I could implement it   ■ No   ■ Does not apply

Teaches procedures for decision making and actions related to sustainability	7	35	44	82
Teaches techniques for decision making and actions related to sustainability	6	26	44	92
Design strategies for decision making and actions related to sustainability	4	17	45	102
Develop skills for decision making and actions related to sustainability	9	18	41	100

Fig. 4 Result of the learning units in which the development of sustainability competences is promoted

Do you implement any sustainability evaluation criteria in the projects your students develop?

Yes
12%

No
88%
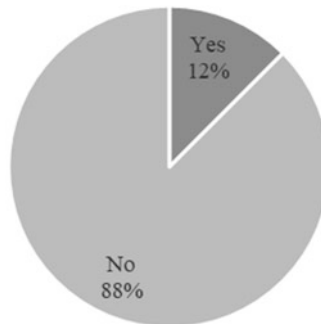
Fig. 5 Teachers who consider the evaluation criterion of sustainability in their evaluation

With this structure we intend to develop cross-cutting sustainability competition in the academic program, which will allow us to train the teachers responsible for training citizens committed to the common good inside and outside the school from their profession. In addition to complying with the requirements of the Engineering Education Accreditation Council, A.C., (CACEI), which aims to publicly and formally recognize that the educational program meets quality criteria and also encourages continuous improvement. This is the case in other countries [7, 8].

4   Conclusions

The study allowed us to design the structure of the training proposal that sensitizes the teacher to the environmental problems related to the computing area, as well as the background of sustainability; In a second stage, give the pedagogical elements for inclusion in their practice because they do not identify how to incorporate it, for this we must give the elements that allow you to relate the topics in the development of the projects, practices inside and outside the classroom, as well as the application in its terminal works of titulación. The general teaching strategy considers theoretical-practical classes, in which the contents will be worked on, discussed and carried out using different resources: debates, case analysis, etc. Regarding teamwork, cooperative learning will be promoted to identify the competence, the criteria and the topic that should be developed according to the level and unit of learning. Regarding work and autonomous study, it focuses on the posing of problems of interest, the formulation of relevant questions, the tentative answers, the designs for putting them to the test, the analysis of the results and subsequent communication. So that the final product of the training sees the development of the competence of transversal sustainability in the 42 compulsory learning units and the 12 electives that are taught.

5   Gratitude

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Customer Based Brand Equity Models in Hotel Industry: A Literature Review

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Abstract Building and maintaining brand equity is important and necessary in today's hotel industry when the concept is considered to include all material and non-material values of business. Though there has been increasing discussion on brand equity building, majority of the existing studies have failed to build CBBE concept or define the specific dimensions of CBBE, especially in the hotel industry context. Since the issue of customer based-brand equity has come up as one of the most important aspects of branding, different CBBE models and dimensions have been introduced over last three decades. Therefore, related literature has introduced various CBBE models. The purpose of this research is to review different customer-based brand equity models from academic literature to have a more integrative conceptualization for understanding brand equity in hotel industry. Based on the literature review, it has indicated that there are more demands for further investigations of CBBE models in the context of constantly changing customer needs and hotel industry and this perspective enables marketing managers to use an effective strategy in understanding and influencing customer attitudes and behaviors.

Keywords Hotel industry · Customer-based brand equity (CBBE) · CBBE models

1 Introduction

The concept of brand equity has begun to draw more attention from marketing researchers and business managers by recognizing that the brand may have an equivalence more valuable than the overall assets of the company in today's competitive environment [1–4]. Hotel businesses that desire to create brand equity

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by branding or preserve their current brand equity are expected to respond to consumer expectations and create loyal consumer for them.

Customer-based brand equity has become a central marketing concept due to the increasing business and scientific interest in brands, since brands constitute one of the most valuable intangible assets of the companies. This research provides an updated literature review of this important topic, presenting a classification of customer based brand equity models. Taking into account the importance of that topic, the paper aims at improving and reinforcing the current brand equity knowledge. More specifically, the study has three main objectives: to analyze different perspectives of brand equity; to provide a collection of Customer -based brand equity models; to review brand equity models in hotel industry.

2 Literature Review

2.1 Brand Equity

Considering that the concept of brand equity covers all material and non-material assets of the businesses, it is understood how important and necessary to create and maintain it in today's business world, especially for the tourism and hospitality industry where branding has been used as a strategy to develop new products and introduce and extend existing brands to new markets [5, 6]. In another definition, it is all the product and service values that the consumer identifies with a certain brand and differentiates it from other brands. Based on these definitions it may be stated that the overall value that is identified with that brand as a result of all past marketing investments made to the brand creates brand equity.

Since brand equity concept has recently been a subject of considerable research interest for many researchers in the tourism industry [4]. Cobb-Walgren et al. [7] found that there was a relationship between brand perceptions and brand equity in terms of consumer brand preferences. In addition, while researchers provided brand choices and purchase considerations of consumers in their study, they also indicated that physical and psychological efforts they used while choosing a hotel constitute brand equity. Knapp [8] reported that all of quality of products and services, credibility, customer satisfaction and financial performance creates brand equity. It also provides significant contributions concerning gaining effective marketing communication competences and offering brand extension opportunities to business along with the advantages of creating brands with strong brand equity, establishing more brand loyalty, becoming more resistant towards competitive marketing actions, achieving greater profit margins, and bringing customers approaching to price changes more positively [9, 10] Although brand equity is defined in accordance with various perspectives,it is usually dealt with according to three basic principles:

customer-based perspective (value that brand adds to consumer), financial perspective (value that brand adds to company), and comprehensive perspective (value that brand adds to consumer and company) [4]. Since this study emphasizes the impacts of the brand on customer buying behavior, it adopts a customer based approach. The reason for this is that brand equity is strongly linked to customer's purchase decisions, which represents the whole lifetime value of the customers of that brand. The power of a brand heavily depends on what customers have experienced and learned about the brand over time.

2.2   Customer-Based Brand Equity (CBBE) Approach

Many researchers have studied on determining and measuring customer-based brand equity [1, 2, 11–13, p. 74]. Several researchers have also dealt with brand equity through consumer perspective [14–17]. When considered from this point of view, the main purpose of researches is to determine how the consumer reacts to the brand name. Due to high impact of CBBE on the customer's brand choice, brand commitment, business performance, and brand extension [4], attentions to measuring CBBE have been increasing continually [18]. However, there is no specific consensus in the literature on how brand equity should be built in the hotel industry [19]. In the table below, the most cited customer-based brand equity models and their dimensions are presented (Table 1).

Table 1   Customer-based brand equity

Author(s)	
Aaker [1, 20]	Brand awareness, brand association, perceived quality, brand loyalty
Keller [2]	Brand knowledge (brand awareness, brand image)
Cobb-Walgren et al. [7]	Perceived quality, brand awareness, brand association, awareness
Berry [21]	Brand awareness, brand meaning
Yoo and Donthu [11]	Aaker's dimensions resulting to: Brand loyalty, perceived quality, awareness/association
Vazquez et al. [22]	Product functional utility, product symbolic utility, brand name functional utility, brand name symbolic utility
Christodoulides et al. [10]	Online experiences, willingness to bilateral communication, trust, satisfaction
Nam et al. [14]	Physical quality, personnel behavior, ideal self-image, brand identity, lifestyle

   The main aim of this research is to identify different CBBE models in order to understand how customer based brand equity is conceptualized. For that, 60 empirical studies on CBBE examined. Among them, 28 examined CBBE in many different contexts, while other 32 articles studied the concept within the hospitality industry in particular. The research papers data was based from six primary electronic databases. They comprise Google Scholar, Elsevier, ScienceDirect, Springer Link, Emerald, and Taylor &Francis. These electronic databases were chosen due to their reliability and credibility in producing the analysis of data required pertaining to the primary study. Among them, the models proposed by Aaker [1], Keller [2], and Nam and his colleagues' [14] are the most preferred ones.

Aaker Brand Equity Model The brand equity model of David A. Aaker, who is a researcher having conducted a lot of research on brand and brand equity and developed theory, is considerably accepted and frequently discussed among researchers. According to Aaker [1] creating and developing brand equity should be one of the most basic goals of businesses in brand management. Brand equity relates to how a brand is managed and how it works. Aaker was the first to apply the brand equity concept from the consumer perspective, though he didn't specify the customer-based brand equity term in his research The researcher, who considers brand equity as a concept providing value for businesses and consumers, examined and suggested the concept as a structure consisting of 5 components. According to the model developed by Aaker [1], the components constituting the brand equity are as follow: customer loyalty, brand awareness, perceived quality, brand association, other means of the brand (patent right, distribution channels, registration, relations with stakeholders, and issues not directly related with customers), while the interrelationships between these dimensions were ignored. In several studies on hotel brand equity, Aaker's model [1] is widely accepted.

   Each component of brand equity creates value by providing some benefits for consumers and businesses. However, the most important condition of having a strong brand equity is to measure the current brand equity accurately and exactly. Accordingly, Aaker [20, p. 316] suggested another measurement model called as "10 Dimensions in Brand Equity" to measure 5 components taking part in the brand equity model and referring to the sensory dimension of the brand. He also argued that if the CBBE of a brand is strong, customers are familiar with a brand, and they perceive positive image including great product quality of the brand, and thus, they become more loyal to the brand [12].

Keller's Customer-Based Brand Equity Model Keller extended Aaker's brand equity model and initiated the first official definition of CBBE. According to him, the definition of customer-based brand equity is the differentiation of the consumer's response to the brand in line with the information that s/he has about the brand when a brand marketed. In accordance with this approach, customer-based brand equity will occur if the consumer has a high level of awareness and familiarity with a brand, and brand leads strong, positive and unique associations in the mind of the consumer [2, p. 67]. He also states that the power of branding shapes in time through what the consumer has learnt, felt, seen and heard concerning the brand as a result of the

experience that s/he lived with that brand. The power of brand relates what it has left in the mind of the consumer [2, p. 59].

Brand knowledge that constitutes the basis of customer-based brand equity according to Keller [2] is formed by brand awareness and brand image. On the other hand, brand image relates to the associations that a brand produces in the mind of the consumer. The major difference between these Aaker and Keller's models lies in brand loyalty. Whereas Keller argued brand loyalty is an outcome of CBBE, Aaker claimed that brand loyalty is a source of CBBE. Most of the studies on CBBE have more or less been developed on the basis of Aaker's and Keller's brand equity theory, which have been adopted by many research reports, academic articles and books, with the focus on the development of the CBBE concept [23, 24], empirical examination of the CBBE model in various settings [11, 25], and application of the CBBE concept in marketing and branding strategies [26]. These studies especially on empirical examinations of CBBE have pointed out that Aaker's model was more adopted than Keller's. Yet, CBBE applications in service brands are not sufficient since majority of the researches have been devoted to consumer goods brands [27, 28].

Nam and His Colleagues' Brand Equity Model Nam and his colleagues [14] developed a seven-dimensional alternative CBBE model involving physical quality, personnel behavior, ideal self-concept, brand identity, lifestyle, brand satisfaction and brand loyalty to evaluate labor intensive service brands. Contrary to brand equity models of Aaker [1] and Keller [2], Nam and his colleagues did not include the dimension of brand awareness in this new brand equity model for the service sector. Physical quality, personnel behavior, ideal self-image, brand identity and lifestyle are the dimensions of brand equity model of Nam et al. [14] and these dimensions affect the customer's satisfaction and brand loyalty. According to Nam et al. [14], while the physical quality consists of design, equipment, opportunities and materials in terms of visibility, personnel behavior covers the competence, helpfulness, sincerity and communication competencies of the employees [29]. The ideal self-image refers to which kind of brand image is compatible with the consumer's ideal self-image [29]. For this reason, people prefer brands to maintain their own self-perception [16].

Recent researches conducted on this subject concluded that customer-brand relations should be examined sophisticatedly since they have more than one form of social identity. Brand identity is defined as consumers' reflecting their social identity through brand association or brand consumption [22]. Consumers generally identify themselves with brands that have a positive reputation [30]. For this reason, brand identity leads consumers to integrate or leave social groups in their environment. Moreover, when consumers feel that brands offer a unique and desirable lifestyle for themselves, they develop a positive attitude towards the brand [17]. The concept of lifestyle relates to what extent a certain brand consumption supports the unique lifestyle, actions and thoughts of the consumer [14]. All these dimensions of brand equity help to distinguish individuals from each other or to associate them with other individuals with similar interests and actions [31]. Consumer satisfaction is stated as

a general emotional reaction that the consumer shows towards all brand experience after buying the product/service [14].

In addition to the above models, Berry [21] is one of the important researchers who again dealt with Keller's brand equity model by revising it in terms of service operations. He developed a branding model for services by mentioning the importance of establishing trust with distinctive, clear messages by addressing to the senses of consumers during service. According to Berry, proposed business brand is a controlled communication activity consists of identity, goals, services, name, logo and other visible elements of businesses and they directly affect brand awareness. External communication factors regarding the brand are the ones covering oral communication, recommendation and they cannot be controlled by the business. What is more, brand awareness and meaning assigned to brand/ and brand associations are the basic components of brand equity.

Vazques et al. [22] identified four dimensions of the consumer-based brand: product functional utility, product symbolic utility, brand name functional utility, brand name symbolic utility as CBBE dimensions. Cobb-Walgren et al. [7] adopted Aaker's [1] brand equity model to service industry and discussed the brand awareness, brand association and perceived quality elements constituting the perceptual dimension of the model. Researchers revealed that high levels of brand equity has a significant effect on repurchase and loyalty. When checking other definitions concerning consumer-based brand equity, it is defined as the total of symbolic and functional benefits that consumer obtains as a result of his/her brand preference and experience [22]. Cobb-Walgren et al. [7] adopted Aaker's [1] brand equity model to service businesses and discussed the brand awareness, brand association and perceived quality elements constituting the perceptual dimension of the model.

3   Conclusion

Customer Based Brand Equity (CBBE) is the form of equity, including brand awareness, perceived quality, brand associations, emotional connection, brand loyalty, and various other measures. In this review, different brand equity models have been analyzed in terms of academic literature providing the necessary depth and breadth of understanding of CBBE. Each brand equity approach may involve different components in determining the brand equity by taking into account factors such as sector, and nature of the brand. It is generally seen that researchers prefer to deal with both perceptual and behavioral dimensions together. If these components are managed well, they are expected to increase customer satisfaction by adding value to the product and then provide many benefits to the company. Moreover, brand equity cannot be created in a short period, it can be built in long term through rigorously arranged marketing strategies. Though several researchers adopted various CBBE approaches, the lack of consensus among them in terms of conceptualization and operationalization of CBBE and its impact on customer behavioral outcomes are still not exact and thus, uncertainty goes on about how strong brands can be built and maintained.

A large amount of existing studies has failed to build CBBE concept or define the specific dimensions of CBBE especially in the hotel industry context. More empirical studies needed on the dimensions of the brand equity since different dimensions of brand equity are prone to have two-sided effects such as some dimension may serve as antecedents to consequences with respect to other dimensions. Still, it is a challenge to develop a holistic perspective toward brand equity that will encompass the full range of all the information involved. The study attempts to connect the missing linkage among different CBBE models by providing more integrative conceptualization in order to understand brand equity. It has also indicated that there are more demands for further investigations of CBBE models in the context of constantly changing customer needs and hotel industry and this perspective enables marketing managers to use an effective strategy in understanding and influencing customer attitudes and behaviors.

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Determinants of ICT Integration by Teachers in Higher Education in Morocco

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Abstract The teacher is regarded as the true pillar of the integration of information and telecommunication technologies in education in general. Notwithstanding the many studies that have been conducted to explain the factors of ICT adoption by teachers in higher education in Morocco, few have developed a model that statistically examines the interactions between different factors. By adopting the UTAUT model of Venkatesh et al., and adding two new variables to the model; the type and modalities of access to the institution, we try to identify the determinants of ICT integration and behavioral intent. Our model explains 60.2% of the total variance of intention to use ICT, and 21.6% of the total variance in use behavior.

1 Introduction

As the twenty-first century approaches, the different economies have known significant changes. Information plays now a vital role at the economic, social, cultural and political levels. This regardless of the level of development of the country, developing countries are trying to maximize the usefulness of information in different fields as well as developed countries. To this end, we are talking increasingly about the information societies. These have three main characteristics. First, the use of information as an economic resource for improving efficiency

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and stimulating innovation. Second, the intensive use of information by consumers in their daily activities. Third, the development of an information sector in the economy [1].

Based on the study of Oukarfi [2], conducted among 1030 individuals located in the regions of Casablanca and Rabat. 90% of individuals have access to the Internet either at home or at work. 80% of them are regular Internet users who log on daily, compared to 20% whose connection frequency is "average" or "rare". The main uses concern interpersonal communication activities, namely mailing (79%) and social networks (78%) and researching information (77%). However, only 10% of Internet users say they have a personal website or an online blog. Similarly, very few Internet users report making online administrative formalities (16%) or consult products or services on trade websites (18%). E-commerce has not yet entered the local culture. Only 29% of respondents say they have already made purchases of products or services over the Internet.

The mutations observed as a result of the integration of ICTs in the different fields have evoked virulent controversies and interactions between decision-makers in the education system. This has led the debate on the economics of education, since the beginning of the twenty-first century, towards the contribution of the use of information technologies in this sector, precisely to the role of teachers in this process.

Carlson and Gadio [3] show that teacher training in the use of ICTs is the starting point in a country's ICT policy. As such, they are considered the cornerstone in the adoption and integration of new technologies.

In Morocco, although computers are increasingly used in higher education institutions, the use of ICT for teaching purposes by teachers is still very limited. This is despite the fact that the majority of them are convinced of the diversity of pedagogical opportunities created by the integration of ICT into teaching work [4]. However, less than half of teachers often use ICT in their courses. They use them primarily for the preparation of the course, while only 13% use ICTs to interact with students outside of class [4].

The objective of our study is to try to identify the determinants of ICT integration by teachers in tertiary education in Morocco, by integrating new variables that are the type of institution (public and private), and access to the institution (open access and regulated access).

The rest of the paper is structured as follows. We study in a first point the theoretical framework relating to the integration of ICT, its beginnings, the various contributions of the empirical literature, as well as research hypotheses. In the second part, we expose the data and the research model. In the third part, we evaluate the reliability and the validity of the model, as well as the hypothesis test. The results are presented and analyzed in the last part.

2   Literature Review

2.1   The Theoretical Framework of ICT Integration

Several models exist to explain the behavior of individuals as to the acceptance or rejection of the use of new technologies, all having their origin in psychology, sociology and communication. Among the theories elaborated we have the technologies acceptation model (TAM) developed by Davis [5], it is an adaptation of the theory of reasoned action [6] and the model of the planned behavior [7].

Davis [8] argues that the attitude, belief, and intention to use a new technology, in this case the computer, depend on two factors: perceived ease of use and perceived usefulness. He defines perceived usefulness as "the degree to which a person believes that the use of a particular system could improve their performance" [8, 9].

Perceived ease of use is defined as "the degree to which a person believes that the use of a particular system would be effortless" [9]. Venkatesh et al. [9] synthesized the main work of technological acceptance and identified a "unified theory of technology acceptance and use" (UTAUT).

In their integrative model UTAUT, Venkatesh et al. [9] reveal: (1) three direct determinants of intention to use the technology: "the performance expectancy" of a system to increase user productivity, the perception of "the effort expectancy" to apprehend the system, "the social influence "which refers to the" degree to which an individual perceives that people important to him think he should use a system"; (2) two direct determinants of the use of technology: "facilitating conditions" defined as the "degree to which an individual believes that an organizational and technical infrastructure exists to support the use of technology" and "the intention to adopt a behavior". Beyond the direct determinants, the model advances the significant impact of four moderating variables: gender, age, previous experience and the context of use, the latter being either voluntary or compulsory.

UTAUT is considered by Venkatesh et al. [9] as the best explanatory model of the individual behavior of use of an information technology. It would explain 70% of the variance for the intention of use and 50% of the variance for the use.

In this study, we use the UTAUT model to study the acceptance and use of ICT by teachers in their teaching process. The use of this model is justified by its explanatory power.

2.2   Technology Adoption Studies by Teachers in Higher Education

In the research literature on the use of ICT in education, the focus is on gender. In this sense, the literature does not provide unanimous results. In some studies, the relationship is insignificant between the gender of the teacher and the level of

ICT integration [10]. On the other hand, other studies suggest that male seem more involved in the use of educational technologies than female [11, 12].

In regards to the age, studies show that young teachers have a higher level of technological skills than older teachers. This may be due, in part, to the fact that ICTs have been introduced during the training of new teachers and, as a result, are more familiar with this tool [12]. The voluntary aspect of ICT use has also been discussed in the literature. Harsoyo [13] shows that voluntarism negatively affects the adoption of ICTs in the education of the economy. Noting that in the UTAUT model, gender, age, and voluntarism are considered moderating variables.

Teachers' attitudes and beliefs about these technologies are considered irrefutable factors in their use. If teachers' attitudes are positive about the use of educational technology, they can facilitate the adoption and integration of ICTs into the teaching process. Studies have shown that teachers' attitudes towards technology influence their acceptance of the utility of technology and its integration into teaching [14–16]. At the end of our predecessors and previous studies, we formulate the following hypothesis:

H1: intention to use ICT positively influences ICT integration.

Another important element is the performance expectancy. It is defined as the degree to which the person believes that the use of technology will contribute to the improvement of their performance [8]. Raman, Rathakrishnan [15, 17] find that the performance expectancy has a positive impact on teachers' intention to use ICT. Our hypothesis is:

H2: the performance expectancy has a positive influence on the intention to adopt ICT.

Recent studies have focused on the importance of teachers' technological skills as it is an important element in reducing the anxiety factor related to the use of ICT. Gil-Flores [11] concluded that moderate or high training needs perceived by teachers are associated with a lower probability of frequent ICT use. In general, the findings of many studies agree on the close links between the intention to use ICT into the educational process by teachers and their technological skills. These elements reduce the effort required for teachers to use them [18]. On our part, we put the following hypothesis:

H3: the effort expectancy has a positive influence on teachers' intention to use ICTs.

Another cultural characteristic of teachers that can be related to the educational use of ICT is social influence. This element refers to the importance that the individual attaches to the perception of people who are important to him about his use of a certain technology [19]. Several studies show that social influence positively impacts the intention to use ICT by teachers of economics [13, 17]. Based on these results, we make the following assumptions:

H4: social influence has a positive impact on teachers' intention to use ICTs.

The availability of infrastructure is a necessary but not sufficient condition for the integration of ICT in education, including the number of computers available, access to the internet and availability of educational software. Access to such infrastructure is an obvious prerequisite for using ICT. However, more or less significant amounts of ICT infrastructure in institutions are not generally related to the frequency of use.

Access is not limited to the availability of computers, it also includes the equipment and the type of appropriate software available in the institution for teachers and students to use [11]. Thus, the following hypothesis is proposed:

H5: Facilitating conditions have a positive influence on teachers' adoption of ICTs.

In order to adapt the UTAUT model to the Moroccan context, we have chosen to integrate two new variables, not observed in the initial model of Venkatesh et al. [9], that is, access modalities to the institution, which means, whether the establishment has open access or regulated access for students. As well as the type of institution, which means, the institution is public or private. We formulate the following assumptions:

H6: access to the institution (open or regulated) influences teachers' integration of ICT.
H7: the type of institution (public or private) influences teachers' intention to integrate ICTs.

3   Research Method

3.1   Data Collection

Given the purpose of the study, a survey was conducted to collect information from 81 higher education teachers in Casablanca, Rabat, Mohammedia, Khouribga and Marrakech (The choice of cities was made in reference to their level of development), in public and private institutions. The survey was realized between October and December 2018, with simple random sampling, which means that each member of a population has an equal chance of being included within the sample. This method is the most widely used, and gives an unbiased representation of a group. In addition to the socio-economic issues, we measured the variables of the conceptual model through a multitude of items evaluated by the Likert scale.

Given that our target is both teachers using ICTs and those not using them (or occasionally), we concluded that the most appropriate survey method is the face-to-face method. The adoption of an online survey was going to crowd out teachers who do not use or rarely use new technologies, which would pose a problem of selection bias. Our sample is represented by 58.6% of male and 41.4% of female. Half of our sample uses ICTs regularly in their daily lives.

3.2   The Research Model

Structural Equation Modeling (SEM) is a well-established method of data analysis in research that estimates complex models of cause-and-effect relationships with latent variables. Covariance-based structural equation modeling (CB-SEM) [14] and structural equation modeling using partial least squares regression (PLS-SEM) [20] are the two key statistical techniques for estimation of causal models [21].

The use of PLS is justified by the small size of our sample of 81 observations and the exploratory nature of our study. We also used the statistical "bootstrap" technique (with 5000 replications) to free ourselves from the assumption of normality of the data and to obtain robust coefficients.

4   Results

4.1   Measurement of the Reliability and Validity of the Model

The reliability evaluation helps ensure that selected items for a given latent variable actually permit to represent it, in other words the accuracy of the items. A reliability value of 0.7 or higher is recommended [22]. The assessment of item reliability is realized by examining the reliability of internal consistency across Cronbach's Alpha and composite reliability. The two reliability measures are greater than 0.7, indicating that the measurement items are very reliable.

The validity of latent variables ensures that the items chosen for a variable allows collectively to use it [23]. Validity assessment is based on convergent and discriminant validity. Convergent validity is considered adequate when the average variance extracted (AVE) is equal to or greater than 0.50 [24]. Result shows that all values exceed the recommended threshold, which shows that the convergent validity of the measure of items and latent variables is adequate.

To evaluate the discriminant validity, we adopted the procedure proposed by Fornell and Larcker [25], through the comparison of the square root of the AVE value of a latent variable and the inter-variable correlation. If the square root AVE is greater than the correlations, it proves that the variable is more correlated with its items than the other variables of the model. Our results confirm the discriminant validity.

4.2   Hypothesis Test

Following the results shown in Table 1, we have five confirmed hypotheses while two others have been rejected.

Table 1 Hypotheses testing result

Hypotheses	Original sample	Mean	SD	Statistic T	P Values
H1: Behavioral intention → use behavior	0,340	0,355	0,119	2,848***	0,004
H3: Effort expectancy → behavioral intention	0,166	0,172	0,071	2,334**	0,020
H5: Facilitating conditions → use behavior	0,042	−0,050	0,169	0,245	0,806
H6: Access modalities → use behavior	−0,325	−0,324	0,111	2,936***	0,003
H2: Performance expectancy → behavioral intention	0,311	0,306	0,081	3,850***	0,000
H4: Social influence → behavioral intention	0,426	0,440	0,088	4,857***	0,000
H7: Type of institution → behavioral intention	0,025	0,021	0,060	0,423	0,673

*p < .1; **p < .05; ***p < .01

Overall, use behavior, which represents teachers' integration of ICTs, was explained by behavioral intention, facilitating conditions, and access modalities with an R^2 of 0.216. This means that these three variables represented 21.6% of the total variance of use behavior. In addition, the effort expectancy, performance expectancy, social influence, and type of institution represented 60.2% of the total variance of behavioral intention. The use behavior is positively influenced by behavioral intention thus confirming the hypothesis H1. While the access modalities have a negative and significant impact on use behavior, leading to the acceptance of hypothesis H. While the effect of the facilitating conditions on use behavior is not significant. Hypothesis H5 is therefore rejected. Concerning the determinants of behavioral intention, both the effort expectancy, the performance expectancy and the social influence have a positive and significant impact, thus validating the hypotheses H3, H2 and H4. Only the type of institution has no significant effect. Hypothesis H7 is therefore rejected.

5   Discussion

The impact of moderating variables, namely age, gender, and voluntary use of ICT, is not significant for the direct effect variables on behavioral intention and use behavior.

In terms of gender, this result matches those of Tondeur el al. [10], who conclude that the gender of the teacher has no influence on ICT integration.

5.1 Determinants of ICT Integration Behavior by Teachers

Our empirical results indicate that the main drivers of the integration of new technologies are the intention to use ICTs and the modalities of access to the institution. Regarding the first result, which represents the influence of teachers' attitudes towards new technologies on their integration into the teaching process, it has been widely discussed in the literature [11, 15, 16]. So we also conclude that in the Moroccan context, the attitude of teachers to technology influences their acceptance of the usefulness of technology and its integration into education.

In addition, regarding the influence of the modalities of access to the university on the integration of ICT, our study showed that teachers in open access universities use ICTs more in their teaching than those working in regulated access universities. This result may seem counterintuitive, since regulated-access institutions have an operating cost per student (39619 Dh) and a supervisory rate (17 students per teacher) that is much better than those of open access (with respectively 9146 Dh and 83 students per teacher) [26], which should allow teachers in institutions with controlled access to have a favorable climate for the adoption of new technologies. The explanation for this result is the specificities of open access institutions. Indeed, the major difficulty experienced by this type of establishment is massification, which leads to a very high attrition rate in the first year. To improve the supervision rate and to remedy the problem of massification, teachers are increasingly opting for new technologies as a substitute for face-to-face classes, with the sole aim of ensuring equal opportunities for students, and improving their rate of return.

In regards to facilitating conditions, contrary to Gil-Flores [11], who state that they have a positive influence on the adoption of new technologies by teachers, our model shows that their effect is neutral. This result can be explained by the fact that teachers rely mostly on their own in their integration of ICT in the teaching process.

5.2 Determinants of Teachers' Intention to Use ICTs

The result of our estimation shows that the effect of the effort expectancy on the intention of ICT adoption by teachers is positive and significant. This result is in line with those of [8, 9, 18]. It assumes that the more teachers consider that ICT use requires little or no effort, the more their intention to adopt them increases. In addition, the perceived ease of use is an outlet for the using experience. Thus, the result is explained by a familiarization of the teachers with the computer tool; 71.6% of our population reported using the computer for more than 10 years, and 83.8% use it quite often for personal use.

Similarly, the performance expectancy has a positive and very significant influence on teachers' intention to adopt ICT. This result is consistent with previous studies [8, 9, 15, 17]. This result shows that Moroccan teachers consider new technologies as being useful to their profession, and that they allow them to improve their efficiency at work. Moreover, 66.3% of our sample said that the workload is decreasing with the use of ICT. Thus, teachers seem convinced of the usefulness of new technologies on their professional performance.

We note that, in the context of Morocco, the primary factor influencing teachers' intention to use ICT is social influence, with a positive and very significant impact. This result joins previous works [13, 17, 19, 27]. This result is very revealing of the motive of teachers in their intention to adopt new technologies, since this allows them to enjoy a good reputation with regard to their peer and the institution, even more so if the latter is open to change (75.9% of teachers agree on this finding).

The last element related to teachers' intention to adopt ICTs is the type of institution (public or private). We note that this variable does not have a significant impact, which indicates that the intention of integrating new technologies by teachers does not vary according to the type of institution. This result may also seem counterintuitive if we assume that private institutions should naturally be equipped with materials and multimedia classes that stimulate teachers' envy of ICTs.

6 Conclusion and Recommendations

Our research consisted of identifying the determinants of ICT integration by teachers in higher education in Morocco. We found that the crucial factor affecting teachers' intention to adopt ICT is "the social influence". We propose actions focusing on intrinsic factors for teachers. These actions should focus mainly on raising awareness of the benefits of the use of new technologies on the quality and quantity of the workload, on lifelong training for both men and women of all ages. The results of new variables allow us to suggest an enrichment of the UTAUT model. Indeed, we propose to test the influence of type and modalities of access to the institution on the integration of new technologies by teachers, in a context besides the Moroccan, to confirm or deny its impact.

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Experiential Development and Cultural Tourist, Through the Example of the Settlement "Katomera" in Trikeri in the Prefecture of Magnesia

Dionysia Fragkou and Garifallia Gerogianni

Abstract The importance of collective action and the power of the natural wealth of a place are two factors that could be considered critical for the survival of a society. At a time when the Internet is an essential component of everyday life, pictures, images and information that individuals receive are common to all regions of the world. Through globalization occurs disappearance of local characteristics, customs and traditions of each place and forms a uniform perception of things and eventually a common aesthetic people. At such a time the places that have remained unchanged and far from this reality are examples of authenticity and challenge for many. Such places are the areas that have been abandoned and have preserved their structure and aesthetic value. The revival of such areas could be an element of development of experiential and cultural tourism interest. Using the principles of agrotourism and through the living experience of habitation, the concept of collective living can be redefined. The purpose of this study is to highlight the way of revival and recovery sites have been abandoned in the past 40 and more years, through the example of «Katomeri» settlement in Trikeri in the prefecture of Magnesia. In a small and remote area, like Triker, the bonds created between people and their needs for a self-sustaining society have led to the formation of a collective way of action. The inhabitants of this village have created in the past a settlement in the place where their crops were located. There they built small churches where many families lived together in different periods. This settlement at the time of urbanization was abandoned and ruined as in many other areas of rural Greece. So in the last few years what can be seen are these huts, to dissolve day by day. The results of this research resulted from the local observation and recording of the local data but also from the largest local "encyclopedia", the village square, where older people carry the stories of the place to young people. The imprinting of the buildings of the settlement was carried out in the framework of the dissertation entitled "The Old Habits" to be used as a case study.

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1 Introduction/Why People Need to Maintain Architectural Projects

The architectural project-monuments function as evidence of history and are enhancing the function of collective memory. It could be said that the physical presence of the past is what we call cultural heritage architecture. However, they serve not only a consolidated system of values but are in a continuous process of self-criticism and self-determination. So the community, through history, acts in the present, acquires consciousness and evolves. Also buildings-references to the past are characteristic of the ideological and historical identity of the place. They are carriers of locality and therefore in our case of Hellenism. By preserving them, we ensure the continuity of tradition and the specificity of a particular community among the world. In addition, they serve as a booster to the formation of education for future generations and are also used as consumer goods, playing a major role in the development of tourism and place. But what are the criteria by which the communities decide what to preserve and what not, is a complex question and depends on ideological positions, goals and interests. But the issue of Hellenism and its expression through them is important.

As Savvas Kontaratos says, "When we talk about identity, we refer to the peculiarity of the architecture of a place or an era, to the elements that differentiate it from others and make it recognizable" [1]. The Hellenism and the identity, and in particular the identity of the place connects the community with its inhabitants, but also with visitors. "Identity is the consciousness of unity" says Fernand Braudel [2] which is the concept of collective. Identity is perhaps an imaginary construction that identifies a person but also creates the conditions for coexistence and the formation of society as a whole. The whole acquires a specific identity and is characterized by close social relations, homogeneity and continuity. All of these are directly related to the area of the environment in which they evolve and develop collectively and by extension, collective memory [3]. "In unified cultural sets, individual differences remain within the framework of a common style and therefore enrich rather than distracting the image of the community as a whole" [4]. In the idea that people live and move in specific spaces, the personal experience of space or even the narratives of others for them, leave scars in memory and create strong bonds with them. According to Kyriaki Tsoukalas, "Emotions and memories are recorded in the material elements of the real space and transform its characteristics by weaving another aspect of reality, that of the network of the living space" [5]. But the identity of the space is not something static but continually redefined and updated.

2 Experience of Residence and Natural Wealth

The challenge of the future is the experience that is shared by hoteliers and professionals who shape tourism policy. What it means, however, is experience and how it is made. Previously it was customary for travelers to experience staying in a hotel as a tour of a contemporary design and technology exhibition. They had the opportunity to get in touch with products that they did not have in their own homes. Today, however, the conditions are reversed: in our homes we often have more technology than is used by most hotels, shifting customer demands not technological but experiential, on contact with the place, the culture, the food, traditional architecture, culture. The aim is to serve the traveler's need for experiences, in contact with place, culture, food. Lastly, a new kind of architecture has emerged, according to which the reintegration of nature into the building design is pursued. In fact, these are small innovations, which have a wide range of applications. Biomimetism, as it is called, adopts the natural principles that are related to the development of the building into the environment, its integration into it, and the way it is differentiated.

The new architectural proposals that stand out serve the idea of returning to nature. In addition, they link the visitor's experience with the local culture. They focus on residents, embrace local products and trust local businesses. Often, the hotels themselves are becoming cultural nodes. So architects deepen the principles of traditional architecture and redefine the concept of tourist accommodation offered as a cultural product. The design balances between two complementary experiences: to indirectly highlight the idiom of the place and to adopt an architectural language that looks forward to the future. This modern tourist accommodation proposal focuses on the experience of the place and its history.

The revival of a forgotten lifestyle can be a source of emotions, experiences and memories. The discovery of a different way of survival and living can provide a new visual perception of life. The way in which the life in the countryside was before the time of urbanization, can help today's people to discover aspects of everyday life that are now covered by industry. The importance of creating, of producing your food and taking care the place and what it has to offer you is something that the modern people have forgotten. The revival of abandoned spaces and the redevelopment with natural materials is a friendly approach environment. The main objectives of Greek tourism policy are to diversify and enrich the quality of tourism products through the development of specialized tourism (thermal, rural, ecological and professional tourism) and to increase the benefits of hotels, resorts and other tourist facilities.

3   Case Study

Trikeri (Fig. 1) is the small village that is the "lighthouse" of the Pagasitic Gulf.
It is located at the edge of the Pagasitikos peninsula and is not far from the sea.
The village is built on a hill whose altitude does not exceed 280 m. Agia Kyriaki
is a seaside settlement that is the harbor of the village. There, is also the shipyard.
Kottes and the island of Old Trikeri are also two settlements that together with Agia
Kyriaki form the general complex of the Village. Near the island of Trikeri there are
other islands that were previously inhabited. Prasouda where there was and there is
still only a small monastery is one of them. Alatas is another island where there is
also only one abandoned monastery. "Mikra" are three islands located very close to
Trikeri Island and most of them have created some buildings in recent years (Fig. 2).

Occupations Because of the location of the village, is close to the sea, most
residents are involved with it. Trikeri is referred to by many as a fishing village as
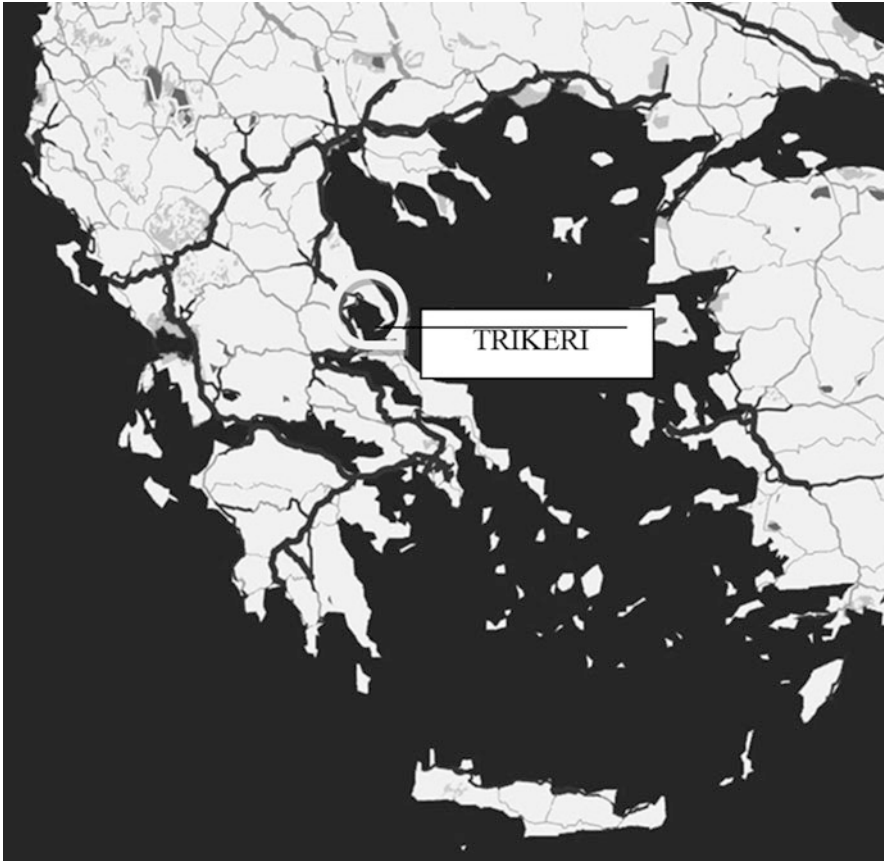
Fig. 1 Map of Greece. Source: Googlemaps edited by authors
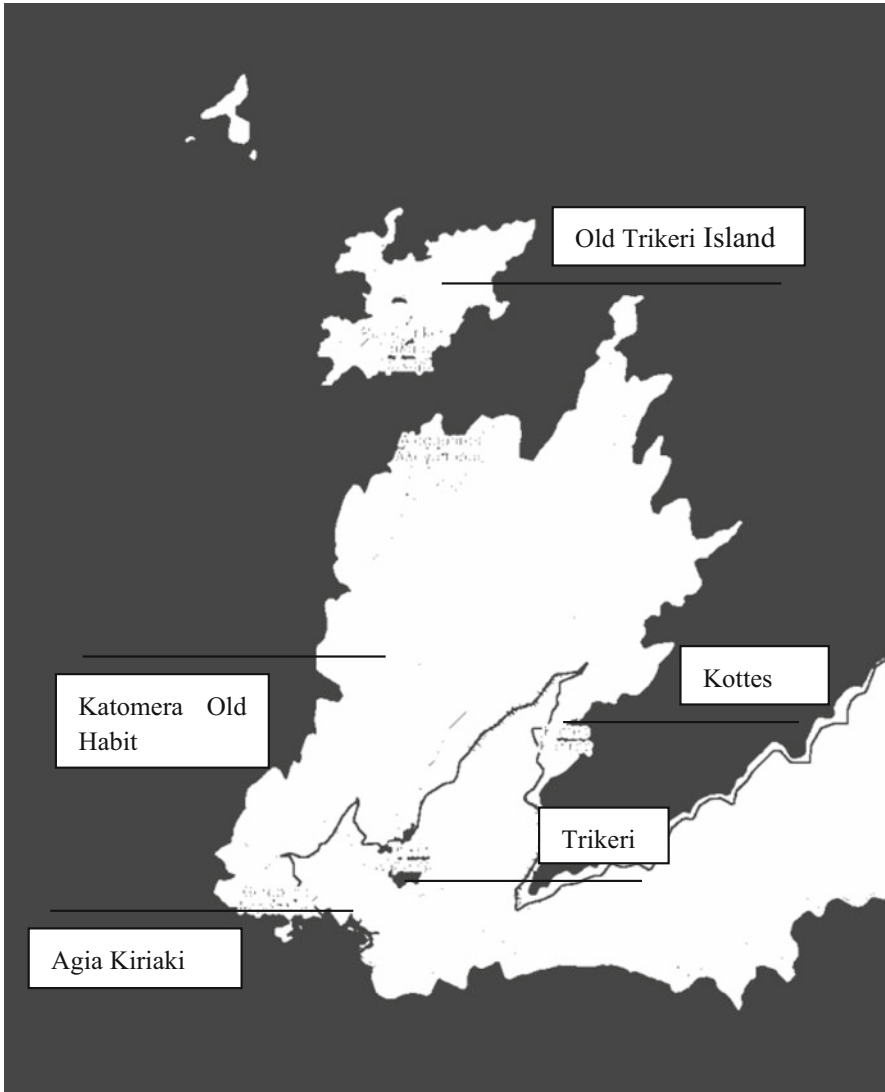
Fig. 2 Map of Trikeri. Source: Googlemaps edited by authors

it has a long naval tradition. Those who do not engage in the sea are engaged in the cultivation of land and mainly in olive cultivation. Although it is a relative altitude, the water shortage is acute and as a result the soil is not fertile enough. Each family has its own share of land to cultivate, or uses it as a pasture for livestock. Previously, each family had some animals that gave the basic commodities, such as milk, meat, cheese, yoghurt and eggs. The means of exchanging products as well as the movement of products and money was the sea, as the village is a passage for every

ship entering the Pagasitic Gulf. During the Ottoman domination, boats of Trikeri were making trips to Istanbul, from where they supplied many products which they brought to the village. This has resulted in the development of many crafts in the village. Women were engaged in knitting and embroidery, supplying very good quality threads and fabrics from Istanbul, an advantage that most Greeks did not have. With these, they have created and continue to create elaborate embroidery and knitwear. Another occupation that many residents owned was sponge diving. The Trikeion sponge fishermen have left behind a long history, and some of the costumes and accessories of the time are still preserved in the village. Sponge fishermen were those who did not have the financial comfort to buy their own boats.

In recent years the village has begun to be abandoned. A large part of the inhabitants who lived there have now been transferred to the city of Volos and only few of the young people leaving for studies return to their place. Dealing with the sea has diminished, and the abandonment of the countryside is evident. The village is now a summer destination, which reinforces the residents' need to leave it in the winter. So many homes are ruined, there are no open jobs for young people and year after year the phenomenon of abandonment is becoming more and more intense.

The idea of this work has emerged from the need for the revival of this community which has been abandoned in recent years. The place which we refer is offered both for the cultivation of aromatic plants and for the cultivation of the olive tree. The existing olive trees give the inhabitants enough oil and edible olives each year. Also the smooth slope of the soil and climate of the place is conducive to farming. The location—between the mountain and the sea—gives a great view for the visitor. An area of experience is being created in which the way of life of the people of the region, as it was shaped for 40 years ago, is being revived and which is adapted to the current patterns of habitation. One of the most important elements for the correct implementation of the idea is the participation of the village residents in the project. The inhabitants are the bodies of the cultural heritage of the place. Manners, customs, occupation of the inhabitants, the stories of the place, even the local dialect are the elements that prepare the broader context that shapes the special character of the village. The idea of reviving the "old" lifestyle of people, adapted to today's circumstances, is the driving force behind the formation of space.

New Functions—Spaces that are Determined (Fig. 3)

- Info Point
- Laboratory of Traditional Women Cooperative Products
- Exhibition Room—Library
- Flexible Room
- Honey Workshop and Products Exhibition
- Olive Workshop and Products Exhibition
- Dairy Products Laboratory
- Wine Taste and Wine Storage
- Laboratory of Aromatic Plants & Essential Oils
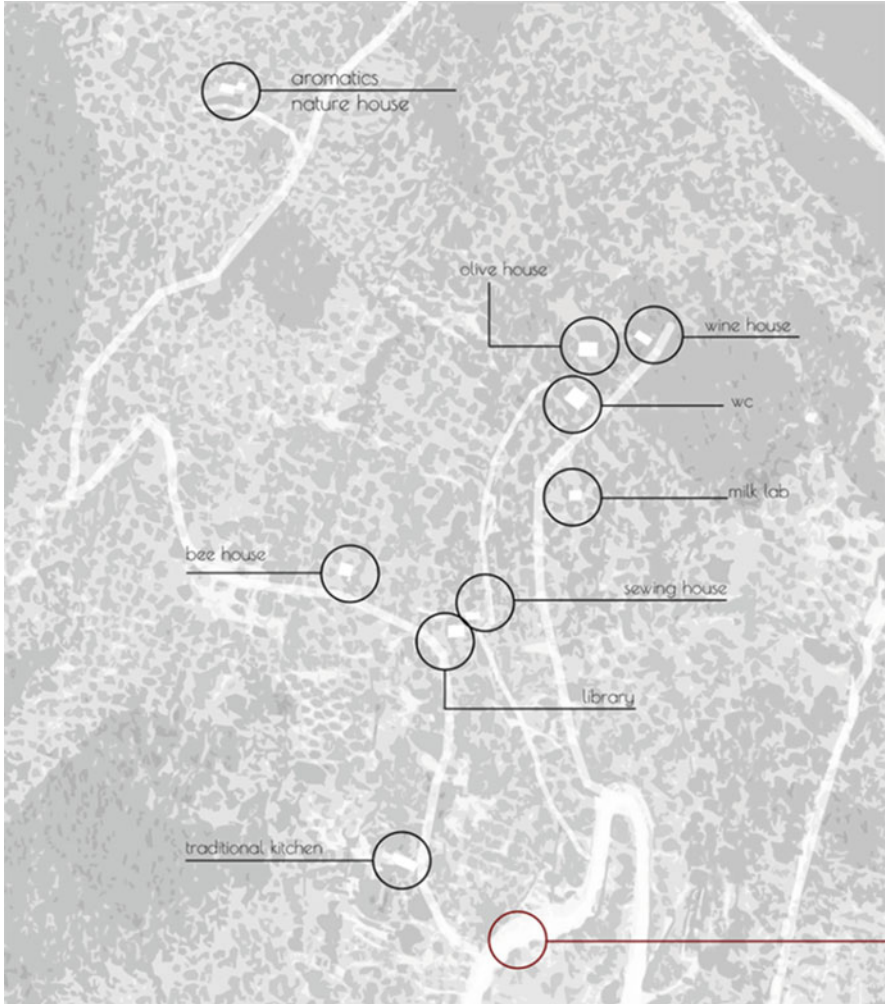
Fig. 3 The new functions

- WC
- Residence Stays

Access to the village takes place either by sea or by the local road that crosses the area from Volos to Trikeri, where it ends. So there are the following points of arrival and information in the area:

- The island of Old Trikeri
- The settlement of Kotte
- The settlement of Agia Kyriaki

At the **information points** that are being formed, the visitors can find maps of the area with the routes, power supplies for charging devices, screens with location and sightseeing information, application information (app) for route suggestions to the area. They end up, after touring the place where they meet the inhabitants, knowing better the cultural tradition of the place.

The **laboratories** carried collaborative processing of local agricultural and livestock products with the possibility of participation of the visitors. These products are standardized and available for sale.

Residence Buildings In order to create units that offer the possibility of hosting the visitors, ephemeral construction buildings of light materials are placed in the area. The idea for the formation of these units is based on the need to create a usable space with simple form and design in order to fulfill the basic habitation needs (sleep, rest, comfort, bathrooms). The final form of each unit consists of a base metal frame forming a pedestal which receives a rectangular box that hosts the following functions. The form, structure and aesthetics of new constructions are important as these new elements will have to respect the environment in which they are integrated.

At various points of the route between buildings we find **station stops** that serve the need for rest and meeting. In such a route full of activities the existence of structures from lightweight materials in order to create units that serve the need for respite is important. Equally important is the opportunity for observation of the place and the landscape as it offers to people calmness and time to think and regroup. A construction that serves this need can be a meeting point, both for discussion and even as a trigger for new activities (eg theatrical performances, discussions, stand up comedy, etc.)

In such community of hospitality and action the **library** is a prerequisite. In this space in addition to the information that can be collected about the place, its history, its products and the way of cultivation them, conducted information meetings are held on its premises, both for residents and visitors.

The **products** produced in each laboratory are a set of products with a common place of origin and identity. In the context of maintaining a common approach to buildings and products, the packaging of manufactured products and other items that are used in the space, such as cooking aprons, bed sheets, bags, pencils, notebooks, is also dealt with. Finally, a series of publications for advertising and information on the action and creating community space is established.

4   Conclusions

Increasing awareness of the need to preserve the country's natural environment and cultural heritage as elements of tourism development [6] and the importance of the collective mode of action and the participation of each member, resident and visitor of the production process creates a strong emotional experience for all members.

Through the personal experience of habitation one can discover the spatial energy of the place and its internal dimension.

The use of local architectural features, the reconciliation of the interior and the encircling encirclement with the place, the authenticity of the design, the manners and customs of the place, and ultimately the integration into the local community and its everyday life is the proverbial way of architectural heritage.

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Sense of Place, Identity and Memory as Elements of the Design for Tourism

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Abstract The design of spaces and products for tourism invests on memorable experiences and sense of place. Identity is of major significance in defining uniqueness in touristic products. It is contextual and related to local, spatial, cultural and material characteristics, and values that are reflected to the designed environment. Spaces and their elements are invested with meaning and as such are experienced by tourists through sensory, emotional, and cognitive perception. Within this process the designer has to capture the intangible and tangible values that a place and its people have to offer and transform them into the material substances that tourists experience. The conceptual development within the design process and the segmentation of the elements that the designer has to take in mind, while designing for tourism, are essential. The different scales of the designed environment, from building design to objects, stimulate the storage of information related to heritage, cultural identity and place that will be remembered by tourists and create anticipation during and after their trip. So, design affects to a great extent tourism success. The aim of this study is to clarify the relation of the above subjects to the design discipline. A number of contemporary case studies of large, medium and small scale designed products related to tourism are analysed under a semiotic perspective to justify and visualize the attempt.

Keywords Sense of place · Cultural identity · Experience design

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1 The Meaning of Design and the Realm of Designing for Tourism

Design for tourism covers a broad area of the design realm. Design research, design theory and design practice are all related to the tourism discipline. This relation is not only limited to the design of hotels, or facilities that accommodate tourist activities, but a variety of additional subjects and areas. Two-dimensional design as well as, design of services can be placed among them [1, p. 545]. However, in the present study reference will be made to the three-dimensional spatial and product design.

Scale is a design principle that will provide the axis to place the different designed spatial situations related to tourism. Urban environments, buildings and products constitute the main points in this axis. In products related to tourism we can include things used in everyday life, such as cutlery, furniture, cultural products and artifacts, souvenirs, devices, even vehicles for transportation. Buildings, both with their interior and exterior environments become a significant part in this categorization. Architectural typology, decorations, textures, colours, features, materiality, scale, and organization of areas characterize hotels, information centers, restaurants, museums, airports and stations that tourists visit. However, buildings participate and create to a great extent the urban environment where they belong. So, urban and landscape designed environment, is characterized by spatial organization, relations between built and unbuilt parts, materiality and textures, social standards of proximity, relationships between private/public, open/closed, homogeneous/heterogeneous spaces.

Designers to produce the multifaceted scales of the human made environment, have to deal also with areas significant to design such as psychology, physiology, social and behavioral sciences, cultural sciences and environmental studies and the development of technology. Designers focus to functionality, construction quality, comfort, user friendliness, accessibility and 'readability', however, when designing for tourists a number of additional characteristics are essential. The design background has to be informed with the latest advances in the tourism discipline and the literature related to it. There is an emerging tendency in all aspects of design, without exception tourism design, towards experience design emphasizing on understanding and stimulating the perceptions of end users [1, p. 547]. "In the context of tourism this refers to the design of experiences that tourists will have while involved with the designed products or environments; experiences that will be associated with the senses, cognition, emotions, affect, and other values and situated in different tourism contexts" [1, p. 547]. To that sense, tourism design should pay attention to specific issues that will promote and stimulate the experiences of the tourists: sense of place, uniqueness and identity, memorability.

2 On Sense of Place, Identity and Memory with Reference to Design for Tourism Case Studies

Experiencing played always an important role in tourism, but now this becomes even more evident as "memorable tourist experience is considered the new benchmark of the tourism industry" [2, p. 652]. To achieve this, sense of place, identity and memorability become abstract tools in the hands of product and spatial designers.

'Place' is considered to be more than a location, especially when it is discussed in relation to tourism. "Place is an amalgam of destination qualities, including landscape and architecture, history and heritage and social structures and relationships" [3, p. 221]. Therefore, any cultural experience is closely related to place, referring to a special and memorable place to which visitors feel attached, connected or belonging. It is also intrinsically linked to local identity [4] and its creation and communication is dependent on meaning that is socially constructed in a continuous process [5]. 'Sense of place' implies a strong place identity, provides complex experiences, triggers emotions, feelings and memories and evokes a strong attraction [6].

A successful cultural destination branding and marketing approach needs to be integrative [4]. It necessitates reading, reinforcing and promoting a strong sense of place that links past, present and future and includes cultural, historic and natural assets, tangible and intangible values and multisensory experiences. As a consequence, touristic destinations are not seen as mere cultural consumables, but as places full of meanings, that result in memorable experiences [7]. It is a significant issue to discover what makes a destination distinctive, authentic and memorable.

Place-based cultural tourism identifies, and then capitalizes on the unique cultural character and 'sense of place' that distinguishes one place from another [3]. "Place-based cultural tourism involves the act of placing as well as the 'making' of a place [3, p. 223]. Therefore, the role of the designer as a 'space maker' should not be underestimated. To be successful, place-based cultural tourism requires that the visitor is able to develop a sense of connection with the locale, even if only temporarily. Place-based cultural tourism is more involving, immersive and distinct from other forms of cultural tourism. It implies the visitor is in a place, not just at a place" [3, p. 223].

Enriching product design with cultural features "is a process of rethinking or reviewing cultural features and then redefining the process in order to design a new product to fit into society and satisfy consumers with via culture and esthetic" [8, p. 148]. During the design process cultural features are identified and together with necessary user and product attributes are then correlated in a design model that is further translated into the design of cultural products [8]. A 'cultural product design model' clarifies this process consisting of three parts: the conceptual model, the research method and the design process. In the design process the four steps of investigation, interaction, development and implementation are suggested [8, p. 148, 149].
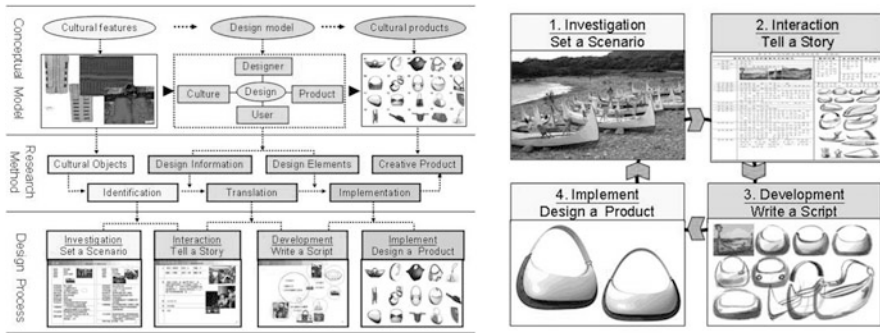
Fig. 1 Cultural product design model and design process [8]

This is exemplified through the bag design inspired by the Tao culture of Taiwan (Fig. 1). The scenario represents the aboriginal people using the pin-boat for fishing and the holy dagger to protect themselves. The scenario is translated into a modern story by transforming boat and dagger into a woman's bag with a modern alarm for self-protection. The visual vocabulary of the original design has been transferred into the final product design carrying cultural meaning [8].

According to Pallasmaa [9] "architecture is the art of reconciliation between ourselves and the world and this mediation takes place through the senses". In relation to spaces and built environments vision is the sense that has a dominant role and this is even more apparent as technological development is increasingly dependent on that. Colour perception which is intrinsically related to vision has been investigated thoroughly by psychologists, ethnographers and semioticians who have investigated the links between colour concepts and colour perceptions, the effects on human psychological responses, as well as, colour meanings and preferences in different cultures [10, p. 33]. Colours, patterns, views, forms and shapes in a space provide visual experiences to users. They have to be chosen in such a way so they can satisfy as much as possible the subjective approaches of the different cultural, economic, social or age groups and at the same time to be consistent with the identity of the local culture. A combination of a contemporary background enriched with elements maintaining 'sense of place' and identity is often a successful solution.

However, visual elements are only part of the whole experience. Merleau-Ponty and Pallasmaa argue that the importance lies in the interaction of senses to create sensory architecture overcoming the mere visual understanding of built space [9, p. 5]. Therefore, a combination of senses could be the medium to achieve a balance, making space readable and memorable. The eye is the organ of distance, whereas touch is the sense of nearness, intimacy and affection [11, p. 6]. Through touch humans approach and feel, understanding so texture, weight, density and temperature. Feelings create bonding and therefore touch can be the path to memorable designed environments and situations. Furthermore, another sense adds to the sensory map of experiencing a space. Hearing is the most incorporating and omnidirectional sense [9, p. 7]. Places are sensed and remembered because

of their sounds or the lack of them. Acoustics and background experiences create atmospheres; sounds in architecture can increase the intensity of its perception. In open spaces or in spaces with hard reflective materiality the sounds can easily turn into noises creating an unpleasant feeling that in tourists' memories will characterize the specific spaces.

Finally, smell is the sense with the most memorable associations, a fact that could be used and should be investigated when designing spaces, as these could stimulate emotions, guide or distract. Humans can smell more than ten thousand different smells [11, p. 8] which can be remembered longer than any other sensory stimulus. "The limbic system comprises a set of structures within the brain that are regarded by scientists as playing a major role in controlling mood, memory, behaviour and emotion. A smell acts spontaneously as a trigger in recalling a long-forgotten event or experience. Smell is also highly emotive and much of our emotional response to smell is governed by association" [12].

According to the above, it becomes apparent that designers have to master the effects of sensing a designed place and interpret as much as possible any specificities or preferences the end users may have. A successful interpretation towards a designed environment could evoke a pleasant memorable, even unconscious sensation and could add to an overall positive tourism experience. 'Sensation' is the encoding of detecting environmental information -such as light or sound waves- into neural energy so that the human brain can process. Sensation has begun to receive attention from academia as it can provide objective and context-specific information [13, p. 2].

As an example, the traditional 'karesansui' Zen gardens of Japan [14] inspired Kengo Kuma [14, 15] to design a new version of urban garden in the middle of sculptural environment and buildings (Fig. 2a). The designed construction offers an indirect way of being introduced to the Japanese culture. The use of similar scale, the textural properties of space, the shapes and forms inspired by Japanese tradition blended with a contemporary materiality introduced a 'sense of place' and a spatial identity which although contemporary is linked in a unique way to specific cultural values. The sensation of this space is similar to the sensation of a traditional Japanese garden.

A student's transformation of a traditional woven motif from Epirus into a patterned shade system in a small hotel in Metsovo, Greece introduces in the same way as above the delicate tangible heritage into the spatial values of the hospitality environment [14, 16] (Fig. 2b). The tangible cultural values of the locale are reinterpreted into a different application. Visual inputs inspired by the tradition, textural properties of a mass/void balance, and the sense of seeing through related to the use of incoming light became the means in the hands of the designer to create a memorable hospitality interior where 'sense of place' and sensing the place become invaluable properties.

Sensory experiences related to the design of spaces and products constitute a major part of the overall memorable tourism experiences and occur to a higher level when triggered by memories related to past experiences. The retrieval stage when the recollection of past memories takes place is equally important to the
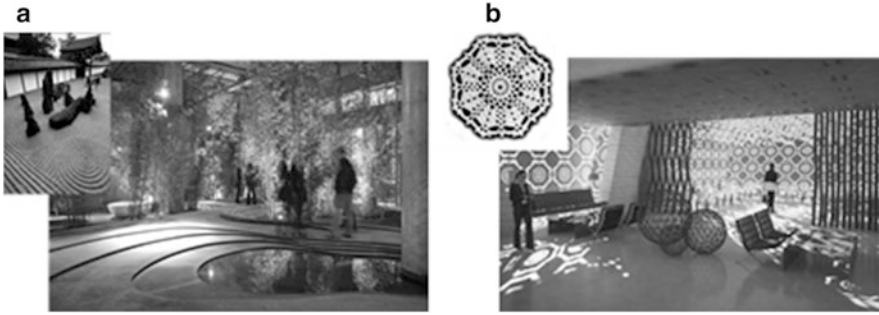
Fig. 2 (**a**) 'Naturescape' for urban stories [14, 15], (**b**) Hotel lobby interior [14, 16]

encoding stage when people collect the information and store it. Physical objects like memorabilia, are consciously bought to aid the remembering of experiences [17, p. 334, p. 326]. There is a significant effect of memorabilia on memory retrieval and as markers of experience [17, p. 335]. Researchers suggest that "destination managers should develop diverse memorabilia, including not only objects that belong to current souvenir typologies, but also more ordinary objects that serve a functional purpose after tourists return home" [17, p. 335]. The study also declares that those practical articles often acquire sentimental meaning; while those bought explicitly as souvenirs they often lose their sentimental value over time. As a result, a promising challenging ground opens for product designers to transform the intangible and tangible values of their cultural background into functional objects that would carry on them those values and a unique identity related to the culture.

A number of contemporary Greek product designers changed positively the indifferent Greek souvenir design of the past [18, 19]. Contemporary Greek memorabilia manage to offer a memorable connection of quality to a touristic experience. They interpret successfully icons and symbols not simply copying landmarks but using specific characteristics of the local culture and blend them with contemporary uses offering solutions to practical needs.

The 'peripteron' ready cut paper construction [16] refers to a concise 'place-based' tourism and succeeds a sense of connection to the locale involving the user with an urban construction used as symbol of locality (Fig. 3a). Involvement is additionally achieved by the mere function of the object as a toy paper construction. The white and blue 'Atlas' shopper [16] is an adaptive reuse of a local traditional packaging transformed into a bag (Fig. 3b). Many concepts are indirectly creating a connection with the 'sense of place' and the cultural identity. The blue and white colours become part of the visual connection to 'Greekness'. The recalling of a package is obvious and the use of minimum materials is adding to an ecological intention highly appreciated by an increasing number of people. The indirect connection to oil as an authentic Greek product triggers taste and olfactory cues that constitute external influences to memory retrieval [17, p. 326]. The same is applied in the design of a variety of 'Anamnesia' products using an abstract
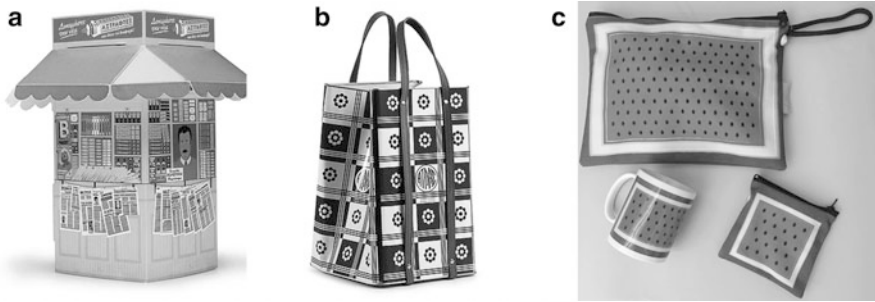
Fig. 3 Contemporary Greek souvenir design: (**a**) the Greek kiosk, ready cut paper construction [18], (**b**) Atlas shopper, olive oil tin tote bag [19], (**c**) Karpouzi theme souvenirs [20]

watermelon pattern as a colour decoration [19] (Fig. 3c). The objects are very contemporary, simple in design without any added decoration. However this abstract pattern immediately recalls pleasant memories that were sensed: the colours of the fresh cooling fruit, the place where the experience took place and the soothing effect. 'Sense of place', and identity are signified by the product.

Urban environments, buildings, interiors and products besides being aesthetically appealing, functional, designed to create pleasant sensations and created according to contemporary standards, have to be distinguishable from other similar ones and able to be connected to a specific culture and location to be memorable by tourists.

The contemporary process of globalization unified urban contexts, social lives and even cultures to some extent. Designing, respecting a local identity, could be an alternative process of stories revealed anew, not opposed to the changes of the world but adapting to them [20, p. 210]. A local or regional identity has specific economic social and cultural and topographic features referenced to a defined territory [21, p. 211]. Designers as interpreters of the local cultural contexts, should be able to explain the content of such cultures to outside world in such a way so that they will maintain a creative living present enriched by the intangible and tangible heritage values of the specific culture [21, p. 211]. A number of kiosks proposed in a student's project to guide and serve tourists along their walks across a Greek island city used specific symbols and icons to signify the cultural identity and locality [22] (Fig. 4). The dark pink colour of bougainvillea that is one of the most common plants in Mediterranean islands became an iconic trademark both in the interior and exterior of the tourist kiosks, easily recognisable and easily memorable. Additionally, the white colour of the small kiosk buildings and the small construction scale are purposefully used to relate to the 'sense of place' and the Greek islands visual imagery. Textural properties complete a memorable spatial experience.

Coherent development and projection of meaning and its adaption to contemporary needs and technological progress adds value and delivers a contemporary, cultural design that is responsive, sustainable, memorable and with strong identity.
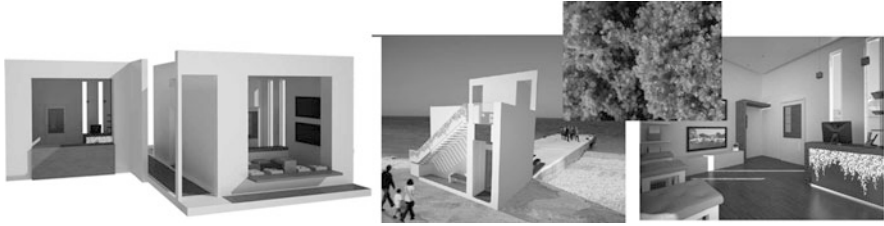
Fig. 4 Kiosks for tourist services [22]

Adding value improves touristic experience while meeting tourist expectations and creating satisfaction, but also supports the general economic, social and cultural development [8, 23].

3   Conclusions

Tourism is one of the most demanding contemporary industries worldwide with theories and practices to develop continuously. Design for tourism is consequently a significant parameter in support of stakeholders, local and national entrepreneurs, as well as tourists themselves, covering a variety of different products and spatial environments. Experience design is becoming a new benchmark in the market and therefore specific concepts, such as 'sense of place', identity and memorable experiences have to be further explored to widen the theoretical background for designers in the field in order to support their production towards a successful outcome.

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Analysis of Human Motion Based on AI Technologies: Applications for Safeguarding Folk Dance Performances

Nikos Grammalidis [ID], Iris Kico, and Fotis Liarokapis

Abstract Analysis of human motion is an important research area in computer vision with numerous applications. Recent projects, such as EU i-Treasures and TERPSICHORE projects conduct research in this field to improve the capture, analysis and presentation of Intangible Cultural Heritage (ICH) using ICT-based approaches. The final goal is to document these forms of intangible heritage and to capture the associated knowledge in order to safeguard and transmit this information to the next generations. In addition, these approaches can give rise to new services for research, education and cultural tourism. They can also be used by creative industries (e.g. companies performing film, video, TV or VR applications production), as well as by local communities, creating new local development opportunities by promoting local heritage. This paper first reviews some very recent state of the art approaches based on deep learning which can achieve impressive results in recovering human motion (2D or 3D) and structure (skeleton with joints or realistic 3D model of the human body). Based on such approaches, we then propose a dance analysis approach, currently under development in TERPSICHORE project. Preliminary results are presented and, finally, some conclusions are drawn.

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1   Introduction

Analysis of human motion is an important research area in computer vision with numerous applications. In the general case, analysing human motion from video can be a complicated problem, considering cluttered backgrounds, illumination variations, occlusions, self-occlusions, different clothing and multiple moving objects. In the past, many over-simplifying assumptions were often made to tackle these ill-posed problems or certain constraints were imposed. For instance, scene segmentation is simplified by assuming a moving person in front of a static background. However, recently, great advances were made in the field, mainly due to the efficiency of deep learning techniques, and particularly the Convolutional Neural Networks (CNN), a class of deep neural networks most applied to analysing visual imagery. Leveraging on the availability of big data and increased GPU computational efficiency, real-time methods to estimate multiple human motion with great accuracy were developed.

Dance performances, either as an autonomous form of art and expression, or as a part of the music and/or sound culture, were always important for human societies through the ages. Dances convey different messages according to the context, and focus on aesthetics or artistic aspects (contemporary dance, ballet dance), the cultural and social aspects (folk dances, traditional dances), storytelling (symbolic dances) or spiritual meanings (whirling dervishes). Especially folk dances are strongly linked to local identity and culture. The know-how of these dances survives at the local level through small groups of people who gather to learn, practice and preserve these traditional dances. Therefore, there is always the risk that certain elements of this important form of intangible cultural heritage could die out or disappear if they are not safeguarded and transmitted to the next generation. Therefore, their preservation for the next generations is of major importance.

In this paper, a number of some recent state-of-the-art approaches in the areas of analysis of human motion using optical and IR sensors are reviewed. Some of these techniques are currently tested within the framework of TERPSICHORE project, focusing on folk dance digitisation, analysis and its applications. The paper also proposes a new approach for automated dance choreography extraction from video, based on 3D skeleton joint extraction using deep learning. Such techniques offer multiple advantages and economic benefits to education, tourism, creative industries and cultural institutions.

The rest of this paper is structured as follows: In Sect. 2 presents a review some very recent state of the art approaches based on deep learning, which can achieve impressive results in recovering human motion (both 2D or 3D) and shape (realistic 3D model of the human body). In Sect. 3, we review some similar applications for dance analysis and visualization and propose an approach, currently under development in TERPSICHORE project, to estimate the choreography from videos in the wild. In Sect. 4, some indicative results are presented in dance videos captured during TERPSICHORE project, while in Sect. 5 some conclusions are drawn.

2   Human Motion Analysis Based on Deep Learning

Human body motion analysis and action recognition are two crucial tasks for understanding human behaviour and can be used for many different applications, including surveillance, human computer interaction, educational applications, games and many more. Pose estimation refers to the process of estimating the configuration of the underlying kinematic or skeletal articulation structure of a person [1]. Estimating human pose from video input is an increasingly active research area in computer vision that could give rise to numerous real-world applications, including dance analysis. Traditional methods for pose estimation model structures of body parts, mainly based on handcrafted features. However, such methods may not perform well in many cases, especially when dealing with occlusions on body parts.

Recently, great technological advances were made in 2D human pose estimation from simple RGB images, mainly due to the efficiency of deep learning techniques, and particularly the Convolutional Neural Networks (CNN), a class of deep neural networks most applied to analyzing visual imagery. A new benchmark dataset is introduced by Andriluka et al. [2], followed by a detailed analysis of leading human pose estimation approaches providing insights for the success and failures of each method. Some very effective open source packages have become increasingly popular, such as OpenPose [3], a real-time method to estimate multiple human poses efficiently developed at Robotics Institute of Carnegie Mellon University. OpenPose represents a real-time system to jointly detect human body, hand and facial keypoints (130 keypoints in total) on single images, based on Convolutional Neural Networks (CNN). More specifically, OpenPose extends the "Convolutional pose" approach proposed in [4] and estimates 2D joint locations in three steps: (a) by detecting confidence maps for each human body part, (b) by detecting part affinity fields that encode part-to-part associations and (c) by using a greedy parsing algorithm to produce the final body poses. In addition, the system computational performance on body keypoint estimation is invariant to the number of people detected in the image [3, 5].

In [6], a weakly supervised transfer learning method is proposed for 3D human pose estimation in the wild. It uses mixed 2D and 3D labels in a unified deep neural network that has a two-stage cascaded structure. The module combines a) a 2D pose estimation module, namely the hourglass network architecture [7], producing low-resolution heat-maps for each joint and b) a depth regression module, estimating a depth value for each joint. An obvious advantage from combining these modules in a unified architecture is that training is end-to-end and fully exploits the correlation between the 2D pose and depth estimation sub-tasks. Furthermore, in [8], a real-time method is presented to capture the full global 3D skeletal pose of a human using a single RGB camera. The method combines a CNN-based pose regressor with a real-time kinematic skeleton fitting method, using the CNN output to yield temporally stable 3D global pose reconstructions based on a coherent kinematic skeleton. The authors claim that their approach has comparable (and in some

cases better) performance than Kinect and is more broadly applicable than RGB-D solutions (e.g. in outdoor scenes or when using low-quality cameras). RGB-D (Red, Green, Blue plus Depth) cameras provide per-pixel depth information aligned with image pixels from a standard camera. In [9], a fully feedforward CNN-based approach is proposed for monocular 3D human pose estimation from a single image taken in an uncontrolled environment. Authors use transfer learning to leverage the highly relevant mid- and high-level features learned on the readily available in-the-wild 2D pose datasets in conjunction with the existing annotated 3D pose datasets. Furthermore, a new dataset of real humans with ground truth 3D annotations from a state-of-the-art markerless motion capture system is produced.

A promising recent advancement is the recovery of parameterized 3D human body surface models, instead of simple skeleton models. This paves the way for a broad range of new applications, such as foreground and part segmentation, avatar animation, virtual reality (VR) applications and many more. In [10], dense human pose estimation is performed by mapping all human pixels of an RGB image to a surface-based representation of the human body. The work is inspired by the DenseReg framework [11], where CNNs were trained to establish dense correspondences between a 3D model and images 'in the wild' (mainly for human faces). The approach is combined with the state-of-the art Mask-RCNN system [12], resulting to a trained model that can efficiently recover highly accurate correspondence fields for complex scenes involving tens of persons with moderate computational complexity. In [13], a "Human Mesh Recovery" framework is presented for reconstructing a full 3D mesh of a human body from a single RGB image. Specifically, a generative human body model, SMPL [14] is used, which parameterizes the mesh by 3D joint angles and a low-dimensional linear shape space. The method is trained using large-scale 2D keypoint annotations of in-the-wild images. Convolutional features of each image are sent to an iterative 3D regression module, whose objective is to infer the 3D human body and the camera in a way that its 3D joints project onto the annotated 2D joints. To deal with ambiguities, the estimated parameters are sent to a discriminator network, whose task is to determine if the 3D parameters correspond to bodies of real humans or not. The method runs in real-time performance given a bounding box containing the person. Additional information and reviews of the progress in the field can be found in recent literature [15–17].

3   Applications for Dance Analysis and Visualisation

These rapid advances have already started to affect numerous fields, including dance analysis and visualization. In [18], Chen et al. employ a powerful deep learning architecture, namely a Generative Adeversarial Network, GAN, to transfer a dancing performance to a novel (amateur) target after only a few minutes of the target subject performing standard moves. Using pose detections as an intermediate representation between source and target, we learn a mapping from pose images to a target subject's appearance. In other words, new realistic dance sequences of the amateur

target, which are fun but also important for learning purposes, are generated from a 2D skeleton sequence extracted from a video of an expert. To extract pose keypoints for the body, face, and hands, they use the OpenPose state of the art pose detector [3], while two additional improvements are introduced: (a) improved temporal smoothness of the generated videos is achieved by conditioning the prediction at each frame on that of the previous time step and (b) the facial realism of the results is improved by including a specialized GAN trained to generate the target person's face. For the image translation stage of our pipeline, the architectures proposed by Wang et al. in the pix2pixHD model [19] are used.

In [20], a system that predicts 3D positions using given only 2D joint locations is proposed. Using a state-of the-art 2D detector, a relatively simple deep feedforward network, and training using 3D positions from Human3.6 M dataset, very promising results are obtained for estimating 3D from images in the wild.

However, an even more promising approach that extends the previous approach is presented in [21]. This approach also estimates 3D joint locations from corresponding 2D locations, but 3D information is used only implicitly, as a GAN network is used to estimate the z-values for each joint, so that the resulting 2D joint projections match those provided in the input (up to a rotation θ that can be estimated). Interesting improvements introduced by the authors are:

(a) the assumption of a simplified horizontal camera model, as generally the camera model is not available from images in the wild and
(b) the introduction of a new heuristic loss function, based on a simple body constraint (right shoulder is always to the right side of the face) to discard "wrong/inverted" camera poses.

In this chapter, we attempt to leverage the powerful 3D joint location detector proposed in [21], combined with a robust 2D joint detector, such as [3] or [22] for dance analysis of traditional folk dances. The final aim is the automated extraction of choreography from any video sequence or movie in the wild.

The choreography, which is the most basic element of dance, can be represented using special symbols to express the body configuration and movement of each body part with respect to time.

Dance Notation systems, describing the dance using symbols, appeared for the first time ever since the fifteenth century, and to date there are over eighty [23], although few of them are used in the modern era. Common dance notation systems include Labanotation [24], DanceWriting and others. Labanotation, the most widely used of these systems allows the recording and representation of any choreography and generally human movement. It was first proposed by the dancer and theorist Rudolf Laban in 1928. The motion analysis is based on the concepts of space, anatomy and dynamics of movement. It uses abstract symbols to describe the movement, providing a well-structured language with rich vocabulary and clear semantics, based on Laban Movement Analysis (LMA). The LMA defines four basic traits of movement: body, effort, shape, space (as well as two subordinates: relationship and expression). In [25], an innovative choreography generation system is presented, namely *chor-rnn*, that can generate novel choreographic material in the

nuanced choreographic language and style of an individual choreographer. Chorrnn is a deep Recurrent Neural Network (RNN) trained on raw motion capture data that can generate new dance sequences for a solo dancer. It can also be used for collaborative human-machine choreography or as a creative catalyst, to provide inspiration for a choreographer.

However, in the specific case of traditional folk dances, the choreography is usually simple and periodic, consisting of a set of simple steps, so only the movement of the lower part of the body is important. In i-Treasures project [26], we used a simplified notation system to describe each individual step in a folk dance period. Specifically, for each individual step of the period of the dance has the following features:

- StepTimestamp: timestamp when the step starts
- stepFoot: Foot that moves (Left, L or Right, R), so the other foot is assumed to be supporting the body, i.e. the 2D ankle locations remain fixed. Note that 3D locations cannot be used in this case, as these are always relative to the center joint (hip).
- StepDirection: Direction of foot movement (Left, L or Right, R). The direction of movement can be predicted by examining the variation of the magnitude of the vector v (between the left and right 3D ankle joints
- StepLift: whether the foot is lifted from the ground or not (e.g. in Tsamiko dance, men dance by lifting the foot, while women do not lift the foot)

Within i-Treasures project, we attempted to estimate this information by examining motion capture data (e.g. from VICON or Kinect), however the use of standard uncalibrated cameras opens exciting new opportunities as the approach can be applied to dance videos in the wild (e.g. from Youtube).

4   Experimental Results and Discussion

The proposed approach was tested using a set of recordings of various Greek folk dances, captured for the needs of the TERPSICHORE project. Specifically, input video from two synchronized cameras (front and profile views) was used. In Fig. 1, results of the 3D estimation of joints using the approach [21] are illustrated. Results for the proposed choreography analysis approach will be presented in the conference.

Furthermore, we applied [13] to predict and visualize the 2D joint movements and a full 3D mesh of a parameterised human body model from a single RGB image. Some predictions were accurate (Fig. 2), however some instabilities were observed, due to the large number of parameters to be estimated (85 parameters in total). However, we believe that these results can be significantly improved, e.g. by properly constraining some of these parameters, e.g. camera calibration if the camera is static or known.
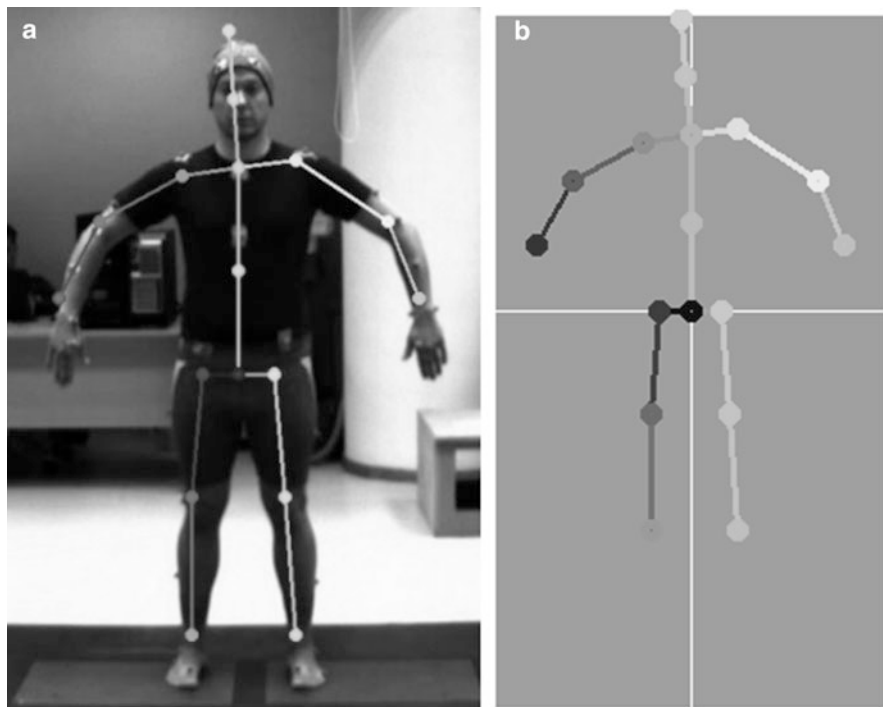
Fig. 1 2D human joint estimation using OpenPose and (b) corresponding estimated 3D joint locations using [21]

Fig. 2 Sample input frame, estimated 2D joint locations and 3D mesh overlay

5 Conclusions

Modern deep learning techniques have resulted to major research advances in 2D and 3D human pose estimation, which offer great advantages and give rise to new exciting applications in many fields, including applications for automated dance analysis from videos in the wild.

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Higher Education and Innovation in the Non-profit Sector

Marcela Göttlichová

Abstract The present study draws the attention to the still persistent problem of application of strategic marketing, targeted marketing communications, in the nonprofit sector, primarily to non-governmental, non-profit organizations, with its focus on the specifics of the present times. Marketing communications represent a set of tools for commercial and non-commercial communication with the market the common goal of which is to support the company's marketing strategy in conjunction with the need to inform and influence consumers as effectively as possible. However, it is necessary for the non-profit entities to become fully aware that without professional marketing experts, they cannot achieve their victories in an increasingly concurrent struggle. Here, the role of higher education plays an essential role then, with an important aspect being the increasing permeability between the general (academic) and vocational training that helps universities reach new target groups and thus better meet the labor market expectations and demands. A part of the contribution is, based on the results of research surveys on the one hand with non-governmental, nonprofit organizations in continuity with the reflection of the perception of students of the Faculty of Multimedia Communications at Tomas Bata University in Zlin, also the presentation of one of the options for the development of innovation activities in marketing and marketing communications in continuity with the creative approach of the students of the Faculty of Multimedia Communications at Tomas Bata University in Zlin.

Keywords Non-profit sector · Non-governmental non-profit organizations · Strategic marketing · First higher education · Key competencies

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1 Introduction

In conjunction with globalization and the rapid development of contemporary society, as well as with all the contingencies that they have, we are still confronted with a number of prevailing or newly emerging problem areas with some potential reflections in the growth of so-called strain areas where among the primary ones is the tension between "the necessity of competition" and "the worry for any possible chance" in continuity with the competitive pressure [1]. This also touches the growing competitive environment of commercial and non-profit sector entities significantly. And in particular, we can expect the growth of a competitive fight, especially in non-governmental, non-profit organizations. The starting point is in the unresolved necessity of the need for professionalization in marketing and promotion in continuity with innovative thinking [2].

2 Theoretical Base

2.1 Innovation and Strategic Marketing

There is no need to repeat that nowadays, the level of innovation is becoming a decisive driver of entrepreneurship and its prosperity in the competitive market economy conditions. Innovation (improvement) is the key driver of the evolution of all organizations, i.e., the complex process from an idea to its development to the possible implementation. "The company discovers different needs and groups on the market, targeting those that it can satisfy better than others, and then placing its offerings so that the target market notices a different offer and image [3]." Their aim is to identify and understand the customers' needs and to influence their intensity, timing, and composition in accordance with the organization's strategy. Professionalism in offering "values and solutions", not just "products and promises" [4], is a necessity, as we are no longer talking about "buying products and services" but about "satisfying certain needs" [5], leading customers through "thinking and enthusiasm" [6].

2.2 Non-profit Sector and the Czech Republic: Typology of Non-profit Organizations

It is also entirely evident that the development of the democratic society is unthinkable without the development of the non-profit sector (NS). In the Czech Republic (CR) the NS development has been rapid after the so-called Velvet Revolution (1989) which enabled the formation of conditions for the establishment and

development of the civil society further to the tradition of the Czech associational life having been disrupted for long years of two consecutive totalitarian regimes.

Although we see the NS as a segment of the national economy (NE, economy) on the one hand, and as an element (manifestation) of civil society on the other, both views are interdependent [7]. The division of the NS is not unambiguous, and we encounter different classifications. Based on the main characteristics of economic entities, Pestoff presented three basic directions in his classification: (1) public (publicly managed) and private (privately administered); (2) non-profit (non-market) sector (profit is not the objective) and profit (market) sector (profit is the purpose), and (3) formal (by law, written agreement) and informal (without legislative framework) [8, 9]. The Czech environment is characterized by the breakdown of the NE into the profitable (commercial) and non-profit (non-commercial) sector, which is further divided into the public, private, and household sectors, with the primary position being the public sector, the private sector (non-governmental) [10].

2.3 Non-governmental Non-profit Organizations: Legislation

The typology of non-governmental, non-profit organizations (NGOs) in the Czech Republic is set according to the State Policy towards NGOs in 2015–2020, where NGOs are legal entities of private law belonging to formalized structures of the civil society—in addition to churches, trade unions, professional chambers, political parties, and numerous non-formalized structures [11]. Within the democratic context, most NGOs serve to strengthen citizens' participation in public life and to solve public problems. Since January 2014, a large reform of private law took effect, including the new Civil Code (NCC) and the Business Corporations Act replacing the existing Commercial Code. The changes brought about by this recodification have also significantly affected non-profit organizations.

Since January 1, 2014, in the Czech environment the following are considered to be the NGOs: (1) Associations and subsidiary associations (newly according to the NCC), formerly civic associations and their organizational units; (2) Foundations and Endowment funds; (3) Special-purpose facilities of churches established by churches and religious societies pursuant; formerly Church Juridical Persons; (4) Public beneficiary companies; (5) Constitutions; and School legal entities, registered by the Ministry of Education, Youth and Sports, and including church schools in significant numbers [12].

These changes were most prominently pronounced in the growing number of associations and subsequently in subsidiary associations, and in a gradually increasing number of institutes under the new Civil Code, and a slowly decreasing number of non-profit organizations (Table 1). According to the number of registered NGOs per 1.000 inhabitants, the Zlín Region has 380 NGOs and thus ranks fourth in the Czech Republic [13].

Table 1 The statistics of the number of non-profit organizations in 2014–2018

	Associations	Foundations Funds	Endowment Institutes	Registered Societies	CIO	Church Associations	Branch
2014	86.956	508	1.407	123	2.926	4.158	26.118
2018	96.722	548	1.887	911	2.712	4.143	27.291

Source: Czech Statistical Office [14]

Despite the fact that the Czech NS has been developing its activities since 1989, it still has the same problems it has faced since its inception. The most significant is the excessive dependence on public resources, the lack of reliable information on its economy reflected in the transparency of NGOs, and in particular, the missing marketing and promotion experts.

2.4 Higher Education in the Czech Republic: Employability on the Labor Market

As shown by the outcomes from the previous years, the times, when the demand for educational services significantly dominated the offer, are gone. Nevertheless, the objective of the higher education remains the focus on the future employability of university graduates so that they are capable of flexibly responding to the current as well as future needs of the labor market. In spite of the fact that the employability of university students and graduates on the labor market in 2018 (Table 2) showed a great improvement of the given situation, the new paths have to be searched for leading to enhancing the quality of the educational process with its reflection in the effective cooperation with the commercial as well as non-commercial entities based on the preference of the key competencies by the potential employers.

Significant improvements are currently confirmed by the latest available indicators (2017) in terms of the applicability of university graduates by individual faculties (Table 3).

Table 2 Unemployment of university graduates

Unemployment of university graduates in %	2017	2018
The share among the unemployed	6.7	7.0
Among unemployed university graduates[a]	1.1	–
New Bachelor's study program graduates	3.0	2.1
Master's program graduates	2.1	1.3
Doctoral program graduates	1.2	0.5

[a]No data reported for 2018
Source: MEYS Monitoring report, June 2019 [15]

Table 3 Unemployment of university graduates according to the type of faculty

Unemployment of university graduates in %	2016	2017
Faculty of medicine	1.0	1.0
Faculty of Law	3.4	1.8
Technical Faculty	3.5	1.9
Pedagogical Faculty and Faculty of Physical Education	4.2	1.7
Philosophical, Theological, and Social Studies Faculty	5.2	3.3
Faculty of Agriculture	5.4	3.7
Faculty of Natural Science	6.0	2.9
Faculty of Economics	6.9	2.6
Faculty of Fine Arts	13.3	5.6

Source: MEYS Monitoring report, June 2019 [15]

As the resulting values show, they are especially graduates of art faculties where we can see a significant strengthening of their position, while the opposite situation is with graduates of economic orientation.

3 Methodology

3.1 Problem Formulation

The previous lines have already revealed what one of the primary problems of both universities and non-governmental, non-profit organizations is. And since we are speaking in general terms about the non-profit sector, the way to find the solution to the problem of winning the ever-increasing competition in this specific field can be to develop a full-fledged cooperation between the two actors involved in order to successfully integrate higher education graduates within the labor market while sufficiently taking into account the requirements of future employers in continuity with the necessary key competencies. But do employers' demands in the commercial and non-commercial spheres agree on the readiness of university students? Are the requirements of NGOs on key competencies of graduates the same, or are they changing due to the increasing competition? Has the position of NGOs changed in the recruitment of professional marketing experts who would help to remove one of the primary problems, which is the persisting inefficient communication of NGOs? And since employers are still seeing the lack of readiness of university graduates in terms of knowledge, skills and abilities that they have when entering the labor market, it is desirable to get acquainted with the opinions of the university students themselves. The lack of funding is also related, because "a competitive environment, including non-governmental, non-profit organizations, enforces the search for new routes due to limited financial resources" [16].

3.2   Problem Solution

As the previous data showed (Tables 2 and 3), the situation in the employability of university graduates is gradually improving, but the situation is not the same for all fields. At present, 9.226 students are studying at Tomas Bata University in Zlin in 190 study fields at six faculties, and at the University Institute; the unemployment rate ranges from 1–7% [17]. One of the highlights of the announcement of the Centralized Development Program for Public Higher Education Institutions for 2020 is "strengthening the social responsibility of universities, e.g., through developing regional activities and working with local public partners, NGOs and the private sector" [18]. The increase in NGOs (Table 1) shows that it is the NS that uncovers the scope of employability of university graduates. The solution can then be, besides the form of guided professional practice or internship directly in companies, public institutions or NGOs, also the participation of experts from the practical business directly in teaching, especially the form of the direct participation of students in real projects while mastering the complexity of project management methods to help them demonstrate (or broaden) relevant key skills in the continuity of the need of the sector.

3.3   Objectives and Methodology

An essential part of the solution to the presented problem is to answer the set questions (see Sect. 3.1). Since 2012, the Institute of Marketing Communications of the Faculty of Multimedia Communications of TBU (IMC FMC TBU) has been paying attention every year to research activities focusing on the activities and communication of NGOs of the Zlin Region (ZR) with the aim of linking the cooperation of the academic sphere with the non-profit sector at the beginning of which there was the project called The Cooperation of Higher Education, Public Administration, Business, and Non-profit Sector for Socio-economic Development of the region ensuring the collaboration with representatives of the NS (the Association of Non-governmental Non-Profit Organizations), ZR, the Town of Zlin, the Chamber of Commerce, and the Labor Office in dealing with the current issues of the region [19]. Within the framework of the established cooperation, students gain the opportunity to look into the needs of NGOs, acquire or extend the necessary competencies for work in a specific environment, or prepare for the future career path. NGOs, on the other hand, have the opportunity to acquire the necessary marketing specialists in order to make communication more effective and to have the much-needed innovation within the intensifying competition.

   In 2019, as in the previous year, the attention was again directed not only towards NGOs, but also to the students of the institute, with the aim to find out possible changes in the view of how they themselves look at the needs of NGOs, possible cooperation, or future profiling on non-commercial marketing activities as well as key preferences—in comparison with the view of NGOs themselves. 114 students from IMC FMC TBU and 168 NGO ZR participated in the research.

4 Results and Interpretation

4.1 Comparison of the Resulting Values

As shown in the resulting values of the six most preferred key competencies/CC (Table 4), for both the target groups/TG (A × B) in an almost equal proportion the priority still lies in the requirement of communication skills in spite of the fact that the preference has decreased in comparison with the previous years (e.g., 2017/18: 77.5%; 80.4%). The three most preferred CCs are complemented by problem-solving and teamwork, followed by another important competency, which is to be accountable and responsible for a certain task. Approximately the same order in previous years can be found in other of the six preferred CCs even though we observe a twice as high percentage of NGOs asking for willingness to learn as well as the capability of being adaptable and flexible; the perception contrary to the perception of students. For the other CCs (mastering information-processing, decision-making ability, reading and understanding work instructions, IT skills, leadership skills, foreign language skills, working with numbers in the work process) showed the pronounced decrease of preference in both TGs.

What we then consider as conducive are the students' answers to the question of what they see as fundamental differences in the preference of the subjects of the NS from the commercial sector: "one must have more motivation and be more independent; people should resonate with the issue; the necessity of personal values such as morality, empathy, ability to listen, willingness; enthusiasm for the task", etc. However, from a professional point of view, students do not see any significant difference, "because a capable person needs both non-commercial and commercial spheres", and the necessity of strategic marketing (SM) was even confirmed by 94% of them (2017/18: 90%, 83.3%)—and, as the students themselves noted: SM helps to clearly define goals and the way these are achieved in order to be meaningful for the organization and its mission. It is important to analyze and benchmark the environment in which we will try to penetrate with our "organization" or project, to know how to target, what to focus on, and at the same time whether we have the means, what the capabilities of our team are, who is suitable for which position. Strategic marketing is not visible from the outside, but even without it, these

Table 4 Preference of key competencies in terms of university students

Key competencies/preference	FMK (A)		NNO (B)	
	% ranting		% ranting	
Communication skills	66.7	1	70.8	1
Team working skills	55.2	2	68.8	2
Capability of problem-solving	54.4	3	64.6	3
Taking responsibility	47.4	4	58.3	4/5
Willingness to learn	29.8	5	58.3	4/5
Adaptability and flexibility	24.6	6	52.1	6

Source: Göttlichová

organizations would not be able to meet their goals; it is important to know why we are doing something, with what intention and goals, and to do nothing randomly, etc. Also, the views and perceptions of NGOs are beginning to change as 39.6% of NGOs are aware of the necessity of SM as well as 20.8% of NGOs who do not consider SM important for their organization. On the other hand, 39.6% of NGOs do not say anything about SM, out of which 21.7% expressed their interest in finding out about SM, including the benefit for their organization—the remaining NGOs had no interest at all.

The research also confirmed that 49% of students are currently cooperating with NGOs, 65% of the remaining sample said they were interested in such cooperation, especially in the field of marketing and promotion. The same percentage was confirmed by NGOs, where the primary interest is directed to the request for help with promotion in the preparation and implementation of projects leading to the innovation of current forms of marketing and promotion (76.5%). Students themselves consider the communication of the NGOs to be inadequate (42.0%), perceiving the problem in particular in "the lack of professionals, funding, employees, time; in the NGO incompetence; etc." The facts have also been proved on the side of NGOs because, as stated, only 8% have already been carrying out marketing activities on a professional level, 29% of NGOs only strive for regular promotion, 48% only carry out marketing activities on the basis of intuition, and 15% still did not confirm the realization of any marketing activity, while in 42% the marketing and promotion is fulfilled by the one person who currently has the time to deal with the task. Again, NGOs cited the following (1) Lack of funding (42%), (2) Lack of human resources (32%), and (3) No need for experts (26%). Compared to 2017 (N = 232, [2]), we see a decreasing number of responses for the first one (44.9%) and the third one (30.6%) versus the second one (14.3%), which may be the result of an effort to increase professionalization of NGOs (first and third), but on the other hand decreasing interest in working in NGOs (2).

The need is clearly to increase the interest in NGO activities from the side of university graduates, and to strengthen the professionalism of NGOs. However, what is vital is the effective communication of NGOs towards the current young generation representing future volunteers, interns, employees, etc. And here, too, students see deficiencies in relation to their TGs as their networks prefer especially social networking which has not yet met with sufficient interest of NGOs even though "social media play an important role in promotion and communication activities, services, and products to the public" [20].

4.2 A Proven Path to the Solution?

On the one hand, the university with its primary objective to fully prepare its students for the labor market in terms of employability as the unemployment rate is becoming an important factor for both the schools themselves and for applicants for higher education. On the other hand, NGOs with the need for the ever-increasing

need of professionalization in marketing and promotion in order to be able to succeed within a competitive market, both sides with a common goal to succeed in the competition.

The IMC FMC TBU prepares its students through the Non-profit Organizations Projects (PRON) course for their future career in the NS. The possibility to get acquainted with the specifics of the NS in practice leading to the consolidation or expansion of key competencies corresponding to the needs of NGOs (Table 4), as well as the ability to apply the acquired knowledge in the field of marketing communications focusing on the system theoretical solution of all phases of the marketing process as well as the project management in its complexity, focusing on methodological and procedural aspects, it is a necessary requirement for the integration of the theory and practice. In addition to the benefit of expertise, the most important element is the use of immense inventiveness and creative thinking in the submission and implementation of projects leading to more effective communication of NGOs, whether in continuity with the offer of activities, obtaining funds for the implementation of the mission, but also of employees, volunteers, interns [21].

5 Conclusion

It is becoming increasingly clear today that there is a continuous development within the NS, especially in the effort to increase the professionalism of the work of NGOs, which is reflected in the efforts to make their activities more visible and to promote communication with the public through their own services and media, although especially in the field of media awareness, the NS is still looking for suitable ways to present its activities sufficiently, competently and convincingly. As the previous text showed, the students of the FMC TBU represent a helping hand of the regional organizations of the TBU, who contribute significantly with their innovative approach at the time of their studies to the professionalization of NGOs in the field of marketing and promotion, whether it is the application of new marketing methods, changes in product designs, packaging, services, or primarily in innovation in advertising, promotion and communication. Despite the fact that at the beginning of the process the invention and especially the possibility of applying creative thinking plays the role of the primary motivational factor, the development of competencies enabling the graduates to enter the labor market is an essential aspect. And it is PRON that can represent an imaginary springboard into the NS world, built on the constructive connection of the theory and practice with the foundation of future career orientation.

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Marketing Decisions of Young Product Designers: A Study in the University Environment in the Czech Republic

Dagmar Weberova and Lenka Lizbetinova

Abstract Customer requirements for products are often volatile and influenced by culture or current trends. The role of designers is therefore not simple. They have to make serious decisions concerning two strong aspects—functionality and design (aesthetics of the design). These are not easy decisions. Moreover, designers have to take into consideration customer requirements. This study gives insight into how university students—young designers—perceive the importance of specific aspects of product design. This article aims to determine the most important aspects of designing products by young designers who are future graduates of applied arts. To achieve the goal, the article is based on the partial outputs of the research conducted through a questionnaire survey in 2018. Altogether, 136 university design students were approached. They were encouraged to share their preferences when deciding on customer requirements in the following aspects: overall visual appearance of the product, ergonomic aspects, aesthetic aspects, functionality, manipulability, and selection of material. Furthermore, students were asked to deal with customer preferences from the ecological, economic, aesthetic, functional, and technological point of view. To evaluate the obtained data, descriptive statistics is used. In addition, the ANOVA test is applied too in order to measure the differences tested for statistical significance in the 5% significance level between opinions of the investigated statement and a view of customer product preferences from the perspective of young designers. The presented outcomes of the research are useful for understanding the attitudes that the generation of young designers has towards the design in general, more specially towards the design process, and most importantly towards complex design thinking showing their new, modern, and innovative approach in terms of customer engagement.

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341

1 Introduction

Industry 4.0 presents a state-of-the-art communications technology that connects cyber and physical systems. Although the true power of Industry 4.0 lies in the network of smart machines that are digitally connected and are able to share information, workforce is still needed. Therefore, innovative companies, realizing Industry 4.0's potential, are looking for opportunities to upskill their current staff and recruit new employees with the right skills. Young designers, future university graduates, are or will be challenged with taking on new responsibilities arising from the digitization of the manufacturing process. Because the role of design is still growing and the need to develop creativity is evident in all sectors [1]. Machines can handle some production [2] but products receive added value created by designers. Most companies offer a similar range of products and have comparable pricing policies. Design is a key component that often distinguishes their products from those produced by their competitors. Creativity is a serious process that requires the creation of conditions for qualified designers or design studios [2]. The EU member countries are interested in linking educational programs to market needs. Great training support can bring the necessary skilled workforce to carry out changes to Industry 4.0. In these industries, it is necessary to introduce a creative component as part of thinking and to introduce tailor-made training programs or to cooperate with companies [1]. For example, in Germany, in higher education, schools cooperate with corporate companies operating in large markets and draw up individual tailor-made plans for students. Thus, the education system promotes individualism and a broad interface [3]. In general, design brings additional value and functional benefits and these creative components give companies both a competitive advantage in the market and a valid innovative tool.

Design of a product is crucially important in promoting the product to the customer. Designers should also be familiar with the consumer market because this knowledge enables them to apply the unique combination of product qualities reflected in its overall visual appearance, ergonomic and ecological factors, aesthetic aspects, functionality, manipulability, and material selection. Their creative work is inevitably accompanied by the Design Thinking process that goes hand in hand with the technological development. It includes the process of defining the way to be taken to create the product and it also means interconnection of all key aspects. Thus, the role of designers is to create models or prototypes that should be verified by the buyer to make sure that the designer's conception meets the customer's expectations [4]. It is also necessary to perceive design process and thinking as coordinated process leading to creative, innovative and alternatively unconventional solutions [5]. Design Thinking has added value to many products and things that have been reflected in the creation of timeless objects, with emphasis

on the use of new materials, technologies and procedures [6]. Customer orientation and understanding of their needs are key elements to Design Thinking. Design Thinking does not look for solutions for the organization but for its customer. It can be applied to find new solutions for tangible products but it can be applied in the sector of services, too [7]. Design Thinking has an impact on education in the twenty-first century because it involves creative thinking in solving problems [8]. However, implementation of Design Thinking does not necessarily need to end only in the design of new products. If it is applied inside the organization, it can help to initiate organizational change or trigger a change in corporate culture [9]. According to R. Martin, it is necessary to promote the use of Design Thinking by employees, management and investors [10]. The goal is a collaborative form of cooperation and customer orientation [10].

The aim of this article is to present how young designers perceive important aspects that have to be taken into consideration when designing products. These aspects include aesthetic and ergonomic factors, functionality, manipulability, material selection, and the overall visual appearance of the designed product. In addition, the research takes a closer look at how familiar young designers are with customer preferences from the ecological, economic, aesthetic, functional, and technological point of view.

2   Material and Methods

The aim of the paper is to determine the most important aspects in the design of products by young designers who are future graduates of artistic study programs. These aspects result from the students' sense of responsibility applied in product design and from their view on customer preferences. Obviously, when designing a product, the designers find themselves in a dilemma when to choose among the aspects such as ecological, economic, aesthetic, functional, ergonomic, technological, or manipulative. In order to obtain data, the quantitative research method was used. A questionnaire, as a tool for data collection, was employed in this research. The questionnaire was distributed at the Faculty of Multimedia Communications, Tomas Bata University in Zlin, Czech Republic and it was filled out by 136 students of the following departments: Product Design, Industrial Design, Spatial Design, Shoe Design, Digital Design, Graphic Design, and Advertising Photography. Designers, including young designers, often develop products according to the wish and description provided by the customers. The designer analyses the wish and gives his or her interpretation of the solution—a physical product [11]. This means that product design is a professional skill based on education and experience gained through practice [12]. Many practical courses offered at the Faculty of Multimedia Communications end with a practical exam—students design a product ordered by external customers such as companies, agencies, entrepreneurs, or individual customers. These students were chosen to participate in our research because it is important to learn how young designers think when considering key factors

when designing a product. The research was conducted in the winter semester in November 2018 and it was part of the Internal Design Thinking Research Project.

In this paper, only partial research results are presented. They result from a designer's responsibilities for the overall visual appearance of the product, ergonomic factors, aesthetic aspects, functionality, manipulability, and material selection. A Likert scale of four points was used to answer this question: definitely yes—yes—no—definitely not. Furthermore, the respondents were asked to rank customer preferences of products. Numbers 1 to 5 were offered while 5 meant most important and 1 least important. Finally, the respondents were asked to circle the degree of agreement with the statement "The design of the product is more important than its functionality". A Likert scale of five points was offered to answer this question: definitely agree—agree—I do not know—disagree—definitely disagree.

The data collected in the questionnaire were evaluated by using the basic descriptive statistics. In addition, the ANOVA test, designed for measuring dependent variables (selected aspects in product design), was used at a 5% significance level.

3   Results and Discussion

Young designers face a number of challenges when considering design attributes in their creative work. These attributes include the overall visual appearance of the product as well as its ergonomic, aesthetic aspects, manipulability and material selection. The respondents had the opportunity to evaluate the importance of individual attributes on a scale of 1 to 4, where 1 meant *definitely not* and 4 *definitely yes*. According to the research results (see Table 1), young designers feel primarily responsible for the overall visual appearance of the product (weighted average was 3.77) and its aesthetic aspects (3.61). They feel the smallest responsibility in connection with the issue of manipulability and ergonomic aspects.

This research also dealt with the question how the young generation of designers perceives customer preferences and how important they are in product design. Ecological, economic, aesthetic, functional and technological aspects were considered. Designers ranked these aspects by relevance to customers when buying a product

Table 1 Young designers' perception of responsibility for the attributes of the proposed product

	N	Minimum	Maximum	Mean	Std. deviation
Overall visual appearance of the product	136	3	4	3.77	.421
Ergonomic aspects	136	2	4	3.30	.612
Aesthetic aspects	136	3	4	3.61	.489
Functionality	136	2	4	3.33	.658
Manipulability	136	2	4	2.99	.650
Material selection	136	2	4	3.34	.611
Valid N (list wise)	136				

Source: Authors' own research

Table 2 Customer preferences from the perspective of young designers

	N	Minimum	Maximum	Mean	Std. Deviation
Ecological	136	1	5	1.89	1.146
Economic	136	1	5	3.60	1.226
Aesthetic	136	1	5	3.60	1.163
Functional	136	2	5	4.13	.933
Technological	136	1	5	1.99	.989
Valid N (list wise)	136				

Source: Authors' own research

from 5 to 1 (5—the most important and 1 meant the least important). It is clear from the results (Table 2) that young designers consider ecological and technological aspects to be of the least importance to customers (1.89 and 1.99, which is close to 2—this means minor importance). On the contrary, they consider the most important for customers to be functional aspects (4.13), which are followed by economic and aesthetic aspects (both are of 3.6).

The respondents were also asked about their attitude to the statements relating to the importance of product design. In this article, the following statement was chosen: "Product design is more important than its functionality". The purpose of this statement was to take a closer look at how designers perceive customer preferences. The designers had the opportunity to answer the selected statement in a scale from 1 to 6, where 1 meant *I definitely disagree* and 6 *I definitely agree*. The ANOVA test was used—the null hypothesis suggests that there are no statistically significant differences in the 5% significance level between opinions of the investigated statement and a view of customer product preferences from the perspective of young designers. The test results are presented in Table 3. It is clear from the presented results that the null hypothesis was confirmed. This means that there are no significant statistical differences within the respondents' view of claiming that product design is more important than functionality, and looking at customer preferences in terms of product.

The aim of this research was to investigate which aspects of value are considered important by young designers when designing a product. Based on our research results, young designers think that functionality is the key requirement by customers. This holds particularly true when customers behave in a rational way. However, it can be often seen that the most functional design cannot compete with the more original and daring products [13]. This is mostly visible with individual customers who tend to involve emotions in their buying process. Therefore, young designers need to understand that their products must win both the hearts and minds of their customers because their final choice is frequently based on the process of 'falling in love' with a design and its qualities while functional requirements are met [13]. Thus, both the aesthetic and functional aspects are equally important.

Table 3 ANOVA test results

		Sum of squares	df	Mean square	F	Sig.
Ecologic	Between groups	3.488	3	1.163	0.883	0.452
	Within groups	173.857	132	1.317		
	Total	177.346	135			
Economic	Between groups	5.991	3	1.997	1.340	0.264
	Within groups	196.766	132	1.491		
	Total	202.757	135			
Aesthetic	Between groups	10.342	3	3.447	2.642	0.052
	Within groups	172.217	132	1.305		
	Total	182.559	135			
Functional	Between groups	5.719	3	1.906	2.249	0.086
	Within groups	111.899	132	0.848		
	Total	117.618	135			
Technological	Between groups	1.208	3	0.403	0.406	0.749
	Within groups	130.763	132	0.991		
	Total	131.971	135			

Source: Authors' own research

4 Conclusion

The aim of the paper was to determine young designers' perspective on their responsibility in project design in comparison with customer preferences. The limitation of this study is that it has only been conducted at the Faculty of Multimedia Communications, Tomas Bata University in Zlin. It is planned to extend this research to other schools in the Czech Republic and Slovakia in near future. Looking at the presented results, it is clear that the young designers feel particularly responsible for the overall appearance of the product and its aesthetic aspects. In addition, they also feel responsible for material selection and functionality. Young designers participating in our research are aware of the fact that it is the functionality and manipulability that are the most valued aspects by consumers in their buying decision making process. Aesthetic and economic aspects are considered secondary to functionality. The least important aspect from the designers' point of view is the ecological question for the customer. Subsequently, the research results were verified by the ANOVA test, which confirmed that from the point of view of young designers, the aspect of functionality is still the most important issue for customers who are then influenced by the product design too. Our research results can lead to improvements in the education process of young designers in terms of increasing their responsibility for their work in the area of product design.

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Attractiveness of Small Cities in Rural or Abandoned Regions

Lenka Lizbetinova and Vladimir Nyvlt

Abstract Small and medium-sized municipalities in regions, where former industry collapsed (coal mines closed, manufacturing transferred to cheaper countries, etc.) are facing outflow of people in productive age and brain drain. This results in an aging population, and even lower attractiveness for youngers to stay or to come, despite wonderful nature around and potential for tourism. Our research aims to understand both the reasons for such development and real needs of the region and people living there. Improving the living comfort of local people, focus on how to support attractiveness for tourists. Design of infrastructure for young families, seniors, bikers, make better connection and marketing of beautiful surroundings may be way, how to move forward. The aim of the article was to determine the possibilities of increasing the comfort and attractiveness of selected municipalities for current and potential residents and tourists. Our research was focused on two medium-sized municipalities, with a different past background. Outputs may be generalized and suggestive for other municipalities worldwide.

Keywords Small and medium-sized cities · Pedestrian safety · Sustainable development · Rural regions · Tourism

1 Introduction

Recent rapid growth of automobile traffic, the problem of pedestrian safety—especially children, disabled and elderly people, time and space accessibility and maintaining a comfortable life in cities and other municipalities became a heavily addressed issue. In large cities, this issue is usually dealt systematically with appropriate attention. Small and medium-sized towns in remote regions have similar problems, but this attention and systematic solution is minimal or none. Thus

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these municipalities are exposed to a higher risk of outflows of inhabitants and less attractiveness to tourists [1]. On the other hand, just these municipalities have enormous potential for a comfortable life of inhabitants and have many potential attractions in tourism. Our study is based on examples of two middle cities one in the South Bohemian region and the other in Bohemian-Moravian Highlands, which are two of many cities fighting to solve the issues of creating a safe and comfortable city for living and tourism. These municipalities are Chotěboř and Milevsko.

Chotěboř is a medium-sized town located in the Havlíčkův Brod district in the Bohemian-Moravian Highlands (Vysočina) Region. As major local employers, there are engineering and woodworking companies. In addition, we can find a brewery, also important in terms of tourism [2]. Chotěboř is a small district, i.e. the municipal authority provides state administration for a district that has approximately 22,000 inhabitants in 31 municipalities [3]. Milevsko is a medium-sized municipality located in the South Bohemian Region, Písek District. The Milevsko Region has approximately 18,546 inhabitants [3]. The Milevsko microregion is a' geographically, economically and socially homogeneous territory. In town Milevsko itself currently live roughly 8400 citizens [4].

The average age of the population as of 1 January 2017 was 43.1 in Chotěboř and 45.6 in Milevsko. Both cities are struggling with the outflow of inhabitants, especially young people, and the population is aging slowly. Figure 1 shows population development from 2004 to 2018 in Milevsko and Chotěboř. In 10 years (from 2008 to 2018) the number of inhabitants in Chotěboř decreased by 6.2% and in Milevsko by 8.5% (Fig. 1).
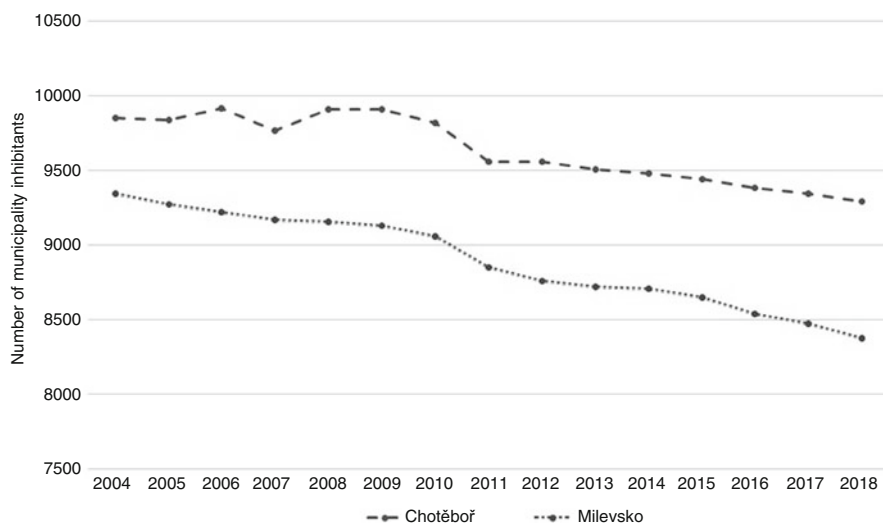
Fig. 1 Graph describes development of total population of both cities surveyed. Source: [3]

2 Material and Methods

The aim of the article was to determine the possibilities of increasing the comfort and attractiveness of selected municipalities for current and potential residents and tourists. Paper presents partial research results. Our research has been focused on two medium-sized municipalities, with a different past background The first of them is Milevsko, a medium-sized municipality located in the South Bohemian Region, Písek District and the other, our research has been focused on is Chotěboř, a medium-sized town located in the Havlíčkův Brod district in the Bohemian-Moravian Highlands Region. In order to determine the possibilities of increasing the comfort and attractiveness of these municipalities, information from several secondary sources have been used: survey results, municipal websites, strategic documents of the municipalities, results of the feeling map, statistical data.These gained information are supplemented by a field survey—by own observation in the place of the municipality from which the record has been made. This observation has taken place 25.3.2019 in Milevsko and 8.4.2019 in Chotěboř. Data analysis, logical deduction and synthesis methods were used to process the data. The outputs have been summarized in the SWOT analysis, which provides an overview of the strengths and weaknesses in terms of increasing the comfort and attractiveness of the solved municipalities for current, potential inhabitants and tourists. The SWOT analysis also provides a basis for further addressing the issues in these municipalities and creates background for further research.

3 Results and Discussion

Milevsko is a town that, within the Smart City program—Living Milevsko, is trying to systematically address the increase in comfort of living standard and sustainable development. On the contrary, Chotěboř does not solve the current situation with a conceptual approach. Both municipalities are faced with the problem of today's small and medium-sized municipalities that are not close to big cities or large businesses that create a sufficient amount of potential jobs. Milevsko plans to address the issue of job opportunities by building an industrial area that has strategic potential from the perspective of the planned transport infrastructure. The following section summarizes the information from the point of view of industrial development impact, urban amenities, tourist, relaxation and occupational attributes, which are based on the analysis of strategic documents, websites, research conducted in the areas, the Milevsko feeling map [5] and the field observation.

3.1 Milevsko

Transport The interconnection of the town itself and its surroundings is at a relatively good level. Lower class roads and one class I road pass through the city, where No. 19 is one of the relatively busy roads [4]. In the town center there is comfortably accessible bus station and in a remote part a train station accessible form the center by bus shuttle, which provides a considerable amount of connections every day. It is planned to bypass the city in the future, which is particularly important from industrial development point of view.

Civic Amenities Health care is provided in the city by the local policlinic. As part of children's education, the town offers its citizens and also citizens of the surrounding villages the opportunity to attend one of 4 nursery schools, as well as 2 elementary schools, the Grammar School Milevsko, the professional secondary school Milevsko, but also one elementary Art School. Given that there is an increase in the proportion of citizens over the age of 65 (2018 inhabitants in 2017—data from the Czech Statistical Office), municipality administration provides care by the care center, nursing homes (2 in Milevsko and 5 in the administrative district) and homes for seniors (3 workplaces).

Cultural, Relaxation and Interest Attributes Milevsko offers possibilities for cultural and tourist activities e.g. monastery founded in 1187 or the Church of Sts. Bartholomew located in the town center on the square of Edvard Beneš and the synagogue. The town also houses the Milevsko Culture House and the Milevsko Museum, the House of Children and Youth. Two retirement clubs are active there. People also may enjoy sports and recreation area Milevsko (summer stadium and sports hall), outdoor swimming pool, tennis courts, canine club, zoo but also the natural environment that surrounds Milevsko and last but not least the parks and ponds in the built-up area of the city. Milevsko is natural center of the tourist area of Toulava [6, 7].

Results of Milevsko Feeling Map

- Residents are proud on: the monastery, E. Beneš Square including all the major buildings in its closest neighborhood, especially the Church of Sts. Bartholomew and City Hall. Furthermore, old Mill or park Pheasant Farm, children's playground near Suchan's pond, Šibeňák.
- Positive perceived places: Šibeňák, Hajda and Líšnický pond, where the quiet natural environment was generally positively perceived, where you can relax or play sports.
- The center of social life: House of Culture, Milevsko Amphitheater, businesses located in the city center, but also Milevsko cinema or the main road in the city center itself.
- Places perceived negatively: The most unsightly and unsustainable spaces were most often referred to as places such as the train station, the old housing residential state, the park at Tyrš Square, the bus station, Pod Farou Street, U Váhy Street and Sokolovská Street [5].

Strengths, weaknesses, opportunities and threats to both towns were determined on the basis of the information obtained (Table 1).

3.2 Chotěboř

Transport The town surroundings are interconnected through second and third class roads with the town center being. Busy traffic in the city center is a potential danger to pedestrians and cyclists. Second class road II346 connects the town with the I34 first class road. Bus station located on the central square inappropriately restricts further development of the town center, train station situated in a remote part with no bus shuttle with center limits access to train services. Nearby the town is small grassy airport.

Civic Amenities There are full civic amenities in the town i.e. banks, employment office, fast rescue service, a number of private doctors including specialists, a rehabilitation institute, a nursing home for physically and mentally handicapped children and a post office, about twenty public catering and refreshment companies, a hotel and a guesthouse plus other hostels, three supermarkets, one department store, the city has its own market. Near the town center there is a nursery, a kindergarten, two primary schools, a vocational school, a business academy with a higher education, and secondary school. Local authorities have decided to build a house for the elderly.

Cultural, Relaxation and Interest Attributes Historical zone of the old town, including a castle with a large park lies in the northern part of the town. In the east of the city people may use numerous sports facilities, which gradually pass into the wild in the Železné mountains protected area with the nearby Doubrava Valley. Fifty different associations, non-profit organizations, bands or sports clubs are registered and active. Cultural activities include a cultural center, a gym house, a cinema, a town museum, and a central library with an information center. "Friend of music" club, Elementary art school and other associations and organizations regularly organize concerts or other events in the town. For having some sport activities and relax, there is a sports hall, a summer stadium with a football pitch, an indoor ice rink, a shooting range, a fitness center, a solarium, tennis and volleyball courts, a ski slope with a lift. Břevnická Dam outside the town is natural center for bathing and recreation during summer.

3.3 SWOT Analysis of the Milevsko and Chotěboř Municipality

Based on the data obtained, it was possible to create the concept of Swot analysis, which is shown in Table 1.

Table 1 SWOT analysis of the Milevsko and Chotěboř municipality

Strengths	Weaknesses
• Necessary civic amenities • Built sports and relaxation facilities • Smart-city program living Milevsko and its activities • Connection to the transport infrastructure of the neighborhood—road and train transport • Reduction of traffic through the city through the I19 road (Milevsko) • Touristic potential of Toulava area and monastery complex (Milevsko), Bohemian-Moravian Highlands region, castle and brewery (Chotebor) • A highly developed sense of belonging to an area that has been developing for a long time • Leisure activities for older citizens and mothers with children	• Existence of problematic places where citizens feel uncomfortable or threatened (feeling map—Milevsko) • There is no infrastructure for cycle paths within the city that are linked to the extavilan. • Insufficient provision of barrier-free pedestrian communications. • Few jobs for residents • Cutting the town into two sections—road I19 (Milevsko) • Overexposed capacity of bus station and thus inefficiently used space in the city center (Milevsko) • Missing communication for pedestrians and cyclists to railway station (Milevsko) • Traffic overexposure of roads passing through the city (Chotěboř) • Lack of facilities for care of citizens over 60 (Chotěboř) • Missing surveys to improve population comfort—traffic surveys, urban surveys, feeling map (Chotebor)
Opportunities	*Threats*
• Solving problematic places marked in the feeling map (Milevsko) and developing a feeling map and other necessary surveys (Chotěboř) • Building a bypass around the town—also for the industrial park (Milevsko) and reducing the frequency of passageways (Chotěboř) • Realization of industrial zone project Support activities to increase interest and awareness of the monastery (Milevsko), chateau (Chotěboř) • Increase of tourist potential, relaxation activities, decommissioning of the town traffic—system of bicycle paths within the municipality and surroundings and their connection to rural areas • Increasing the attractiveness and accessibility of the city for endangered population groups—a barrier-free center for pedestrian • Engaging in Smart-city program (Chotěboř) • Building new facilities to increase the tourist attractiveness of the area	• The aging of the population and the outflow of the younger generation beyond job opportunities • Stagnation of smart city activities—living Milevsko • Not building a city bypass • Ineffective conceptual solution of cycle paths in towns or their non-implementation • A non-conceptual solution to the barrier-free movement of pedestrians around the town centers • Increasing automobile traffic—increasing traffic intensity and the need for parking spaces by increasing the number of vehicles per inhabitant of towns • Lack of funding to address problematic sites marked in the feeling map • Un-connectedness of planned city strategies and thus non-conceptual solution of the issue • Poor promotion of tourist attractions

Aspects that match the results of the feeling map, where the people feel unrest and danger, have been determined as the disputable points. They are places characterized by increased traffic, places with the need for crossings, insufficiently wide sidewalks, or places with completely missing walkways. This corresponds to the professional sources [8, 9], according to which the spaces overladen by urban factors like excessive traffic or similar, overload a mental state of the individual. In addition, such spaces are full of technical sounds that have been proven to be the least pleasant to human hearing [8]. It has been proven that in such places, people feel tense, alert, annoyed [8, 10], or may experience, for example, higher levels of stress in such. In general, rural areas and disadvantageous regions need the support of the community and the promotion of the unique characteristics of the place to be transformed to a destination [11, 12] mine.

4   Conclusion

The aim of the project is to develop a methodology for adjusting the city's interior, i.e. streets, squares and parks, etc. in such a way as to increase the proportion of non-motorized traffic, reduce the load on the urban space by motorized transport and thus reduce the amount of pollutants and traffic accidents. Another goal is to intensify social life, support the mobility of seniors and increase the availability of important facilities for them (health, cultural, social, leisure, etc.). This means a greater inclusion of this ever-growing population, which is often limited by the lack of convenient transport. One way is to reduce crime and increase traffic safety, which supports the activities of seniors in the city area. The secondary objective is to introduce or intensify the participation of citizens in transport or urban planning. Strengths and weaknesses in solved middle cities were determined in the paper. The involvement of the city's inhabitants in addressing the weaknesses represents a high potential for their engagement and at the same time the possibility of finding a truly effective solution. It is necessary to take into account the identified opportunities and threats that can jeopardize the solution of the current situation.

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Mental Maps and Their Potential for Tourism: A Case Study of Czech Municipality

Vladimír Nývlt and Lenka Ližbetinová

Abstract Tourists incoming to smaller remote regions, and to small and medium-sized municipalities in these regions becomes an issue. These municipalities not only face the question of how to increase their attractiveness for tourists, but also for the inhabitants themselves. The population in such small and medium-sized municipalities has a downward trend, for reasons of leaving for work. In this way, the so-called aging regions and the share of the older generation of people are growing. The development of tourism would be a partial solution to increase the occupational capacity of the population. The aim of the article is to determine the possible setting of the use of mental maps, which will be the basis for an effective strategic plan to develop the attractiveness of the Milevsko region within tourism. The article is based on the analysis of the secondary data of the region, analysis of the trends in the area, statistical data, results of the already implemented Milevsko map and interviews with the municipality representatives. The Milevsko microregion is an ideal area for rest and recreation, especially thanks to the large number of culturally historical monuments, charming landscape, pleasant climatic conditions, easy accessibility and peaceful rural character.

1 Introduction

Tourism in the Czech Republic has a progressive trend, with a year-on-year increase in the number of tourists staying in the Czech Republic from abroad and also among domestic tourists. 3.9 million guests arrived in the Czech Republic, and have been accommodated in hotels or hostels, during the first quarter of 2019, which was 1.8%

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more than in the same period of 2017 (half of this number were foreign tourists). Arrivals of domestic tourists increased by 3.8% year-on-year [1]. This trend was also reflected in an increase in the number of people employed in tourism. In 2017, it was 238,843 employees, what is 4.47% of total employment. Compared to 2012, this represents a 4% increase in staff since 2012 [2]. The most visited destinations are Prague and South Moravia. The attendance of smaller remote regions and their small and medium-sized municipalities is more problematic [3]. These municipalities not only face the question of how to increase their attractiveness for tourists, but also for their own inhabitants. The population in these smaller and medium-sized municipalities has a decreasing trend when they go to work. These areas are so-called aging and the proportion of older generations of the population is increasing. The development of tourism would be a partial solution to increase the working capacity of the population.

These measures for the development and attractiveness of small and medium-sized municipalities need to be implemented within a strategically managed conceptual system. This should take into account not only the needs of tourists, but also the people who co-create the atmosphere of the region. It can be said that, as in business: a satisfied employee creates satisfied customers, this also applies to tourism. Satisfied residents create a pleasant atmosphere for visitors. It can be stated from the above that the perception of problematic and positive elements in the municipality or region by the inhabitants will secondary correspond with the perception of these elements by tourists [4]. Current trends in the development of strategic urban development documents gradually develop a participative approach to co-creating and shared responsibility for their subsequent implementation. But we still have a long way to go. When searching for a way to enable people to change their municipality, feeling maps are an attractive form of communication—they are able to attract the people, they are not too time-consuming for them and at the same time they will enable the municipality to get interesting information from people that can be further worked on in the preparation of the strategic document [5]. This paper aims to address the possible setting of the use of mental maps, which will be the basis for an effective strategic plan to develop the attractiveness of the Milevsko region within the tourism.

2   Mental Maps

Mental maps belong to a field called behavioural geography that studies the behaviour of individuals in space and, above all, their perception of location, site selection, or route selection. Geographers began to use them as early as the 1960s as an expression of the perception of the municipality or to study the spatial preferences of the population [4]. Mental maps are stored in human consciousness, where they are formed, modified, refined, and forgotten throughout their lives. It is therefore the subjective opinion of the author on a given geographical area—for example, a municipality or housing estate [6]. One of the first examples of the use of mental

maps in regional development in our country, at that time still in paper version, was the preparation of the territorial plan of Klášterec nad Ohří in 1998 [5].

Feeling maps are a subset of mental maps, and their research and utilization is one of the new geographic trends. In the Czech Republic, the feeling map project is very popular, especially because it brings the opportunity to involve municipality dwellers in deciding their future [6]. The concept of feeling maps begins to be reflected in the practice of the authorities as a basis for the development of strategic plans for municipalities and the subsequent streamlining of the territory, e.g. Olomouc, Brno, Liberec and others [7]. This concept came to the Czech Republic relatively recently from abroad, where it is one of the popular forms of communication between local governments and their inhabitants. Abroad, feeling maps are used, for example, for security analyses (Hungary), tourism preferences (Austria) or participatory public space planning (Finland). In the UK, the "FixMyStreet" web portal for urban residents has been set up to address problems in their neighbourhood. In addition to writing posts, people can also see the changes that have been made to remedy problems found [4, 5].

3   Material and Methods

The aim of the article is to determine the possible setting of the use of mental maps, which will be the basis for an effective strategic plan to develop the attractiveness of the Milevsko region within tourism. The article is based on the analysis of secondary data of the region's documents, analysis of trends in the area, statistical data, results of the already realized Milevsko feeling map and interviews with the municipality representatives.

The feeling map is a participatory tool enabling citizens to be actively involved in collecting information about a particular location [7]. The results obtained can be a valuable source of information for local governments as supporting documents e.g. for planning investment projects or transport conceptual solutions. The essence of gathering information does not lie in the free drawing of responses, but in the real map created, including the legend. Subsequently, information is drawn into the map using a legend—feelings about a particular place [6]. Everything is based on the fact that just as individual places can evoke emotions, emotions can also influence the perception of space itself [8].

The outputs of the analysis are presented in the form of a proposal of a suitable form of utilization of the mental map, which would serve as a basis for the preparation of the strategic plan for the development of tourism in the Milevsko region. The focus was to answer the following questions: Is it possible to use already realized research into the perception of space for targeting in tourism? If further research using the feeling maps is done, what setting is appropriate in this case?

4 Results and Discussion

Demographic trends, in particular the aging of the population and the related life expectancy in Europe, also affect consumer change. Especially in developed countries, seniors, in addition to their free time, also have sufficient funds and, thanks to their healthy lifestyle, they are often in good physical condition, and so the demand of this segment of tourists is growing faster than demand in tourism in general [9]. It is assumed that the segment of seniors with their specific needs will grow.

Regarding the situation in the Milevsko microregion, thanks to its relatively well-preserved environment and rural character, it has great potential for the development of rural tourism, especially rural tourism and agrotourism same as similar places in the Europe [10].

4.1 Use of Mental Maps in the Milevsko Region

In 2017, research was conducted on the perception of space in the municipality of Milevsko using a feeling map within the bachelor thesis. A total of 255 people were interviewed, which was 3% of the population in a given year [6]. The research focused on the perception of the population in Milevsko. It explored the respondent's relationship to Milevsko, his or her knowledge, perception and time spent here, the perception of space where respondent feels well, where he/she feels unwell, where he/she feels threatened/feeling of danger—the uneasiness he/she perceives as a neglected environment, what is proud of the municipality, what he/she sees as a zone of peace and as a zone of social life. The results of the research determined the places of residence of dwellers and places of relaxation (green and water areas in and near the municipality), where the respondents feel good. Also the sports and relaxation area and the monastery of Milevsko were marked positively.

The inhabitants are especially proud of the historical monuments of the municipality—the monastery of Milevsko, the Church of Sts. Bartholomew on the square, historical building of the town hall and subsequent in then also on the sports and relaxation area. The three most perceived places near Milevsko, which provide a tranquil natural environment, views and the possibility of rest and sport, have been designated as places of peace and relaxation. Also, 2 parks and a pond within municipality area were marked as places, where the residents feel comfortable and provide possibility to escape and relaxation. As a centre of social life they perceive the House of Culture and the Amphitheater DM Milevsko. On the other hand, some businesses in the municipality centre were referred as a source of mess, noise and a higher incidence of drunken people. As places where the people do not feel well were marked the train and bus stations and some streets. The reason for that was the lack of cleanliness, neglect and unsightness of the space, its insufficient lighting, and the concentration of inadaptable citizens. The main road

through the municipality, with lack of crosswalks often narrow or missing sidewalks and increased traffic, has also been considered a problem.

Since this is a recent research, it can be assumed that similar research would be unnecessary. However, given the sample of respondents, their disproportionate gender distribution can be argued [6]. Only 29% of men took part in it, which does not produce a relevant sample in age and education categories. Also, the category of men over 71 years is 2.7% (according to statistics in Milevsko, this category has 28.4% of which 13.7% of men) and from 51 to 70 years 3.9% (according to statistics in Milevsko this category over 71 years has 18% of which 7% men) [11]. According to Pánek [8], the age categories of the population have different behaviour and thus perception.

At the same time, research has uncovered facts from which some have been addressed. Thanks to the determination of these perceptions, adjustments were made to the square, to the park overgrown with trees, to the concept of rebuilding the bus station, etc.

The third argument for the need for further research on the feeling map is the goal of increasing the attractiveness for tourism. Through this perspective, it is necessary to determine the basic and selective file, targeting the information to be obtained, and setting other research parameters (time, method of distribution, expected data processing, etc.). According to Pánek [4, 5], there are more possibilities of using and setting mental resp. feeling maps. An example of this is the feeling map for evaluation of cycling conditions of cycle-routes, and their surroundings in Reykjavik [8]. Another alternative is, for example, the perception of the neighbourhood in clinical trials and exercises with families and couples [12]. In 2010, Vodňany (Czech Republic) launched the Project of Afrodita Vodňanská where several hundred pupils from seven Vodňany schools recorded using coloured tapes how they felt in different corners of the municipality and how they used the space [13]. Utilization from the point of view of the safety of the population was applied in 2012 in Vimperk (Czech Republic) after the social tension in the municipality became stronger. So the municipality 's residents could mark exclamation marks on the map where they don't feel safe. Based on this feeling map of security and other statistics provided by the police, local councilors could draw up a plan to streamline the protection of the municipality 's inhabitants in the localities. Locations, where dangerous social phenomena occur, determinate in Bílina (Czech Republic), too. In addition to crime, people may also notice the appearance of prostitution, drug addicts or black dumps on the map.

4.2   Targeting the Feeling Map for Tourism Needs in Milevsko

In order to increase the attractiveness of the municipality of Milevsko and its surroundings in terms of tourism, it is necessary to determine the hidden potential, positive and negative elements of the area being solved. From this point of view, it is possible to start from the determined facts as a pre-research. Positive elements

of the solved area are the square and the church in the municipality centre, the historical monastery grounds, sports and relaxation centre and places with green and water areas in more remote areas of the built-up pert of Milevsko—Šibeňák, Hajda, Vašův mlýn and Líšnický pond [6]. These places already create some potential for tourism. The determination of potential places was not solved. Appropriate questions could be: what do you think about what could be of interest to visitors—children/adults/older generations/—in the municipality/nearby, what you are missing in the municipality (where—the bench, bike path, trash, information—board, pedestrian crosswalks, sidewalk, and so on), which place would you change (and how). There is a strong potential in building a cycle path network within and around the municipality. This will increase the availability of some of these sites. From the cycling point of view, the connection between the train and bus stations with the determined positive elements and the connection to the existing cycle paths is crucial. A free rental program for pedelecs was created in the municipality within the SmartCity project. Hence it would support this already existing program. It is interesting for tourists to choose questions such as—which places have pleasantly surprised/disappointed you, what is missing in the municipality and surroundings, where you feel good, which places motivated you to visit, what would you change, where you do not feel safe.

Places that are neglected, less illuminated, and with the presence of troubled people have been identified as negative elements [14]. Dočkalová [13] states that the most frequent occurrences in the environment of Czech municipalities are negative perceptions in the vicinity of major transport hubs, such as railway stations, street cleansing, traffic situations and green spaces. The same is true of Milevsko. Bus and train stations and their surroundings have been identified as places where residents do not feel comfortable and safe. In this case, the optimal solution would be to adjust the problematic elements of these marked areas—lighting, increased surveillance, aesthetic and functional space solutions. Subsequently, it would be useful to verify the change in perception of the solved places.

The necessary perception of space is for the purpose of tourism interesting from the point of view of visitors as well as from the perspective of the inhabitants. Visitors perceive the municipality more intensively because it is new. They can provide insight into the pitfalls and negative perceptions associated with their visit to the area. On the contrary, they are unable to assess the area as a whole, as their perception of space is usually limited to the parts visited. However, the municipality's inhabitants usually know the whole space and thus perceive it as a whole. This will increase the view of the less visited places. From this perspective, research should include both residents and visitors.

A view of the respondents' age category is possible through the question of what tourist categories are of interest to the area. There is no restriction here, so for the sake of completeness of the answers it is necessary to include in the research both the categories of children, the adult generation, the adults and the older categories of citizens. Their perception of space is quite different, and by including the category of children and the elderly there is a potential for obtaining background for so-called age friendly changes—increasing the availability and security of space for riskier

populations and tourists. Data collection from children is possible, for example, by project teaching in geography lessons or ethics—in a fun way. Conversely, data from the older generation can be obtained through senior interest groups, assisted care services, and directly in the houses for seniors. The distribution of the sample population according to sex, age and economic status is appropriate to help with the quota selection based on the percentage representation of individual categories from statistical data. The sample of tourists should have these categories proportionally divided—family with children, individuals, couples and groups/age and sex. For distribution, it is advisable to use a combination of offline and online forms of the questionnaire. By setting it correctly, it is possible to obtain valuable data to create the concept of increasing the attractiveness of the municipality and its surroundings.

5   Conclusion

Many small and medium-sized municipalities struggle with the problem of outflows, an increase in the average age of the population and the unacceptable concentration of traffic in the case of transit routes through the municipalities. This fact creates a vicious circle for the attraction of the area and the municipality for tourists. The aim is to create conditions that would make these areas more attractive to both residents and tourists. By increasing the number of tourists, the number of jobs in tourism is also creating for the people who often leave the municipality for work. That is why we understand this problem as connected and thus we see the importance of targeting the research not only to tourists but also to the inhabitants of the municipality and its surroundings. A suitable tool for ensuring the involvement of these identified groups appears to be a mind map, in particular, a feeling map. This should be focused on potential places of interest from the point of view of tourism, which is determined by those who are familiar with space. From this point of view, it is possible to use the already realized research into the perceived space for tourism targeting. Further research using a sensible map will already take these results into account and build on them. This means not only the creation and focus on tourist attractions, but also the complex solution of the municipality and its surroundings as such (security, aesthetics, functionality of the space). Resolves respondents' emotional attitudes to the space they are looking for and seeks incentives for efficient use of space (e.g. access to pedestrian and cyclist areas—targeted paths with clear delineation of necessary crossings, cycling routes separated from roadways, neatly and functionally designed centre of the municipality and both) railway station—enough benches, information boards and signposts, garbage bins), aesthetic effect of the space (e.g. sufficient necessary greenery, repair of dilapidated and neglected areas, increase of illumination in problem areas). The study presents how to access data by using a mental map in this context.

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Online Engagement Factors on Posts in Food Facebook Brand Pages in Greece

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Abstract Social Networking Sites are now considered to be a crucial channel of marketing communication with consumers. Food firms and food brands, use them intensively in order to promote them and earn market share in this difficult and competitive market. In order to promote food products through SNS, brand posts should attain high levels of engagement, as it is also true in other industries. The aim of this research is to assess the factors that increase engagement levels of food brand's Facebook posts. More specifically, 12 brand pages concerning food products, and 501 posts are examined, to find the features of posts that drew the attention of consumers. Our results suggest that the vividness of content (images), posting in working days, and positive/negative reactions increase the engagement levels and the popularity of posts, while status, videos and posting time does not have a significant effect on the engagement levels and popularity of a post. Our results provide insight in realizing how users engage with brand posts in Facebook using reactions, especially for food products, and offer suggestions for further research.

Keywords Social media marketing · Facebook · Engagement · Facebook reactions · Food · Greece

1 Introduction

Social media and social Networking sites (SNSs) are an inseparable part of the reality of billions of people around the world that affect every aspect of our everyday life, including the way that we interact with other people, search for

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information, work, have fun, and formulate our consumer behavior. Firms and organizations have taken advantage of the opportunities that came along with this new media, incorporating their use to their Integrated Marketing Communication (IMC) and marketing strategies of firms along with the traditional media of marketing communications they were using [1].

The use of SNSs in marketing however come with significant challenges that must be faced as there is a shift in the control of content and flow of information from firms and organizations to communities, or individual customers, and stakeholders [2], actively shaping their perceptions towards brands [3, 4], creating thus the need for governance structures that will manage this dynamic relationship [5]. Social media and Social Networking Sites (SNSs) has also utterly transformed the ways firms and brands communicate their value proposition, as we can now interact directly with consumers and stakeholders in an easier and more casual way, through a more personalized way of communication [6].

The significance and the growing development of implementation of SNSs by firms and brands, for marketing and business communication with customers and stakeholders, is outlined by a number of studies [7, 8]. Managers and marketers around the world are adopting using more aggressively Facebook and other social media and SNSs not as a side to their marketing strategies but as major one [8], and that is also true especially for food firms and brands [6, 9]. For example, food firms, food professionals and nutritionists use social media to promote healthy and sustainable food habits by creating engaging posts that will catch the attention of consumers [10–12].

The aim of the present research is to explore the factors affecting the popularity and the engagement level of posts by Greek food brand pages in Facebook. We have selected the 12 most popular food and consumer goods (FCGM) brand pages in Greece, that were found within the 120 most popular Facebook brand pages in Greece for a period of 3 months (April–June 2016). Attributes like the content of the post, the time that the post was published and the level of engagement and the nature of reactions to the post are examined. The novelty of our research lies in the fact that reactions were recently introduced by Facebook (24th February of 2016), for the period of time we are examining, providing therefore, a first glimpse in the way that SNSs users and consumers used the new feature in its early stages. Another contribution of our research is that we focus in a specific industry, namely food industry, with particular characteristics, concerning health and nutrition of the consumers [13], and very high importance for the Greek economy [6].

The rest of the paper is structured as follows. The following section briefly discusses the literature on the factors that affect the popularity and engagement of posts in Facebook, focusing on food products. Section 3 analyses the methodology of our research, the main characteristics of our sample and the variables used. Section 4 presents the main findings of our research and finally, Sect. 5 concludes the paper offering a brief discussion on the marketing implications of the presented results and suggestions for further research.

2   Literature Review

SNSs have engrossed the interest of scholars from various disciplines who examined the subject thoroughly, providing a number of definitions [14]. Described SNS considering the ways that their users interact with them as "a web-based service which is based on certain meaningful and valuable relationships including friendship, kinship, interests, and activities, and which allows individuals to network for a variety of purposes including sharing information, building and exploring relationships, and so on". These special characteristics of SNSs simplifies the process of interactions between users and contributes to the fast dissemination of those interactions between individuals or among individuals and organizations [2], instituting them as a vital instrument for creating and solidifying, two-way direction communication and bonds with consumers [15]. This has also been the case for food products as numerous studies show [4, 6, 12, 13, 16, 17].

Facebook provides numerous ways of interacting with consumers, through the creation of a dedicated brand page, offering a marketing tool that can augment customers' engagement and loyalty, apart from traditional Facebook ads. Users (or fans) can upload their own user generated content, and engage with a published post or comment of the firms/brand through likes, reactions, comment, and sharing [4, 18]. Social Media and Facebook had also a significant effect in food marketing, and the digitalization of the food industry, affecting consumer behavior and nutritional habits [9, 10, 12, 13].

The factors that affect the overall engagement level of consumers with posts in social media have been examined by a number of researchers [4]. Examined food and beverages brand pages, identified three main characteristics of posts in Facebook, that affect engagement: the type of the post, the content of the post, and the time of publication [19]. Researched 50 Facebook brand pages in Singapore, including food and beverage brands, concluding that vividness and interactivity were the main factors leading to increased engagement for posts [17]. Examined food retailers; posts in Facebook examining the effect of posting hours, and content. Finally, [10] examined the engagement levels of food and nutritional related posts in Facebook and Instagram and found out that vividness of the post with positive content can increase the engagement levels and the effect a post has on food consumers, for a healthy nutrition point of view.

In conclusion, literature proposes a number of factors that affect posts' popularity and engagement posts in brand Facebook pages. The vividness and interactivity of the published post, the time of the posting, and the length of the status or the text accompanying the post were found to be the most important. These attributes are going to be described and quantified for the specific research in the next sections.

3   Data and Methodology

The sample examined contains the posts from 12 food brand pages in Greece, that had the biggest number of fans-subscribers (likes) in July 2016, as provided by the Social Bakers site (https://www.socialbakers.com), [20] and were in Greek. These 12 food brands were within the 120 most popular brand pages for the same period of time. For those pages post data were mined, for a 3 month period namely April, May and June 2016, with the help of the online service fan page karma (https://www.fanpagekarma.com) [21]. A total of 501 posts was collected and analysed. In average, 42 posts were published by each brand with 46,696 likes and reactions, 2097 comments in average. In Table 1, the brands examined are presented, with data about the number of fans (likes), posts, comments, shares and reactions per post.

Following the relevant literature, presented in the previous section, we have distinguished four categories of variables that were found to impact the popularity and the engagement of posts in corporate or brand pages in Facebook. Those four categories are:

- The type of the post (*Text, Photos, Video*), that can be used to measure the vividness—interactivity of the post
- The time the post was published (*Working Days, Working Hours*)
- The length of the post measured in number of characters (*Post Size*)
- The number of positive (including Like) or negative reactions (*Positive Reactions, Negative Reactions*)

Using the above variables, we estimate the following regression (1):

$$\begin{aligned}
y_i = \beta_0 &+ \beta_1 \cdot Text + \beta_2 \cdot Photos + \beta_3 \cdot Video + \beta_4 \cdot WorkingDays \\
&+ \beta_5 \cdot WorkingHours + \beta_6 \cdot PostSize + \beta_7 \cdot PositiveReactions \\
&+ \beta_8 \, NegativeReactions + u_i
\end{aligned} \tag{1}$$

Table 1 Examined brands and Facebook brand page data

	Industry	Posts	Fans	Average comments	Average shares	Average reactions
1	Lacta	13	864,630	49.7	158.5	12,625.5
2	Merenda	13	298,232	28.3	63.8	5415.4
3	Nestlé Fitness	28	268,761	70.4	45.3	876.9
4	Horio	100	247,385	61.9	65.8	428.7
5	Kinder Bueno	54	222,879	81.1	10.4	176.9
6	KitKat	10	189,478	23.4	17.7	717.1
7	Yiotis	92	179,925	25.8	25.0	422.7
8	Philadelphia	6	163,554	7.2	14.2	838.0
9	NOYNOY	45	162,995	56.8	64.8	2954.2
10	Paylidis Chocolate	11	156,167	29.4	64.2	3366.5
11	Allatini	90	145,623	2.2	13.7	138.8
12	Lay's	39	142,081	150.8	21.1	394.5

The dependent variables are:

- y_1: engagement levels of the post that is measured as the natural logarithm of the total interactions of the post divided by the number of the fans at the time of the post.
- y_2: popularity of the post, measured as the natural logarithm of the total number of Likes and Reactions of the post, divided by the number of the fans at the time of the post.

Taking under consideration the relevant literature [2, 10, 17, 19, 22], it is expected that that posts that are characterized by high levels of vividness and interactivity will have a positive effect in engagement and popularity of a post. The same should hold true for positive reactions and working days and hours, while text, post size, and negative reactions are expected to have a negative reaction to both our dependents variables.

4   Empirical Results

The empirical results of our research are presented in this section in Table 2. As [22] also found the majority of posts are images and videos, accompanied by a related text that provides consumers with additional information and probably motivates them to engage with the post.

Both models are statistically significant since their F-statistic value is significant for p < 0.01. The adjusted R^2 value for model 1 (engagement) is 0.282 and for model 2 (popularity) is 0.298 that are satisfactory compared to values reported in relevant literature [17].

An examination of the estimated coefficients reveals interesting findings concerning the factors affecting the engagement and popularity of Facebook posts of food brands and firms. As expected and in line with relevant literature posts that include photos have an important positive, and statistically significant ($p < 0.01$) effect on both our dependent variables, indicating that vividness of a post boosts engagement [4, 10, 17]. Videos however does not seem to have a statistical important effect, while status post have a negative effect. Message length has no effect, that is contrary to what expected by the literature [22, 23], while both positive and negative reactions also have a positive and statistically significant effect on posts' popularity and engagement. Posting in a working day also seems to have an important and positive effect, while the hour of posting does not seem to matter [17].

Table 2 Regression analysis results

Variable	Engagement rate (1)	Popularity (2)
Status (text)	−0.985	−1.160∗∗
	(−1.725)	(−2.078)
Photo	0.303∗∗	0.376∗∗∗
	(2.137)	(2.710)
Video	0.077	0.118
	(0.321)	(0.504)
Workday	0.379∗∗∗	0.332∗∗
	(2.757)	(2.466)
Peak hour	−0.086	−0.032
	(−0.379)	(−0.143)
Message length	0.000	0.000∗∗
	(−1.232)	(−2.280)
Positive reactions	0.006∗∗∗	0.006∗∗∗
	(8.875)	(8.922)
Negative reactions	0.098∗∗∗	0.104∗∗∗
	(2.924)	(3.174)
Constant	−7.158∗∗∗	−7.294∗∗∗
	(−26.095)	(−27.201)
N	501	501
R^2	0.293	0.309
Adj. R^2	0.282	0.298
F—statistic	25.943	27.502

t-Statistics in parentheses
∗$p < 0.10$, ∗∗$p < 0.05$, ∗∗∗$p < 0.01$

5 Conclusions: Suggestions for Further Research

In this paper we have presented the factors that improve the engagement and popularity of posts in Greek food brand pages in Facebook, to provide insight that may be helpful for marketers seeking to improve the communication and interaction between consumers and brands in Facebook, especially in the food industry.

Using regression analysis for 12 brand pages, from food industry firms, and a total of 501 posts, we found that of image posts are an important attraction that gains engagement, for food brands. Both positive and negative reactions have a positive and significant effect, and may provide higher levels of engagement with consumers, and possibly enhance virality and e-WoM. Also we must note that posting in working days have also a positive effect in engagement and popularity of the posts.

These findings provide some interesting guidelines for marketers who wish to enhance the performance of their brand through social media marketing [24]. The inclusion of beautiful and vivid material in terms of photographs of the food product, as for example an attractive, aesthetically pleasing and innovative packaging design [25, 26] would be a plus factor for improving engagement of consumers with a food

brand. Also the usage of user generated content and more specifically images of the product would also be beneficial for the engagement of the posts we deliver in Facebook [27].

Our results however come with some limitations. First our research was conducted soon after the introduction of reactions by Facebook, therefore someone may argue that both consumers and brand pages were not accustomed with this feature, and most users preferred the usage of the familiar to them "Like". Moreover, reactions may also be misinterpreted as positive reactions may hide negative emotions as irony for example.

Further research should shed light in the use of reactions and a deeper analysis of the characteristics of the post, especially for food products and brands, using qualitative techniques such as content analysis. That would be especially useful in terms of posts related to nutrition and dietary issues. Also a deeper look at the design aspects of a post or the design of the packaging and the product and the way that they affect the engagement level of SNSs users, could provide with an holistic approach of how to bridge the real world with the digital world of SNSs and virtual communities.

Finally, our research can also be extended in other industries like the work of [28] in retail (i.e. telecommunications, technology products, fashion, etc.), that use more intensively social media marketing strategies. Finally, a fruitful field of study would be the extension of this methodology and analysis to include other social media and SNSs that are on the rise the last 2 years, such as Instagram or Snapchat.

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Blockchain Applications in Tourism and Tourism Marketing: A Short Review

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Abstract Blockchain is one of the most prominent and discusses technologies of the twenty-first century that has the potential to change, the way that we are conducting business, payments, and the management processes in a big number of industries. Based on the Distributed Ledger Technology (DLT), blockchain applications provides a breakthrough and innovative solutions due to the security they offer to the participants of the network, the efficiency of record keeping and transaction execution, and the automation solutions in terms of executing contracts when certain conditions are met (smart contracts). Despite the fact that most literature concerning blockchain focuses on its use in the finance industry and cryptocurrencies, there is a growing interest in the ways that this technology could be applied in other industries and management processes as well, both in the private and the public sector. In this paper, we are going to review the main propositions and findings in the literature concerning the use of blockchain technology in tourism and tourism marketing. We identify potential uses of blockchain in the tourism and hospitality industry in general and outline the benefits derived, and the challenges that will arise from the adoption of this innovative technology. Finally, we point out some direction for future research on the topic.

Keywords Blockchain · Applications · Tourism · Tourism marketing

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1 Introduction

Blockchain has gained a formidable reputation as the new technology that will dramatically change the way that business and organizations both in the private and public sector alike will operate in the years to come. The advent of blockchain technology and especially the success of its most prominent application to date, the cryptocurrency Bitcoin, has triggered a lot of media attention in recent years. This fact created a huge amount of interest across various industries [1–3] and a vivid public debate on the role and usage of the new technology.

The tourism industry is also under a period of transformation. The tourism industry has been changing rapidly since the Internet has enabled customers to search for and book their travel products online [4]. New technologies and business models have been transforming gradually the industry introducing concepts like smart tourism [5] and the extended use of information technology and social media [6, 7] shifting the balance of control from firms to tourists.

Blockchain can lead to further and more radical disruption of the current business models in tourism and tourism marketing, in the ways it offers and communicates its value proposition for its customers-tourists [8]. Major companies of the sector like TUI and Eurowings have already expressed their intention to test and adopt blockchain technology in their booking, reservation and payment systems [9, 10].

Notwithstanding, the importance and the potential of the use of this new technology in tourism development in every aspect of the value chain [11], research on the subject do not seem to keep up with industry's developments [12]. In this paper, we will attempt to briefly review the ways this new technology operates and its main characteristics, the possible uses and applications of blockchain in tourism and tourism marketing, and the research directions suggested by the relevant literature.

The remainder of the paper is structured as follows. The next section presents the underlying technology of blockchain and its characteristics. Section 3 briefly discusses blockchain applications in general and the research directions proposed by relevant literature. Section 4 discusses the potential applications of blockchain technology in tourism and tourism marketing with short case studies. Finally, the paper concludes with the discussion of the potential of blockchain offers for tourism, and by offering suggestions for future research.

2 Blockchain and Distributed Ledger Technology

Blockchain technology was the basis of Bitcoin, a peer to peer cryptographic payment system, created by Nakamoto [13], as a response to the lack of trust to the global financial created by the financial crisis of 2008. Bitcoin was one of the first applications of the Distributed Ledger Technology (DLT) that is in the essence of blockchain.

A blockchain consists of a distributed database of records (ledger) that is decentralized and records all transactions between the participating members of the blockchain [14]. The blockchain can be public or private and it is important to note that the governance of the network can be open to the public (permissionless) or closed (permissioned), where blockchains are private or consortium operated [1, 3].

The benefits of blockchain soon became obvious that extended far beyond the cryptocurrency applications. It offers a way of performing and recording transactions and updating payments in multiple (decentralized) distributed databases (ledgers), with identical copies maintained on numerous computer systems, controlled by different entities without a single centralized authority. Any digital interaction is traceable through a transparent and secure structure, that is resistant to both external and internal hacking attacks [15]. The enablement of performing almost real-time transactions of digital assets, on a distributed ledger made it a promising tool for the executing private contracts, or storing data, in unprecedented levels of security and efficiency, in multiple areas of economic activities [16].

Blockchain technology has six main characteristics [3, 17] that makes it suitable for a number of applications. Those are the decentralized nature and operation, transparency of data's records, open source access, autonomy and trust, immutability, and anonymity. The above characteristics also lead to enhanced security and auditability of the overall system [1, 2, 16], while the lack of intermediaries, build trust on the system, reduce the costs related to the transaction and maintaining a central database of records, and the risks of a collapse of the network due to malicious attacks [18].

Another important aspect of the technology that was introduced by Nick Szabo in 1997 and became very popular with the introduction of Ethereum [19] is smart contracts. Those contracts are executed within the blockchain in the case where there is a consensus between the involved parties that the terms of the contract are fulfilled. This is an automated procedure in a blockchain that does not need intermediaries for its completion, reducing hence transaction costs, and the lack of trust between the engaged parties [15].

Eliminating the need for intermediaries by providing the means for "writing down" a smart contact between the provider and the user of services, that is secure creates great opportunities for small firms as [20] suggests. Large firms (i.e. retailers, or tour operators) or even customers, might be inclined to increase their supplier networks and turn to smaller ones, as transaction costs go down, and trust is strengthened, providing thus business opportunities and competitive advantage to smaller firms. Those characteristics have drawn the attention of practitioners, and as [21] reports more than 50 industries would see their business model and operation be disrupted by the introduction of Blockchain in the years to come.

3   Blockchain Research Directions and Tourism

Irrespectively of the uncertain future of cryptocurrencies (like Bitcoin), due to their high risk and volatility [22] and their speculative use, the opportunities for applications of blockchain technology in both developed and markets are abundant [23, 24]. Describes these prospects as they foresee the evolution of blockchain from the digital currency in Blockchain 1.0 (Bitcoin) and digital finance in Blockchain 2.0 (Ethereum), to the digital society in Blockchain 3.0, with high levels of interoperability and scalability.

Blockchain technology will affect business models in three major ways [2], First, it will help build trust between the transacting parties by providing reliable platforms that will help authenticate traded goods, and validate transactions. Disintermediation is the second way, by providing wide and direct access to markets for businesses and consumers alike. And finally, blockchain will enhance operational efficiency and will help reduce operational costs for firms and organizations of both the public and the private sector alike.

The research on the issue is currently underdeveloped and has been focusing on the "behaviour" of Bitcoin in the market, and the financial aspects and applications of Blockchain as a way to facilitate all kind of financial transactions [25]. Distinguish three main areas of research on the application of blockchain technology in digital payments and transactions, but these can be extended to blockchain research in general [26]. These are (a) organizational issues related to the implementation of blockchain in everyday real-world business applications, (b) the interaction and the effect it will have with a competitive business environment, and finally (c) technology issues of the implementation [26]. Also identified four levels of analysis for each one of these research areas, that involve stakeholders affected by blockchain, namely users and society, intermediaries, platforms, firms, and industry.

Önder and Treiblmaier [12] suggest that tourism industry will be affected in the by the introduction of new paradigms and platforms of evaluation and review platforms, the adoption of cryptocurrencies and tokens by tourists and firms, and last but not least the limited role of intermediaries like tour operators that would result in changes in the industry market structure. Accordingly, they believe that future research on the issue should direct its focus in these three directions.

Kwok and Koh [11] also identify four main ways tourism and tourism marketing is going to be affected by introducing blockchain and its applications. The use of blockchain will enhance the tourists' experience due to the simplification of transactions with smart contracts. The main focus, however, remains in the financial aspects of the technology in the industry. Blockchain will also promote the tourists' experience through smart tourism [5, 27] and the augmenting effect it will have in smart cities as destinations [28].

Finally, Treiblmaier and Önder [29], examined the impact blockchain is going to have to the tourism industry under the prism of the four main organizational and strategic theories that explain the behavior of firms and organizations, namely agency theory, transaction cost theory, resource-based view of the firm and actor-

network theory. Their analysis provides insights on the ways that blockchain will affect the structure and operation of the tourism industry, but also the management and the strategic positioning of firms in the industry. In the following section, we are going to review some of the applications of blockchain in tourism and tourism marketing.

4 Blockchain Applications in Tourism

Blockchain applications in tourism can enhance tourism in various fields [10, 11, 30]. The application of smart contracts and DAPs will enhance smart tourism and the value proposition tourism firms and destinations offer to their guests-visitors [27]. In Fig. 1 we summarize some of the main applications of blockchain in tourism.

The applications of blockchain can change the ways we interact with customers and verify the content they generate for hotels and other venues that is of importance for tourism marketing [7, 32]. Loyalty programs in the form of collecting tokens can change the experience offered to the visitors of a hotel or a destination with the use of smart tourism and blockchain and facilitate the management of these programs [30]. Another issue that we should not underestimate, is the hype that blockchain and cryptocurrencies carry at the time. Adoption of the technology can be promoted and attract visitors, especially for destinations that lack comparative advantage like small islands [11].

Digital payments can be used with cryptocurrencies with customers (B2C) and suppliers (B2B), in conjunction with smart contracts to ensure the speed and security of transactions, creating trust and social capital between the participating parties [25]. Additionally, tourism firms can use Initial Coin Offerings (ICOs) in order to get access to the necessary fund, and cash flow, for investments and expansion to new activities that will improve the experience offered to their visitors [10].

Businesses are already experimenting with, and start implementing this new technology. The world-class tour operator TUI has adopted blockchain to keep real-time data records for their operation with smart contracts. The platform TUI has developed, BedSwap uses a blockchain-enabled system to maintain records of hotel bed inventories that can then be offered across markets cheaper, efficiently and instantly, abolishing the need for an intermediary [33].

Apart from the big companies of the industry that are already investing in the adoption of blockchain for their streamline operations, we should note that already new start-ups are created every day all around the world using blockchain technologies to provide business solutions or to raise funds in all industries including tourism [9, 27, 34]. Report 13 blockchain solutions in tourism that have used blockchain either to raise funds through ICOs, or by using tokens to provide services to tourists and firms. For example, Gozo is a blockchain platform (https://www.gozo.io) that offers solutions for loyalty and rewards programs for travelers through the collection of points that can be exchanged with travel rewards or crypto tokens (like Ethereum or the GOZO token) in an electronic wallet.
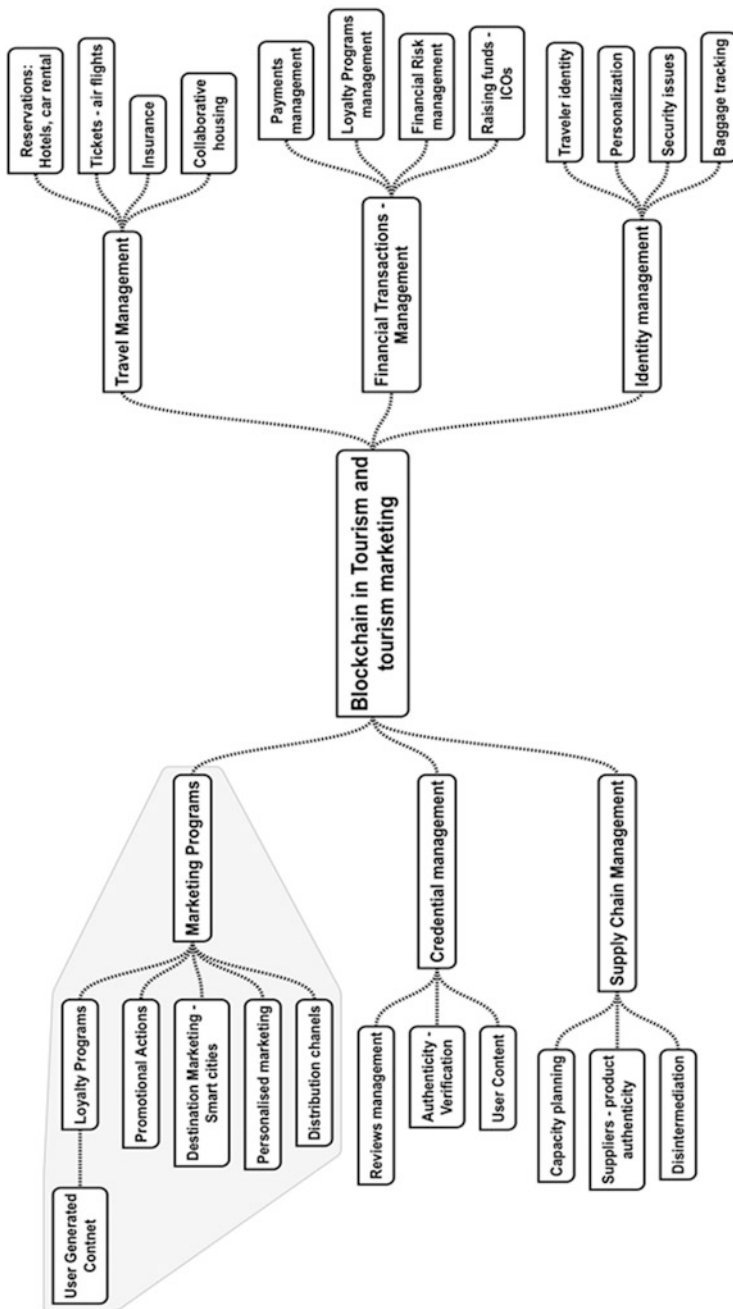
Fig. 1 Applications of blockchain in tourism (adopted from [10, 11, 31], own elaboration)

Another example of the use of blockchain in the tourism industry is Globaltourist (https://globaltourist.io) that uses Ethereum based token (TOTO) to encourage tourists to participate in a reviewing platform for the quality of tourism services. Winding Tree (www.windingtree.com) is a travel agent that also uses an Ethereum powered blockchain and tokens with smart contracts, allowing consumers to communicate directly with hotels, and property owners to book their accommodation, through a decentralized open source system. WindingTree (https://windingtree.com) has formed strategic alliances with various airline firms like Air New Zealand and Lufthansa [35], to explore the application of blockchain in air-tickets booking and baggage tracking.

Besides Bitcoin and the other cryptocurrencies, more specialized platforms in tourism like Tripago (https://www.tripagotravel.io) are created, permitting the creation of an electronic wallet that can be used for international transactions for tourists, without currency exchange issues. At the same time, new start-ups and firms use blockchain to raise funds for their development like the tourism rating service is Let's Trip (https://www.letstrip.io) that is currently running an ICO to get the necessary funds needed.

Another important aspect is the strategic implications and opportunities offered for smaller firms in the industry. Since there will be no need for intermediaries, small firms will be able to contact potential guests directly, without having to pay commissions to intermediaries like Expedia or Booking. Such an example of a blockchain start-up is Roomado (www.roomado.com), an online travel agent, that is focused on providing a range of travel services to small businesses using Ethereum based coins, as reported by Nam et al. [27].

5 Conclusions: Suggestions for Further Research

As larger firms and more stakeholders begin to realize the capabilities and the potential the technology has to offer solutions into real-world business problems and situations, blockchain technology will gain popularity and become the main issue in business and management. Notwithstanding its importance and its potential, there is still a great level of ignorance regarding blockchain and its potential application and impact it may have in tourism by all the involved parties and stakeholders [29].

The purpose of this paper was to shortly review some of the aspects concerning the application of blockchain in Tourism and tourism marketing, offering some insight into the existing literature and current applications. The academic discussion in the topic may still be in its early stages but it grows exponentially, as blockchain is becoming increasingly mainstream.

The focus still remains in the financial applications of blockchain in society and economy [1, 3, 16], and the technical issues accompanying the implementation of this technology. The same holds true about the tourism industry. Blockchain holds the potential of transforming the tourism value chain into a well-coordinated autonomous distributed network that will provide a great experience to tourists.

The successful implementation of blockchain will rely on creating links and interoperable networks within the tourism industry but also with related industries. Such an attempt will require substantial collaboration among tourism stakeholders (government, tourists, businesses and destination marketing organizations) that will help reinvent tourist experience, providing a competitive advantage to local and regional touristic markets and regions, contributing to regional and national economies.

The need for further and detailed research in the various aspects of blockchain application in Tourism is imperative since literature in the subject is still making its first steps [11, 12]. Future research could focus on investigating the readiness of both firms and tourists to adopt such a disruptive technology is of crucial importance. The use of appropriate models of technology adoption like TAM or UTAUT could provide insight into the factors that will influence the successful implementation of blockchain in tourism, for all stakeholders. The strategic impact of blockchain technology on the positioning of SMEs of the sector and the potential it has for marketing are also fields that worth the attention of researchers as we progress into a digital society.

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Comparisons of Health Tourism Within the EU Countries

Hatice Ulusoy and **Nurperihan Tosun**

Abstract Health tourism is one of the sectors that includes two important branches, medical tourism and wellness-spa tourism and forms with the dynamism of health and tourism together. Today, the obstacles to accessing the health system, long waiting lists, the lack of diagnosis and treatment with new technology in countries of people, the desire to get quality health services at a more affordable cost, as well as vacationing or seeing different holiday destinations increase the demand for medical tourism. In this study, it is aimed to compare and evaluate the health tourism potential of the European Union, which has the third largest population in the world, in the context of medical tourism. France, Germany, Italy, Sweden and Poland are economically important health tourism destinations. More than three-quarters of EU health tourism revenues are only among these five countries.

Keywords Health tourism · EU countries · Medical tourism

1 Introduction

1.1 Importance of Health Tourism

Health tourism including medical tourism is among the topics that have become a trend in the international travel and tourism industry as well as the health sector [1–5]. Having problems while accessing to health services because of reasons such as high costs of health services in people's own countries, long waiting sequences,

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etc., or demanding better quality health care, new treatment options with the high technology opportunities in the target market, desire to have a vacation together with treatment, less travel barriers in world of today, increased physical, mental and social well-being, the need to deal with job stress make the health tourism open to improvement. All these factors have led health service providers, tourism enterprises and holiday destinations to develop products and services to meet this demand [6–8].

Health tourism is primarily classified as medical tourism, thermal tourism and wellness & spa tourism, and diversified such as elderly tourism and disabled tourism as well in different sources. In this respect, different destinations stand out for each type of tourism. According to the Global Wellness Tourism Economy 2018 report, the top five countries in wellness tourism are the USA, Germany, China, France and Japan. According to the Medical Tourism Index 2016 data, the first five destinations that stand out in the field of medical tourism in the world, respectively; Canada, UK, Israel, Singapore and India. In this study, it is aimed to compare European Union countries in terms of health tourism and evaluate their potential in order to raise an awareness on health tourism issues in these countries.

2   Conceptual Framework

In the conceptual framework of the study, the health tourism and health tourism types, which are medical tourism and wellness tourism concepts, will be mentioned and health tourism potentials of European Union countries will be evaluated from the medical tourism perspective. Concepts such as health tourism, medical tourism and wellness tourism were searched in databases Google Scholar, Ebsco, and web pages of relevant institutions such as WHO, UNWTO. The research is not exhaustive and aims to compare European Union countries in terms of health tourism and evaluate their potential.

2.1   Health Tourism

Health tourism is a huge international trade industry in which continents, countries, regions, destinations and thousands of service providers compete against each other [5]. Many economic, demographic and lifestyle related factors affect the development of this type of tourism [9]. The term of health tourism was first used in 1973 in the mean of a tour visiting a health facility that uses natural water, climate and the environment of a country. Although there is not a single common definition in the literature about health tourism, its scope is quite wide. Helmy [10] stated that

health tourism is a broad concept that includes health care, surgery, plastic surgery, spa, cure treatment, rehabilitation, alternative therapies, healing with leisure [11]. Carrera and Bridges [4] describe health tourism as traveling abroad in order to make individuals' bodies and minds feel better, develop and renew. According to UNWTO [12]; health tourism is a kind of tourism that contributes to physical, mental and/or spiritual health which is its main motivation through medical and healthy life-based activities. Health tourism in general can be defined as traveling to a different location to receive health and treatment. Although there are different classifications for health tourism, in principle it is classified as medical tourism and wellness-spa tourism.

Medical Tourism Medical tourism is a form of patient mobility in which patients travel abroad or across borders to obtain health care including transplantation, fertility, cosmetic, dental and elective surgery [13]. Another definition of medical tourism is to go to a place other than residence place for medical diagnosis and treatment or therapy, and at the same time, to benefit from the touristic places and facilities. Medical tourism is an important economic activity combining two important sectors which are tourism and medicine [14]. The concept of medical tourism defines planned actions of patients to receive specially purchased and regulated medical assistance. In this context, the aims of health tourists are to utilize advanced technology in the presentation of health services, to get better quality health care, to access health services faster by avoiding long waiting rows and to reach the necessary medical procedures with lower costs [15]. When the current trends of health tourists are checked, medical tourism mobility ranges from developed countries such as America, EU countries, Canada, to other developing cities such as Bangkok, Singapore, New Delhi, and Seoul. The main reasons for this mobility are to benefit from health services with low cost, improved competencies and time efficiency [11]. Major medical tourism practices are cosmetic surgery, orthopedic surgery, heart surgery and dental applications. The price, quality and availability of the services in the destination play an important role in the decisions of the patients and their families. Therefore, successful sustainable health tourism depends on many issues such as health system structure, legislation, patient safety procedures, education standards, insurance framework, travel and visa restrictions, patient experience and treatment outcomes of the country. In Fetscherin and Stephano [16] medical tourism index study, which was performed in 2015, they measured the performance of country-based medical tourism destinations and identified the first 30 countries. In this study, the EU countries among 30 countries are Germany, England, Italy, France, Spain and Poland. Considering that the European Union population is 508 million and it has the third largest population in the world after China and India, it can be seen that the EU cannot benefit sufficiently in itself from this tourism mobility.

Wellness Tourism Global Wellness tourism is defined as travels one made to protect and maintain goodness state of his/her own. In this context, body treatments made with healthy living methods and natural products such as all kinds of massage, skin care, mud and algae baths, bath care treatments, thalasso therapy can be counted within the scope of wellness [16]. The word Wellness comes as originally from the association of words WELLbeing and fitNESS. Wellness tourists are described as tourists going on vacation to improve their health and well-being. Wellness tourism is carried out by "healthy" people whose main purpose is to protect or promote their health, and medical tourism is the opposite where medical tourists seek treatment for a certain medical condition or disorder [17]. Wellness tourism, which is estimated to be 639.4 billion dollars in 2017, is a rapidly growing tourism segment. Considering that it has grown by 6.5% annually between the years 2015–2017, it is more than twice the growth rate of general tourism industry. Travelers had a tourism mobility of 139 million in 2015 and 830 million in 2017. While Europe continues to be the target for the highest number of wellness trips across the regions, North America is leading the wellness tourism expenditures [18].

2.2 European Union and Health Tourism

There are opportunities that EU provides for EU citizens in every field. The European Directive 2011/24/EU, which is about cross-border health services, is enabling access to health care for European citizens in every country of the Union. When the demographic structure of the EU is analyzed, aging is one of the biggest social and economic challenges facing the EU [18]. The increase in life length expectancy has brought along issues such as elderly care, management of chronic diseases and improving quality of life. In addition, the costs of health care services have increased in EU countries as in all other countries and this situation has brought along problems such as long waiting order in health systems, changing the scope of health insurance and increasing number of insurance policies.

As seen in Table 1, the total number of trips performed to EU in 2014 is 1 billion 361 million, of which 900 million are domestic and 461 million international travels. The total size of the health tourism market is 61.1 million, including 56 million domestic and 5.1 million international. The share of health tourism in all travels to Europe is 4.3. 5.8% of the arrivals to the EU are domestic and 1.1% are international [19]. The proportion of EU citizens receiving treatment in another EU country for the last 12 months is only 5% and 2% of this is planned [20].

Table 1 Distribution of trips performed to European Union in 2014 [1]

	All trips	Domestic	International
Total trips (million)	1361	900	461
Health tourism trips (million)	61.1	56.0	5.1
Health tourism share of total trips (%)	4.3	5.8	1.1

In terms of overnight stays, health tourism in the EU consists of 233.7 million nights for domestic trips and 16.7 million for international travels, and a total of 250.4 million. The average duration of domestic accommodation is 4.1 nights and for international travels this is 8.5 nights. The share of international health tourism arrivals is between 0.3% (UK) and 5.3% (Estonia). While Sweden, Finland and France have very small international health tourism shares (1–3%), Austria accounts for 35% of international tourists for health care, and for small countries such as Luxembourg and Malta, this number rises to approximately 80%.

In terms of the departures from EU countries for health tourism, the total travels for health reasons (international and domestic) range from approximately 1.3% (UK) to 14.3% (Latvia). International output shares are less than 12% in Romania, Spain, Portugal and France, over 60% in Belgium and Malta, and more than 95% in Luxembourg. When the arrivals coming for the purpose of health tourism, the main actors representing health tourism in the EU are Germany, France and Sweden. These three countries constitute 58% of the market share [19].

Table 2 shows data on EU-28 health tourism for 2014 [20]. Accordingly, EU citizens spend most of their nightly travels within their own countries (75%) or within the European Union (19%).

Information Related to Patient Mobility Within EU Countries According to the European Commission [21] leading countries that form the patient mobility demand are France, Denmark, Poland, Norway and Slovakia. The leading countries in the choice of patients are Germany, Spain, Portugal, Belgium, Czech Republic. It is possible to propose that EU citizens tend to go to neighboring countries. When the mobility of the patients in the EU countries in 2017 is examined, 63% of all patients are French. In addition to mobility in France, the other significant flow is from Denmark to Germany, from Poland to the Czech Republic and from Norway to Spain [21]. In another report, published in 2017, it was stated that the number of wellness tours to Europe in 2015–2017 was 291.8 million. Germany, France and the UK are the first three countries to be preferred. In 2015–2017, the expenditure on wellness tourism was 210.8 billion dollars. The roots of wellness tourism in Europe are very old. Europeans are sophisticated health consumers based on long-standing cultural and historical traditions in the region, which in turn affects their tendency for health travel [18].

Table 2 Information on EU tourism, 2014 [21]

	Trips of EU residents					International arrivals
	All departures (domestic and international)	Domestic departures	Intra EU	Outside EU	Total	Total
Trips (million)	1209	900	231	77	309	461
Trips (%)	100	74.4	19.1	6.4	25.6	
Nights (million)	6334	3700	1976	659	2634	1930
Nights (%)	100	58.4	31.2	10.4	41.6	
Expenditure (billion €)	n/a	664	n/a	n/a	n/a	362
Average trip length (nights)	5.2	4.1	8.5	8.5	8.5	4.2
Average expenditure per trip (€)	n/a	738	n/a	n/a	n/a	785

3 Conclusion

The medical tourism industry is growing day by day. In 2014, a total of 56 million domestic and 5.1 million international travels were recorded in the EU-28. The share of health tourism in these travels is less than 4.3% of all arrivals. Only 5.8% of domestic arrivals and 1.1% of all international entrances are health tourism travels. Health tourism revenues are approximately 34 billion euros, representing 4.6% of all tourism revenues and 0.33% of EU-28 GDP. France, Germany, Italy, Sweden and Poland are economically important health tourism destinations. More than three-quarters of EU health tourism revenues are only among these five countries. In addition, three-quarters and two-thirds of the total market of EU countries in health tourism belong to wellness tourism [19]. As stated above the share of health tourism in all travels to Europe was only 4.3. The proportion of EU citizens receiving treatment in another EU country for the last 12 months was only 5% and 2% of this was planned [20]. It can be argued that health tourism should be developed within the EU countries. Especially the development in the medical tourism sector will have a positive effect in some related sectors like the hospital industry, the medical equipment industry and the pharmaceutical industry. The medical tourism sector leads to increase in the number of doctors, nurses and medical technicians. Medical tourism has a lot of sub-sectors and plays an important role in the world economy.

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Contemporary Telemedicine Applications in the Provision of Mental Health Services in Greece

Maria Tsirintani, Lamprini Andrikopoulou, and Spyridon Binioris

Abstract The contribution of Telepsychiatry and its applications to the national health care systems of the countries is particularly important, with positive effects according the reviewing bibliography. It is characterized by efficiency as a service with high quality rates and is the only solution for patients from remote areas to contact and access with the providers in the mental health system. Our article highlights the importance of Telepsychiatry minimizing the cost of traveling. Because of reduced published articles in the field our study is also measuring the technology acceptance by Health care professionals of the Psychiatric Sector in Greece. Finally, there are interview responses to four queries derived from the existing literature and experience about the factors influencing the spread of the use of Telepsychiatry and the reduced amount of published articles.

Keywords Telemedicine · Telepsychiatry · Technology acceptance · Greece

1 Background

Telepsychiatry provides services from Mental Health Professionals that aim to diagnose, treat and educate patients directly concerned with psychiatric illnesses [1] and patients who live in hard-to-reach, rural areas [2, 3]. While a large proportion of sufferers are characterized by limited mobility [4]. It also addresses specific populations, such as the elderly, children, newly migrated, culturally isolated, detachable members of the military, prisoners and caregivers of mentally ill patients [5–7]. Communication between Healthcare Professionals and Patients can be done by videoconference, e-mail, and personal messages [8]. According to Malhotra et al. [9], telepsychiatry or electronic mental health, is defined as the use of information and communication technology to provide or support remote services

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in cases of people with psychiatric illnesses. Worldwide, the first documented use of the Telepsychiatry Service dates back to 1950. However, its deployment and widespread use took place in parallel with the development of the first digital telephony networks in 1990 [6]. The aim of our study is to show the importance of Telepsychiatry even if the published articles in the field are reduced and also to measure the relative technology acceptance by certified Healthcare professionals in Greece.

1.1 Special Requirements of Telepsychiatry

During the videoconference meeting, the treating physician records facial movements, speech, emotions and human expressions, so the quality of the equipment and the experience of the physician itself is important [10]. Furthermore, the physician may be able to notice feelings of horror or rash on the patient's face [11]. There must be excellent sound and acoustics in the room. This is accomplished by the detailed and precise design and placement of the tools (microphones), the type of microphones to be used and the distance between them and the people, the disappearance of parallel sounds and the echo with the placement of absorbing objects and the imprinting of the protocols for videoconferencing [10]. In order to activate a system that will provide the ideal environment for telepsychiatric sessions, there is an encoder and decoder in both places. The encoder encodes the image and sound, and the decoder receives and plays the video and audio by synchronizing these two elements. It is important to find coding tools that promote the interoperability of systems, possibly coming from different manufacturers [4]. A further disadvantage is the cost of installing the equipment and creating the system [12]. A basic tool for supporting medical work in telepsychiatry is the Electronic Medical Record. The preparation begins at the patient's first visit and follows him throughout his follow-up. It records demographics and personal data of people with mental illness associated with ICD-10 diagnoses, course of treatment, medical history, examination results, and medication [6].

1.2 Benefits of Telepsychiatry Services

The benefits to patients and structures of Telepsychiatry are the following:

- Patient access to mental health care and care services, especially for people with no access, is better achieved [1].
- Reduction in travel, time and expense spent on travel, [13] with the possibility for patients to have direct contact with the Doctor when they are in an emergency [1].

- Continuation of Doctor–Patient collaboration is promoted without interruption of their communication and patient monitoring and treatment [1].
- Improvement of the patient's contact with his physician [1].
- Elimination in the stigma and refusal of the individual to communicate with a specialist when the Health condition is deemed urgent to take care of [1].
- Possibility of covering more spaces, as well as involving more professionals and systems, including the school environment [12].
- Research has shown that the use of Telepsychiatry applications is an equivalent treatment regimen in relation to live therapy—on-site visit of the patient to Mental Health Service Bodies [4].

In order to gain these benefits to the patients with Mental Health disorders especially for those living in remote areas it is necessary to apply appropriate Telepsychiatry programs with acceptance by the Healthcare professionals.

2 Methodology

For the purpose of this research, a systematic review of bibliographic sources and published articles was chosen, with the criteria of choice the validity, relevance and timeliness in the applications of Telepsychiatry worldwide, the potential concerns of health care professionals regarding Telepsychiatry development according its later evolution and country-specific applications.

2.1 Search Strategy and Databases

This systematic literature review was conducted in September 2018 in biomedical electronic databases [PubMed, PubMed Central, PubMed Health] as well as in Scopus Google Scholar and Hellenic Psychiatric Society databases seeking peer-reviewed articles related to the topics. After a detailed study of the literature and the simultaneous search for additional views about the attitude and acceptance of Health Care Professionals regarding the applications of Telepsychiatry in Greece, some questions were raised for interview:

- What are the reasons for influencing the spread of the use of Telepsychiatry,
- What are the reasons for the reduced presentation of Health Professionals' work on Telepsychiatry, in published articles,
- What are the causal factors influencing the use of Telepsychiatry Technology, and
- Is there sufficient development of Telemedicine sector in Greece.

2.2 Choice of Population

In order to capture and highlight the current reality in Greece regarding the level of acceptance and use of Telepsychiatry, it was considered necessary to search for experiences by health care professionals who are employed in Mental Health in Greece. The case of the Psychiatric Hospital of Attica—Dafni and the non-governmental organization CLIMAKA was chosen as most representative in the field because they are the main providers of Telepsychiatry in the National Telemedicine Network of Greece that takes place only in the 2nd Health Region of Piraeus and Aegean. In Dafni there are 24 psychiatric experts and psychologists certified in Telepsychiatry. Twenty of them participated in our research with other four certified experts from CLIMAKA as the target population who, with their experience and knowledge, offered and expressed perceptions and attitudes that shaped the final view on the level of acceptance of health care professionals in the applications of Telepsychiatry in Greece.

2.3 Choice of Research Tool

Twenty-five questionnaires were distributed in total, supplemented by 18 psychiatrists, 6 psychologists and 1 administrator. The first part of the questionnaire included questions about the demographics of respondents. In the second part participants were asked to respond to the standard questionnaire written by Davis [14], the Technology Acceptance Model (TAM), and then an interview took place with four queries that emerged from the study of the existing bibliography and the simultaneous search for additional views and attitudes. The Davis Questionnaire [14] contains six questions about perceived utility and then six questions about perceived ease of use, with grading scale: Absolutely Agree/Agree/Neither Agree—nor Disagree/Disagree/Disagree Totally. The tool used for statistical analysis of the results was the Statistical Package for Social Sciences (SPSS), version 17.

2.4 Eligibility Criteria

The inclusion criteria established to conduct this review is detailed as follows:

- Peer-reviewed articles, books and web sites. Therefore, conference papers, doctoral dissertations or any other document types were not included.
- Articles focused on the topics relevant to the topics.
- Articles written in English and Greek.
- In Google Scholar search, patents and citations were excluded.

3   Results

From the results of the questions asked by the respondents about the perceived usefulness and perceived ease of use, there is a positive correlation to the aggregate picture of these results, as the majority of the answers corresponded to the answers: "Absolutely Agree" and "Agree" as analyzed in Table 1. One respondent stated his refusal to answer the question "I consider the applications of Telepsychiatry flexible in order to interact with them", because it expressed the mistaken impression and transfer of meaning in the Greek language, from the template questionnaire Technology Acceptance Model, Davis [14]. Therefore, a total of 24 respondents answered this question (Table 1).

In conclusion, with respect to the perceived usefulness index and the perceived ease of use index of the Davis Technology Acceptance Model Questionnaire [14], the applications of Telepsychiatry meet the requirements of the Model. In the interview, as already mentioned, the respondents, all certified in the systematic use of telemedicine services through videoconference in mental health structures were asked to answer questions that emerged when studying the bibliography. Initially, respondents voiced the question if there are reasons for influencing the spread of the use of Telepsychiatry. The reasons concern about the need for personal contact of professionals with their incidents, the maintenance of medical secrecy and distrust, the lack of financial and technological resources, and finally, inadequate information and advertising of telepsychiatric programs. Respondents agree that Telepsychiatry is the most efficient and simple process for remote areas, minimizing the cost of traveling. The second question focused on the causal factors that prompted practitioners who are already adopting and incorporating telepsychiatry applications in their work and not presenting their work in publications, resulting in a limited number of articles and publications in databases. The reasons cited by

Table 1 Concentrated analysis of positive responses

	Absolutely agree	Agree	Total answers
Perceived usefulness			
Question 6th	7	9	25
Question 7th	6	9	25
Question 8th	5	13	25
Question 9th	5	12	25
Question 10th	10	9	25
Question 11th	12	10	25
Perceived ease of use			
Question 12th	10	15	25
Question 13th	7	12	25
Question 14th	10	9	25
Question 15th	9	10	24
Question 16th	8	10	25
Question 17th	8	17	25

the professionals are the inadequate familiarization of professionals with technical means and research and writing activity, the lack of time and knowledge, the malfunctioning of electronic prescription system applications in combination with the impact of bureaucracy on their work, their workload and their pressure. The third question was aimed at investigating the causal factors influencing the deployment of Telepsychiatry Technology in Greece. The reasons for this are the age of mental health practitioners, concern for medical confidentiality and distrust, private service coverage, the lack of telepsychiatric programs, and the lack of legal certainty—institutional safeguarding of the services provided. Additionally, reasons for this are the superior quality of personal contact services, the lack of trained staff in new technologies, the resistance by professionals already using Telepsychiatry applications, reasons of economic and political system, lack of information and incomplete technological infrastructure in the remote areas of the network. The last question in the questionnaire urged respondents to state whether there is sufficient development of the telemedicine sector in Greece. Twenty-four percent responded positively, 64% said there was no growth and 12% did not know about it.

4 Discussion

The purpose of this study was to seek and record empirical practices and methodologies at international, European and national level in Greece regarding telemedicine applications in mental health services. At the same time, it aimed at highlighting the level of acceptance of Telepsychiatry applications by Healthcare Professionals working in hospital institutions and structures of the Greek Healthcare System that provide Mental Health Services. In the vast majority of articles, the researchers concluded that the contribution of Telepsychiatry and its applications to the national systems of countries regardless of the continent is particularly important, with undoubtedly positive effects. It is characterized by efficiency [3, 4, 15], it is a service with high quality rates and is the only solution for contact and access of the interested in the health system due to the enormous geographical distances. Therefore, it reduces travel costs, saves time and is offered at any time.

Practices from the USA show the originality and leadership of the countries in the field of Technology and Telepsychiatry Service, as compared to the rest of the continents. The majority of articles focus on studying the evolution of the Telepsychiatry service and the innovations that will bring about its further development [3, 4, 11]. Patients appear to show their preference for Telepsychiatry and report their satisfaction with the services they provide, because they are carried out at less cost and travel, and the younger generations like their face-to-face meeting with the treating physician [16]. Compared to the American continent, countries in Asia and Africa, they do not have the same significant effects on the psychiatric sector. In this situation the factors of the living and economic environment of the citizens contribute. In Asia, and especially in countries like Syria, due to the many years of military conflict and natural disasters, Telepsychiatry

is the only solution and access of citizens and refugees to psychiatric services. With the applications of telepsychiatric programs, the work of already established Health Professionals and Psychiatrists is supported, but their number is incomplete and insufficient for all those who show post-traumatic stress and symptoms of other ailments [17]. In Africa, the adverse conditions of the standard of living in most countries have also affected the conditions of hospitals. Research has shown that hospitals have a low level of readiness to adopt and implement eHealth services in general [18].

When searching for electronic sources in databases, regarding telepsychiatry and its applications at European level, the limited availability of articles was found, observing that the majority of them are the same, reviews of previous sources to verify and present the possibilities and the benefits of Telepsychiatry [19]. The vast majority of research studies and outputs comparisons and benefits between the telepsychiatry service and the psychiatric lifetime sessions, results and experiences of practices that have been applied to the telepsychiatry service and research findings following the adoption of telepsychiatric sessions in the war areas. In Europe, Telepsychiatry applications are highly demanded and developed by the Member States' Healthcare Systems with a high degree of efficiency and similar applications to those in America. In particular, telepsychiatry is located in Physiological Regulating Medicine (PRM), prisons [20], forensic and forensic settings [21, 22], as well as in the service of migrants, refugees and asylum seekers. Telepsychiatry is the most efficient and simpler process in Greece as well [6, 10]. In Italy only, telepsychiatry is developing at a slow pace due to moral and legal challenges [23]. The support and service of patients and people seeking mental health services emerged through the use of social media.

4.1 Strengths and Limitations

Reporting biases might have influenced the conclusions offered in this systematic review and its impact cannot be estimated.

5 Conclusion

The field of Telepsychiatry is provided and developed at different speeds at country level. The results of the bibliographic review and study have shown that Telepsychiatry is the most efficient and simple process in Greece for remote areas and there is augmented interest for the field in the National Telemedicine Network. In addition, from the results of the study, which was carried out about the perceived usefulness and perceived ease of use, there is a positive correlation to the aggregate picture, as the majority corresponded to the answers: "absolutely agree" and "agree". The bibliographic study revealed a reduced number of articles

and research studies in Telepsychiatry. From the responses to the interview about the factors influencing the spread of the use of Telepsychiatry and the reduced amount of published articles we are mentioning the need for personal contact of professionals with their incidents, the maintenance of medical secrecy and distrust, the lack of time, the inability to collect data in the electronic medical record, the lack of legal certainty, the lack of financial and technological resources, and the incomplete technological infrastructure in the remote areas of the network. Main activities that need to be taken to get the best out of this promising field concern, recruitment of specialized medical stuff, financial and technological coverage and educational programs. Further research about the use of mobiles in Telepsychiatry could give more solutions but also it is interesting to investigate if the use of social media increases mental health demand.

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Perceptions of Hospital Quality: A Case Study from Greece

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Abstract This paper investigates what citizens perceive as the quality that hospitals must have by rating 28 quality indicators deriving from literature and qualitative research. It focuses on a sample that was treated by the General Hospital of Kavala, Greece. The field survey used a structured questionnaire and was distributed to a sample of 448 patients that received medical services provided by at the General Hospital of Kavala. Results reveal directions for achieving future patient satisfaction in the health care system and specifically from public hospitals.

Keywords Patient perceptions · Health care · Hospital · Perceived quality

1 Introduction

A service as noted by Gronroos [1] is a complex phenomenon, incorporating a high degree of intangibility, leading to difficulty in evaluating its quality. He also states that "quality is what customers perceive" ([1], p. 11), thus, being of subjective manner. In health care, the care a patient receives is the outcome of a diverse mixture of interrelationships, and not a single comprehensive criterion [2, 3]. Thompson [3] in his model of hospital quality care named six elements: admission procedures, physical aspects, interpersonal aspects, information, discharge procedures, overall institutional assessments. Today, all organizations, even public non-profit ones, strive to provide high service quality and simultaneously be sufficient. This is even more significant in the health care area, and especially for Greece since extreme cut-offs in budgets of the national health care system have been implemented [4], thus transposing costs to citizens. Citizens though pay every month to the government an amount from their salary for health insurance, and due to their

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economic depreciation are forced to go to public hospitals [4], while a decline in public healthcare has been recognized [5].

Taking all the aforementioned into account, this paper focuses on the General Hospital of Kavala, Greece, and the aim of this paper is to identify patients' perceptions of hospital service quality and, has as objective to segment patients' based on their perceptions.

2   Literature Review

There is extended literature referring to health and hospital quality in particular, the bulk of which deals with patient satisfaction (e.g., [6–11]). Another crucial area of study deals with perceived quality from patient care [12], in the majority dealing from specific care conditions, situations or practices [13, 14] or from the health care personnel [15–18], or from specific attributes that constitute health care quality [19, 20]. Lastly, a quite large number deal with hospital service quality perceptions (e.g., [21–26]). As regards the Greek context, while a number deal with patient satisfaction [27–30] few academic papers have been found dealing with patients' perceptions of hospital quality [31–34].

Specifically, Christoglou et al. [31] surveyed 151 patients (external clients) and 155 internal clients (personnel) of the Cancer Hospital Theagenio (CHT), Thessalonica. Additionally, they surveyed 75 patients and 75 internal clients of the Katerini General Hospital in Greece. They used the SERVQUAL gap analysis and found importance in the assurance dimension. Vassiliadis et al. [34] using the 22-item SERVQUAL scale and the Kano service quality analysis approach, investigated the effects of new facilities on patients' perceptions of service quality of public secondary hospitals. They found that 'health care facility employees give patients personal attention' and 'health care facility employees tell patients exactly when services will be performed' are two important areas where secondary hospitals in Greece can make improvements. Fotiadis and Vassiliadis [32] explored the impact of new facilities on patients' perception of the quality of services in the General Hospital of Katerini, Greece (gap analysis method and paired—samples t-test) and found that all five dimensions of service quality were positively influenced. Gounaris [33] using DEA (Data Envelopment Analysis) and SEM (Structural Equation Models), measured the hospital operation, via measuring the efficiency and the responsiveness of health services delivery. He claims that "In the case of the general hospitals of the Greek NHS, the following factors of efficiency have been detected: (a) location, (b) hospital size, (c) illness severity, (d) bed coverage, (e) case mix (primary versus secondary services), (f) the surgical role (operations to days of treatment), (g) productivity of human resources and (h) health professional salaries" (p. 10).

3 Methodology

After an extensive literature review and a small-scale conversation with previous patients, a questionnaire was developed especially for this purpose. Convenience sampling with face to face interviews was conducted on the spot (in the hospital at deferent departments). Specifically, the survey was carried out at the General Hospital of Kavala, following a special permit by the Hospital Administrator, in February and March 2018. The question analyzed in this paper is "below you are given 28 items, please state to each one if you perceive it as a quality indicator for the General Hospital of Kavala, that you are a patient of". The scale used for responses was a five-point Likert scale. The final sample consists of 448 hospital patients, a sample size adequate for the study and the analysis performed.

4 Results

4.1 Sample

As to gender, 46.4% were males and 52.9% females, while age ranged from 18 to 96 years old with the mean age being 39.81 (StD = 16.080). As to marital status, 48.9% were married, 40.2% single and the rest 10.9% were widowed or divorced. As to their health insurance, 12.4% had OGA (federal insurance for farmers), 53.7% had EOPPY (federal insurance in the public and private sector), 7.6% had no insurance at all, 5.2% had private insurance company, and 21.1% other type of government insurance (such as for businessmen, sailors, for taxicab drivers, etc.). As to education, 8.3% had no education or primary education, 39.5% had secondary, 10.3% had post-secondary, and 41.9% had at least a bachelor's degree. Additionally, 49.6% were people with a monthly salary (civil servants or private sector employees or on a pension), 15.9% were businessman and farmers, and 32.9% were dependent from others (housekeepers, university students, unemployed). Lastly, as to family net monthly income, 25.7% fell in the low-income category (up to 600 euros), 21.9% from 600.01 to 1000.0 euros, 34.1% fell in the 1000.01–2000.00 euros category, and 18.3% had a net family monthly income more than 2000.00 euros.

4.2 Factor Analysis

Before factor analysis was conducted, descriptive analysis, i.e. Mean Scores (MS) was performed in order to explore at first the main items considered as of primary importance. Results revealed that the highest rated were: "The hospital must be clean and quiet" (MS = 4.74); "The medical care staff must be skilled and competent" (MS = 4.62), and "The food should be of good quality" (MS = 4.60). Exploratory Factor analysis (Table 1) with Principle Component analysis (Varimax

Table 1 Factor analysis of the hospitals' service quality items

Factors and incorporated items	Factors		
	1	2	3
First factor: Patient-related hospital core services. Accounts for 23.2% of TV; MFS = 4.51			
The hospital should provide comfortable and pleasant rooms	0.809		
The food should be of good quality	0.742		
The hospital must be clean and quiet	0.729		
The food must be personalized according to the patient and the condition	0.701		
The services in the hospital must be provided at the time they are scheduled	0.659		
The services in the hospital should be done as they had informed them that they will be done	0.635		
Nurses, doctors and other staff must respond to the patient's needs	0.605		
Staff must have a professional appearance	0.577		
Examination time should be minimal	0.564		
Check in and check out from the hospital should be done quickly and easily	0.546		
Second factor: Amenities and interest for the accompanying. Accounts for 19.1% of TV; MFS = 4.24			
The hospital should be interested in the patients' accompanying relatives		0.753	
The hospital must provide with temporary accommodation for the relatives of the patients hospitalized		0.743	
The hospital must have parking facilities for guests or those accompanying the patients		0.709	
Patient status information must be available		0.654	
Third-party auxiliary areas must be functional and appropriate for each case (e.g., ramps for people with disabilities, large waiting areas)		0.598	
Access to the hospital should be easy and comfortable		0.547	
The hospital facilities must be modern		0.542	
The hospital's machinery must be state-of-the-art		0.523	
Third factor: Healthcare staff capability and behaviour. Accounts for 17.3% of TV; MFS = 4.48			
The medical care staff must be skilled and competent			0.702
The behavior and ability of its staff (e.g., doctors, nurses) must inspire trust in patients			0.691
When a patient has a problem, the staff must show a sincere interest in solving the problem			0.632
Doctors, nurses and other staff should be courteous			0.609
The patient should be given appropriate explanations about his condition and treatment by the nursing staff			0.579
Doctors, nurses and other staff should aim to satisfy the patient			0.568

Table 2 Clusters derived based on perceptions of the hospitals' service quality

	Cluster		ANOVA	
	1	2	F	Sig.
Patient-related hospital core services	4.71	3.70	423.218	0.000
Amenities and interest for the accompanying	4.47	3.35	401.278	0.000
Healthcare staff capability and behaviour	4.68	3.68	365.959	0.000

rotation) produced three dimensions (Eigenvalues > 1.00) of perceived hospital quality (KMO = 0.955; BTS = 6480.146; df = 276; Sig. = 0.000), accounting for 59.6% of the total variance (TV). Four items were dropped due to double-loading (Medication should be administered according to patients' condition; There should be sufficient beds for patients admitted to clinics; The hospital must take care of the patients as they would expect; and In the hospital, I must feel safe from any danger so I will not be afraid). For each factor, the Mean Factor Score (MFS) was calculated in order to proceed to further analysis.

4.3 Cluster Analysis

K-Means Cluster analysis based on the MFS of the three dimensions provided with two clusters (Table 2).

Two clusters were produced based on the patient's perceptions of hospital quality, with ANOVA results demonstrating that they are statistically different for all three dimensions. The first cluster consists of 358 patients, and they consider that all three dimensions (and consequently items rated) must be provided by the hospital, taking in a little less interest the second dimension (Amenities and interest for the accompanying). This cluster is named the "demanding patients". The second cluster consists of 90 patients and tends to agree with the first and third dimension, while they are indifferent towards the second dimension (Amenities and interest for the accompanying). This cluster is the "tolerant patients". They are probably patients that are not in for many days and for so more tolerant in their demands. Additionally, no statistically significant differences were detected between clusters as regards gender, type of insurance and patients' education.

5 Conclusions-Limitations-Directions for Future Research

This study has presented a research that explores patients' perceptions of service quality using as a case study, the General Hospital of Kavala Greece, and proceed to group patients based on their perceptions, employing in-hospital research. Results reveal that the three highest rated items are the hospital must be clean and quiet,

the medical care staff must be skilled and competent, and the food should be of good quality. The first one has to do with avoiding inpatient hospital infections; the second has to do with the current brain drain of doctors and nurses that the hospitals are experiencing, and the third is required probably due to extreme cut-offs of the financial coverage towards hospitals from the government. Factor analysis decreased the item to three dimensions. In the same vein, the dimension with the highest MFS was the "Patient-related hospital core services" (MFS = 4.51). Segmentation analysis based on the three derived dimensions of perceived hospital service quality arose two groups of patients, the "demanding patients" and the "tolerant patients".

This research has some limitations that could be in the future minimized or extinguished by other research in the field. This study was conducted at the General Hospital of Kavala, which does not allow the generalization of results for the total of the public hospitals, nor the entire patient population of the country since it is only a small part of it. It is therefore recommended that further research be undertaken across the country, including general hospitals in different regions of Greece, in order to understand the perceptions that patients hold regarding service quality from a hospital. It would be equally impressive a comparative study and investigation of patients' perceptions of service quality between a public and a private hospital, referring to the same area, with the aim of observing and highlighting the differences between the public and private sectors, as well as improvements that must be done in both systems to better promote patient care.

Even though this study has the above limitations, it is considered as vital since it provides hospital managers as well as government officials with inpatient information about hospital quality perception, and thus may help in any future reforms.

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The Wine Lab Project Exploring the Views from Experts

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Abstract The wine sector in Europe can be considered as a key sector for the economy alongside Europe. The wine industry composed by micro and small companies, as family businesses. Isolation and limited access alongside the lack of networking and access to learning opportunities are the main problems of the sector. The Wine Lab project is funded by the European Community programme Erasmus+ and is implemented to co-create knowledge, train employees and workers and innovate new methods of networking in the sector. This paper deal with the research undertaken in the frame of this project. The technique of the Delphi interviews has been implemented by the researchers. Twenty-four stakeholders from five countries participated. The field research was undertaken in two rounds. Participants discussed about the cooperation between research centres and the wine sector. Also participants identified the main problems that wine producers face. Finally, participants expressed their views on the main wine policies implemented in Europe.

Keywords Wine Lab project · Wine industry · Marketing research

1 Introduction

The food and beverage industry is an important sector in the EU economy, as it is considered the largest manufacturer, with 230 billion euros in value added [1]. Europe is a leading producer of wine and also is the world's leading wine exporter:

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411

the wine is a cultural thing and is considered a part of everyday life. Moreover in the wine sector million of workers are employed. The Wine companies are mostly small and medium enterprises: the sector is composed by small companies, therefore is completely different from the other companies in the food sector. The wine companies face similar problems with the companies in similar sectors. Moreover the territory in wine industry produces more difficulties to the owners of wine companies [2]. Companies face problems due to specific difficulties related to isolation. In addition their learning opportunities are limited. Visser in 2004 reported that small wine companies usually have better performance when they are part of a network [3]. On the other hand, wine companies that are based in isolated areas, face difficulties to be members of a network or a cluster. Generally, wine companies used to be organised in informal clusters and have informal common activities with other producers. So, location is a crucial factor for networking activities. In addition, Gilinsky et al. [4], agreed that the management style and especially location are crucial factors to succeed in the market.

In this view this paper aims to explore experts views in order to identify the problems that the wine companies face and also to explore the practices that the wine companies follow in order to establish relationships among universities and enterprises in the primary sector of the economy with a special focus in the wine sector.

2   The Wine Lab Project

The Wine Lab project identifies the problems that wine companies face in isolated areas. Also, it aims to explore the relationship between the wine sector and research centres. Generally, Giuliani and Arza [5] pointed out that the cooperation between universities and companies is advantageous for both of them. This research project try to start a dialogue among research centres, wine companies and local stakeholders in order to co-produce knowledge, share this among the stakeholders and help all the participants to innovate in the wineries. In the project 12 partners coming from four different countries are involved. In every country a university and a wine company are involved. The project aim to create hubs which include a group of stakeholders involved in wine production in a specific area. Also, the project aims to provide opportunities for students to gain practical experience. Moreover the project ambition is the co-creation of knowledge between universities and wine companies. Finally, the project aims to provide lifelong learning material for the sector and the policy makers.

3   Methodology

Desk research activities have been carried out in order to describe the wine market and the wine sector and to identify the problems and needs of the specific group of interest. An exploratory Research using the means of Delphi research

has been undertaken by the universities involved in the project. This research technique helps the researchers to identify opinions and views among experts having different background [6]. Kavoura and Andersson [7] supported the notion that Delphi exercise help the researcher to examine various scenarios. Tarah and Wright [8] argued that Delphi help the planning and development of policies. Moreover Viassone et al. [9] argued that this technique can help researchers to understand different themes. Hatak et al. [10] supported the notion that Delphi technique can help to understand the issues in research.

The research has taken place in 2017. The participants came from the Italy, Greece, Hungary, Cyprus and Austria. A total of 24 experts almost 5 from each country participate in the survey.

The criteria for the participation in the research were:

- A maximum number of 30 panellist included in the survey;
- The participants in the Delphi research has not been included in the previous phase of the research;
- The same number of participants should come from each country;
- All professionals profiles among the stakeholders should be represented;

The stakeholders represented different groups of professionals. The first group consist of academics, the second one from policy makers the third one from winery owners and the last one group was comprised of the other groups of stakeholders.

All the group members answered to the same questionnaire. The questionnaire consists of seven questions themes. The first one section refers to the support of wine companies from the research centres. The second section refers to the role of the universities to wine producers training. The next one refers to the networking practices. The fourth one refers to the infrastructures. The fifth one refers to the financial performance of the wine companies. The last two sections refer to the co-operation between Academia and industry.

The second round of the research has taken place in the last month of 2017 and the first month of 2018. The participants rate their agreement on statements referring to relationship of wine producers to the local economy, to the main problems and opportunities that the sector face in the market and finally, to the planning and implementation of policies referring to small and medium enterprises in the sector.

4   Findings and Discussion

The Interviews collected in the first and second round were 24 in total. The group of participants comprised from six academics, six policy makers, five wine producers and seven other stakeholders of the sector. The data clustered by the frequency of answers and then by similarity.

The wine producers and policy makers support that research centres can help the companies in order to make research on the wine production. In contrast academics do not agree with this statement. Policy makers and other stakeholders think that

universities can help wine makers in training in marketing and communication. Wine producers disagree with this view. All the participants agreed that the co-operation is a crucial step for market success. They think that market competences are more important than infrastructures. Moreover market performance is considered to be influenced by the liabilities and financial performance. Academics and producers do not considered as important the practice and tranships. In contrast this tranships is considered as important from policy makers. The cooperation of Academia and producers in design University curricula is considered as an important step by the majority of the respondents.

The results of the second round of the research showed that small companies have a significant impact in the local economies in terms of employment and tourism development. Wine products can create a cultural offer for the region. The size of the wineries can be considered as an advantage for most of the respondents. They believe that small size enterprises can produce better quality products and small wineries can serve niche markets. They agreed that small size companies can compete in the market successfully as the product quality and not product quantity is a factor of success. Generally, the participants consider wine from small wineries as a superior quality product. They believe that is the key to increase added value for the products and also to increase the effectiveness of the company. Moreover they think that unique products can increase exports and enter to new markets. The next questions referred to the location of the wineries. The panellists considered location as an advantage for growth. Moreover they believe that family owned companies deliver knowledge and traditions in the cultivation of wines from generation to generation. Also, according to Cavicchi et al. [2] the new generation have the opportunity to study for management. So, they need to make good use of the knowledge transmitted from their parents. This is in line with previous research on the issue by Mamalis et al. [11].

Panelists considered that the Main opportunities of wine makers were the functional aspects of wine. In contrast some of them considered as a difficult task for small wineries to gain from this view. Participants tend to agree social media can be used from the sector in order to communicate with the consumers. In this case the main problem was the lack of specialised staff. Finally, respondents considered that the wine policies and tourism policies should be articulated, as tourism sector can be considered as an important sector for them.

5   Conclusive Remarks

In general, "The Delphi research" provided insight of the main problems across countries referring to wine industry. The results from the first round were validated in the second round of the research. Panellists believe that the cooperation among industry, Academia and other stakeholder is crucial for market success. Academics and wine makers can be mutually benefit from cooperation. Both of them can co-create knowledge in regional level [12].

Also, they believe that cooperation in the development of the university curricula is very important. Respondents also believe that the small size of the companies can be considered as an advantage and not as constraint. Also the competitive advantage of the small wine companies should be based on the quality and not the quantity. Finally, they strongly believe that all the policies and actions should be integrated in order to increase the added value of the wine products and services.

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Impression Management Through Websites: An Analysis of the Romanian Banking Industry

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Abstract Modern corporations invest time and resources to build a favorable image among consumers, using a vast array of communication channels. It is in the interest of companies to manage the impressions and perceptions of individuals in order to create or maintain a strong corporate identity. The present paper aims to identify and analyze the ways in which banks communicate and promote through their official website as an online impression management strategy. To achieve the goal, a descriptive research was conducted, using the content analysis as the research method. A theoretical sampling and a partially guided sampling method based on accessibility (availability) was carried out. The corpus of research was constituted by all the Romanian banks and the sample is represented by those banks that have an official website, resulting 18 cases. The research tool (analysis grid) contains five categories of information, based on the content and structure of the official websites of the selected banks. The study provides an overview of new media communication in the Romanian banking context, as they choose to communicate and promote themselves using the official website to create an online presence. From this point of view, they need to pay special attention to the structure, design and content of their site, because any symbol counts in creating an online reputation. Managers do not have to forget that the reputation in the online environment inevitably influences the offline one, so they should consider the opportunities for managing the impressions on the Internet.

Keywords Impression management · Online environment · Content analysis

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1 Introduction

Modern corporations invest time and resources trying to build a favorable image among customers, using a vast array of communication channels. It is in the interest of companies to manage the impressions and perceptions of individuals in order to create or maintain a strong corporate identity. It is argued that communication technology is challenging traditional self-presentation strategies and behavior [1].

Deliberate image construction is becoming more and more difficult due to the large amount of information about individuals online. People are actively working to manage the impressions they make on others. Internet-based communication tools provide new locations for self-disclosure, self-presentation and impression management ([1], p. 1). In the twenty-first century, the corporate website emerged as one of the most important tools to consolidate the image corporation. However, all types of communication with the public are an important and strategic form of impression management.

Ohers consider that "impression management includes attempts to control the perceptions that others form of an individual or firm by influencing the likelihood that a perceiver will make certain attributions. Observers actively make sense of their worlds by interpreting symbols with socially constructed meanings" ([2], p. 310). Schematic processing plays a central role in the formation of impressions, when you are confronted with incomplete information; observers activate relevant mental models called schemas from which missing information is filled in ([2], p. 310). The most important framework of impression management is the dramaturgical perspective [3], which shows the similarities between theatrical performances and daily behavior, and specifies the mechanisms behind the performance of actors in front of a real or imaginary audience. Public settings are divided into two parts: the scene, the performance area and behind the scenes, the preparation area ([2], p. 310). So, from this point of view, the impression management components are: (1) The front scene designates the situation from which actors' performance can be traced; (2) Place/location designate the physical scene; (3) The personal front representing the items of the expressive equipment that are associated with a performance and which the performer must wear. The front is divided in appearance, indicating the social status of the performer and in the manner which represents the role that awaits to play.

Impression management is the activity that involves controlling information about a person, object, idea, entity, or event, that is, the art of controlling the impressions of those around us in our favor. As a result, both businesses and individuals try to convey messages that will benefit them and contribute to the formation of preferential impressions. "An important aspect of impression management is feedback. Corporations require information from their publics to gauge the relative success of both their actions and their images" ([4], p. 344).

The Internet has become a growing channel of communication for organizations [5–8]. According to other scholars ([2], p. 309), organizations have adopted the Internet in an attempt to enjoy economic benefits on the market. They have seen

it as an additional channel that facilitates communication between organizations and consumers; it also offers the possibility of in-market market research, sales, recruitment and dissemination of information. However, inappropriate use of the Internet may harm a company's image. Visitors to official sites make certain impressions based on them and automatically place businesses in certain categories that might benefit them or not. It is in the interest of companies to manage the impressions and perceptions of visitors in order to create or maintain a strong corporate identity.

Social media [6, 8], that includes social networks, the most used being Facebook, Instagram and Twitter, has become increasingly important in marketing communication due to its rapid expansion. Specialists in the field have identified the opportunities offered by social media and used them in promotion. For example, virtual communities allow members to interact and participate in different site activities, helping to establish a stronger relationship between brand and consumers [9].

Even if the organization has a good reputation in the offline environment, an inappropriately created site may affect the image among consumers. The same is true when we talk about companies with a poor reputation in the offline environment but who have managed to recover through the online environment.

However, the presence in the online environment also requires some caution, because "advances in globalization and the role of societal norms and cultural backgrounds in the interpretation of design elements suggest that firms must use care in choosing the symbols they display on the Web" ([2], p. 310). Therefore, companies must carefully choose the symbols they present on sites, they need to know exactly what type of audience they are addressing, but also consider that their site can be accessed by consumers from other social environments and other cultures that can interpret symbols and design elements in a different way. This paper aims to illustrate the Romanian banking strategies used to create an online presence using the official websites, presenting the new media communication tools by conducting a content analysis research.

2 Research

The present paper aims to identify and analyze the ways in which banks communicate and promote through their official website as an online impression management strategy.

To achieve the goal, a descriptive research was conducted, using the content analysis as the research method and the frequency analysis as a technique [5, 7]. A theoretical sampling and a partially guided sampling method based on accessibility (availability) was carried out. The corpus of research was constituted by all the banks in Romania, according to the list from the official website of the National Bank of Romania (from April 2018), and the sample is represented by those banks in the list that meet the criterion of having an official website. Thus, the volume

of the sample included in the analysis is 18 cases: BCR, Transylvania Bank, BRD Group Société Général, Raiffeisen Bank, UniCredit Bank, Alpha Bank, Bancpost, Garanti Bank, Piraeus Bank, OTP Bank, Romanian Bank, Crédit Agricole Bank, Idea: Bank, Railway Comercial Bank, Intesa Sanpaolo Commercial Bank Romania, Leumi Bank Romania, Libra Internet Bank and Patria Bank.

The research tool (analysis grid) contains five categories of information (based on the content and structure of the official websites of the selected banks), based on the following dimensions for site analysis and evaluation: navigation, interaction, accessibility, organizational information [10] and based on the following dimensions for site analysis: content, navigation, accessibility, speed [11]. By adapting these models to this research, we have created the research tool based on the content and structure of the official websites of the selected banks.

The first context unit is represented by the dimension of navigation. Recording units in this case are represented by navigation elements, such as: home button, search button, login button, map site, links to other sites, foreign languages, and navigation bar. Counting units are divided into two categories. The first is the frequency of occurrence/non-occurrence of this information, and the second one is the number of this occurrence of information.

The second context unit is represented by the interaction dimension. The recording units in this case are elements of interaction, such as: newsletters, press releases, news, events, Corporate Social Responsibility programs (CSR), social media. Counting units are the same as the first context unit.

The third context unit is represented by general information, namely, company information, products and services, customer service, and contact information. The recording units within company information are: history, purpose, vision, mission, values, awards, employees, careers. Recording units in the product and service information are: price, promotions, product and service listings, online banking, and bank information. Recording units in customer service information: tips/suggestions, assistance and complaints, consumer protection, chat. The recording units within the contact information are the following: telephone number, e-mail address, contact form, company address, branch network and bank ATMs. Counting units are the frequency of sharing this information.

The fourth context unit is represented by the visual content. Recording units are banner ads, videos, photos/images, and logo. Counting units are the same as the first unit of context.

The fifth context unit is represented by applications. Recording units are, in fact, the application types: apps about products and apps for mobile products. Counting units are the same as the first unit of context.

3 Results

To analyze the frequencies on official websites [5, 7] it was used the following encoding scheme: (1) value for the occurrence/presence of this information and (0) value for non-occurrence/absence of this information. If the information was

present, the value of that information was recorded. The analysis of the 18 cases included in the sample was carried out in April 2018 using the list from the official website of the National Bank of Romania.

3.1   Navigation

Data analysis shows that 94% of banks have a home button on their official website, 83% of banks have a search button, they have a translation in other languages and have maps on the site, 44% have a login button, 94% have links to other sites (especially social media sites) and all banks have multiple navigation bars. It is worth mentioning that Transylvania Bank and Alpha Bank have two buttons for login on their websites, while the other sites have one or none. Most banks have their sites translated into other languages, such as English. There are banks that do not have their sites translated into other foreign languages (Raiffeisen Bank, Bancpost, Railway Commercial Bank), while Transylvania Bank has its website translated into four foreign languages. There are also several navigation bars in the site structure. UniCredit Bank has the largest number of bars (seven), the fewer being two, and belonging to Garanti Bank, OTP Bank, Romanian Bank, Intesa Sanpaolo Commercial Bank Romania.

3.2   Interaction

Data analysis shows that 100% of the banks have posted press releases on the official website, 38% of the sites have newsletters subscriptions, 88% have news, 77% of the sites have information about events, 61% have posted articles about CSR (Corporate Social Responsibility programs), and 94% of sites refer to social media. Raiffeisen Bank has the largest number of press releases, and the least is held by Crédit Agricole Bank Romania Transylvania Bank has the most up-to-date news section, and the least one is Crédit Agricole Bank Romania and Leumi Bank Romania. Alpha Bank has the most events, and Crédit Agricole Bank Romania, Idea: Bank and BCR have no events posted on the site. Alpha Bank has the largest number of articles about CSR, and Piraeus Bank, Romanian Bank, Crédit Agricole Bank Romania, Idea: Bank, Railway Commercial Bank, Leumi Bank Romania and Libra Internet Bank have no articles about CSR posted on the site.

The Social media component is present on the analyzed websites sample through links to other sites like Facebook (94% of the banks have this information on the site, including Raiffeisen Bank referring to the two Facebook pages), Twitter (38%), Instagram (27%), LinkedIn (61%), Youtube (66%), Google+ (11%), Pinterest and Blog (Transylvania Bank only).

3.3 General Information

Next, the degree of disclosure of bank information was analyzed. Data analysis shows that 66% of banks have information about their history, while only Raiffeisen Bank has information about the purpose of the bank. Next, 33% of banks have information about bank's mission and values, 27% about vision, 66% about prizes, 83% about employees and 94% about careers.

Looking at the product/service information, data analysis showed that 27% of banks had price information, 22% about promotions, while all banks had on-site lists of products/services, online banking information, and other bank information. At the analysis level, there were identified the following keywords regarding this information: insurance, investments, credits, plans, savings, cards, banking, and accounts.

Then, it was analyzed the customer service information and data analysis shows that 77% of banks have a section about advice/suggestions, 38% about assistance, 61% about complaints, while four banks have chat for customer communication (Raiffeisen Bank, Piraeus Bank, Railway Commercial Bank and Libra Internet Bank) and two banks on customer protection (Alpha Bank and Bancpost).

It was also analyzed the contact information. This includes information about the bank's address (66%), e-mail address (88%), phone number (94%), contact form (72%), while all sites have network information branches and ATMs records. There are sites that have multiple email addresses to contact information (OTP Bank has five email addresses), while others have none (Alpha Bank and Patria Bank websites); and several phone numbers (BCR, BRD Group Société Général, OTP Bank and the BCR have five phone numbers), while Patria Bank has none. At the same time, in the case of contact forms, Romanian Bank has the largest number (three).

3.4 Visual Content

Further, it was analyzed the visual content of the websites. Banner ads and logos are present on each site. Video clips appear on four of the sites (BRD Group Société Générale, Raiffeisen Bank, Crédit Agricole Bank Romania and Libra Internet Bank) and 66% of the images/photographs appear on the site.

Most of the ads are on the Bancpost website and the fewest on the Garanti Bank and Libra Internet Bank websites. At the same time, most of the logos are found on the Patria Bank website (four). The website of Railway Commercial Bank has the most photos/images, while there are sites that have none (UniCredit Bank, Alpha Bank, Piraeus Bank, Garanti Bank, Crédit Agricole Bank Romania Intesa Sanpaolo Commercial Bank Romania).

3.5   Applications

In this research were analyzed the applications present on the site and were identified two types: product/service applications (on 77% of sites) and mobile applications (33% of sites).

An example of a product and service application is the Credit Calculator on the website of several banks (BCR, BRD Group Société Générale, Raiffeisen Bank, Transylvania Bank), and an example of a mobile application is Touch 24 Banking on the BCR website.

4   Discussion

The structure of official banks' websites is well organized. Site navigation is simple and accessible due to home, search and login buttons, translation in other languages, and site maps. Sites also have links to other sites, especially to Social Media accounts [6, 8] and networks like Facebook, Twitter, Instagram, LinkedIn, Google+ and other sites like Youtube.com, blogs or even Pinterest. Interaction also includes subscriptions to newsletters, news from the banking industry, news about banks and its products, events related to events and social responsibility, press releases posted on the site.

The most important information found on websites is contact information, followed by company information (history, mission, vision, etc.), product/service information, and customer relationship information. Visual content is not as rich as Facebook. There are few photos/pictures and videos. Instead, ads (banner type) are the most numerous. Through this analysis it was also identified the most common features of official bank sites. It can be said that these sites are successful because they capture the attention of visitors and appeal to their needs and interests or even their emotions.

Although information about news or articles appears on Facebook, most are found on official websites as they have posted numerous press releases on various topics. Also, browsing on official sites is more advanced than on Facebook because sites contain multiple categories of information.

The limits of the research must be taken also into consideration: the stability of measurement over the years because when content analysis is applied to web-based content, its modification may be problematic. However, this problem can be overcome by the possibility of rapid data collection; by applying content analysis to the online environment, challenges may arise with regard to sampling and coding. The complexity of the mixture of various media features in web content may affect generalization and representativeness; content analysis studies are sometimes considered to be devoid of a theoretical basis, since emphasis is placed on what is measurable rather than what is theoretically significant or important; possibility of counting errors. Regardless of its limitations, it was found that applying content

analysis to web-based content is a relatively easy process, leading to significant research results.

5   Conclusion

Banks choose to communicate and promote themselves using the official website to create an online presence. Banks are always in a favorable light and prefer online promotion because they are cheaper, simpler and reach a larger number of people than traditional TV or print media. Every company with an online presence needs to pay special attention to the structure, design and content of their site, because any symbol counts in creating an online reputation. And managers do not have to forget that the reputation in the online environment inevitably influences the offline one, so they should consider the opportunities for managing the impressions on the Internet.

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Participatory Culture and Tourist Experience: Promoting Destinations Through YouTube

Arabela Briciu and Victor-Alexandru Briciu

Abstract Social media tools are viewed as important sources for the tourism sector and different types of consumers and travellers. This article presents the role and the impact of YouTube, as the main video sharing solution in the online environment, for the development of what is called prosumer, the user which generates, circulates and consumes online knowledge and being part of the participatory culture. The goal of this research is to investigate the extent to which social media and YouTube in particular appear to be part of the spreadable media phenomenon, the capacity of the information to be shared among users. The study used a research design by selecting the first 100 video clips promoted by YouTube and addressing the theme of Bran Castle (also known as Dracula Castle) from Brașov, Transylvania region in Romania, uploaded by different categories of users. For the analysis of the results, this paper used elements of descriptive statistics from YouTube and methods of quantitative content analysis, regarding the YouTube video characteristics such as the frequencies of views, comments, appreciations (likes, dislikes), channel subscribers etc. This study shows that YouTube is considered to be important for the development of the tourist industry as it provides travellers with new practices for choosing their destination after viewing video materials.

Keywords Participatory culture · YouTube · Social media

1 Introduction

Tourism is one of the world's largest economic sector, with a "10.4% contribution to the global GDP in 2018, and 319 million jobs, or 10% of the total employment in 2018", it had a 3.9 global GDP growth, comparative with the 3.2% growth of the whole economy [1]. One important factor to this growth is the increasing rate of

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Millennials (born between 1980 and 2000) outbound trips, the largest age group for international travel, known to be "well-informed before travelling and using more source of information for travel planning" [2].

So, now that the digital natives [3, 4] or the Net generation [5] are an important public for tourism services and traveling, a very important source of information is the Internet with the shift to Web 2.0 [6], from a passive and consumer-oriented Internet experience to a decentralized and interactive hype of networking with a more active experience based on cooperation and user-generated content. The Internet and social media tools can influence and become part of the life of individuals, the environment in which they carry out their activities and all that surrounds them and "this technology ought to be perceived as a resource that can be utilized by social and political movements looking for a communication infrastructure to promote their cause" [7]. Social media is "an umbrella phrase for social-networking sites, virtual worlds, social news and bookmarking sites, wikis, and forums and opinion sites" ([8], p. 20), is the buzzword: "user-generated content" or content that is contributed by participants rather than editors [9], or the content communities "which organize and share particular kinds of content. The most popular content communities tend to form around photos (Flickr), bookmarked links (del.icio.us) and videos (YouTube)" [10].

The impact or influence of social media over the components of consumer behaviour is discussed as a specific topic in literature [11]. YouTube, which is considered to be "the largest video sharing site" ([12], p. 1) is also the second site in global Internet engagement category provided by Alexa [13]. It is a form of niche television, a 'meta business' not shackled to schedules, a "platform for, and an aggregator of, content, but it is not a content producer itself" ([14], p. 4). Since YouTube's started in 2005, this platform received several changes in design and functionality and now is promoting social media influencers that are described as "new type of independent third party endorser who shape audience attitudes through blogs, tweets, and the use of other social media" ([12], p. 2). This paper aims to address the extent to which social media and YouTube in particular appears to be part of the tourism sector, as the main video sharing solution in the online environment.

2 Literature Review

Participatory culture refers to a type of "culture in which fans and other consumers are invited to actively participate in the creation and circulation of new content" ([15], p. 290). It is also an alternative to media power and is the opposite of mass culture.

A very interesting aspect here is the differentiation between what a 'fan' means and what a 'consumer' means because basically the two terms are linked to each other, rather the term consumer being the expression of a person who comes into contact with cultural content before becomes a fan. Our own identities are today

built more and more in relation to what a consumer society means because there is no middle way. From this point of view, "the consumer industries increasingly appeal to the possibilities of investing in popular images, pleasures, fantasies and desires. The fact that we relate to these appeals, as either consumers or fans, does not guarantee our subjugation to the interests or practices of the commercial sector" ([16], p. 63). After forming in the group as consumers or fans, the next step is the idea of building subcultures [17] and cultural exchanges [18] that through the content they build a true post-cultural reality.

So, from the literature consulted, we can state that in participating culture, each member can make his personal contribution, members who are newer can be guided by those who are part of the group for a long time and can be made aware of what is happening, each have both rights and obligations which must be respected and which are the basis for good functioning. Another very important element that the fans build in participatory culture and which is also a merit of them is that they gain more and more power as consumers of cultural content, "creating content as well as consuming it" ([19], p. 67), becoming 'prosumers'. The term is considered to be "the apparent link between more accessible digital technologies, user created content, and some kind of shift in the power relations between media industries and their consumers" ([14], p. 10).

On platforms for sharing videos as sources of participatory culture, such as YouTube, is more about "cultural and political questions: who gets to speak, and who gets the attention; what compensations or rewards there are for creativity and work; and the uncertainties around various forms of expertise and authority" ([14], p. 11). Also, "consumer co-creation is fundamental to YouTube's value proposition as well as to its disruptive influence on established media business models. When we think in this way, we can begin to think about how YouTube matters in terms of culture. For YouTube, participatory culture is not a gimmick or a sideshow; it is absolutely core business." ([14], pp. 5–6). Another very important concept in terms of presenting travel experiences through YouTube spreadable media. This new idea "focuses on the social logics and cultural practices that have enabled and popularized these new platforms, logics that explain why sharing has become such common practice, not just how" ([20], p. 3). Discussing about the spreadable practice, the use of 'spreadability' or the capacity to be shareable, addresses "to the technical resources that make it easier to circulate some kinds of content than others, the economic structures that support or restrict circulation, the attributes of a media text that might appeal to a community's motivation for sharing material, and the social networks that link people through the exchange of meaningful bytes" ([20], p. 4). It worth to mention at this point the differentiation that is made between to concepts: spreadeability and stickiness [20].

The final remarks take in consideration the "important role in both shaping a destination's/product image and in counteracting any negative perceptions" ([21], p. 3) and "the importance of social media in online travel information" ([22], p. 181), as the user-generated content (UGC) in social media [23, 24] or consumer-generated content (CGC) shared online [6] is being discussed.

In the current research the focus is directed to the extent to which social media and YouTube in particular appear to be part of the spreadable media phenomenon, the capacity of the information uploaded to be shared among users. Additionally, this review of the main concepts of the study, including tourism related literature has outlined the importance and the role of online characteristics for a destination image, as Bran Castle (also known as Dracula Castle) [25] from Braşov, Transylvania region in Romania.

3   Methodological Considerations

Bran Castle is one of the most important Romanian touristic destination and the most visited destination of Braşov County, being very popular for foreign tourists; over 60% of tourists are foreigners [26]. The main attractions of this destination are the associations with the mystical and legendary figure of Dracula, being well known as Dracula's Castle. This is also a good constitutive for participatory culture, the shared fantasies giving the content more 'spreadability' ([20], pp. 202–204) and a way to keep a relevant online presence in order to attract potential tourists that are planning their next trip.

The aim of this study is to describe the typical patterns and characteristics of YouTube videos regarding Bran Castle as a touristic destination and to identify important relationships among the video content and the elements of participatory culture. The main objectives are to identify and describe the characteristics of participatory culture regarding tourist experience at Bran Castle, to identify and describe the relationship among the characteristics and also to understand the differences of popularity and videos impact on audiences. To analyse these characteristics a data set of videos using the English keywords "Bran Castle" on YouTube search engine was compiled during the first 2 weeks of July 2019. A common indicator for the subject popularity on YouTube is the number of views. We therefore used the filter "view count" and selected the top 100 most viewed videos on this subject. The research has been descriptive, using both quantitative and qualitative content analysis. How many were out of total?

4   Results

The total view of the analysed videos was over 5.87 million viewers with an exposure of 37,884,674 (the total amount of subscribers for the channels that upgraded the content). 74 of them had in the title the expression "Dracula's Castle" and most of them had the title and the contents in English, but also one video in Indian, Czech, Turkish, and Chinese. The content in this sample was upload between 28th of January 2007 and 23rd of November 2018, with more than half (51%) of the videos uploaded in 2018, 2017 and 2016. Most important elements

Table 1 Summary statistics for YouTube videos

Statistics	Total	Mean	STD	Minimum	Median	Maximum
Video views	5,876,678	58,767	102,840.12	2604	14,284	562,456
Video duration (min)	822	8:19	9:07	0:18	5:06	61
Video likes	67,123	671.23	2052.08	6	91	18,000
Video dislikes	2948	29.48	69.37	0	6	438
Number of commentaries	10,176	106	292.67	0	17	2456
Subscribers	37,884,674	378,846.74	1,241,713.62	0	4419	8,626,667

of the participatory culture, referring to involvement of users are the commentaries, likes and dislikes. As a whole, the content of the entire sample received an amount of 67,123 likes, 2948 dislikes and 10,176 commentaries.

As can be seen in Table 1, these 100 most viewed videos about Bran Castle reaches a generous online audience with a maximum number of 562,456 views and a median number of 14,284 views per video. The most viewed video was "Exploring Dracula's Castle At Night—Found Disturbing Room" by the channel "Exploring with Josh", uploaded on 29th of October 2018, the content receiving also the greatest number of likes and dislikes, and being the most commented video in the sample (2456). It depicts the "strange" experience of a private tour "with the lights off" of the "entire" castle during a night near Halloween holiday (a "Halloween" special), highlighted by the expression of the feelings and the emotions of the filming crew, and also by the background music and the sound effects. All of these elements assure the stickiness and the spreadability of the content.

To explore more the popularity and the participation in constructing Bran castle destination image we focus on two major aspects of the videos: the general activity of the channel that uploaded the content and the expression of the touristic experience within the content.

First classification of the sample regarding the activity of the channel that upload the content comprise of 13 categories: travel and lifestyle vlogs (31%), Bran Castle official channel (4%), travel channels (12%), personal channels (30%), lifestyle channel (7%), journalism/news outlets (5%), paranormal research (4%), gaming channels (2%), entertainment (1%), product channels (1%), tech channels (1%), documentary (history) channels (1%), kids channels (1%).

The most viewed content was uploaded by vloggers (2,206,855 views), personal channels (1,071,881 views) and travel channels (994,867 views). By far the most interactive content is the one uploaded by vloggers with 69.12% of total likes (46,398 likes), 54.82% of total dislikes and 55.70% of total commentaries. Also, if we look at the number of comments as a measure of interactivity we can see the content uploaded by paranormal research and the gaming channels gaining a lot of feedback and positive reactions (the rate of likes vs. dislikes) and also presenting the touristic destination to different categories of public.

Comparing the first two most viewed categories we observed that the vlogging content mostly was upload recently, with 2017 as median year of upload, while the

content uploaded by personal channels is older with 2011 as median year of upload. Other older uploaded content than on the personal channels is represented by the journalistic channels with 2009 as median year of upload.

A second classification identified in this research was by the video content, and 14 categories were defined: (1) tourist experience regarding Bran Castle (22%); (2) tourist experience regarding Bran Castle and others attractions: Peleș Castle, Râşnov Fortress, Braşov Old Town, Black Church, Transylvania, Bucharest, Romania (9%); (3) tourist experience regarding others attractions with marginal mention of Bran Castle (2%); (4) paranormal experience (3%); (5) video tour of Bran Castle with text presentation (5%); (6) video tour of Bran Castle without presentation (20%); (7) video tour of Bran Castle and other Romanian tourist attractions without presentation (3%); (8) Photo tour with text presentation (5%); (9) photo tour without presentation (4%); (10) photo tour of Bran Castle and other Romanian tourist attractions with text presentation (1%); (11) events experience at Bran Castle (8%); (12) reportage and news outlets (15%); (13) Documentary (1%); (14) gaming experience related with the subject of Bran Castle (3%).

As we described that the most frequent categories of content are tourist experience regarding Bran Castle (22%) and video tour of Bran Castle without presentation (20%)—those categories being very different, because the first one is based on the association between the touristic experience and tourist identity and the second one is described "from the outside"—you don't feel the participation of the uploader, the relationship between the user and the content. This observation is also obvious when we look at the degree of interactivity, first category gathering 6264 commentaries (61.56% of total commentaries), 46,691 likes (69.56% of total likes), and 1561 dislikes (52.95% of total dislikes), and the second category received 472 commentaries (4.64% of total commentaries), 4517 likes (6.73% of total likes) and 213 dislikes (7.23% of total dislikes).

Regarding this classification, the vloggers uploaded content focused on: tourist experience regarding Bran Castle (52%), tourist experience regarding Bran Castle and others attractions: Peleș Castle, Râşnov Fortress, Braşov Old Town, Black Church, Transylvania, Bucharest, Romania (29%), tourist experience regarding others attractions with marginal mention of Bran Castle (3%), video tour of Bran Castle with text presentation (3%) and video tour of Bran Castle without presentation (13%), while the videos uploaded by the personal channels focused on: video tour of Bran Castle without presentation (30%), photo tour without presentation (10%), events experience at Bran Castle (17%), tourist experience regarding Bran Castle (13%), tourist experience regarding others attractions with marginal mention of Bran Castle (3%), video tour of Bran Castle with text presentation (7%), video tour of Bran Castle and other Romanian tourist attractions without presentation (7%), photo tour with text presentation (3%), reportage and news outlets (7%), gaming experience related with the subject of Bran Castle (3%).

5 Discussion

It is very interesting the fact that the second most viewed video of Bran Castle is uploaded by the castle's official YouTube channel (470,588 views), and it is a video tour of the building without presentation but also embedded on the main page of the official website, the number one result on Google search engine. This video in contrast with the others top ten viewed videos of Bran Castle has a smaller degree of interactivity regarding the commentaries (82), but a positive image gathering 1000 likes and just 40 dislikes. This type of video content with embedded codes "make it easier to spread videos across the Internet, and encouraging access points to that content in a variety of places" ([20], p. 6).

Given the fact that nowadays it is very easy to spread videos worldwide, this type of content is gaining power in the industry and the touristic destinations need to have a good marketing strategy related to the content upload by various people, mainly the travel and lifestyle vloggers.

6 Conclusion

In conclusion, this research showed that the most relevant and captivating online content about Bran Castle as a touristic destination is revealed in vlogs. This type of content is most viewed on YouTube and also gets more reactions and involvement from the audience. The vloggers emphasize their experiences lived as tourists trying to be catchy and authentic, combining myths with history and information with emotions and feelings. Beside the relevant information for a possible tourist, like attractions to explore, how to reach there, where to sleep, where and what to eat, the vloggers must add something different, something particular—their contribution to depicting the touristic destination, this giving a more intimate experience with their followers (subscribers).

But also it's very hard to be authentic and often online success encourages duplication, and this was seen in many vlogs analysed, some ideas of experience being repeating—like the special night tour experience in the Halloween season. Also, the tourist experience is direct related with the possibilities offered by the actors involved with the management of the touristic destination and the nearby attractions.

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Designing the Virtual Product Experience: Learnings from Shenzhen, China and the ESUN Solutions

Arabela Briciu and Victor-Alexandru Briciu

Abstract At the borders of academic and research fields of psychology, IT&C, advertising, marketing and many more, the notions of virtual experience and virtual product experience developed because technological advances are directing towards a movement involving multi-sensory interactions that introduce high-quality images, sound and 3D images. However, online stores are limited in terms of the sensory information they can provide. In a virtual environment, people simply cannot physically look at products before buying them and have to rely on information provided by the online seller. At the same time, the fact that there is no direct contact with the product can reduce the consumer's pleasure, which has proven to be a very important thing in the online shopping experience. Starting from these considerations, the case study presented in this paper outline the developments introduced by ESUN 3D+, a company affiliated to Shenzhen ESUN Display Co., Ltd., which dedicates to 3D digitizing technology research and related ecosystem construction, offering solutions for 3D scanning, 3D printing, virtual reality, augmented reality, 3D design and manufacturing services, as well as 3D cloud platform.

Keywords Virtual product experience · Internet · Virtual control

1 Introduction: The Internet—The Basis of E-Commerce

With the advent of the Internet, a new type of business has emerged, which has become more and more internationally developed: the electronic commerce, defined as "electronic funds transfers used by many banks as well as business to business communications using the internet, extranet and intranet networks" ([1], p. 8). Today, consumers give more attention than ever for finding the best prices while

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shopping in the most convenient or satisfying way. Considering the fact that there is a wide network of people and information around the globe, the Internet is a key factor for e-commerce, as it allows businesses to present and sell their products and services online.

Today, millions of users' access and use the Internet for various purposes throughout the day. They use the Internet to search, surf, write and communicate, listen, watch news, videos, publish, copy, print, discuss, trade, and sell. The list of activities and opportunities the Internet offers to people is growing. With millions of users actively looking for various products, information and services, there is an immense opportunity for businesses to jump onto the Internet and earn money in the business opportunities that are presented every minute.

The Internet is a very powerful means for doing this type of trade, which, like many other environments, has both advantages and disadvantages, but "the web is particularly useful in creating virtual communities that become ideal target markets for specific types of products or services" ([1], p. 14). This "provides a worldwide collection of networks, linked with each other to share information by using a common set of protocols" [2].

The virtual reality is creating an environment that is presented to our senses in a way that we perceive to be real. It uses a range of technologies to reach the goal and appeal to human perception and knowledge. Technology is getting cheaper and more and more common. We can expect more and more innovations from this sphere and why not, a new way in which we will communicate and work.

Under the ongoing development of the digital and virtual world, the Internet has become a necessity and a means of information and communication, entertainment and education, used by people around the world, by multinational companies, organizations, entrepreneurs, academics and researchers. "Although research on brands, brand management, corporate branding and corporate identity continues to attract the attention of business and marketing academics in reality, research of these topics in the digital and virtual world remains relatively under researched" ([3], p. 1).

In the described context, the aim of this paper is to is to present the main characteristics of designing the virtual product experience found in the literature and, by using an intrinsic case study, to showcase the applicability of this concept in terms of direct interactions as the virtual model technology development can provide a better approximation of the sensory information, a simulation of direct in-store product interactions.

2   Designing the Virtual Product Experience

Virtual presence is the use of technology to create the illusion of presence in an environment that is not really there. It works by sending information to various senses, such as sight and hearing that mislead the brain into experiencing something virtual. Illusion is often complete when interaction takes place, in other words, the virtual world responds in a way to our presence. "Online virtual environments have

been identified as emerging marketing channels, whereby consumers can learn about brands through experiences that involve both functional and social interaction" ([4], p. 302).

Virtual product experiences can be defined as "psychological and emotional states that consumers undergo while interacting with products in a 3D environment" ([5], p. 14). The lack of direct experience reduces the ability of consumers to appreciate the quality of products and they are less emotionally involved in the experience of buying, and therefore, as a result, consumers are less willing to buy from online stores. To combat this problem, various methods of product presentation have been suggested, such as to allow online consumers to sample and experiment products virtually via web interfaces. This type of experience is called virtual product experience [6]. Marketing studies suggest that this experience has the potential to improve knowledge about consumer products, and also the desire to buy, as "virtual product experience utilizes information technologies to enable customers to feel, touch, and try products virtually, via their interaction with their computers" ([6], p. 4). Thus, we can say that the virtual experience of a product is, in fact, our experience.

Therefore, interaction is an essential ingredient for the online consumer in making purchasing decisions about a product.

Consumers can interact with products in different ways. Scholars have conceptualized consumers' experience with a product as a spectrum from indirect to direct [7]. In online environments, direct product experience is absent, and this prevents consumers from touching or feeling the product. According to this representation, consumer interaction with the product increases and evolves to direct experience as well as the use of cognitive senses, while a product description or a verbal announcement is the most indirect experience. Thus, the difference between the two experiences is the degree of interaction with the product and the number of sensory aspects available. Virtual experiences and indirect experiences are both mediated experiences. What differentiate the virtual experience from the virtual experience are the virtual specifications provided by intrinsic virtual interactive products. Thus, the difference between indirect and direct forms of experience is the degree of interaction with the product and the number of sensory configurations available. Direct experience is the only uninterrupted interaction and gives the consumer all the senses available. Therefore, direct experience is perceived by the consumer as the most reliable, the "hands-on experience with the product in the usage situation" ([7], p. 434). This point of view is reinforced by the idea that "an illusion of nonmediation can be created using sophisticated virtual reality systems; however, using current technology, it is unlikely that users of an online retailer's web site fail to perceive the technology mediating the experience" ([8], p. 999).

In the online environment, the virtual product experience resembles direct experience, as both are interactive.

Interactivity is "the extent to which users can participate in modifying the form or content of a mediated environment in real time" ([9], p. 84). Object interactivity allows the user to directly manipulate objects in the virtual environment, so when a user interacts with a virtual object, he may perceive that he interacts immediately

with the mediated environment, or become strongly involved, and be notified by the senses of thinking that objects in the that medium look, sound and feel as if they were real, or could exist in the real world.

Currently, virtual model technology does not approximate all types of sensory information, such as touch-sensitive or touch-based information that are available during direct in-store product interactions. Despite these things, "virtual model technology does provide a better approximation of some sensory information, including drape and fit of the product on the body" ([10], p. 42).

From another point of view, object interactivity differs from interactivity in instruction and navigation. With interactivity in instruction, users can control the pace of a movie by playing or stopping it, for example. With interactivity in navigation, users "the user moves freely through a site through searching, accessing, and retrieving activities" ([11], p. 185). So, both do not offer a direct manipulation of an object.

In these computer-mediated spaces, interactivity can be described as being the ability to communicate with other people, that is, the interactivity of the person, as well as access information, respectively, the interactivity of the device. Communication between people is a great advantage of the Internet, unlike traditional media, such as e-mail or chats, interface design, and the way information is accessed, are best suited for viewing 3D products.

In addition, the goal of most experiences designed in computer-mediated environments is to involve, influence, or allow human interaction as easily as possible using virtual control. "Visual control, enabled by software such as QUICKTIME and FLASH, allows consumers to manipulate product images with their mice and keyboards, e.g. to move, rotate and zoom in and out a product's image so as to view it from different angles, perspectives, and distances. On the other hand, functional control, supported by software such as SHOCKWAVE, enables consumers to sample different functions of products through their computers" ([6], p. 5).

The technology that supports virtual control is virtual reality (VR). VR is considered "a real or simulated environment in which a perceiver experiences telepresence". Telepresence has been defined as being there, and "the experience of presence in an environment by means of a communication medium" ([6], p. 6). Furthermore, virtual control depends on direct manipulation and multimedia technologies to generate interactivity (the user's ability to modify and interact with the virtual environment) and vividness (which depends on the quantity of sensory channels employed and the bandwidth available) [6, 8]. "First, virtual control allows customers to directly manipulate online products to acquire relevant product information; then, virtual control employs multimedia technology, through which pictures, animation, movies, and sound function synergistically to demonstrate how products react to consumers' inputs" ([6], p. 7).

Not only the virtual control is determinant for the overall virtual experience, but also the focus of researchers is on how marketing communication is designed to educate true and false memories [12]. "To determine the source of a memory, individuals check its qualitative characteristics, such as its sensory, spatial, and temporal details. Because memories for perceived events tend to have more sensory

and contextual detail than memories for imagined events, false memories occur when imagined events have these characteristics—that is, when they are vivid" ([12], p. 378).

Therefore, the virtual environment can be described as an emerging marketing channel, for both organizations and consumers, making possible the interaction and experience products virtually via web interfaces. The objective is to design a better virtual product experience by inducing virtual control to directly manipulate online products, interacting with products in a 3D environment, using multimedia technology as described in the following case study.

3 Case Study: ESUN 3D+ Virtual Products Solutions

On-line shops were the first ways to showcase virtual communities. They appeared and evolved at the same time as the Internet and brought benefits to organizations with potential to use in their current activities, as it was noted that "over the past decade, retail e-commerce has seen a tremendous increase" ([8], p. 998). The popularity of these places is a natural result of Internet access due to the fact that access is quick, easy and faithful to the products and services offered by sellers. As a result, "e-commerce is widely considered the buying and selling of products over the Internet, but any transaction that is completed solely through electronic measures can be considered e-commerce" [13].

The online store has the same importance as a traditional store, the difference between the two being the time of travel or access to the store, and the lower costs. An on-line store means any location on the Internet, where information about a company can be displayed, and where product models are sold. The online store has to meet certain requirements that meet the needs of consumers, but not least those of the company.

ESUN 3D+ is considered a subsidiary of Shenzhen ESUN Display Co., Ltd., from China and was established in 2009. ESUN 3D+ delivers 3D digitizing technology and related ecosystem construction, being engaged in the researching and exploring of virtual reality, holographic display, photoelectric measurement and three-dimensional imaging, covering 3D scanning, 3D printing, virtual reality, augmented reality, 3D design and manufacturing services, as well as 3D cloud platform. As the company states: "With brand culture as the core, technology innovation as a means to provide design, manufacturing, transportation, installation integration solutions for the construction of chain business terminals" [14].

Based on rich service experiences in 3D market and autonomous 3D technology, ESUN 3D+ has designed many market-oriented 3D equipment, including Full body scanner, Full color 3D desktop scanner, Relic 3D scanner, Head & Facial 3D scanner, 3D desktop printer, 3D printing pen and 3D photo booth, etc. Combined with self-developed post-processing software *FaceView*, this equipment could easily fit in various application areas, including Cultural relics protection, 3D maker

education, VR E-commercial, Tailored clothing, 3D printed figurine and product design [14].

ESUN 3D+ has found innovative solutions for different applications: 3D Portrait Studio, 3D Education, Museum, 3D E-commerce, Orthopedic and Medical Cosmetology and Brand Terminal Creative Display & High-end Furniture Display. Because the Internet has seen a remarkable development in the last period, it has "the ability to serve as a more powerful medium than traditional media in the sense that consumers are able to interact with products in 3D multimedia environments, thus simulating a new form of experience" [15].

From this point of view, as a proposed project of virtual product experience applicable for on-line shops and e-commerce, ESUN 3D+ developed *Esun Infinity Wall* [14], as an intelligent marketing solution integrating interactivity to attract customers, intelligent poster, user portrait acquisition, cloud shelf, data analysis and application. The main functions include services (1) before entering the shop with intelligent poster and push product information, high definition screens (single screen, double or multi-screen possibilities) with intense effect and multiplayer interactive experience without disturbing the other customers, (2) online shop experience, defined by intelligent identification and user portrait acquisition, the use of cloud shelves, scanning a QR code to place an order and making the purchase, and (3) after leaving the online shop with big data platform and services for returning visits. As an optional component, *Infinity Wall* can provide intelligent face recognition by using a smart camera to mark the customers' age, gender, height, expression, etc. to determine more accurate the clothes measures, for example and to provide effective customer support.

4   Discussion

Product experience means the overall value of a product or service to customers. This is defined by customer perceptions, as they use the product or service in a variety of contexts. Product experience is a component of customer experience, a broader concept that includes all interactions between the service provider and the customer. Conceptualizing a virtual experience becomes necessary because technological advances, as provided in the ESUN 3D+ case study, allow multi-sensory interactions with products in online commerce: 3D equipment, virtual reality, augmented reality etc. The virtual experience was presented in the marketing literature as being "psychological and emotional states that consumers undergo while interacting with products and brands in a 3D environment" ([4], p. 304), data that can be already saved and processed by using cloud platforms, as presented in the *Esun Infinity Wall* project.

The computerized simulation of material goods, using ESUN Hawk-Eye 3D Scanner [14] and shopping environments (as a stand-alone solution or to assist offline purchases using the *Infinity Wall*) pushes us towards a different way of thinking about consumer education. "It is theoretically advantageous to consider

product purchase as directed not necessarily toward a physical product but rather toward a consumption experience" [5]. Most of the time, buying a good does not mean buying a physical product itself, but an experience the product offers.

Thus, consumers have the ability to visually inspect a product, interact with it, they learn about shapes, textures and functions of the product by moving the body or object to visually examine it from different angles. This type of simulated interaction is already possible in the *Esun Infinity Wall* 3D solution, where multiple consumers can freely inspect a product by increasing, shrinking or rotating it, in the same time on the same screen.

In the product evaluation process, two types of virtual product experience technologies are identified, visual control and functional control. Visual control is what we have presented above, handling the product by touching the screen, changing colors, visualizing it from any angle, using 3D technology. Functional control "encompasses a product's behavior and functions i.e. how the product works" [6], a situation that is provided also and described in the case study by using 3D equipment and post-processing software.

Another important thing for the consumer is socializing with the online seller, as the most successful businesses "offer great customer service. They have someone on site to answer questions, demonstrate products, troubleshoot technical problems, and socialize with the customers" ([16], p. 97). We can consider a real-world analogy. If a reputable shop opens in the city, and when we visit, the doors are open, the lights are on, but no one is there to guide us, then we ask what the store's purpose is. By this analogy, it is understood that the online store must be interactive [16]. This characteristic is present and described in the case study making use of an intelligent face recognition solution by using a smart camera to mark the customers' profile and to provide effective customer support.

5 Conclusion

One of the most important things for a successful online store is how it looks and how its interface is designed. Well-renown pages are the ones that combine the nice graphics with the upload speed on the screen. It is also important to assess the impact on the user. On-line commerce offers new ways to measure the impact on consumers or potential consumers. The virtual store can be identified with the following features, given that the first impression is always important: clarity, design, simplicity, speed, attractiveness, and last but not least security. Virtual reality saves consumers time when they want to search or buy something. It has its facilities and advantages but also disadvantages. For example, the impossibility of seeing the object's quality or other features that can't be identified virtually.

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Social Networking Sites: The New Era of Effective Online Marketing and Advertising

Christos Papademetriou, Andreas Masouras, and Avgoustinos Ioannou

Abstract This study sought to investigate the impact of social network advertisements on providing actual information about products. Moreover, it also explored the effectiveness of online advertising in reaching out to consumers. This study was carried out using quantitative method and an online survey of 202 users of social networks, was conducted. This study has concluded that social network platforms, particularly YouTube, are very effective tools for companies to reach out the masses at a rapid pace with high cost advantage. In this work it has been found that in social media marketing, the persuasion and the valuation of the brands are indirectly but positively related to influence the consumer motivation and intention to buy. The higher the brand value, the greater the purchase intention, similarly, the greater the commercial persuasion. The higher is the purchase intention, the higher the advertising on social networks, the greater the purchase intention. The greater the advertising on social networks, the greater the valuation of the brands.

Keywords Online advertising · Digital · Social media · Networks · e-Consumers

1 Introduction

According to Elhadidi and City [1], in recent times social networking websites not only provide a space for individuals to interact with other people, but also provide a good opportunity for businesses to reach their target customers by means of advertising. The form of advertising that focuses online and is given through social networking sites is called social network advertising [2]. These type of advertising has the potential to enable near-universal free or cheap access to services and content [3]. The main purpose of the specific study, is to provide a thorough analysis on the

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matter of online advertising and modern marketing methods embedded in social media platforms, that a business can use, in order to achieve branding maximization and growth in terms of market share and awareness. To finalize, in this contentment, this study through in depth research, seeks:

1. To investigate the impact of social network advertisements on providing the actual information about products.
2. To explore the effectiveness of online advertising in reaching out to consumers.

   Also, this study seeks to answer the following research questions:

Q1. How can advertising on social networks, be effective in sales for companies?
Q2. Which is the most preferred approach for advertising on social networking websites?
Q3. How customers like advertisements on social networking sites?

2 Literature Review

Siakalli, Masouras and Papademetriou [4] suggest that Uses and Gratifications theory is one of the most important theories of the Mass Media research that focuses on the media use and the choice of media [5]. What distinguishes this theory from other communication theories is that the audience member is characterized as an active one. The focus of the theory is what people do with the media rather than the influence or impact of the media to the individual [6]. The Uses and Gratifications theory supports that the Users use the Media for their own benefit based on their own needs and requirements. Katz and Foulkes [7] characterized the mass media use as an "escape" for the user where actually serves concrete needs and where these needs vary according to the influences. This is also the case with social networks, since users choose their social networks according to their needs and preferences.

According to the study of De Mooij [8] the different types of internet advertising that exist can increase visits to products or services that are displayed on the internet, while interactivity in relation to user motivation plays an important role (see: Uses and Gratifications theory). These types have emerged in order to link social networks and advertising, that is, allow companies to use new strategies within this medium.

A fundamental benefit that social networks bring to companies is the ease with which they can now know the opinion that exists about their brands and products [9]. Second, for consumers, it has been very important that social networks have made great progress, since they are an accessible way of interacting and getting and sharing information, and they also allow it to be done without having to physically match [10]. As for their motivations to use them, many studies have identified the pursuit of entertainment and information as the main motivation that leads consumers to use social networks [11]. These opinions that users share in social networks, generate a lot of value both for themselves and for companies

[12]. Consumers seek information before making a purchase to make better quality decisions and it is to meet these information needs, for which consumers turn to social networks [13].

The socialisation of the consumer in social networks occurs directly through the interaction between consumers and, indirectly, to demonstrate support for a product or brand. As a result of this interaction, members of social networks will become more acquainted with each other, developing a source of trust. In other words, social networks facilitate the interaction of consumers, leading to greater confidence, which influences both the intentions of consumers and their actual behavior [14]. In particular, trust plays a very important role in the development of e-commerce or e-commerce [15].

The credibility of the source is one of the aspects that most influence trust, but with social networks, there are new factors that influence it. First, both the quality and the quantity of information, produced by the opinions and experiences shared in social networks, lead to an increase in confidence and, therefore, influence the intentions of consumers to buy [16].

3 Methodology

This study is developed using quantitative research methods and statistical analysis techniques. In this study the phenomena under consideration are the perceptions of people and businessmen of various age categories in the matter of advertising and marketing using social networks and their approach of the personal impact that the use of this new medium of social lifestyle has, as for their business model or their individual need of purchase. Both of these are different and require separate strategy to study them.

4 Analysis

In marketing researches, it is considered important to segment the consumers on the basis of age and gender. Though, the ratio of people under 18 and over 60 years is relatively very low, which suggest either a low presence of these groups on social network or a lower response to online surveys among these groups, it is however a fact, since this is not the concern of this study, hence the overall sample size of this dissertation, from the above results appears fairly balanced, to reflect the perspective of social media users in relation to social media advertisement and its sales effectiveness.

Due to the high spread of age segmentation in the questionnaire, the method of amalgamation is used in order to formulate the results in smaller segments, by combining the data results in five "age related" categories rather than ten separate age categories.

In order to further assess the validity of sample, social media users in the survey were inquired about their exposure to social media advertisement.

These issues were very important in context of this research that is to include those people who have good or a reasonable exposure, however, researcher did not have any intention to establish this as an exclusion criterion in sample recruitment. The result however, show that all social media users have exposure and understanding of social media advertisement. This is a major fact that highlights the vast intrusion and involvement that social networks have achieved in the short time of their global presence, to the everyday life of the average human.

When social networks users in the survey were inquired of their general rating of advertisements on the Social networks compared with other medium, majority of the participants find social media advertisement better than other. These results present a clear indication of consumer interest in the commercial of products and services presented on social networks. Also, when social media users in this survey were asked to classify the advertisement on social networks which described the product/service, the majority of the participants rated the product/service presentation was exceptionally well or well, whereas only a minor fraction of the participants thought otherwise.

These results clearly indicate the effectiveness of different content oriented interactive commercial communication, in social media marketing. Previous studies show that quality content in social media commercials is especially valued by consumers, by providing added value in terms of information. More to that, these contents not only capture the attention of internet users, but also, they arouse interest and push them to buy.

Social Networks users in the survey were inquired whether advertisement on social network promoted them to buy that advertised products or services. Their reaction to that question had a positive overall response. A reasonable majority of the social network community is motivated by the advertisement on the net to buy either occasionally or more frequently. These findings are highly critical from the marketing perspective, as an indirect influence of social media's ads is established on the consumers buying intention, as the positive formation of the customer's intention to buy a product or service, represents the ultimate objective of advertisement in any medium.

In order to assess the effectiveness of the advertisements on social network it was important to assess the credibility of these assessments, because the vast body of evidence on consumer behaviour has established that trust and reliability is one of the most effective tools to influence consumer buying decision, especially in the repeat purchase. Hence, the survey questionnaire inquired the social networks users, whether they have found credible the affirmations made in the advertisement on social networks about the product/service. The results indicate that the overall credibility of products promoted on social networks is not very high.

These results compared to previous studies, have again exposed an important era of improvement for social media marketing. Though it argues that the interactivity, medium dependency from the medium credibility dimension and argument strength from the message credibility dimension are main determinants of the

information credibility, the consumer however still finds at times low credibility of product/service ads on social networks, despite having less credibility, are seen as less saturated.

5   Conclusion

Social networks have a major impact on the consideration and evaluation of the product, but not on the visibility or the purchase decision. In addition, they help to create an emotional link of the brand with the user. The social network is important but it is not everything, managing Facebook as the only means without resorting to other support systems, or another digital system, is not enough to achieve the sale. Spontaneously, groups have been created in which social network's users and postulants interact, in which information about various products and services is shared among users. This shows that potential social network's users are researching and reviewing fan pages, however, as noted, the final decision is a mix of several factors.

Companies and their marketing department as their extent, that wish to expand its influence to the global market through the internet, should approach social media as a valuable marketing tool, but also one with potential consequences. It can be tough to strike a balance between professional and personal, but well-organized social accounts can be very beneficial to a business.

The results of this study show that in the case of a buying decision, the positive comments create an affirmative influence, especially if the person is not convinced to make some decision, the comments of others can assist in a risk assessed buying decision. Additionally, the research findings of this dissertation show that the intention in general, does not merely focus on methods to attract customers, but to generate an emotion in the potential client, as to awaken at the same time their interest to seek more information about the advertised product or service. In the past, decisions were influenced by the family, since they did not have this means to investigate, but now it is possible to consult on Facebook and wait for the advice of others, freely and in extended scale.

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Winery Visitors' Experience, Emotional Stimulation, Satisfaction and Behavioral Intentions: The Role of Age and Previous Experience

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Abstract This paper aims to explore whether winery visitors' perceptions of experience constructs, their emotional stimulation, satisfaction, and intentions to revisit and recommend a winery differ in terms of age and previous winery experiences. The present study is one of the few studies that consider visitors' experiences holistically, as a multi-dimensional and diverse construct, indicating that visitors' experience perceptions are based on servicescape attributes, other visitors' behaviour and their desire for learning and fun. A self-administered structured questionnaire was used and 615 usable responses were obtained. Results indicate that visitors with previous winery experience have greater perception of experience constructs, are more stimulated with positive emotions, are more satisfied from the experience and are more willing to revisit and recommend the winery. Those findings enhance the existing literature respective to experiential marketing, and wine tourism marketing by providing new insights.

Keywords Winery experience · Wine tourism · Visitors' behaviour

1 Introduction

Wine tourism has been defined as "travel for the purpose of experiencing wineries and wine regions and their links to lifestyle" [1]. The cellar door experience is the most important aspect to the tourist when visiting a wine region [2] as it provides those favorable circumstances to taste the winery's products while interacting with staff, and to emotionally connect with the winery, the wine and the region [3].

Over the last two decades the wine tourism is gaining attention as an area of research. A nascent body of research expanded exploring issues of demograph-

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ics [4], segmentation [5], and satisfaction [6]. Age has been mostly used as a segmentation variable. Furthermore, it has been argued that along with the other psychological characteristics, the existence of a previous winery experience is an important factor in shaping the attitudes and behaviours of wine tourists [7].

2 Theoretical Background

Literature has indicated that in order to understand the winery visitor's behaviour it is important to adopt an experiential approach [8–11]. Wine tourism is a very sensory experience which can affect visitors' emotional responses [12, 13]. The winery experience depends on "complex interactions of visitors and the service staff, the wine product, the cellar door setting, winery management systems, and other winery attributes" [14]. Also, it is supported that visitors' interactions with the winemaker, the staff of the winery, and the other winery visitors are important aspects in creating an unforgettable experience [15].

The winery experience in this study is considered to incorporate: the winery servicescape, the other winery visitors' behaviours and a visitor's yearn for cognitive learning and fun. The servicescape is related to the physical surroundings where the service is provided and in which the interactions between provider and customer take place [12]. Other visitors' behaviours refer to "the extent to which an individual customer felt that other customers in the service environment behaved appropriately given the consumption context" [16]. Existing literature illustrates that customers possibly experience a service for hedonic benefits to acquire new knowledge or to gain fun, for example [17].

2.1 Experience, Emotions, Satisfaction and Behavioral Intentions

Winery visitors' perceptions of the winery's physical environment contribute to the formation of their first impressions of the winery, prior to interacting with the staff [9]. Marlowe, Brown, and Zheng [18] highlighted the importance of the interactions between the winery staff and visitors. Past studies indicate that a sense of interpersonal relationship between customers and the staff built up customer satisfaction and re-visit intention [13, 19]. In the wine industry literature it was indicated that educational experiences play a critical role in setting visitors' emotions and satisfaction [13, 20].

Although recently there has been a rapidly increasing awareness of wine tourists' emotional responses [21], there is a lack of research on the winery visitors' emotions for understanding visitors' experiences, satisfaction, and behavioral intentions [13]. In the wine tourism field satisfaction is believed to impact on both the future

purchase decisions [22], and the winery visitors loyalty [21, 23]. The winery visitors' loyalty is mostly seen as a repeated visit to the same winery [24], a positive word of mouth intention [25], and a purchase of wine [9, 26, 27].

2.2 Research Regarding Visitors' Age and Prior Experience in the Tourism Field

In the wine tourism field, a number of studies have focused on the winery experiences of younger generations [28, 29]. However, little research has focused on winery visitors' differences of experience perceptions related to their age. For example, Dodd and Bigotte [30] ascertained that younger visitors rate the overall winery service and the wine price as more important determinants of their satisfaction, comparing to older winery visitors. Also, Charters and Fountain [28] supported that older wine tourists are generally less critical of their winery experiences than younger ones.

Researchers in the wine tourism field used the enrichment theory to determine how previous experiences affect how much and what type of information sources tourists will use when planning to visit a winery. The findings indicate when the number of winery experiences increase then there is a significant increase in the number of information sources used [31]. However, no previous research has focused on how the winery visitors' age and their prior experiences diversify their experience perceptions, emotional stimulation, satisfaction and behaviours. This is addressed in the empirical part of the present study. Thus, the following prepositions are researched:

P1: Visitors' prior experiences differentiate their perceptions of the winery experience constructs, their emotional stimulation, their satisfaction from the experience, and their behavioral intentions.
P2: The number of visitors' prior winery visits differentiates their perceptions of the winery experience constructs, their emotional stimulation, their satisfaction from the experience, and their behavioral intentions.
P3: Visitors' age differentiate their perceptions of the winery experience constructs, their emotional stimulation, their satisfaction from the experience, and their behavioral intentions.

3 Methodology

3.1 Survey Instrument and Measurements

In the present study a structured questionnaire has been used. Items for each construct have been adopted from the relative literature. Multi-item scales have

been adapted to fit the winery industry. Except the questions related to the demographics, all the other have a seven-point Likert-type scale. The questionnaire consisted of items related to: the winery's servicescape (borrowed from: [32–37]); the other winery visitors' behaviours (borrowed from: [16]); a visitor's yearn for cognitive knowledge and fun (borrowed from: [38]); visitors emotions (borrowed from: [39, 40]); visitors satisfaction and their intention to visit again the winery and to disseminate their positive experience (borrowed from: [39, 41]); visitors demographic variables.

The questionnaire items were originated in English. A pilot study (18 participants) was conducted aiming to reveal potential problems in the survey instrument. The pilot study confirmed the relevance and clarity of survey instrument.

3.2   Data Collection

The data were collected from May 2016 to September 2016 and from June 2017 to September 2017. The sample considering the selection of the wineries was a convenience one: eight wineries conceded to participate, representing three wine regions in Greece. Winery visitors randomly have been approached by the researcher as they exited a winery establishment. At the end of the day 665 questionnaires had been collected, from which 615 were usable.

4   Results

4.1   Sample Demographics

Table 1 demonstrates the sample's socio-demographic characteristics.

4.2   Reliability and Validity Testing

The exploratory factor analysis for the winery servicescape attributes revealed a five principal component solution: Senses (four-items), Interior Design (four-items), Signage (three-items), Facilities (three-items) and Atmospherics (three-items). Also, the factor analysis for visitors' post-visit behavioral intentions provided a two component solution, named: Word of mouth (four-items) and Re-visit Intention (four-items). For each of the following construct the analysis revealed on factor solution: servicescape communicative attributes—Winery Staff (six-items), Other Visitors' Behaviours (four-items), Visitor's yearn for cognitive learning and fun (seven-items), Emotions (six-items), and Satisfaction (four-items).

Table 1 Socio-demographic characteristics and travel behaviour of the winery visitors

Gender	Male	Female				
	56.1%	43.9%				
Nationality	Domestic	International				
	88.9%	11.1%				
Age	16–24	25–35	36–44	45–54	55–64	>64
	12.7%	30.1%	24.3%	18.5%	11.1%	3.3%
Education	High school	Bachelor	MSc/MA	PhD		
	32.7%	30.4%	17%	6.5%		
Previous visits	None	1–2 times	3–4 times	>4 times		
	36.4%	39.2%	17.1%	7.3%		
Decision of visiting	Last 24 h	Last week	Last month	Last 6 months	Passing by	
	25.5%	13.3%	12.7%	8.9%	23%	

Internal consistency and reliability of each factor was checked by calculating the Cronbach's alpha coefficients. For all constructs the composite reliability values were well above the 0.70 level suggested by Nunnally [42]. All standardized factor loadings were fairly high and significant, ranging from 0.601 to 0.901. This suggested convergence of the indicators with the appropriate underlying constructs [2].

4.3 Examining the Propositions

In order to find out the existence of statistically significant differences in the extent to which winery visitors perceive their experiences, are stimulated by emotions, are satisfied, and are willing to revisit and recommend the winery, between visitors that have visited at least a winery in the past and those that do not have, Mann–Whitney U test is applied. On the other hand, to find out the existence of statistically significant differences regarding visitors' age and number of previous winery visits, Kruskal-Wallis one-way ANOVA test is applied.

Winery Visitors' Prior Experiences Results indicated that visitors with prior winery experiences perceive better winery's aroma, cleanliness, maintained and easy to be used facilities, quality of furnishing, room, along with staff's politeness and friendliness, than visitors with no previous winery experience. Also, they are more fervent in expanding their knowledge about wine and in having fun during the winery experience. Additionally, winery visitors with prior experience are found to enjoy the experience more, to be more relaxed and happy during the experience, together with finding the winery more interesting, than visitors with no prior winery experience. Furthermore, visitors with prior experience feel more pleased, happy, energetic, and excited in contrary to visitors with no prior experience. Besides winery visitors with no prior experience are not as satisfied as visitors with prior

experience. Finally, winery visitors with prior experience are found to be more assertive that they are going to revisit the winery in the future, together with spreading positive word-of-mouth.

Frequency of Winery Visit Visitors with one or two prior winery visits are found to perceive to a greater extent the winery's aroma, the easily understandable and helpful signs, and the staff's politeness, friendliness, willingness to help and attitude. Likewise, visitors who had visited wineries one or two times in the past presume more outstandingly that other visitors are friendly and pleasant toward them. Also, those winery visitors seem to have gained more knowledge from the winery experience compared to visitors that have visited more than two wineries in the past. Furthermore, visitors who had visited wineries more than four times in the past look to feel more angry and annoyed regarding the winery experience. Not to mention that visitors who had visited wineries one or two times in the past are more satisfied from the winery experience. Lastly, winery visitors with 3–4 winery experiences in the past are found to be more positive in their intentions to revisit the same winery in the future, than visitors with one, two or more than four prior winery visits.

Winery Visitors' Age Visitors between 35 and 44 years old have a greater perception of the physical environment attributes. On the other hand, winery visitors between 25 and 34 years old have a greater perception of staff's attitude, knowledge, politeness, friendliness, ability to solve problems, and appearance. Also, visitors between 25 and 34 years old feel to a greater extend that other winery visitors are friendly and pleasant toward them, whereas visitors between 35 and 44 years old are more excited of other winery visitors' intention to participate in the experience. Moreover, visitors between 16 and 24 years old are found to be more knowledgeable after the experience, to have found the instruction boards helpful, and to have learned something new during the experience. On the other hand, visitors between 35 and 44 years old are found to have more fun during the winery experience. Furthermore, visitors between 35 and 44 years old seem to feel more pleased, happy, energetic and excited from the experience. Moreover, winery visitors between 35 and 44 years old are found to be more satisfied with the experience, and are more certain that they are going to revisit the same winery in the future along with spreading positive word of mouth for the experience.

5 Discussion and Implications

Results demonstrate some interesting implications. The clear implication of these findings is that not all winery visitors are alike and that the winery visitors with prior experience may be more demanding than the first-time visitors. Furthermore, the present study contributes to the consumer behaviour and wine tourism literature by providing a systematic and comprehensive comparison of wine visitors' divisions in order to understand their differences in terms of the winery experience perceptions,

visitors' emotional stimulation, satisfaction and behaviours. Furthermore, this study provides several practical implications for winery managers on how to enhance visitors' experiences and increase their loyalty. This research also further interpreted visitors' attitudes and perceptions so wineries can ensure their services remain appealing to the visitors' differences.

Some limitations must be acknowledged. First of all the limitations is the convenience nature of the sample i.e. the selection of the wineries participated in the survey. Also, visitors' perceptions were measured at a single point in time, after their winery experience. So, it would be very interesting to consider their perceptions prior to their visit to the winery and/or adopting a longitudinal methodology. Another limitation is that the survey data are country specific (Greece) and findings may not be directly applicable to other types of experience, as well as to wineries operating in other countries. However, there are some similarities among wine tourists in European wineries and that's why the results could be applicable to those wineries [26, 43].

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Factors That Influence Tourist Satisfaction: An Empirical Study in Pafos

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Abstract The main aim of this article is to identify the factors affecting the level of tourist satisfaction in Pafos. Namely, the study proposes that these factors are quality of services, low cost, aesthetic appeal/nature and society/culture. A questionnaire was created and a random sample of tourist was selected in order quantitative analysis to be conducted. Appropriate statistical techniques were applied to investigate among others, the factor with the largest contribution to the overall tourist satisfaction in Pafos. In addition, the tourists intention to revisit Pafos was examined and its association with their overall satisfaction.

Keywords Tourist satisfaction · Future intention · Quantitative analysis

1 Introduction

There is a large body of knowledge that investigates the factors that determine the overall tourist satisfaction and the literature on the area is definitely rich. This article will not focus on the theoretical framework of the subject but on the empirical results of the analysis. In particular a different combination of factors is employed to measure tourist satisfaction and future intention behavior with destination attributes. Namely, these factors are quality of services, low cost, aesthetic appeal/nature, society/culture.

Tourism in Cyprus is a driver of economic growth. In 2018, almost 4 million tourist arrived in Cyprus, 7.7% increase from 2017 and income from tourism accounts for more than the 15% of the country's GDP.

Cyprus has five main tourist districts Famagusta, Larnaca, Limassol, Nicosia and Pafos. The research will focus on the district of Pafos as the last few years, as reported by the Cyprus Statistical Services, it is the most preferred touristic area

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with the highest proportion of foreign tourists and up to now there is no reported research for the overall tourist satisfaction in Pafos.

2 Literature Review

Cyprus and to be more specific, Pafos as a tourist destination is considered a complicated destination that the last few years is in transition [1]. This transition has a lot of external factors that if mishandled can cause reduction of market efficiency. This is a risk that locals may can't afford to pay, as 15% of Cyprus GDP is at the moment produced through the tourist sector and 50% of that is being distributed into the market evenly [2]. Specifically, according to the authors [1], "Cypriot tourism has been developed within a context where serious social, political and economic pressures, demands, and changes have taken place. These forces have created severe problems, which due to the apparent stability of the sector for almost 30 years, were partially confronted by tourism policy" (p. 17). These features shaped the island's tourism trends and defined the country's tourism planning. To a lesser extent, emphasis was placed on qualitative aspects of enhancing the tourist product, such as the quality of services, the behavior of the locals towards the tourist, etc.

Moreover, Cyprus's Tourism Image till now is considered to be Sun & Sea, something that is true but it's a very small part of what Cyprus actually is today [3]. Cyprus is considered to be one of the most important Service Hub's in the Mediterranean Sea and a lot of Foreign Direct Investment (FDI) has been introduced the past 3 years and this is also going to continue in the future [4].

In this context it is understood that tourist satisfaction is a key parameter of the tourism industry [5]. According to [6], the satisfaction of the tourist is immediately linked to the experience offered. The experience the tourist gains is what determines whether a tourist will revisit a destination [7]. There are actually many methods of approaching and analyzing the tourist experience. For example, according to [8] satisfaction can be approached by analyzing "values", "inputs" and the "active involvement of the tourist.

Moreover, according to [9] tourist satisfaction is intertwined with the destination's identity. On the other hand, satisfaction depends on the quality of the tourist product and the quality of services offered. For example, the quality of infrastructure is an issue that determines the degree of satisfaction and dissatisfaction of the tourist.

Finally, an important factor determining the satisfaction level of a tourist is the cost. What needs to be clarified first is the concept of cost, where in the case of the tourism industry it is a very complex issue. What should be understood is that the cost is determined by the type of the tourist product. Also, the cost is what determines the degree of involvement of the tourist in a series of activities during his vacation [10]. For example, many studies focused on the behavioral study of tourists choosing to stay in low-cost accommodation [11].

3   Methodology

The study used a cross-sectional survey through a self-administered questionnaire. The questionnaire included four parts. The first part included demographic information and other related information such as age, gender, reason for visit, geographic origin, duration of visit. The second part of the questionnaire included statements related with the 4 variables under investigation. Responses were based on 5-point Likert scale from 1 (lowest score) to 5 (highest score); tourists had to rate the statements in relation with their experience of their recent visit in Pafos. The third part of the questionnaire incorporated statements related with the tourists overall satisfaction during their last visit in Pafos. The fourth and last part included questions related with the tourist future behaviour, that is the tourist intention to revisit Pafos. All statements of the questionnaire were closed-ended questions based on a 5 point-Likert scale.

The questionnaire was distributed in Pafos in two languages, both in English and Greek among randomly selected tourists visiting Pafos. The survey was conducted anonymously. In total 281 questionnaires were distributed and 277 were valid (98%). The sample included local and foreign tourists that visited Pafos between the period April to May. The participants were 44.6% men and 55.4% were women and their aged ranged from 18 up to above 58. Regarding the sample's permanent residency 24.9% were local tourists (Cypriots), 66.4% were Europeans and the rest 8.7% were coming from other countries around the world.

4   Analysis

To test for construct validity, a Principal Component Analysis (PCA) was performed on the 36 items with Varimax (orthogonal) rotation. The factor analysis was supported by Bartlett's test of sphericity, χ^2 (325) =1319.12, p < .001 and Kaiser-Meyer Olkin measure of sampling adequacy of .8 above the recommended value of .6. Only factors with eigenvalues greater than 1 were retained. The criteria led to a four factor solution. The first component included nine items on the Quality of Services, accounted for the 36.35% of the variance, the second component contained the nine Low Cost items, accounted for the 7.29% of the variance, the third component included ten items of the customer Aesthetic Appeal/Nature, which accounted for the 5.94% of the variance, and the forth contained the eight items related to the Culture/Society, accounted for the 4.97%. The analysis revealed that 54.55% of the variation in the 36 items can be explained using four factors (see Table 1).

All components (quality of services, low cost, aesthetic appeal/nature, society/culture) after factor analysis was performed were created by calculating the mean of the corresponding questions that refer to the respective variables. The same applies for the variables overall satisfaction and future behavior. Table 2 presents

Table 1 Factor analysis results

Item	Factor			
	I	II	III	IV
I. Quality of services				
The staff's behavior, in your place of residence	.755			
The cleanliness of your place of residence	.724			
The size of your room at the place of residence in relation to the cost of your stay	.683			
Safety and security	.623			
The service time of your orders, at restaurants you have visited in Pafos.	.612			
The overall experience that you had in Pafos related to the parameter "service quality" in Pafos	.594			
Fresh food served in the restaurants you have visited in Pafos	.567			
The quality of transportation services	.491			
The opening hours of local shops.	.423			
II. Low cost				
The cost of living in Pafos is cheap		.762		
The overall experience that you had in Pafos related to the parameter "cost" in Pafos		.755		
The prices of recreational establishments are satisfactory		.724		
The cost of your accommodation in Pafos allows you to do other activities than the one you organized		.714		
The prices in Pafos are reasonable		.691		
The total value for money		.691		
The prices of basic products (milk, water) are satisfactory		.647		
The quality of services provided in Pafos is equivalent to the cost of your stay		.600		
The prices of transportation means are satisfactory		.415		
III. Aesthetic appeal/nature				
The preservation and protection of the environment/Unspoiled nature			.669	
The preservation of the local character			.668	
The cleanliness of Pafos beaches			.667	
The overall experience that you had in Pafos related to the parameter "aesthetic appeal" in Pafos			.638	
The preservation of the architectural heritage			.633	
The beaches in Pafos			.620	
Overall cleanliness of the Pafos Municipality			.614	
The Architecture of buildings in Pafos			.503	
The natural environment of Pafos			.480	
The weather conditions throughout your stay in Pafos			.409	

(continued)

Table 1 (continued)

Item	Factor			
	I	II	III	IV
IV. Society/culture				
The way of life and entertainment of the locals				.752
The cultural events which are organized in Pafos				.719
The understanding of tourists needs by locals				.636
The locals responses to tourists questions				.562
The overall experience that you had in Pafos related to the parameter "society/culture" in Pafos				.551
The general attitude of locals				.545
The lively night life in Pafos				.528
The social acceptance of foreign tourists by the locals				.524

Note: Factor loadings in the same column, load on the same factor

Table 2 Coefficient alpha and descriptive statistics

	Quality of services	Low cost	Aesthetic appeal/nature	Society/culture	Overall satisfaction	Future behaviour
Coefficient alpha	0.883	0.909	0.863	0.877	0.9	0.9
Mean	4.05	3.75	3.89	3.86	3.9	4.2
Standard Deviation	0.66	0.69	0.6	0.69	0.66	0.77

descriptive statistics results for all variables of the study and internal consistency of the current sample. Cronbach's alpha coefficients for all constructs were above the recommended level of 0.7.

Statistical significant differences by using independent samples t-test were obtained for the overall satisfaction between local and European tourists $(t(251) = -2.56, p < 0.05)$ with local tourists (Cypriots) being less satisfied than their European counterparts. Statistical significant differences were also obtained for the low cost rates in Pafos between local and European tourists $(t(251) = -2.83, p < 0.05)$ where European tourists consider that Pafos has low cost rates rather than the locals. Significant differences also exist for the factor aesthetic appeal/nature $((t(251) = -2.75, p < 0.05)$. No significant differences were found for the factors society/culture and quality of services.

Multiple regression was used to explore the relationship between overall tourist satisfaction as a dependent variable and independent variables aesthetic appeal/nature, quality of services, society/culture and low cost. All assumptions of multiple regression were satisfied and no multicollinearity exists between the variables. Variance Inflation Factor (VIF) is less than 10 and Tolerance is more than 0.1. The overall model was significant $R^2 = .81$, Adjusted $R^2 = .80$, $F(11,373) = 14.72, p < .001$ indicating a good level of prediction in the model (see Table 3). All variables were statistically significant at the 5% level of significance. The independent variable that has the largest contribution in the model was society/culture.

Table 3 Multiple Regression predicting the overall satisfaction

	B	Standard error	B	t	VIF
Constant	0.146	0.115			
Aesthetic appeal/nature*	0.181	0.037	0.180	4.8	1.9
Quality of services*	0.268	0.036	0.294	7.3	2.25
Society/culture*	0.304	0.032	0.351	9.3	1.98
Low cost*	0.211	0.032	0.241	6.5	1.90

*Note: $p < 0.05$

Table 4 Multiple Regression predicting the tourist future behaviour

	B	Standard error	B	t	VIF
Constant	−0.056	0.209		−0.267	
Aesthetic appeal/nature*	0.243	0.068	0.188	3.5	1.9
Quality of services*	0.34	0.066	0.290	5.141	2.25
Society/culture*	0.279	0.059	0.251	4.74	1.98
Low cost*	0.229	0.058	0.204	3.93	1.90

*Note: $p < 0.05$

A linear multiple regression model was estimated with dependent variable the tourist future behaviour and as independent variables the four variables under investigation nature, quality of services, society and low cost. All assumptions of the multiple regression model were satisfied and no multicollinearity exists (VIF is less than 10 and Tolerance less than 0.1). All variables were found to have a positive impact on the tourists' future intention to revisit Pafos. Table 4 shows the regression model parameter estimates. The factor quality of services has the largest contribution on the regression model.

Positive significant correlation exists between the tourism satisfaction and tourist future behavior ($r = 0.767$, $p < 0.05$). The more satisfied tourists are, the more likely to revisit Pafos. However, tourist declaring satisfied does not imply necessarily that will choose the same destination for next year. Furthermore, positive statistically significant association also exists between tourism satisfaction and low cost rates ($r = 0.7$, $p < 0.05$).

The duration of visit, based on our sample data, was separated into two groups; less than 10 days of visit and more than 10 days. Independent sample t-tests showed no statistically significant impact between the days of visit and the overall tourist satisfaction. In addition, a one-way ANOVA test showed that there was no significant main effect of age on the overall tourist satisfaction ($F(55,271) = 1.18$, $p > 0.05$).

Furthermore, the majority of our sample stated that transportation to and from touristic points of interest and the operation of a Marina would enrich the tourist product of Pafos.

5 Discussion and Conclusions

Our results are consistent with previous results in the area [7, 12]. Firstly, in this study local and foreign tourists were included, which actually give a greater extend to what should be improved and focus on, in the area of Pafos. Secondly, a different combination of attributes was used to explain tourist satisfaction. In particular, results support that the most important factor that influence tourist satisfaction visiting Pafos is the society/cultural destination attributes. Moreover, the research indicates that the most important predictor of the future intention behavior is high quality services. Furthermore our study also confirms that tourism satisfaction is associated with tourist future intention [13, 14].

Another important finding of the analysis is that local tourists are less satisfied and consider that Pafos does not have low cost rates in comparison with tourists coming from Europe.

Based on our results, more effective marketing strategies by the private and public sector should be developed to change the perception of local tourists on satisfaction at a destination level. Social media and in general technology strategies should be used as nowdays these are possible to change the competitive landscape of the tourism industry [7]. Pafos must continue offering high quality services and upgrading the touristic product in order to maintain the 15% of the country's GDP and reaches the sector's estimates of the long term potential contribution of the 25% of the GDP. As high quality services are associated with future intention to revisit Pafos, it is required that more people should be trained and specialized in the area of the tourism industry in order to promote professionalism among the area. This will have an immediate effect on the touristic product to be upgraded and substantially improved.

As tourists in general declare satisfied, government, local authorities and key stakeholders should promote even more all year-round tourism in Pafos and try to minimize the seasonality as much as possible in the tourism industry. Good deals should be given all-year round to give incentives to locals and foreigners to visit Pafos and continue developing other aspects of tourism in Pafos such religious tourism, wedding and sports and facilities tourism. All marketing strategies should focus at a destination level and further improvements should be done on the infrastructure and transportation in order to enrich the tourist product in Pafos.

Excellent tourist experience does not affect only the future intention to revisit Pafos but the willingness to recommend to other's Pafos as a tourist destination. A good tourism experience is associated with a higher probability to revisit Pafos and this gives a higher probability to the viability of the touristic enterprises in Pafos.

Future research should include data not only from a specific period of the year but all year round data as this will provide a better overview of the tourist's overall satisfaction (local and foreign). In addition, future research should focus on the investigation of the interaction between the research variables i.e. direct and indirect effects by using Structural Equation Modelling (SEM).

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Cyber-Citizenship: A Challenge of the Twenty-First Century Education

Josélia Fonseca and Hugo Bettencourt

Abstract The twenty-first century's global and technological society, full of information, requires reframing the concept of citizenship and the responsibilities of its citizens, particularly in the school context. It is important to promote the development of children and young people for their integration as active and critical citizens in the local and global communities in which they live in. As such, current education has a duty to educate for cyber-citizenship, that is, the duty to initiate children and young people in the use of new information and communication technologies, in order to understand the global reality in which they live in and to encourage them to intervene and to participate autonomously and responsibly. In this article, we reflect on the need for schools to educate cyber-citizens, analyzing and discussing how educators and teachers view new information technologies in the promotion of citizenship education, in order to understand whether educators and current teachers use the new technologies and communication in the promotion of citizenship, feel prepared to promote cyber-citizenship and already do so in their educational context. We note that cyber-citizenship is still not a current school reality.

Keywords Citizenship · Education · Cyber-citizenship

1 Introduction

The association between education and citizenship is undeniable. It is, in fact, an intrinsic and inseparable relationship that has existed since the beginning. In Ancient Greece, education, known as *Paideia*, expresses the formation of Man in the

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direction of his improvement and the construction of his social identity. In fact, one of the purposes of Greek education, *Paideia*, of this historical period consisted in the formation of a conscientious and rational way of life [1], it was intended to promote the development of the human being, endowed with phronesis and arête, so he could intervene actively in the life of the polis, in favor of the establishment of the common good.

Although the concept of education has evolved, the truth that is embodied is this humanist dimension outlined by the Greeks. In contemporary times, education is seen as a medium that favors the development of the free human personality. This personality is built on the dialogical relationship of the individual self of each person with the other, understood in this context as the other Man, the World and Culture that supports and gives meaning to interpersonal relationships.

Thus, we can legitimately affirm that educating Man consists in promoting his development as a citizen, that is, as "[...] a dynamic unicity of the self in its singular dimension and of the self in its communitarian dimension" [1, p. 62]. This community dimension is understood not as a reality that constrains and subjugates the human being, but as something that requires him to be a conscious member and a free being, who negotiates with other men the coexistence with individual freedoms, who has responsibilities of acting in his community by recreating it, in view of the common good. In this context, citizenship is understood from its ontological dimension as a founding and constitutive element of Man.

In conceiving citizenship from this ontological dimension, and given that contemporary Man lives in a global and technological society, full of information, it is important to promote an educational process that favors the development of children and young people, not only as a citizen of the community in which he lives in, but of the global world, where he has the responsibility to intervene, having to be open to dialogue with cultural and axiological plurality and difference.

In this way it is understood that the *Basic Knowledge Report of all citizens in the* twenty-first century [2] considers active citizenship as one of the five basic goals of this millennium. In this document, active citizenship is defined as "[...] to act responsibly from the personal and social point of view within the framework of modern societies that are open and democratic [...]. Here the axiological aspect is privileged, in order to act within the framework of an ethic of responsibility, solidarity and tolerance. Knowing how to deal adequately with cultural and gender differences happens here, as well as awareness of the important aspect of sustainable development, involving the [...] harmonious relationship between Man and nature. It is a question of challenging the current sense of globalization [...] which must also incorporate the globalization of freedom, justice and solidarity" [2, p. 29].

Considering active citizenship as one of the five knowledges of the twenty-first century and the fact that we live in a technological and digital society, contemporary education has the duty to promote the education of the cyber-citizen.

Thus, it becomes pertinent to discuss what is meant by cyber-citizenship, re-emphasizing the pedagogical and axiological implications associated with this educational process; as well as the understanding of how educators/teachers perceive

the presence of new technologies in the educational context, how they consider a cyber-citizen education and which representations do they have of their practices in the field.

2   Sense(s) of Education for Cyber-Citizenship

Reflecting on cyber-citizen education requires clarifying the concept of cyber-citizenship and discussing the values and attitudes associated with it, while never losing sight of the holistic and healthy development of students as human beings and citizens.

The term cyber-citizenship was first used in 1992 by Hauben, a researcher at Columbia University—New York, to refer to the citizen of the digital technology society, defining it as "an entity or person actively involved in communities online, [. . .] an avid internet user" [3, p. 35].

There are not many studies on cyber-citizenship [4]. According to the study developed by Moonsun Choi [4] "citizenship in the Internet could be referred to as digital citizenship, including abilities, thinking, and action regarding Internet use, which allows people to understand, navigate, engage in, and transform self, community, society, and the world" [p. 548].

This conception of digital citizenship implies that education should prepare children and young people to have digital literacy, embodied in the development of an autonomous, critical and responsible conscience, who, at the same time, is able to work in the cyber world, be able to identify any dangers that this imposes and be able to know their rights and duties in this environment.

One of the dangers that the Internet brings, and that has been widely addressed in the scope of education studies, [5–8] is cyberbullying. "Cyberbullying has recently emerged as a new form of bullying and harassment" [5]. The term refers to a broader approach to the type of violence that is carried out via the internet [8]. Children and young people must be prepared to deal with the Internet in order to protect themselves against possible acts of violence, harassment and sexual predation. One process that can contribute to this preparation, especially in the first years of schooling is to accompany children in the use of the Internet. Another form of prevention is to work with them to safeguard their identity and their physical and psychological integrity, by alerting and creating educational situations that lead them to realize how dangerous an excessive exposure in the digital world is and to intercept conversations with strangers.

Nonetheless, the Internet brings along others challenges besides cyberbullying, like copyright infringement or misinformation/miseducation. The boundaries between the true and false content and right and not so right digital behavior tend to blur and demands an active role of the educators, teachers and parents.

For this to be possible, the educator/teacher must be aware that the transparency of the digital world "is not subject to any moral imperative. It is, in a sense, devoid

of heart, this being traditionally a theological-metaphysical medium of truth. Digital transparency is not cardiographic, but pornographic" [9, p. 66].

In fact, in the first instance of the educational process of children, new information technologies must be used in educational contexts as a strategy to promote education for citizenship. Considering the new technologies of communication and information as a strategy implies, in our view, seeing them as a way to promote the development of the axiological and ethical awareness of children and young people, as well as the development of digital skills so that later these children/young people are able to achieve what Choi [4] calls critical resistance, that is, they are able to make a critical reading of the global reality and intervene in it.

Prospecting cyber-citizenship as a strategy for citizenship education is, in fact, conceiving the educational process for citizenship as a way of promoting development towards human sustainability. It is understood that this area, global dimension sustainability, includes intercultural and axiological dialogue, environmental preservation and economic sustainability, with a view to the possibility of future life on Earth.

The new technologies of communication and information allow access to new cultures and realities, thus opening the possibility for the knowledge and dialogue between different ways of acting, thinking and being, creating conditions for the establishment of a relationship tolerated by the principles of justice and respect for others. In the context of respect for others, it also includes, in addition to the human being, the environment, the knowledge of the environmental problems that beset us and which require conscious and responsible action. Developing geocaching activities can, for example, be a way of facilitating environmental awareness and raising awareness of the responsibility to the environment.

In fact, a school that uses the new information and communication technologies to promote citizenship education assumes the configuration of a citizen school. A school where you do not indoctrinate citizenship, but where you live citizenship and promote literacy for cyber-citizenship.

Recognizing the importance of making new information technologies significant for the development of cyber-citizenship in the global society, it is important to understand how education professionals—educators and teachers—conceive the integration of new technologies in the promotion of citizenship education and what representations they have regarding their practices in this field.

3   A Case Study of Conceptions and Representations of Educators/Teachers on Education for Cyber-Citizenship

In order to carry out the purposes of our investigation [3], we have opted for an investigation in a case study. Although it is known that case studies cannot be generalized, the truth is that this methodological approach has recently gained some ground in research regarding social sciences and education [10, 11]. This

research is not restricted to what is exposed in this article as, after collecting data on the conceptions and representations of educators/teachers about the use of the new information and communication technologies in the promotion of cyber-citizenship, we collected data from children of both studied groups (pre-school and elementary schools) on how they perceived the use of computers and the Internet and then outlined an educational action plan for the development of cyber-citizenship in pre-school and elementary school through the use of new information and communication technologies.

In order to collect data from the educator and teacher we used the interview, and a semi-structured interview was conducted, both referred by Bogdan and Biklen [12], Tuckman [13] and Quivy and Campenheoudt [14] as a possible source of information in qualitative investigations.

The data collected in the interviews was subjected to a content analysis. According to Fonseca [1], this type of data processing helps to "reduce and systematize information, provide a base of orientation and meaning to the multiplicity of the collected data" [p. 243]. Four meta-categories [3] were listed: computer utility, computer use, curricular management and relation of information and communication technologies/citizenship. The first of the meta-categories, *Computer Utility*, refers to the way the teacher sees the computer, dividing it into three categories: ludic; source of information and pedagogical-didactic tool. The meta-category about *Computer Use* refers to the type of use that the educator gives to the computer, falling into three categories: regular or sporadic; accompanied or individual and knows the dangers or doesn't know the dangers. The third category, *Curricular Management*, refers to the type of curricular management implemented by education professionals in the field of information and communication technologies, divided into two categories: disciplinary and integrated. The fourth, and last, category, *Relation of Information and Communication Technologies/Citizenship*, refers to the unquestionable relationship between information and communication technologies and education for citizenship, dividing into two categories: proactivity and apathy/passivity. The goal is to understand if the new information and communication technologies are perceived as a way of promoting the development of an active and autonomous behavior of children or if, on the contrary, it is understood as a form that favors their isolation, creating difficulty in the interaction and communication with others in real time.

For the educator and the teacher, the usefulness of the computer in the educational context is associated with the source of information and knowledge. According to the educator, the new technologies of communication and information are a way of allowing the dissemination of information in an inclusive way, favoring a continuous enrichment of knowledge that guarantees the principle of democraticity in access to information, [. . .] allowing children to develop information research and the critical spirit of distinguishing between good and bad information, and it is therefore for the education system to provide all children with opportunities to master these computer and technological means, including children with special education needs [3, p. 71].

The teacher corroborates this idea, noting that children can "look for a lot of information on the internet for projects, writing and learning to use new tools" [3, p. 72].

Both educational professionals interviewed recognize the importance of using computers and the internet as a pedagogical-didactic tool, and as far as their use is concerned, the educator and the teacher refer to using it regularly in working with their classes.

As for the dangers of using the computer, the education professionals who participated in this research show some concern, since according to them, children spend a lot of time, without monitoring, on the computer and on the Internet. According to the educator, one of the disadvantages of the new technologies of communication and information "is the abusive use of technologies, followed by the lack of an adult or advisor's filter, because it does not develop in the student the critical spirit before the information that may be collected" [3, p. 76].

In addition to this concern, the teacher interviewed also mentions that the fact that children spend too much time in the computer reduces their ability to "interact with people [. . .] [and favors] general physical inactivity" [3, p. 76].

The educator and the teacher emphasize the importance of organizing and promoting the "safe internet week, an initiative to promote games related to Internet safety with the aim of raising children's awareness of the dangers to which they can expose themselves" [3, pp. 76–77].

Regarding the curricular management that the educator and the teacher develop, both refer that they make an integrated management of the new communication and information technologies. These are used to teach all curricular areas.

However, when questioned about the relationship between the new information technologies and citizenship, the education professionals interviewed showed some reluctance if this relationship can favor proactivity. The elementary school teacher understands that the children make abusive use that does not favor the development of active citizenship, on the contrary makes the students unfocused on reality, therefore making face-to-face communication difficult for them [3].

Taking into account the responses of the educator and the elementary school teacher, we can legitimately affirm that there is still much to be done for new technologies to be used to promote active citizenship.

4   Final Considerations

In conclusion, we can say that, despite the importance of new technologies for the promotion of an active citizenship, the truth is that the conditions still haven't been met for schools to become a cyber-citizen space. For this to be possible, it is necessary for educators and teachers to use new technologies of communication and information beyond a mere passive search for information. To put it lightly, it is necessary for teachers to use the new information and communication technologies as an active way of building knowledge. This could be done by using the computer

and the internet to establish contact with children from other cultures with whom they could establish a dialogue, exchange experiences, etc. This would create conditions for an open dialogue with a possible cultural diversity, and the possibility of such a dialogue would be promoted with values such as tolerance and respect for others.

Another way to promote cyber-citizenship would be to prepare children/young people to be careful about the overuse of the virtual world by preparing them for the development of a conscious and critical spirit regarding the transparency/privacy binomial. It is also important for children and young people to be motivated to use the new communication and information technologies to gain knowledge of the recent human rights and environmental attacks, stimulating them to search for solutions with their co-citizens of the world, the global village.

In order for all these examples, and others that could be indicated, to be achieved, it would be necessary to change the conceptions of educators and teachers, often rooted in an outdated notion of citizenship education, with a view to the transmission of social rules, rights and duties of the members of a community. It is important that educators and teachers of this millennium be aware that education for citizenship must be associated with the promotion of a constructive educational process, in which the student is an active member of this construction and must develop analytical and critical reflection skills, sustained in an education for values that favors the development of autonomy, responsibility and justice. For this purpose, it is important that citizenship not only exists, but to be made true and, therefore, the educational environment should be a space for it to flourish and grow.

This work contributes to the literature with a case study that highlights the real concerns about students' digital behavior. From the educational standpoint, three solutions axes can be found: blocking tor restraining access to internet in school, overlooking the internet use and no teaching students how to be digital citizens, and establishing proactive character education programs. This last approach seems to be the most gainful in the long range, since it focuses on modeling individual behavior. However, some results suggested that this third option is not a conscient option for many educators. A reinforcement of the educators' digital skills may be needed in order to move forward in this domain. Future research works should attempt to unveil the barriers and drivers needed to adapt traditional values for digital needs.

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Turkish Gen Y Customers' Visit Intentions and Word of Mouth Activities Regarding Online Travel Agencies

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Abstract Tourism industry in Turkey has been developing dramatically. Adapting online technologies to tourism industry have become inevitable and travel agencies have started to transform their brick and mortar businesses to click and mortar, even click-only businesses, since they prefer to be accessible everywhere in the world. Online travel agencies have become popular alternatives during online travel planning and booking. Consumers can only get information from online travel agencies or they can buy from these websites. The aim of this research was to analyze the characteristics of Gen Y customers' internet usage, and show the relationships between word of mouth activities regarding online travel agencies and visit intention to online travel agencies. Within this aim, the questionnaire was created and conducted in Izmir City with 240 Gen Y customers chosen by convenience sampling technique in April, 2017. Descriptive statistics, factor analysis, and regression analysis were used in data analysis. Findings showed that 81.7% of customers preferred shopping from the internet and 82.5% of customers preferred booking a hotel online. As a result of factor analyses, one dimension arose for visit intention to online travel agencies and one dimension was obtained for word of mouth construct. To test the hypothesis, regression analysis was implemented to the constructs and it showed that word of mouth explained 49.3% of variance in visit intention to online travel agencies. Results showed that Turkish Gen Y customers were open to use online technologies in tourism industry. It was suggested to travel agencies to use online channels and pay attention to word of mouth activities of their customers for increasing visit intention.

Keywords Generations · Gen Y · Online travel agencies · Visit intention · Word of mouth

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1   Introduction

The importance of generations in marketing studies have been increasing day by day, since age differences show the distinctions among customers. Generational classification was firstly proposed by Inglehart [1] as an approach to separate the population into various fragments [2]. Generations that reflect the similar shares, values, thoughts and habits are generally characterized by years of birth, broadening 20–25 years in length [2, 3]. There have been many generational classifications in the literature. For example, Michalak and Calder [4] classified Gen Y as the people who were born between the late 1970s and the mid-1990s; Prensky [5] classified Gen Y as the people who were born between 1980 and 1994; and Williams and Page [6] classified Gen Y as the people who were born between 1977 and 1994 [7].

The main aim of the research was to show the habits of Turkish Gen Y customers' internet usage and analyze the relationships between word of mouth and visit intention regarding online travel agencies, which are third-party businesses that provide information, reviews, suggestions, and complaints such as Kayak, Expedia, Booking.com, Trivago, TripAdvisor, and Orbitz. The research was focused on Gen Y customers because they are the first generation that are exposed to digital age. They were born in the middle of digitalization and adapted themselves to the digital environment. They changed their habits or adapted themselves to the new various marketplace. While they were booking a hotel room via a physical travel agency, they shifted their habits from offline to online and booked from an online marketplace. Gen Z were not included to the research, since they were born in the middle of digitalization. They do not need to change their behaviors since they grow up with the internet. Because of these reasons, the study focused on Gen Y customers and their online buying habits. In the study, the classification of Williams and Page [6] was followed. Within this aim, literature was reviewed, data were gathered in the field study, and findings were shown and interpreted in the next section.

2   Literature Review

In the marketing literature, intentions of customers were measured for years since intentions directly affect customers' actual buying behaviors. Particularly, the effects of image [8–10], service quality [11, 12], trust [13, 14], perceived value [11, 13], willingness to pay more especially for green products and services [15, 16] on visit intention were analyzed in the literature. Besides these several variables, word of mouth activities' effects on visit intention were examined in the tourism literature and proved in previous studies [14, 17–19]. However, the effects of word of mouth activities regarding online travel agencies on visit intention to online travel agencies were not expressed clearly in previous studies. In this paper, the effects of

Fig. 1 Research model

word of mouth activities on customers' visit intentions to online travel agencies was investigated. Thus, the following hypothesis was proposed:

H_1: There is a significant effect of word of mouth activities regarding online travel agencies on visit intention to online travel agencies.

The research model was shown below in Fig. 1.

3 Methodology

Data were collected by face-to-face survey technique. The questionnaire contained two parts. The first part consisted of Gen Ys' demographic characteristics and habits of using the internet. The second part comprised the modified visit intention and word of mouth constructs, adapted by Han et al. [9]. The field study was conducted in Izmir City, which is the third biggest city of Turkey, in April 2017. A total of 240 Gen Y customers lived in Izmir were reached by using convenience sampling technique. The question to eliminate participants from research that was included to the questionnaire was "Do you buy from the internet?" and only the participants who answered as "Yes" were included to the research. Data were analyzed by descriptive statistics firstly. Then, factor analyses were implemented to the constructs, and regression analysis was performed to test the hypothesis.

4 Findings

Firstly, demographic characteristics of the participants were shown in Table 1 below.

According to Table 1, majority of the participants were born in 1990, male, married, graduated from bachelor degree, and had middle income that changed between 2.601 and 5.200 TL (1 Euro = 3.88 TL, approximately).

Table 2 showed the participants' preferences of online shopping. The 141 of total 240 participants said that they shopped online only less than 50% of their total shopping. Only 99 participants buy online more than 50% of their shopping.

Table 3 showed the various purposes of internet usage. The main aims of using the internet was found as shopping, surfing in social media, and following news.

Table 4 showed the products and services that are bought during online shopping. 82.5% of the participants were booking a hotel room whereas only 15.4% of them were participating in the educational programs.

Table 1 Demographic profiles

Birth year	N	%	Gender	N	%
1977	3	1.3	Female	112	46.7
1978	6	2.5	Male	128	53.3
1979	14	5.8	Total	240	100.0
1980	8	3.3	**Marital**	**N**	**%**
1981	10	4.2	Married	125	52.1
1982	13	5.4	Single	115	47.9
1983	9	3.8	Total	240	100.0
1984	22	9.2	**Income**	**N**	**%**
1985	13	5.4	Less than 2.600 TL	35	14.6
1986	15	6.3	2.601–5.200 TL	73	30.4
1987	10	4.2	5.201–7.800 TL	72	30.0
1988	13	5.4	7.801 TL and over	60	25.0
1989	19	7.9	Total	240	100.0
1990	24	10.0	**Education**	**N**	**%**
1991	13	5.4	Primary and middle school	9	3.8
1992	20	8.3	High school	54	22.5
1993	18	7.5	Undergraduate	156	65.0
1994	10	4.2	Graduate	21	8.8
Total	240	100.0	Total	240	100.0

Table 2 Percentage of online shopping

	N	%
I buy less than 50% of my total shopping online.	141	58.8
I buy over 50% of my total shopping online.	99	41.3
Total	240	100.0

Table 3 The aim of using the internet

	N	%
Shopping	196	81.7
Surfing in social media	184	76.7
Following News	134	55.8
Getting info about products and services	130	54.2
Watching movies	128	53.3
Checking emails	124	51.7
Chat	123	51.3
Playing games	68	28.3
Research	60	25.0

As a result of factor analyses in Table 5 above, one dimension arose for visit intention to online travel agencies (VI) and one dimension was obtained for word of mouth activities regarding online travel agencies (WOM).

According to regression analysis in Table 6, correlation between word of mouth activities regarding online travel agencies and visit intention to online travel

Table 4 Items bought online

	N	%
Booking a hotel	198	82.5
Buying a flight ticket	185	77.1
Ordering food	135	56.3
Renting a car	107	44.6
Buying flowers	72	30.0
Downloading music	67	27.9
Buying counseling services	59	24.6
Participating in educational programs	37	15.4

Table 5 Factor analysis

Visit intention (VI)	Loadings
VI2. I plan to visit online travel agencies in my next travel.	.895
VI1. I am willing to visit online travel agencies to book a hotel room.	.835
VI3. I will make an effort to visit online travel agencies when traveling.	.824
Cronbach's alpha = .810, KMO = .685, Bartlett's = .000	
Word of mouth (WOM)	**Loadings**
WOM2. I will say positive things about online travel agencies to my friends and relatives.	.894
WOM1. I will encourage my friends and relatives to visit online travel agencies when traveling.	.894
Cronbach's alpha = .749, KMO = .500, Bartlett's = .000	

Table 6 Regression analysis

Dependent	Beta	Std. Error	t	p
VI	.704	.046	15,289	.000
R^2 = .495; Adjusted R^2 = .493; F change = 233,741; df1 = 1; df2 = 238; Sig. F change = .000				

agencies was 70.4% and word of mouth explained 49.3% of variance in visit intention to online travel agencies. In regression analysis, it was found out that there was a significant effect of word of mouth on visit intention.

5 Discussion

In the study, Turkish Gen Y customers' online behaviors were investigated. According to the findings, customers mostly prefer buying from offline channels instead of online channels. It can be said that even though the participants were formed by young customers, they may still prefer buying from physical travel agencies. 81.7% of the participants use the internet for shopping and 82.5% of the participants booked a hotel room online. In the factor analyses, one dimension arose for visit intention and one dimension was obtained for word of mouth. To test the effects of word of mouth activities regarding online travel agencies on visit intention to online

travel agencies, regression analysis was implemented. It was found out that word of mouth explained nearly half of (49.3%) variance in visit intention.

The result of the study was approved by previous studies which analyzed the effects of word of mouth on visit intention [14, 17–21]. However, in previous studies, visit intention mostly was related to visiting a hotel instead of visiting an online travel agency. This study showed the positive effects of word of mouth activities on visit intention to online travel agencies, not visit intention to hotels. It showed that positive suggestions about online travel agencies will positively affect consumers' intentions to visit these agencies. Since these online travel agencies give detailed information about hotels, consumers may want to visit them only for getting information. For this reason, actual buying behavior, for example to book a hotel room via these agencies, was not analyzed in the study which was also approved in previous studies which show that the majority of online travel shoppers visit Expedia, Travelocity, and Orbitz to find travel information but half of them book [22, 23].

6   Conclusion

Results showed that Turkish Gen Y customers use online technologies in tourism industry. According to the result of the study, there was an effect of word of mouth activities regarding online travel agencies on visit intention to online travel agencies. Positive word of mouth activities regarding these agencies will affect consumers' intentions to visit them positively. It was suggested to travel agencies to use online channels and pay attention to word of mouth activities of their customers for increasing visit intention.

This research has some limitations. First, only visit intention to online travel agencies was analyzed in the study. Intention to visit hotels was not included. The intention, in the study, was only related to visiting online travel businesses such as Kayak, Expedia, Booking.com, Trivago, TripAdvisor, and Orbitz within the aim of searching a hotel room to book. In future studies, it was suggested to use technology acceptance models in order to measure customers' behaviors regarding online travel agencies in terms of ease of use and perceived usefulness. Second, only visit intention to online travel agencies was measured in the study. Actual buying behavior of consumers toward using online travel agencies can be analyzed by theory of planned behavior in further research. Third, there was a methodological limitation that is about sampling size and technique. It was advised to researchers to implement random sampling techniques to bigger samples.

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Exploiting Human Cognitive Architecture to Design a New Cultural Narrative for Non-captive Audiences: The TOURiBOOST Project

Dorothea Papathanasiou-Zuhrt, Aldo Di Russo, and Kevser Cinar

Abstract Heritage settings generate often a spatiotemporal gap between the object and the audience, as the tangible form is perceivable by the eye, but the meanings are codified. This particular condition, further supported by cultural and mentality differences, impedes non-captive audiences to fulfill satisfactory experiences. Following Aristotelian hermeneutics we defend that the spatio-temporal gap in heritage settings is of cognitive nature. Thus, to understand and embrace heritage values and effectively bridge the gap between the object and the observer, we need to link the audience to heritage meanings and values. The supply side, is often unaware of the human cognitive architecture, thus narratives and descriptions stay codified in the expert language, while the demand side is looking for compelling stories and multisensory experiences. The still ongoing ERASMUS + Project 2018-1-TR01-KA203-058344 (TOURiBOOST) for Higher Education builds an attempt to design and test a knowledge acquisition pattern for non-captive audiences from a human cognitive architecture point of view. In this vein, we present the design for the production of a multimedia iBook presenting 30 heritage places in TR/HU/NL/IT/GR with the principal aim to create the enabling environment for both onsite and dislocated audiences to engage in critical thinking and inspire them to replace gazing and clicking with cognition and emotions.

Keywords Cultural heritage · Human cognitive architecture (HCA) · Spatio-temporal gap

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483

1 Introduction

In his seminal work *The Past is a Foreign Country*, David Lowenthal indicates the variety of attitudes towards the past from early periods to the present [1]. Indeed, different people in different historic periods have different views of the past and their conceptions of it depend on many variables—visitors at heritage places are no different—thus the question arises how to interpret the past in places with cultural significance. In his opus magnum, *Truth and Method*, Hans-Georg Gadamer deploys the concept of philosophical hermeneutics to explain understanding as interpretation with a temporal distance. To Gadamer, hermeneutics is not a method for understanding, but an attempt to clarify the conditions in which understanding takes place [2: 263]. Among these conditions are, crucially, prejudices and fore-meanings in the mind of the interpreter. Understanding is therefore interpretation, which uses one's own preconceptions so that the meaning of the object can really be made to speak to us [2: 358]. One of the main problems is how to distinguish 'true prejudices', by which we understand, from the 'false' ones, by which we misunderstand. Gadamer suggests developing a 'historical' self-awareness which makes conscious of one's own prejudices and allows one to isolate and evaluate an object on its own. Another important condition in which understanding takes place is the temporal distance. For Gadamer, present and past are firmly connected and the past is not something that has to be painfully regained in each present, if the interpreter has the tools to decode it [2: 254].

By applying hermeneutics to illuminate the learning conditions in the cultural landscape we can easily trace a gap that disables the decoding (of the heritage) of the past: it is the missing link between the *code* and the *understanding*, which is both of emotional and cognitive nature. This happens when visitors are not given the chance to relate the contents of a site, collection or a monument to their previously acquired experiences, staying attached to 'pre-understanding' and 'prejudice' as Gadamer defines these terms. Not being able to decipher cultural content and derive satisfaction from their experience, the audience, especially the digitally innate youth, acquires lesser opportunities for meta-cognition and critical thinking. Examples of museums or portals rich in information but contextually sterile, is the proof that the cultural heritage system fails to activate the cognitive process of its members [3: 28–29]. This lack of understanding is not addressed by providing information through a standard descriptive apparatus, because the human cognitive system is very complex and because low abstraction capabilities interrupt the knowledge assimilation process.

2 Literature Review

The term *experience* regains contemporary understanding from the reference work *Experience Economy*, where Pine and Gilmore demonstrate that there is a fourth level of economic value called *experience* and that customers are willing to pay a

premium for it [4]. An experience is multi-sensory, emotional or spiritual (or all together), but it is a cognitive process de facto. Experiential travel is rooted already in the antiquity with testimonies from Herodotus, Xenophon and Pausanias. Johann Wolfgang von Goethe's famous travel account and the emblematic painting of him by Tischbein in 1787 led to the promotion of Italy as a must-see destination among the elites [5].

In modern-day the digital revolution has altered the communication pattern impacting the common sense through the interpretation of visual codes and thus the generation of personalized and multimedia travel accounts. This semantic shift is generating new cultural consumers who wish to be intellectually challenged, understand, appreciate and be involved at heritage places: [6: 548, 7: 55–57, 8: 2, 9: 378–382]. Along the lines, 84% of the Europeans declare cultural heritage as personally important, 90% as nationally important, while 80% perceive it as bonding tissue of the EU [10: 7]. Despite that scholarly research suggests that cultural attachment is based on cognitive, affective and conative attributes and personalized perceptions, access to culture is not satisfactory: Fernandez, Garcia and Prieto establish a cultural consumption pattern of adolescents in 28 OCD countries, where only movies and theater is the prevailing preference [11: 4]; Hanquinet and Savage surveyed 1900 visitors in Belgium demonstrates that visitors perceive museums as educative leisure, but a successive study notes that the inability to decode meanings is keeping the audience away [12: 7, 13: 67]. In sum 2% of the citizens in Europe enjoy a ballet/opera performance, 12% visit a monument and 46% make use of TV to access culture [14: 36]. It is very probable that inability of the audience to decode meanings at heritage settings is caused by the spatiotemporal gap: while the tangible object is perceivable by the eye, meanings and values are not interpreted. In this way non-captive audiences are disabled to grasp and derive satisfaction from their visit. We suggest that presentations to the public, as authored by the supply side, are not designed from a human cognitive architecture perspective. It seems that these particular conditions that regulate cognitive processing, perception and understanding in the informal learning environment are not considered as indispensable ingredients for the design and delivery of the cultural heritage experience.

3   Research Methodology

There is a consensus among cognitive psychologists that human working memory is limited in capacity with respect to the number of elements it can handle simultaneously and that rehearsal is necessary to prevent information loss [15–19]. This condition cannot be met with time-scarce non-captive audiences at heritage places. In order to restructure the learning paradigm and the methodological approach to attract the audience in heritage settings, we focus on: (a) the human ability for categorical knowledge; (b) the limitations and interactions of working and long-term memory and their implications for learning in non-formal and informal

environments; (c) the particularities of informal learning in heritage settings esp. the short time-budget and knowledge gaps correlation and (d) the rising desire of the audience for experienced-based products and services.

Following previous research undertaken by Papathanasiou-Zuhrt and Weiss-Ibáñez in 2014 and Papathanasiou-Zuhrt et al. in 2016, heritage assessment was undertaken in the Project Area and 30 Statements of Significance are produced on the basis of six intrinsic qualities: inherent values, visibility in the landscape, spatial importance, social recognition, accessibility, interpretive potential, and carrying capacity [20: 307–308, 21: 20–21].

A field research followed, to investigate heritage supply in TR52/HU101/EL41. Three successive study visits took place in December 2018 (TR52); in March 2019 (EL41) and in April 2019 (HU101) to explore the perceptions of 90 respondents on heritage services offered in Konya and Sille (TR); Chios (GR) and Budapest (HU) including an evaluation of guided visits; information panels; museum labels; multi-media and AV contents liaised to the Konya Archaeological Museum/TR; the Sille Museum/TR; and the Acquincum Museum and Archeological Park in Budapest/HU and the Chios Mastic Museum/GR. Via qualitative interviews the views of 90 participants have been explored after each study visit. It was observed that 79% of the respondents have disengaged their attention, where parallel processing was required for complex visual and auditory stimuli. 21%, mainly composed by adults over 35 years, has attempted to assimilate new cognitive content by re-reading labels and panels and re-watching explanatory short films however without success, due to: (a) barriers in understanding terminologies; (b) long text blocks; (c) poor quality in graphic design; (d) external factors like noise and bad lighting; (e) inflexible time frame of the study visits. After the onsite experience was completed, the corpus of the respondents was presented three audiovisual narratives accessible via portable devices. The contents are not linked to the onsite experiences made in situ, but present three different stories in three different heritage places, however designed in the exact same fashion: storytelling is supported by multivision technologies, animation, narrative and auditory text. 78% of the sample—independently of age and nationality—has devoted attention to the audiovisual narratives, which they found 'compelling', and 'revelatory' compared to the onsite experience, which was evaluated as 'tiring'. The minor part of the sample (22%) has explicitly stated that learning outcomes are paramount to their recreational objectives, e.g. they have enjoyed the audiovisual narratives, not necessarily intending to 'learn'. These preliminary findings indicate, that also non-formal learning is a traumatic process and requires a special mental effort, more conditioned by external factors than the intrinsic motivation to learn and that heritage presentation requiring recipients to engage in complex reasoning and involve combinations of unfamiliar elements with high interactivity degree, lead to the disengagement of the audience.

4   The Experience Design

The Cognitive Load Theory has guided the process to develop an alternative learning paradigm that facilitates knowledge transfer in heritage settings [22–24]. Six planning considerations guided the design: (1) which experiences shall take place during the heritage visit; (2) how to facilitate visitors without prior knowledge bridge the spatiotemporal gap; (3) how to embed technical and socio-historical information into a compelling narrative; (4) how to create a hermeneutic and participatory paradigm, where non-captive-audiences think contextually and act autonomously in a self-directed learning modus; (5) how to exploit the technology intense experience to impact the cognitive paradigm.

   The three study visits in TR/GR/HU have clearly demonstrated that that main difference between learners in formal education and non-captive audiences is the possibility to rehearse material. As the human working memory is limited in capacity with respect to the number of elements it can handle simultaneously, rehearsal is necessary to prevent information loss [15]. This condition cannot be met with time-scarce non-captive audiences. In order to create a mental bridge to selected phenomena, and make the novel seem familiar by relating it to prior knowledge and/or universal concepts in a much shorter time period and more entertaining way, the three audio-visual narratives used as a proxy, presupposed a limited working memory capacity to deal with visual, auditory and verbal material and an almost unlimited long term memory [25]. Scholarly research demonstrates that visitor endurance in the first phase of the visit is high but an acceleration of interest loss in the middle visit-phase is to be observed, due to work memory fatigue and inability to process more novel elements than the working memory is capable to process [26, 27]. Foreign language(s), crowded environments, noise, high/low temperatures and other location-related inconveniencies nourish visitor-fatigue as the heritage visit is progressing. During the three study visits in TR/GR/HU it has been observed that time allocated to reading labels was between 45 s. While and 60 s. This observation led to a planning decision: namely that information chunked with max. Three novel concepts per unit, below the limit proposed by Miller [15], could decongest WM as meanings communicated through the use of universal concepts differ substantially from transmitting formal knowledge.

5   Conclusion

Storytelling enhances leisure experiences by incorporating educational elements in recreational settings, meeting an audience's demand, which prefers educational interactive entertainment to passive observation. Learning objectives are met if enthusiasm is created among visitors for heritage meanings. In leisure settings, however, learning experiences are not imposed by conventional instruction methods. Learning in recreational environments is tailored to non-captive audiences, a fact

that differentiates instructional design from formal academic settings. In contrast to formal education, where learning motivation is often dependent on fear of punishment or on forfeiture of reward, learning content must rather be willingly embraced by visitors. In leisure settings audiences select freely to attend or ignore communication content; in addition, visitors' perspective regarding the experience and the learning outcomes may be paramount to recreational objectives. Cultural heritage experiences should therefore offer enjoyment and relevance to audiences based on clearly organized message nuclei, if they are to attract the audience. A mismatch in skills supply of the CH Sector to address the constantly uprising connected experience seeker market is evident. Further research is required to the understanding of the limitations of heritage institutions as cultural providers, the assessment of the production-consumption fashion of the cultural industry and the understanding of cultural heritage as a participatory public space, that promotes critical thinking, intercultural dialogue with more educated and sensitized citizens. Facilitating access to unfamiliar environments in places with cultural significance, e.g. opportunities for connections to visitors as well as memorable experiences, is a task that requires diverse skills. Brain literacy is an indispensable factor to facilitate meta-cognitive awareness. Heritage contents should therefore adjust to the principles of human cognitive architecture: eye scan path movement, a limited working memory (WM) and an infinite long term memory (LTM), the innate cognitive ability g, category learning etc. We have attempted to design and deliver heritage narratives that reduce the working memory load and reinforce the association by exploiting the powers of schema construction and automation. A cognitive-driven strategy has been adopted to structure a knowledge acquisition pattern for non-captive audiences and facilitate knowledge transfer in cultural heritage settings. The knowledge acquisition pattern tested in situ has considered three types of cognitive loads (CL) to repurpose the heritage visit according to the findings obtained by empirical evidence. A first attempt was made to address the temporo-spatial gap between the *object* (heritage place, asset, item) and the *observer* (tourist, visitor, consumer, prosumers, recreationist) in the cultural heritage settings aforementioned. We have exploited the powers of storytelling to link the audience with the intangible dimensions, symbols, meanings and values of heritage places. The heritage audiovisuals created to test the visitor satisfaction tell a story and users are given the tools to decode this story. Still we don't know if self-transfer of skills works or not, because we are in front of a spontaneous literacy proposed by the technical possibility, disordered, rhapsodic and still tied to the default procedures offered by the software and hardware seller. Where this process will lead us is a balance between building new procedures for the processing of meaning and the repetition of low profile self-models. What is certain is that these possibilities have a significant weight in the processes to create abstractions and propose new skills, and are crucial in cultural heritage as they can lead to the cognitive reconstruction of an appropriate context, e.g. they are fostering the (further) development of cultural capital. This exciting opportunity for the development of knowledge should not be lost. However, there is a risk that this great opportunity is abandoned with no vision on final results or thinking the result is a technology that is properly working by

itself: people with no technical skills, people with no digital capabilities, people risking their life to reach the civilized world, they have stories to tell, their stories can be the starting point of the process to participate as content creators, together with a senior and expert author, step by step, abandoning any idea that the process can be automatic, spontaneous, procedural. ICT and AV Technologies are indeed a good gateway to produce and disseminate the arts, but creation, is strictly connected to what is unexpected [28, 29].

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Creating a Personalised Experience for Libraries' Visitors

Anastasios Giannaros, Konstantinos Kotsopoulos, Dimitrios Tsolis, and George Pavlidis

Abstract Great value can be given to any old-school organization by providing its users with personalised experience. The present study aims at the use of innovative technology in libraries to enable the study and understanding of the libraries' frequent visitors to better support them through the provision of enriched personalised experience. To support this goal, modern technologies such as recommendation systems, gamification and indoor localization techniques such as beacons will be used. Recommendation systems are the basis for providing personalised user experience since their task is to exploit user information (demographic information, habits, actions, likes and dislikes) to get to know each and every one of the users by building a profile for them. Gamification will also support the concept by enriching the user experience with game-like attributes to boost user engagement like rewarding the user with experience points for each library visit or for each book they check out. Finally, indoor localization techniques will be used to help the libraries manage the on-premises crowd to avoid congestion and to also help the libraries' visitors have fruitful interactions with each other. The combined application of the aforementioned techniques can help the libraries grow alongside the technological advancements by exploiting them for the modernisation of their model.

Keywords Personalised experience · Personalisation · Recommendation system · Gamification · Indoor localization · Traffic prediction & redirection

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1   Introduction

As the Internet has become an essential part of our lives, libraries have been replaced by modern means of informing, exploring, research, connecting and entertaining. Websites, blogs, forums, e-books and research portals have taken over the task of satisfying these human needs since they are easily and instantly accessible from a variety of devices (smartphones, personal computers, tablets, smart TVs, ...) whilst they provide personalised experience to their users. This makes them more attractive since the user needs to devote less time to consume the information they want in contrast to the old-fashioned way (books, newspapers, encyclopedias, organized groups, ...).

Libraries can still keep up with these advancements! Libraries can too be elevated by exploiting the exact same technological advancements the modern means are taking advantage of. To be able to provide similar or even better user experience, libraries can implement an ecosystem of software which will provide personalised experience to their users. The heart of this ecosystem will be a recommendation system which will support the library's (frequent) visitors and augment their experience.

The current research paper investigates cutting edge applications in recommendation systems for academic libraries and proposes a new and innovative architecture which will provide personalised services to the target users. The proposed services could be also provided to a wide range of organizations in the Museums, Libraries and Archives (MLA) Sector.

2   The State of the Art

Reviewing the state of the art for recommendation systems in academic libraries, it is proven that these systems are mainly "recommender systems" which act as information filtering systems. The basic concept is that for specific users and library items (library multichannel data), the system adapts the items to be viewed by a specific user based on their characteristics, access history and any additional information. The literature review proves that the techniques used in these "recommender systems" could be divided in four different types: profile-based, usage-based, knowledge-based and content-based.

The recommender systems are mainly applied to the library information systems. The scope is to enhance user experience, at the initial state. In this framework, traditional libraries may offer recommender services on the basis of simple query-based information retrieval systems [1, 2]. This is applied mainly through the search engine which recommends items with contents similar to user query history. To offer personalised services, the content-based method provides access to items preferred in the past and recommends items with similar context.

The content-based approach combined with profiling techniques has become important in recent years. The content-based methods [3–5] recommend items similar to those items the test user has accessed in the past. A content-based alone system has several shortcomings, which include over-specialization of represented items and focusing mainly on access history rather than on new user preferences.

Usage-based methodologies try to gather profiling data from the users based on access and content rating history [6]. The adaptation of content viewed is based on similarity criteria. In several cases even cross user preferences are used to produce views of content between users of similar interests. The aim is to predict the user's preferences and generate recommendations based on these preferences. In certain cases, statistical or machine-learning methods are used to generate the recommendations [3].

In certain cases, the combination of the above techniques is being applied and produces hybrid "recommender systems". For example, KorBell [7] combines a "SVD" (Singular Value Decomposition) factor (profile-based approach) and the neighborhood model (usage-based approach) which integrates the explicit user feedback (users' rating data for items) and implicit user feedback (movies each user chose to rate or not). These hybrid types seem to have better success rates regarding the recommendations they generate.

The approaches so far prove that certain practices are aiming at filtering the content, based on a range of methodologies, which generate recommendations [6]. The user experience is enhanced only regarding the library's information systems. There is a clear lack of measuring and estimating the user's behavior within the library's premises, gather data through sensors and proximity measuring devices, analyze and combine these data with data gathered from the library's information systems (access history, user profile, user-to-user connections). At the same time, there is complete absence of new types of services, such as gamification, to enhance the user's experience both within the library's information system and the library itself. To achieve this goal a variety of tools and services are being proposed ranging from sensors and mobile applications to Customer Relationship Management tools. Our approach could be applied to a variety of organizations from Museums to Libraries and Archives sector.

3 Ecosystem of Software

In this section the tools and systems of the proposed system is being presented. The proposed ecosystem consists mainly of a Customer Relationship Management (CRM) software system and of a Mobile Application (see Fig. 1).

The CRM software is the library's portal to its visitors' data. Through this, the library's staff will be able to see the customer's tab with their information, the history of books they have borrowed and inhouse events they have participated or even showed interest in. Furthermore, the CRM will provide management functions like reporting the books the customer has currently borrowed and when their due
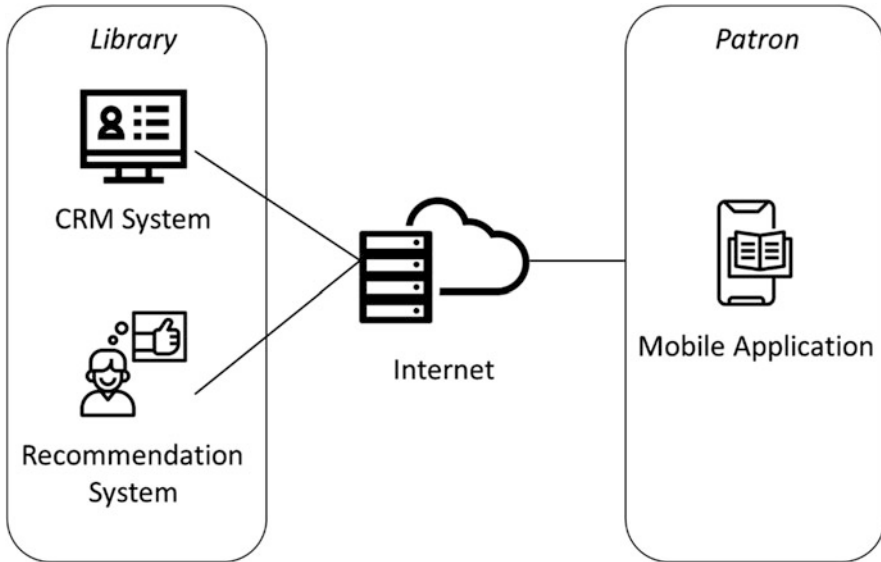
Fig. 1 The system's architecture consists of the CRM, the recommendation system and the mobile application

date is. Finally, the CRM has marketing automation capabilities and in order to leverage them, it uses a Recommendation System to promote automatically to the users the things (books, library's events) they will most likely appreciate, taking into account each user's data (history, demographic information, areas of interest).

The mobile application will be the library's main means of communication with its customers. The library's systems will communicate and interact with the user via this application. The application's user will receive info on their smartphone regarding the due date of the books they have borrowed and recommendations for books to read and library's events to attend.

4 Personalisation

4.1 User's Profile

For a library to better understand its users, a profile for each user has to be created. This profile can be created and built for each one of the visitors by using the library's ecosystem of software. To be more specific, during their registration on the library's system, the visitor provides information that will form their profile. Such information consists of demographic data such as the age and the gender, marital and family status, occupation, study field and study level and (scientific) interests.

An important aspect of the user's profile is its constant enrichment with updated information regarding their interest in books and events. This will enable the system to learn about each individual and recommend appropriate content as further analyzed in Sect. 4.3.

4.2 Traffic Prediction & Redirection

Another important aspect of the patron's profile is their library visiting habits which is a great piece of information since it enables the library to predict the traffic on its premises. This information combined with gamification practices can lead to the redirection of the traffic to avoid congestion in rush hours.

This system consists of a series of smart card readers which are placed in the entrance and exit points of the library. The patron is encouraged to check in and out his personal card each time they visit the library via a gamification method which grants them a reward in the form of experience points. The more hours they spend on the library, the more points they get.

By placing beacons and equipping the library with geofencing technology, the system will also be able to report in real time the number of people in each of the library's areas and inform the visitor of the crowded ones. This system is based on the communication between the library's hardware (beacons) and the visitors' mobile phones to keep track of the amount of people inside the library's premises. Furthermore, the patron is encouraged to visit the library in non-rush hours and stay in the areas that are less crowded by gaining more experience points to avoid congestion in the library's premises.

4.3 Recommendation System

Some people enjoy the consumption of information and the participation in events but find it difficult or even boring and tiring to browse the available books or upcoming events the library has to offer. As mentioned before, gathering information regarding the library patron's interests enables the library to recommend specific books and upcoming events to them. This way, the patron does not have to devote time in search of the next book to read or event to participate in, which leads to an increase in their engagement level. Furthermore, it can help the patron since it can recommend a book that it would be difficult for them to find on their own. In other words, this recommendation system can work as an internal advertisement system which promotes new content of interest to the patron for their consumption. It works just like Amazon's suggestions "Others who bought this item also viewed" or Netflix's "Top Pick for ...".

Rates and Reviews Another useful source of information for the recommendation system could be a rate and review system. Each time a user returns a loaned book to the library, they will be prompted by the mobile application to leave feedback for the book, which can be a review or even a score (1–5 for example). These reviews can also help other readers who are exploring the available books to choose the most appropriate one to satisfy their cause. Each time a reader reviews or even rates a book, they will be rewarded with experience points.

Clustering Algorithm The recommendation system will be based on a clustering algorithm which groups the books or events by considering various tags for each book/event and promotes the ones with similar tags to the ones the patron has showed interest in. Such tags can be the book's or event's category, writer for books or speaker for the events or even some keywords that have high repetition rate in the book and can be considered to represent the book's main theme.

A clustering algorithm can be also applied to group the library's users according to their reading habits and interests so as to recommend books that other readers with similar interests have read and found useful.

Finally, a clustering algorithm could be applied in the reviews. This way, the reviews will be grouped and prioritized for each book and user according to the ones the system thinks will be most interesting to the user. For example, a reader may have as a top interest the length of the book. In the particular reader, the system will display first the reviews that mention the book's length. This raises a major concern though on the ethics of the suggested reviews. This concern can be combated via transparent suggestions through personalised explanations for each suggestion the system makes as described in [8].

Wish List Another feature that boosts the personalised experience is the wish list in which the user can add books that they would like to keep in mind for later use. This wish list could also be used from the user to mark a book that they want to read but is not available to borrow right now, so the system will notify the user once the book becomes available to borrow.

5   Creating Hotspots/Divide and Conquer

Upon picking up a book from the library's selves, the visitor will be encouraged to scan the book's barcode with their smartphone via the library's dedicated application to gain further experience points. Of course, each user will be restricted to wait a fixed amount of time (15 min for example) between scans to avoid the misuse of this feature. Since the system will be informed of the book each user is reading, it will be able to present in real time the topics of the books that are being read in each area. This way, people interested in reading, discussing or researching on a particular topic will be able to locate and join other people engaging with the same topic. In time, this system can enable the library's visitors to be gathered and grouped in areas dynamically according to their interests so they can have fruitful

interactions with each other. As a result, discussion and collaboration between the library's visitors can be promoted in designated areas, without disturbing the other readers.

6 Gamification System/Experience

As mentioned, a gamification system will play a significant role in the ecosystem through which the user will be rewarded with experience points for each of the actions they take. Upon receiving a number of experience points, the user is granted with a prize which can be the extension of the number of days allowed to borrow a book, the opportunity to borrow multiple books at the same time or even participate for free in an event that they would otherwise have to pay for. The patrons will be also distinguished by badges which will represent their level of experience points acquired.

7 Conclusion and Future Perspectives

This paper faced the reduction of the libraries' users through the proposal of an innovative holistic approach which equips the libraries with an ecosystem of software to provide personalised experience to the visitors. Despite the fact that solutions for content recommendation have been already been applied on libraries with good results, it is clear that this is just the introductory step for such organizations to be able to keep up with the world's constantly increasing needs. Therefore, gamification and indoor localization techniques are applied to further enhance this modern model.

Implementing a system such the aforementioned can boost the library's user experience since it will enable the users to consume content of their liking without expecting from them to devote time in finding the next book to read or event to attend. It will also increase to increase user engagement via a gamification method to motivate them to dedicate more time in the library, reading and collaborating with other visitors in an efficient way due to the utilization of a traffic management and redirection system.

The next step is focused on the implementation of this holistic system in the Academic Library of the University of Patras. Part of the implementation is the installation of the required hardware (server, beacons and terminal computers) and the design of the custom database the system will use. Finally, the CRM system has to be set up to work in conjunction with the Recommendation System and the Mobile Application that will also be developed.

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Strategic Planning to Promote the Cultural Heritage. The Business Model Canvas for the Kapodestrian Buildings of the Island of Aegina, Greece

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Abstract Aegina is an island of rich culture. The aim of the present study is the strategic planning for the promotion of the cultural heritage through the implementation of the Business Model Canvas (BMC) for the promotion of the Kapodestrian buildings of the island of Aegina in Greece. First recording the historical Kapodestrian buildings of Aegina, then dimension the analysis of the organization's environment, using SWOT analysis and suggestions for BMC implementation. The results of this study highlight the importance of some key success factors, such as the re-use of the historical Kapodestrian buildings in Aegina, the synergies and the formation of a strong rebranding strategy around cultural tourism.

1 Introduction

Nowadays, we are trying to redefine Greece development policy. The ideal development perspective is now based on sustainable development and social cohesion. At the same time, efforts are being made to exploit cultural resources, so that culture is one of the main development goals. The main objective of this paper is to propose a strategic planning to promote the cultural heritage of a Greek island—Aegina— through the implementation of the Business Model Canvas (BMC) for the promotion of the island's Kapodestrian buildings. For the writing of the paper, literature was initially searched on topics related to strategic planning for the promotion and protection of cultural heritage and sustainable development. An effort is made to map the Kapodestrian buildings as part of the cultural capital of Aegina. Then

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the strategic cultural design of the island for the promotion of the Kapodestrian buildings of Aegina follows, followed by the development vision and the proposals for an integrated endogenous development of the island and finally the conclusions.

2 Literature Review

2.1 The Concept of Culture, Sustainable Development and Strategic Planning

Culture is a feature of the cities expressed through history, artistic events, traditions, customs, art, gastronomy etc. In the broad sense of the term, cultural resources include both the natural and the cultural environment. In particular, this includes landscapes, historical sites, elements of the way of life of the past and present, mentalities and social features, locations and a structured environment, as well as biodiversity, collections, old and ongoing cultural practices, knowledge and living experience. Also, religious beliefs, elements of nationality, other aspects of the way of life of particular culture of the local population, important events and sites where important social events have evolved are included. The protection, promotion and exploitation of cultural resources, through appropriate 'processing', is a concern but also a right of local societies, on the basis on which their identity is built. This results to financial, social, political and educational profits, that is to say, local sustainable development goals are succeeded [1–5].

UNESCO, as well as the Summit on Sustainable Development in Johannesburg (2002), recognized cultural diversity as the fourth pillar of sustainable development [6]. At the same time, Agenda 21 reaffirms the importance of credible and autonomous local cultural policies. It recognizes the great contribution of culture to the development of person, by promoting him, the values of creativity, diversity and memory [7, 8]. According to the Human Development Reports of the UNDP, development is defined as a process, change and evolution towards a new improved situation. Therefore, culture and cultural heritage play a non-negotiable role in human development and he social dimension of sustainability [9].

According to Bryson and Alston [18], strategic planning is "a disciplined effort to produce fundamental decisions and actions that shape and guide what an organization is, what it does and why it does it". The strategy is an important tool for the development of cultural organizations in the effort to implement their mission and visions [10].

Strategic planning forms a platform for interaction and cooperation between local authorities, actors and citizens in the field of culture. This is carried out by, initially, mapping cultural resources and recognizing their value to the local community by building a strategic plan for their exploitation. This can be based on the visions of local communities, integrating dynamic synergies between policy makers, public and private stakeholders and citizens. The ultimate goal is to link culture to other

aspects of sustainable development, contributing to the development process. At the same time, the modern challenges of the digital era, highlight the need for an electronic mapping and assessment of cultural heritage features. The digitization of cultural heritage contributes to the European agenda for culture. The European program, which is the European digital library, through which, access to digital cultural material in Europe is achieved, also contributes to this action [11]. So, culture can be the subject of design, creating positive effects on the image of the city, which will act as a pole of attraction for cultural tourists and investors, contributing to its economic and social well-being [12]. Bilbao, the City of Toronto, Barcelona and London are typical examples of transformation into culture centers, through strategic planning [13–15]. Studying these examples, it is concluded that culture is at the center of the processes of culture-led regeneration and can work for the benefit of society as a whole [16]. Therefore, the use of cultural heritage through an appropriate strategy can contribute to cultural development and sustainability.

3 Methodology

To develop a strategic plan, there is a variety of tools with different characteristics. Amit and Zott [17] define business models as the set of all the interactions they need to create value through the exploitation of various business opportunities. Based on the theory and empirical studies on the strategic planning of culture-based cities, three dimensions of the analysis are identified [18–20]. The plan of strategic planning is asked to answer the following key questions: Where are we? Where do we want to go? How do we go? The second dimension is the analysis of the organization's environment, using SWOT analysis as a benchmarking tool [21]. SWOT Analysis is divided into two main parts; i.e. analysis of Strengths and Weaknesses of the organization (internal environment) and analysis of Opportunities and Threats of it (external environment) [22]. The third dimension is BMC. The BMC tool, which has been adopted by the European Union in Organizations and Businesses, has been selected for this study [23]. An application of BMC refers to the European Creative study, which investigated the re-use of digital cultural resources and concerns the Van Go Yourself project [24]. According to its creators, "a business model describes the rationale that an organization creates, attributes and collects value" [22]. BMC is broken down into nine building blocks and presents a two-dimensional representation of the components of the business plan in four key segments: Customer Segments, Value Proposition, Channels, Customer Relationship, Key Activities, Key Resources, Key Partners, Revenue Streams, Cost Structure. BMC is combined with SWOT analysis [25]. BMC strives to highlight the values that will help the island to develop the vehicle using the cultural capital of the Kapodistrian buildings.

4   Study Area: Island of Aegina

The Greek island of Aegina enjoys a privileged geographical location in the center of the Saronic Gulf, 17 miles from the port of Piraeus. According to the 2011 census, the population of Aegina Island was 13,056 permanent residents [26]. The average density per square kilometer is 150.9 per inhabitant. The municipality of Aegina consists of the island of Aegina. It is part of the Islands Regional Unit, Attica region. From the mapping of cultural capital, it was found to have an important creative capital of cultural heritage [27]. Part of the cultural capital is the historical set of Kapodestrian buildings. In 1828, the city of Aegina became the first capital of Greece, governed by Ioannis Kapodestrias. The historical Kapodestrian buildings are the sacred metropolitan temple, where Kapodestrias became Governor and also operated as a parliament building, the Governorate where a public lending library is still operating, the orphanage that served as a model academy and later as the prison of political prisoners until 1984, the Municipal Theater that functioned as a school, the Eynardius which operated as a school, the Markellos Tower, which covered the government's needs of the time [28, 29].

4.1   The 1st Dimension: Where Are We? Where Do We Want to Go? How Do We Go? Planning and Cultural Development

Aegina has mainly primary and tertiary sectors and has not developed secondary production sector. The island wants to achieve growth in sustainable conditions for residents and visitors, and at the same time upgrade investment conditions. This can be done by shaping and implementing a culture strategy that will take into account the city's strengths and the dangers that can divert this growth.

4.2   The 2nd Dimension: SWOT Analysis

In the process of strategic planning the surround area of Aegina is analyzed.

Strengths. History, cultural identity, natural environment, transport, relatively easy access, tourist infrastructure, architecture of high aesthetics, place branding, good quality of life social cohesion

Weaknesses. Bureaucracy, difficulty in provoking and exploiting, collaborations, low level of participation

Opportunities. Promoting a cultural product with the use of cultural resources and local products, enhancement of actions in cooperation with other groups e.g. university and city networks, ability, identity, redefinition.

Threats. Difficulty in finding funding sources, inertia and reluctance of operators.

4.3 The 3rd Dimension: The BMC for the Project a Thematic Route to the Kapodestrian Buildings of Aegina

The set of the historical Kapodestrian buildings of Aegina are located in and around the historical web of the city, within easy access from the port. Cultural Routes, is a tool for viewing and interpreting cultural heritage. These tours are structured around a central theme core, including archaeological and historical sites and monuments, architectural monuments, industrial heritage buildings, traditional settlements, etc. The Council of Europe has successfully organized and implemented the well-known Cultural Routes of the Council of Europe project to promote the common cultural elements of the countries of Europe and to encourage transnational co-operation [30]. The thematic cultural route will be titled: "The roads where the first Governor of the newest Greek state, Ioannis Kapodestrias, walked on Aegina". An indicative thematic cultural route suggested is the one starting from the Kapodestrian Orphanage, continuing to the Municipal Theater of Aegina, then at Eynardius, the Metropolis, the Governorate and the Municipal Library, and finally the Markellos tower. It includes a total area of 1.5 km. This choice of route has the goal of rebuilding the wider area, giving financial impetus and social upgrading. It aims to make the inhabitants of the island proud for the period of the establishment of the newer Greek state.

Visitors-Residents [Customer Departments] The profile of the Kapodestrian public / visitors is part of the "multifaceted market", that has the ability to interact with each other. Potential users of services for the Kapodestrian buildings of Aegina are permanent residents, visitors, students and researchers. The citizens' dialogue on Buildings could be effective. The social involvement of stakeholders in this process strengthens transparency and social consensus through a process of interaction and dialogue with the main goal of fulfilling the wishes of society, enriching knowledge and maximizing the benefits [31].

Value [Declaration of Value] The answer to the question "why to be interested in the Kapodestrian buildings of Aegina" is a main point of strategic planning. In this case, it is important to say that through the exploitation of these buildings there is a modern and innovative revival of historical monuments that will allow the citizens and visitors of Aegina to experience the city's new history. It is a historical and architectural part of the city. This cultural "product" will promote the history of the island and of the whole of the modern Greek state, in an innovative way. The key feature of the new idea is innovation. This is an attempt to highlight the importance of buildings that have been a reference point to the rebirth of the newer Greek state. Citizens and visitors have to become members of the value of their own participation in the rescue of this piece of cultural heritage. An effective

way of managing it, is to reuse these buildings. The most appropriate way of re-use, acceptable to all social groups in the island, is the use of buildings as a center of cultural, social, economic and administrative activities. After all, the "revitalization" of emblematic buildings, significantly upgrades the surrounding area, makes it accessible and friendly in a way that enhances entrepreneurship and local development. At the same time, their digital recording could be carried out, placing on the buildings a QR code with little data on the building. The purpose is for visitors to scan it with the mobile phone and learn a story that will have been narrated by the residents and friends of Aegina, as was the case in Syros in 2019 the action 100 buildings 100 stories [32]. Another suggestion for the set of historical Kapodestrian buildings, is the planning of athletic events. For example, there is the annual Ioannis Kapodestrias running race, at the end of January in Aegina. This could be advertised and promoted all over Greece and maybe abroad. Another suggestion for the set of historical Kapodestrian buildings is the planning of events, in the courtyard of the Church of the Savior at the Kapodestrian orphanage, where part of the international music festival, by Dora Bakopoulou, is held every year. There and in the other Kapodestrian buildings other music festivals with the musicians of the cities that Kapodistrias lived in Greece and abroad could be held. Also, a gastronomy festival at the Markelos Tower is suggested. For example, in 2019 in Corfu, a Gastronomy Festival dedicated to Ioannis Kapodestrias, was held in Corfu [33]. Also, the buildings, and more precisely, the area of the Kapodestrian Governorate, could become a Museum, which will host exhibitions of personal objects and government documents of Kapodestrias. At the same time, in the yard of the Kapodestrian Governorate, a summer theater festival could be held. Also, in the Kapodestrian orphanage, that operated as a prison of political prisoners, up to 1984, a tour of dark tourism could be organized. The area could also function as multi-use facilities which, among other things, is proposed to include an interactive pistachio museum, as the local pistachio variety is the product of a protected designation of origin. In addition, a conference room, exhibition hall, library, reading room, pistachio shop, and cafe-bar-restaurant can be set up in its premises [34]. Another idea would be to design a hidden treasure game through an application for smart mobile phones for the entire historic set of Kapodestrian buildings. Additionally, it can attract sophisticated travelers who are seeking for experiences and not just landscapes. Cultural tourists, people of high educational and economic standards, want to identify the place they visit, experience it as locals and collect moments that will remind them of the trip [35] and at the same time, communicate with digital narratives. Digital storytelling association is an innovative way of marketing [36]. Therefore, the whole venture will contribute to the development of the whole island, through culture.

Communication - Community Update [Channels] The strategic planning is carried out under the responsibility of the services of the Municipality of Aegina. The first step will be through the Municipality's website. The dissemination of information can take place in different ways, such as communication with the use of local media, electronics and publications, tourist guides and electronic advertising media.

Organizations involved in informing the public are the Professional Association, Hotel Clubs, local cultural clubs, restaurants and tourism facilities of Aegina. Also, all actions could be communicated, with the municipality participating in alternative tourism exhibitions in Greece and abroad. The participatory planning of the action is addressed simultaneously to a specialized section of citizens who can contribute voluntarily.

Relations with residents - visitors [Customer Relations] The relationship with the visitors / users of these structures varies depending on the services and the actions being hosted, with personal service and in services that can be offered online.

Revenue [Revenue Flows] Revenue flows are expected to be both immediate and indirect, with short-term and long-term returns. These buildings can be used for different uses. Another way of showing the Kapodestrian buildings of Aegina is the digital representation of their original form, the electronic information on the history of buildings using "smart" mobile phones. A good example of digital urban themes is the CLIO MUSE, for those who want to see the thematic route. The subscriptions support the platform [37]. The profits of the island's development are not expected to be immediately visible. At first, it is expected to improve the image of the landscape with the various reconstructions. Later, after five years of stable operation, it is estimated that the quality of life of the island residents will be upgraded. Funding from the European Social Fund can only be achieved with proposals that place particular emphasis on improving the quality of life of residents and on benefits for all social groups of its inhabitants.

Funding [Critical Resources] It is obvious that financial resources are essential. Some of the buildings are not in good condition. Therefore, substantial amounts are needed for the rehabilitation of buildings, which should be sought in various sources, such as the European Regional Development Fund. At the same time, resources should be sought for staff and payroll. Apart from the financial resources, the buildings themselves are the raw material of this project and the material property of the city, on which the production of new value will be based. Other resources required are the physical networking of the Kapodestrian buildings of Aegina, information on the way and the time of visiting them and the visual material with the indicative information on the buildings. A network of specialized citizens on city development issues could be a living part of this project. Other resources may be digital imaging software, augmented reality applications, digital networking with other Kapodestrian buildings in Greece and abroad, in cooperation with the City Network Ioannis Kapodestrias. As well as working with academic institutions that can be their source. Finally, the European Union has the following funding programs for culture: Creative Europe, Erasmus +, Cosme, Horizon 2020, Intercultural Cities, Union of European Cities and Regions for Culture [38–43].

Actions [Critical Activities] The activities to implement this proposal are many and complex. One of the first activities is the registration of buildings, the preparation of preliminary studies and studies for the restoration of buildings and their innovative re-use, research on legislation and the obtaining of the relevant

permits. After that, their digital mapping and the virtual creation of their original form could follow. At the same time, there should be actions that will commit Greek and European financial resources to the realization of the project. Also, networking volunteers and companies with know-how involved in the development of the city, could be organised. The actions of the "Ioannis Kapodestrias Network of Cities" were launched under the auspices of UNESCO [44]. It offers the opportunity to attract people of spirit and culture and to increase cultural tourism. At the same time, creating and strengthening collaborative ties with research centers and laboratories at university institutes such as Architectural, Historical, Humanities, Tourism Schools with projects that will bring mutual benefit, is suggested.

Partnerships [Critical Collaborations] The partnerships, that will need to be achieved, aim to optimize the outcome and the productive exploitation of all the available human resources involved. Collaborations could have a network of players with a center, the Municipality of Aegina and nodes of other public and private organizations and local clubs. For example, the participation of the Professional Association of Aegina is essential for the consensus and participation of the commercial, hotel and business world in the financial support, advertising and realization of cultural activities and festivals of BMC. In 2019, the municipality, in cooperation with the professional association, will participate in the First 'Greek Panorama: Alternative Tourism & Gastronomy' exhibition in Greece. Collaborations could also be sought with other private bodies promoting tourism. The participation of teachers and pupils and their cooperation with schools from other parts of Greece and all over the world, is considered important for the promotion and dissemination of the actions. The theme pistachio and Kapodestrean museums could be a part of the thematic museum network in the Greek provinces that the Piraeus Bank Group Cultural Foundation (PIOP) supports [45]. At the same time, the synergies and the collaboration with the network of cities Ioannis Kapodestrias in the implementation and promotion of BMC actions, will have multiple results. For example, the cultural route in Aegina, could be a part of a wide route, in the countries where Kapodestrias lived. In addition to that, the organizers of the Ioannis Kapodestrias Running Race could cooperate with athletic clubs of Greece and other countries, so as to promote it and attract athletes from all over the world.

Cost Buying Since the design provides for the cost of using the Kapodestrian buildings, this may be variable depending on the use, e.g. the organization of a conference, or a seminar of a company.

5   Conclusion

Aegina is an island with a rich cultural heritage, which creates a positive cultural image and can attract the creative class. Through the appropriate cultural strategy, the Case Model Canvas application for the promotion of Kapodestrian buildings can be a development opportunity for the study area, offering multiple benefits

to its attractiveness and sustainable development. The growth of participation is extremely important for the success of the creative processes [46–48], part of which is the BMC, that could lead to cooperation and communication forms in touristic sector [49]. At the same time, it can form a strong rebranding strategy, based on the available cultural capital, including local food products, such as pistachio, that could contribute to the development of cultural tourism [50–52]. Cultural tourists, transferring their digital experience through the power of social networks, can become the best ambassadors of the island, showing the destination and its products. Therefore, Aegina, through culture, can transform into a model viable creative island [27]. Moreover, as stated by UNESCO, "the heritage of the past is what we live today, and will be inherited to future generations. Cultural and natural heritage is both irreplaceable sources of life and inspiration" [53].

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Social Media Activism on Cultural Tourism: A Proposal for Paleochora in Aegina, Greece

Konstantina Chatzina

Abstract Information and communication technologies (ICTs) have influenced the way people communicate and socialize in the twenty-first century. The aim of this paper is to clarify how cultural civic activism has been strengthened by social media platforms which nowadays are an essential part of every day's life of people of all ages worldwide. Social media are important sources of mobilization of collective action and of the subsequent creation, organization and implementation of social movements around the world. Therefore, they can help to develop and promote a region by achieving different cultural tourism objectives. Based on the existing limited research on tourism literature related to social media activism and the theory of imagined communities a project in progress for Paleochora on the island of Aegina in Greece will be presented. Paleochora (also Paliachora) is a medieval village of Aegina built in the ninth century; it was the capital of the island until 1826. A small island, such as Aegina, would be expected to willingly use its cultural resources, in an effort towards sustainable socioeconomic development of the local community nowadays. Paleochora, the so called "Morea of the Saronic Gulf" stands devastated instead, surrounded by a landscape of unique beauty which remains untapped. The "Paleochora Project", if successfully completed, will add social and educational value, and the implications could be the beginning of a process for sustainable development in the region.

Keywords Social Media Activism · Cultural Tourism · Theory of Imagined Communities · Paleochora

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1   Introduction

The commonplace term of "social media" is a very dense ecosystem of online services. The huge growth of social media and the way in which information is provided to anyone quickly and easily is a rapidly evolving phenomenon, creating even on annual basis conditions such that each researcher puts them in different categories, depending on the criterion he chooses. Many researchers are using criteria as the type of application and the service provided, ranking them in several categories. All these services are sorted depending on usage [1]. Whatever the classification followed, it has been observed on the basis of many international surveys that the emergence of online social networks (internationally known as social media) has radically changed fundamental processes such as decision making, conclusions and critical thinking, time management at an individual and family level, up to the scale of enterprises and nations. A surprising daily phenomenon is the growing engagement of people with social media. Millions of users can interact, communicate and express their views, and can automatically publish them [2]. However, there are local differences in the social media that are available for use and to what extent, by whom and in what ways. All people either use social media or not are most likely influenced by them [3].

2   Social Media Activism

Nowadays, new forms of digital activism are emerging, and they take advantage of new technologies to provide an alternative way of organizing the society and its economy [4]. We can define social media activism as a form of cyberactivism that takes advantage of the potential of social media to reach its cause-related goals. Digital tools such as Facebook, Twitter, etc., define the social movements by creating a new generation of revolutionaries and social activists who are more supported by the countries being connected online [5]. Several fora for participation in social and political issues are created in new media platforms. Political messages are mediated by alternative and critical channels. Individuals and different groups debate directly thanks to new mobile and inexpensive technologies. Social media are shaped by user-generated content and have a great influence on a variety of settings, from consumer behavior, political issues to business [6]. Some studies focus on social movements and activists and try to identify the kind of social media used and the communicative practices that are being developed. The functions and roles served by these practices contribute to supporting the organization, coordination and creation of social change. Social context, political purpose and technological possibility is the crucial point where research on the use of networked technologies by activists and protest movements focuses. Users apply appropriate innovative technologies over time and embed them in their everyday practices, retooling them to suit their needs and purpose [7]. There is a dichotomy in the literature on the

role of the Internet and the social media and their relation to democratization and digital activism. On the one hand, there are the optimists who claim that the Internet and other forms of electronic communication contribute to a new kind of public sphere, which leads to a possible new kind of democracy. Within this new kind of democracy, social movements are being promoted by the Internet. On the other hand, there are the skeptics who argue that the creation of a viable network of activists cannot exist through the Internet. There are some limitations that prevent this digital activity from replacing traditional forms of activism and face-to-face communication. These researchers also argue that social media do not automatically lead to politics, protest and political participation. It is an important step, but it does not mean that political struggles and engagement can be promoted there [8]. Nevertheless, radical changes in the political arena brought about the use of Social Media. New social media tools have changed policy by transforming it into an open platform for cooperation, consultation and organization of actions by citizens, now reaching the point where citizens are called "netizens" instead of citizens [9]. Politically and socially committed organizations reach a wider audience using social networks. Today, on one of the largest social networking sites, Facebook, activist policies and social groups acquire new members because on this platform there is the possibility of creating groups and events where members express their feelings and ideas about the issues that concern them. In this way, each group inform, mobilize and acquire new supporters. In this context, the aim of this paper is to examine if internet activism, also known as digital activism, social media activism or cyber activism, is a form of participation in social movements via electronic communication technologies and if it permits faster communication between citizens and the transmission of information to a large audience on cultural tourism.

3   Social Media on Cultural Tourism

The emergence of Information Communication Technology (ICT) and social media platforms innovated the way brands and marketeers reach out and engage with clients [10]. Tourists as clients-consumers communicate within SM platforms. They share their views and experiences about places they have visited and become co-designers, co-producers, co-retailers and co-consumers of tourism experiences. New challenges and opportunities are presented for providers, tourist destinations, travelers and all those involved in tourism because through the exchange of experiences and electronic recommendations prices are fixed in companies and more choices and opportunities are offered to the interested parties. A research carried out in 2017 and analyzed a total of 146 research papers published between 2009 and 2016, which are the latest academic research in this field. According to the evaluation of the existing bibliography used for this research, SM platforms have a significant impact on both tourists and tour operators and have become extremely important in the field of internet tourism. The results of the survey show that SM platforms

have fundamentally changed the ways in which tourists seek, find, read, trust, co-produce and distribute information about tourism providers and tourist destinations. Web-based reviews have a significant impact on the decisions of tourists. With the aim of communicating their identities and brands, tourist destinations have started to use social media because that leads to greater engagement and a better brand image [11]. Following the lead of Web 2.0 came Tourism 2.0, which can be defined as "the business revolution in the tourism and leisure industry caused by the move to the tourist ecosystem as platform, and an attempt to understand the rules for success on that new platform". Chief among those rules is this: "build business and destinations that harness network effects to get more productive the more people and business participate in them, thus harnessing collective intelligence" [12]. The tourism industry offers several services that consumer-travelers can buy after deciding between a multitude of services and tourist products, thanks to the development of Tourism 2.0 [13].

4 How to Combine Social Media Activism and Cultural Tourism

Social media platforms have played an important role in the process of identity creation by digital activists. There, it has been many times that the beginning of images, slogans, a new vocabulary contributed to the emergence of collective bodies such as the Arab Spring etc. Researchers mention that actions, protests, instant messaging, groups and pages in Facebook with a specific purpose, whatever happens in social networks, can lead to the creation, channeling, and contest of protest identities [14]. Thus, through social activism, it has been observed that it is possible to create different social identities for the people who consist different groups in social media. It is possible to intervene in the way roles are exercised by individuals. The Model of Social Psychology that integrates Social Identity Theory (SIT) with the Social Influence Model (SIM) could explain the creation of different social identities. Intergroup behavior can be explained by Social Identity Theory (SIT) which was introduced by Henri Tajfel and John Turner in the 1970s and 1980s [15]. SIT suggests that a person belongs to different social groups in which performs different roles. Considering the social group in which everyone belongs a sense of "whom they are" is created and different attitudes determine how members of each social group interact. Three elements of social identity have been identified as cognitive, emotional, and evaluative component. Cognitive component is defined as the cognitive awareness of a person's status as member in a group. Emotional component is described as a sense of emotional involvement with the group. Evaluative component is delineated as a positive or negative value connotation attached to this group [16]. Therefore we are talking more and more about a framework for the creation of different social identities not only in the virtual reality of the internet, but also in real life. Internet allows people to interact without meeting physically while being part of multiple social identities and networks

[17]. Crowdfunding via Internet, and the emergence of equity crowdfunding as an alternative form of investment is opposed to traditional financing. Researchers developed a model that builds on social identity theory, to link social media activities to the funding of a crowdfunding campaign. They showed that social media activities can have an impact on funding for a crowdfunding campaign. Fundraisers note that social identity is important in why a crowdfunding campaign can succeed or fail. Social media are important in order to run a successful campaign [18]. In practice, we live in a digital era and as an example, in our case study, which is in progress, an attempt is made to combine activism through social media with cultural tourism using Benedict Anderson's theory of imagined communities as it has been elaborated and developed by Kavoura, A. and Borges, M.T.T. [19]. In their paper, the two researchers aimed to examine the function of Trip Advisor from the sense of Anderson's imagined communities and they pointed out that the characteristics of these communities also apply to Trip Advisor.

5 Case Study

Recognizing the importance of Benedict Anderson's concept of the "imagined communities" the study we mentioned above attempted to examine the online communities on social networks via the notion of imagined communities and argued that a "sense of coherence exists between its members who feel a sense of belonging to the same group, even if they have never met". The "Paleochora Project" is an attempt to bring influence to bear upon the promotion of local cultural tourism as well as a crowdfunding campaign.

5.1 Description of the Area

Paleohora is located on a hillside, about 5 km from the island's capital, Aegina and it was the old capital of the island from the ninth century to 1826. The inhabitants of the island were forced to settle inland because of the frequent and disastrous attacks of the pirates, abandoning their coastal villages. Even with these precautions, they suffered from the terrible pirate Barbarossa who came in Aegina in 1537 and destroyed the island and Paleohora and reduced the inhabitants into slavery. The fortification of Paleochora was completed in 1462 at the top of the hill at an altitude of 355 m. According to the Evliya Tselebi's report in the early seventeenth century, Paleochora was in very good condition and he was impressed by the settlement and the strength of the fortifications. There were, at that time, 500 stone houses. One hundred of the houses were of the Muslims while the rest belonged to Greeks. People built their homes by tying them to the mountains and using the existing ancient building material and Aeginitic limestone with mud and straw joints. The constant threat that came from the sea led to the choice not to whiten them, so they

had a natural camouflage, since they had the same color as the rocks. They also opened roads. The inhabitants particularly developed their religious sentiment by asking for support and protection from supreme power. "They scattered" everywhere churches both in Paleochora and throughout the island, decorated with colorful frescoes and statuary inscriptions. Thus, they kept their morals, customs and habits, and their coherence. Only ruins remain from the village since the inhabitants moved to the today capital of Aegina Town when the pirate attack became less frequent. According to the legend, 365 churches nestled on the hill of Paleochora, one for each day of the year. It is believed that the actual number was around 50. The fact is that 37 churches stand today there [20]. In 1984 the area of Paleochora Mesagros Aphaia was declared as a landscape of special natural beauty by the Ministry of Culture. The inhabitants and the stakeholders are confronted with the bureaucracy, time passes and Paleochora risks to disappear if the inhabitants of the island stay indifferent. It is worth mentioning that a few years ago they had shown their interest in collecting money for their preservation. A committee of residents of Aegina managed to have the support of EU, of other organizations that have helped like ELLINIKI ETAIRIA—Society for the Environment & Culture, Leventis Foundation, Stavros, Niarchos Foundation. The only important work that was completed about 21 years ago was the restoration of Saint George the Catholic and later the St. Dionysius cell in Episkopi. Unfortunately, there has been no progress.

5.2   The "Paleochora Project"

Our proposal for the area consists of the "Paleochora Project" which is an initiative resulting from the concern about the condition of the place and the will to combine social media activism with cultural tourism. It is known that cultural tourism is an important tourism segment, and visitors spending on entrance tickets, guides and souvenirs contribute to capital needed for the protection of important sites as it is the case of Paleochora. For this reason, a request to the organization World Monuments Fund was sent in March 2019. World Monuments Fund is a private nonprofit organization founded in 1965 by individuals concerned about the accelerating destruction of important artistic treasures throughout the world. Now celebrating 50 years, World Monuments Fund has orchestrated over 600 projects in 90 countries. The first goal of the "Paleochora Project" is that the region will be included to the World Monuments Watch 2020, an international program that aims to identify imperiled cultural heritage sites and direct financial and technical support for their preservation. If Paleochora is included in the 2020 World Monuments Watch, it would be a great opportunity for our island. Designation on the World Monuments fund will provide a global platform to tell the story of the site as well to identify and attain new resources to support the work of Paleochora. The story of Paleochora will be made available to a global audience who would not have the opportunity to hear it otherwise. The archaeological site of Paleochora is adjacent to

the church of Saint Nektarios, so it has a direct connection with the center of Aegina since the quarterly rendering of the particular temple makes it easily accessible, however no bus stops in Paleochora because it is not included on the route as a destination. With the nomination that will change, and schools could include in their program's excursions to Paleochora. The second and more important goal is the cooperation, the information and the motivation of the citizens and not of some stakeholders selectively in order to have a better result. The major challenge as we mentioned above is the insurmountable bureaucracy. For this reason, a Facebook page was created on April 7th, 2019 whose name is "The Paleochora Project" [21]. Though a social network, Facebook deserves a place of its own on a list of online communities. Facebook pages, also known as Facebook fan pages, are a breeze to set up and maintain. These communities are among the simplest to maintain because they require only a few updates, and members abide by Facebook's rules. In this way, the "Palaeochora Project" is a thematic page that shares common elements with the imagined communities and online communities such as TripAdvisor. These elements based on the theory mentioned above of Kavoura, A. and Borges, M.T.T are: (A) The role of a common language. The members of this Facebook page belong to an online community and use special symbols as the likes and shares to post their own point of view or feelings. The Greek language is the main language of communication but there are posts in English and French too. (B) The role of experts. Online communities contribute to the sharing of information under an extended online environment that is believed to be credible and trustworthy. In our case a series of posts reveals the history of Paleochora and gives evidence of expert testimonies about the efforts made so far to restore the churches. (C) The use of specific ideas. There is a specific association of ideas around which the content is created, that of cultural tourism content. The members of the Paleochora Project (1700 so far) feel a sense of belonging to the same group and there is an active communication among them of shared thoughts and photos about the importance of this historical site, the beauty of the environment, the need for preservation. That can lead to a motivation for participation to the protection of the place but also to the desire for a visit in the context of cultural tourism. (D) The sense of community. "there is homogenous time and space because members may have or may not have seen each other while they share specific experiences and the sense of belonging to a specific community via interactive forums at a time convenient to them". On the day the page was uploaded online, the public's response to the first post was 14873 clicks. But with the passing of 2 months, visitors of the page did not show the same enthusiasm to join the forum. The project is currently running and in order to overcome the problem of under-contribution, the theory of Kraut is followed that borrows from current social psychology theories. In particular, he proposes planning guidelines for increasing participation rates in the group. Kraut's guidelines include the identifiability of the members, attractiveness of the project, group attractiveness, the overall size of the group, the recognition of the uniqueness and great importance of each person's contribution (as compared to contributions from other members) [22]. Following these key elements, we focus on collective effort in our online community Online communities survive from their volunteers. Usually none of

the community members can be forced to do something, and there are no tangible incentives [23]. In our case, volunteers appeared both to offer photographic material create videos of the site, find historical data, organise field research and guided tours, visual interventions, help with communication with the English French and Spanish-speaking followers of the page, and so on.

6   The Project's Expectations and Conclusion

The emergence of social networking sites has helped connect people worldwide with common interests, regardless of where they have access to the internet. This promotes the creation of new imagined communities and digital activism. Therefore, the challenge with these communities, such as the "Paleochora Project", is how to foster users' willingness to share content among themselves, reinforcing the different aspects of social capital. The content of the "Paleochora Project" Facebook page is being updated regularly. Consequently, the emotional exaltation of the residents is widespread when they perceive the long history of the medieval settlement. The expectations of the project include social and educational value. Social value suggests a variety of benefits that arise from the presence of the archaeological site of Paleochora in Aegina, among which is clearly the economic progress that comes through the presence of tourists who want to experience the Byzantine past. The benefits of designing an archaeological site are not only attributable to the Ministry of Culture through the revenues it receives due to traffic, but also the local community and, by extension, the municipality on whose territory the site is located, since it is a primary source of income, and maintains tourist activity by ensuring the sustainability of jobs stemming from it. At the same time, the educational value of the medieval settlement is also based on the interest it has for scientists of various specialties who will see Paleochora as a source of knowledge. The "Paleochora Project" as an online community aims to information and collaboration among the inhabitants of Aegina, especially the younger ones who know nothing about the history of the site in terms of the actions that have taken place and the attempt to restore the churches. Finally, another effect of the project could be the integration of the place into a Cultural Route of the Council of Europe. A Cultural Route can be defined as "a cultural, educational, heritage and tourism co-operation project aiming at the development and promotion of an itinerary or a series of itineraries based on a historic route, a cultural concept, figure or phenomenon with a transnational importance and significance for the understanding on respect of common European values" [24]. The effort to integrate the site into the network of Cultural Routes will result in the discovery of a lesser known destination from tourists, to promote sustainable tourism and create opportunities for funding (INTERREG, COSME, CREATIVE EUROPE).

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The Role of Market Segmentation and Target Marketing Strategies to Increase Occupancy Rates and Sales Opportunities of Hotel Enterprises

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Abstract Hotel enterprises, having facilities to respond customers' high level of expectations, are profit oriented accommodation organizations in tourism sector. Changes in customers' needs, expectations and wishes, competition, and changes in the market increase the necessity for hotels to become more customer and market-oriented. Hotels learn the unknown about customers and the market through market segmentation implementations and can define appropriate target market for their marketing strategies by segmenting the market into homogeneous groups. The theoretical basis of this study aims to reveal that the effect of market segmentation applications and target market determination strategy on their sales and occupancy in hotel enterprises. Based on the literature review, hotels applying market segmentation in their strategic marketing plans, have positive changes in their occupancy. The failure to apply with the market segmentation practices and target market strategies systematically and consciously, negatively affects the occupancy which is an indicator of the sales of hotels.

Keywords Market Segmentation · Target Marketing · Occupancy and Sales · Hotel Enterprises

1 Introduction

Nowadays, the rapid development of technology and the emergence of new products have changed the market requirements and marketing conditions. With the increase in the living standards of consumers, the demand for tourism markets has increased. These changes in consumer behavior and increasing competition in tourism markets

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have necessitated the companies to be dynamic and to develop themselves continuously. Due to the high competition in today's marketing approach, enterprises create new strategies to differentiate themselves from others. In customer-oriented approach strategies, while hospitality enterprises create their marketing strategies they also divide their potential customers into sections. Enterprises aim to gather the maximum and most detailed information about the customers dividing them into sub-segments and develop customer-oriented strategies as a result. Afterwards, they make appropriate market positioning for the target market. As well as all enterprises, marketing for hotel enterprises is a very important business function starting from the stage of establishment and having a place termly. The main purpose of marketing in hotel enterprises is to determine, develop and implement strategies that will achieve the objectives and targets of long term business. This research provides an updated literature review of this important topic, presenting market segmentation and target marketing strategies in hotel enterprises. Another focus of the current research is to evaluate whether the market segmentation and target marketing approach have an effect on increase the occupancy and the sales in hotels.

2 Methodology

The aim of the research is to determine how the hotel enterprises realize market segmentation and target market determination strategies in their strategic marketing plans and to determine the relationship of these practices between occupancy and sales. In the preparation of this research, the issue of market segmentation and target marketing strategies to increase occupancy rates and sales in hotel enterprises is tried to be explained with literature review. This paper presents the design of an explanatory and descriptive framework. The research papers data was based from five primary electronic databases. Keywords such as market segmentation, target marketing, occupancy rates, target marketing strategies were searched in the following databases such as Google Scholar, Elsevier, ScienceDirect, Emerald, and Taylor & Francis. These electronic databases were chosen due to their reliability and credibility in producing this research.

3 Literature Review

3.1 Market Segmentation

Market segmentation strategy is a difficult discipline in trade, especially in practice for service businesses. Hospitality enterprises are service businesses operating in tourism industry, and due to the unique characteristics of the service, their commercial profitability and assets in the market depend entirely on the provision of services

to consumers [1]. Kotler [2] reported that market segmentation strategy which is one of the important approaches of contemporary marketing can be defined as a strategy that involves the division of a large market into segments of consumers with different needs, characteristics, or behaviors which might require separate marketing policies. Customization or individualization has been one of the main streams in marketing for businesses over the past decade [3]. Market segmentation is also one of the most used strategic approaches in marketing for customizing products and services [4, 5]. According to Tynan and Drayton [6] market segmentation is a crucial strategy which aims to identify and delineate market segments or "sets of buyers" which would then become targets for the company's marketing plans. When utilizing market segmentation, company specializes by concentrating on segments of the population. Conceptually, the market segmentation strategy involves the implementation and development of different marketing programs to different parts of the entire market [7]. Therefore, market segmentation needs different groups in the market to identify their needs and expectations and develop different products and marketing programs [8]. This definition is also an essential point for many definitions of market segmentation. This common denominator is, undoubtedly, the basic needs and desires of people and the need to divide them into homogeneous groups. Camilleri [9] stated that diverse customers would have different expectations. For instance, there may be customers who will value a differentiated, high quality service, whilst others may be more price-sensitive. Notwithstanding, not all firms have the resources to serve all customers in an adequate manner. Trying to serve the entire market could be a recipe for disaster. The overall aim of segmentation is to identify high-yield segments. These are likely to be the most profitable groups of customers, or may hold potential for growth.

One of the most important tasks of the marketer is to determine the target market or markets where the products will be offered. A market can consist of several parts. Businesses can select the entire market as the target market without dividing it into segments, or they can divide it into segments showing a tendency to the market segments ([10]: 161). Marketing is based on strong market segmentation and target marketing. According to Raju ([11]: 9) market segmentation processes are as follows; (1) to take potential customers (market) and divide them into groups with similar preferences called "market segments"; (2) choosing the most promising segments as "target markets"; (3) designing marketing mix or strategies that satisfy the specific needs, desires and behaviors of target markets. Enterprises should determine their primary objectives before starting market segmentation. Thus, for the purposes of the enterprise or business, useful information should be provided. However, the hotel enterprises should have the necessary resources (manpower, time, money) for market segmentation. On the other hand, it has particular importance that market segmentation is performed carefully by experts. In short, we can say that market segmentation is a dividing practice of customers into groups according to their similar preferences and buying habits. As opposed to mass marketing, in which the businesses offer the same product to the market, in targeted marketing a specific group of customers is the focus of their marketing efforts. In other words, target marketing is the process of matching marketing efforts

to the needs of a specific market segment. As a result, business managers need to keep in mind market segmentation principles in their marketing efforts.

3.2   Target Marketing

Selection of target markets is a natural process of market segmentation. Target market selection is an important decision that directly affects and frequently determines the marketing mix of the hospitality enterprises [12]. After determining the market and calculating the potential of each segment, the marketing management in the accommodation enterprise goes into the stage of determining which departments or segments to turn to, that is, to determine the appropriate target market segments [13].

When determining target markets, current and future sales potential of each segment, the competitiveness and quantity, and the ability to deliver a marketing mix that will succeed in influencing each segment should be considered. In addition, the service cost for each segment, and its contribution to achieving overall company objectives should be analyzed separately for each section [11]. According to Kotler [14] the desired result of defining markets and identifying homogeneous groups are to identify target markets. In other words, it is crucial to be aware of the markets in order to benefit from the suitable opportunities for the enterprises. It is more difficult to respond to the needs of target markets than to respond to complex markets. Therefore, in order to overcome difficulties; the resources of the company, product characteristics, product life cycle stages, the structure of the market and the competition should be carefully reviewed [15]. Since customers do not have the same needs and wants, prefer the same things or benefit from the same facilities or enjoy the same hotel activities, market segmentation and target marketing are needed for hotel enterprises.

3.3   Market Segmentation and Target Marketing Strategies of Hotel Enterprises

In the hospitality industry, segmentation has been used as a long term strategy by companies [16–20]. Hotel businesses can be divided into two categories as individuals (tourists) and groups (institutions and organizations) according to consumers demanding their goods and services in order to divide them into groups. The hospitality establishment should set its primary objectives before starting market segmentation. Businesses targeting tourists divide tourist markets into the following market segmentation variables to find out where the tourists travel, where they stay, which accommodation facilities they prefer and their reasons, and to create the right marketing mix [1]. Having defined segmentation and its methods, the next phase

is; how could hotel enterprises segment their markets? There are various variables to define market segments; in the following variables used in segmenting consumer markets such as demographic, geographic, psychographic, behavioral and product-related factors will be dealt with.

Geographic Segmentation The geographic segmentation divides customers into segments based on geographical areas such as nations, states, regions, countries, cities or neighborhoods. A company can target one or more areas but it should be aware of the fact that data according to geographic segmentation may vary due to population shift ([21]: 376). It is important to segment according to geographic features, due to the fact that the purchasing behavior of the customers are influenced by the society they live, work in etc. [22] Therefore, many companies customize their products, advertisement, promotion and sales efforts to fit the needs of the geographical variables [23]. In segmenting the market according to geographical factors, the market is segmented by considering the environment (according to the place of origin) in which the customers (tourists) live permanently.

Demographic Segmentation Another widely recognized consumer market segmentation scheme makes use of demographics. Demographic segmentation is defined as the division of a market into groups based on demographic variables such as age, gender, family size, family life cycle, income, occupation, education, religion, race, generation and nationality [24]. Demographics have gained much popularity because they are easily measured and often vary closely with consumer needs and usage rates. The complexity and costs of the scheme also stay relatively low. It has been determined by many studies that when people's educational level, income, social status increase, they tend to participate in tourism activities and they tend to eat outside.

Psychographic Segmentation Psychographic segmentation is a term used to express an individual's mental attitudes and personality measurement. Demographic variables are differentiated from demographic characteristics that measure objective dimensions of age, gender, income and life cycle [25]. In the psychographic segmentation of the market, consumers are divided into different groups according to personality, lifestyle and social classes. Marketers try to convey their products as brand personality appropriate to the personality of consumers by using their personality variables [26]. Psychographic factors have an impact on buying behavior of tourists and travel and accommodation preferences [27].

Behavioral Segmentation It is known that the behavior of consumers after purchase may also be a market segmentation factor. Kotler and Armstrong [2] stated that behavioral segmentation divides buyers into groups based on their knowledge, attitudes, usage of the product or responses to the product. Common approaches are generally based on usage rate and occasion segmentations. A behavioral segmentation scheme has the advantage that it is rather closely tied to the product or service that the company is offering. In the hospitality sector, consumers' purchasing behavior is subdivided into the categories according to "occasion", benefits needed", "usage frequency" and "brand loyalty".

Product-Related Segmentation Marketers bring together several variables to identify their target consumers better [1]. According to Camilleri [9] these variables depend on the product or service to be marketed. Boone and Kurtz [28] explained that product-related segmentation involves dividing a consumer population into homogeneous groups based on their relationships to the product; benefits people seek when they buy a product or service; on usage frequency or consumers' brand loyalty.

Green and Stager [29] pointed that the purpose for segmenting a market is to allow marketing programs to focus on the subset of prospects that are most likely to purchase a product or service. If executed properly, it can ensure the highest return on marketing and sales expenditures. Kotler [30] argued that the application of market segmentation and target marketing is not guaranteed to improve profit; it has been believed to be one of the most important strategic management concepts for achieving long-term financial goals while minimizing business risk. Chen [31], stated that occupancy rate is a common performance measure of sales revenue in the hotel industry. This is due to the fact that market segmentation strategy is the process of selecting the customer for the business. Hence, it is appropriate to use occupancy percentage as the indicator of performance.

4   Discussion and Conclusion

In the tourism market where competition is intense, hotel enterprises try to provide services for all segments of the market and respond to all customer demands. Actually, this is an inefficient and costly policy. Therefore, hotel enterprises should divide their markets into sections by using various variables and making careful decisions about which of these sections will be targeted. The first strategic step for the commercial success of a hospitality business is to find valuable markets. In other words, it is one of the most important decisions that will be taken by the managers to find the markets with the same vitality with sustainable foundations and high growth potential and profitability. The reason for the failure of enterprises today is to operate in markets that are not suitable for their purposes, resources and management models. This means that they cannot respond to changing consumer wishes and desires. As a result, the loss of customers, inability of the company to keep up with sustainable innovations, demoralization, capacity utilization problems, poor quality of products and services will cause drop in sales. Thus, enterprises should identify the markets with the highest potential, and they should create a mix of products and services in accordance with the market specifications implementing proper marketing management strategies. In the study conducted by Ugurlu [1] it is observed that market segmentation strategies in five-star hotels in Istanbul has a 75% effect on the sales of the companies that included marketing plans. This also shows the importance of collecting market-related data and taking into account the wishes and desires of the market and consumers by the hotels. Furthermore, Ugurlu also states [32] that the success in the implementation of market segmentation strategies

of enterprises is not linked to one of the target market determination strategies. While it is essential to divide customers into different categories according to their characteristics in order to direct the resources of the enterprise and the existence of competitiveness, it will not be right to adhere to a single target market determination strategy in order to increase the occupancy rates of the hotel.

In the study conducted by Ahmad et al. [33], a relationship between hotel that practice market segmentation strategies and occupancy rates performance is proven. The study also shows that market segmentation and target market strategies are the most contributing applications to the hospitality sector. According to Nicholls and Roslow [34] the purpose of segmentation is to make the hotel more profitable. The first way to make more profits is to create a customer profile that increases the length of the stay and to develop the sections, especially bars and restaurants that enable customers to make more use of the services offered. The second way is to instill brand loyalty to customers by addressing the target market through market segmentation and to ensure that customers come back to the business. The hotel product is a service, so it should be recognized that the quality and quantity of the service is of great importance to the customer. Consequently, the standard of service expected by the guest needs to be met consistently at each stay. In the absence of a significant number of studies in the hotel industry, the study is thought to be important in terms of explaining the effects of market segmentation and target market strategy on occupancy rate and sales.

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Climate Change and Cultural Heritage Case Study: The Island of Chios

Olga Tsakirides and Sofia Theofanidi

Abstract This scientific paper refers to the crucial issue of 'climate change' and how it affects monuments of cultural heritage, as individual material cultural goods, but also as cultural ensembles and landscapes. The aim of the paper is to bring this critical issue to the fore, and examine it as part of the island of Chios. It is clarified that, indirectly, the paper is about tourism and the sustainable development of the island, as its cultural heritage is a major factor for its image and its position in the global tourist market. Methodologically, the definitions of climate change and the existing data and effects are mentioned first. The list of the risks of rising sea levels and soil erosion follow. The goods of the cultural heritage of Chios are noted, and the level of risk is examined, based on climate change and its impact on the environment. As a conclusion, civil protection measures are proposed, specifically for the island of Chios, on the basis of international experience.

Keywords Climate Change · Cultural Heritage · Island of Chios

1 Introduction

Chios is a Greek island, with rich cultural capital. Its peculiarities and beauty attract many visitors from Greece and abroad. It is obvious that unfavorable changes in its climate and environment will affect tourism on the island, as well as all sectors of the economy. It is expected there to be an actual blow to local development and society, since tourism is a particularly sensitive product but very important for the island. But why has the issue of climate change become so topical in recent years? One explanation could be the increase in the frequency and intensity of extreme

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529

weather phenomena across the planet. It makes sense then, that everyone wonders what is going on, while scientists have been trying for decades now to explain these phenomena, which are now briefly condensed into the umbrella concept of "climate change". "Climate change" affects all sectors of the economy. It is expected to affect tourism, since predictions indicate that the average temperatures will rise even more in the Mediterranean countries and summers will be warmer. If under "climate change" we also include environmental pollution, mismanagement of natural resources and over-exploitation of land, it becomes clear that there has to be a "shift" somewhere, and that habits and ways of the past have to be abandoned.

2   Methodology

The present paper is based on a bibliographic review, which however is not exhaustive, as the subject is quite extensive. It is based on searches in databases such as EBSCO, Google Scholar, as well as in scientific journals from the Heal link database. One of our main resources is the study titled: "Regional Plan for the Adaptation to Climate Change", which was carried out by the Region of North Aegean and the Axon Envirogroup Ltd in 2019, co-financed by E.U (see in Resources).Basic research concepts, both in the field of 'climate change' and 'cultural heritage', are examined. Data are collected from the official websites of the United Nations, NASA, UNESCO and the European Union.

3   Basic Concepts

3.1   The "Circles" of Life and the Loss of Self-Regulation of Nature. The Notion of the "Sustainable Development"

Professor S. Karvounis assumes food networks, rather than simple food chains exist within the context of the basic life cycle. A characteristic property of the natural environment is the equilibrium and self-regulation if any deregulation of balance occurs [1]. In nature there is not only the basic cycle of life, but there are many who complement and function in parallel while communicating with each other, so that they often are interdependent, especially in a specific place. This greatness of nature is constantly disturbed by man since after the invention of fire. The more frequent and intense the disruption of the environment is, the more subdued the mechanism of self-healing and self-regulation. It is certain that man contributes with his activities to the distortion of many ecological cycles by destroying environmental resources, perhaps thinking that nature will be regenerated. But unfortunately, this is not often the case. Especially when disruptions are frequent and lengthy, the natural environment does not have adequate time to renew its resources. For this

reason, it is understood nowadays that, as a matter of necessity, development should leave to the next generations of the inhabitants of this planet the resources that the present generation has received, in quality and quantity. Thus, development becomes 'sustainable', i.e. its future course is safeguarded without the planet's resources being affected. A catalyst contributing to this is the shift to renewable energy sources today, such as wind, solar, etc.

The earth is surrounded by the atmosphere, which on one hand protects it from the excessive invasion of cosmic rays, on the other hand it allows the amount needed to sustain the cycles of life to reach the earth's surface. The atmosphere is constantly agitated, transferring energy and moisture from one place to another, creating what is called a "climate". Depending on the maintenance of gas equilibria, the atmospheric shield may undergo changes affecting the climate. It is obvious, for example, that the decrease or increase of gas, for any reason, alters the delicate chemical and physical equilibria, subsequently altering the earth's protective umbrella. Consequently, the earth's surface and everything on it is affected.

3.2 Critical Issues of the Natural Environment Today

We refer briefly below to the burning issues of today relating to the natural environment: (A) The greenhouse effect and global warming. Gases involved in the phenomenon are carbon dioxide CO_2, methane CH_4, nitrous oxide NO_x, chlorofluorocarbons CFC, ozone O_3, and water vapors H_2O. It is now clear that if the use of petroleum and coal is significantly reduced or replaced, restoration of atmospheric equilibrium will be achieved and there will be a reduction of the gases responsible for global warming, such as CO_2. The overheating of the planet's atmosphere is expected to incur a rise in sea level due to the melting of ice in the Arctic and the Antarctic, but also of the glaciers that exist at high altitudes due to the increase in the average temperature of the earth [2]. (B) Ozone depletion and the creation of the ozone "hole" in the poles, especially in Antarctica. (C) The deposition of acid or acid rain that permeates the soil, contributing to the decline of forests and to the agricultures soil degradation. (D) Soil quality degradation, salinization and desertification. Often in areas near the sea, groundwater over exploitation results in salt water intrusion to groundwater aquifers being filled by seawater, which subsequently has disastrous effects in the above agriculture lands due to water salinity. This phenomenon is called "salinization" and leads to soil quality degradation and desertification. (E) Soil erosion due to long and intensive landslides because of torrential rains and increase in catastrophic landslides phenomena (F) Pollution of marine sea water and extinction trends of marine species, as well as rise in sea levels, which in itself induces many changes in coastal ecosystems and the formation of the shoreline as well. Relevant studies are being conducted in coastal areas worldwide and special adaptive management systems are applied that activate interested parties and stakeholders in each region by applying specific models [3]. Also, there is great impact on the pollution of the

natural environment with major obvious effects on the health of humans and animals caused by the, particularly bad, use of nuclear energy.

3.3 Climate Change: Reference to Crucial Phenomena

Climate change is an actual event, as a series of phenomena indicate, which are recorded worldwide following the above reported problems which have been observed in the natural environment until now [4]. In many areas on the planet climate change is now evident, with phenomena such as rise in average temperature, more frequent and intense heatwaves where that used to be a rare, almost non-existent phenomenon, torrential rains where during a short time period there is rainfall or hailstorm of great intensity and water quantity, so much so that the soil cannot absorb it. For this reason, there are floods induced together with landslides, land recessions, infrastructure disasters and loss of life. Extreme weather phenomena have now become more common, more intense and more frequent than in the past.

3.4 Worldwide Activation: New Research Concerns, International Programs and Agreements

Lately it has been realized that for decision making and more effective organization at state level, but at local level too, governments and decision makers need to consult not only the quantitative data describing climate change phenomena, but also the qualitative ones. Thus, it is suggested that people who experience climate change and observe the changes occurring in their lives and in their environment themselves, provide empirical data. Quantitative data may be easier to read, however qualitative data are those that will shed more light on these phenomena from the perspective of the people who experience them [5].

Recently, the international treaty on climate change was signed in 1992 (UNFCCC). It is an agreement of countries which are bound to take serious adaptation measures to climate change. Similar commitments exist in the E.U., as well as in the Paris International Agreement. The United Nations has already compiled an international program for the environment. This program collaborates with research centers worldwide. The NASA (U.S.A.) has made significant contribution to the observations and the recording of data from satellites. Prof. Christos Zerefos of the University of Athens, has published images from the TOMS satellite comparing the state of the ozone in two different years, October 1979 and 2008 for Antarctica, respectively. During this time, the ozone dilution was ~10%. In the Arctic, the satellite data for March 1979 and March 2008 showed dilution of the ozone of ~6% [6].

In Greece, in order to comply with international agreements for the reduction of gas emissions responsible for the greenhouse effect, the ozone hole, the rise of the sea level rise and climate change, Law 4414/2016 was passed and the strategic map entitled "National Strategy for Adaptation to Climate Change" was drawn up by the Ministry of Environment and Energy [7].

3.5 Cultural Heritage, Climate Change and Tourism: What UNESCO Is Telling Us

UNESCO gives a definition for cultural heritage [8] that places particular emphasis on the transfer of cultural assets of the past to the present generation from the previous ones. These cultural goods are creations of a group or society, and are passed on to future generations enriched with the cultural goods of the present. It is important that this great heritage, which is a source of knowledge for modern people but a source of wealth as well, in its broad sense, is maintained, preserved, harnessed in such a way as to be passed on to future generations. This concept of sustainable development and sustainability runs through the whole set of UNESCO's actions, which is the international organization studying cultural heritage at a global level and taking initiatives for preservation.

Cultural heritage is divided into the tangible and the intangible cultural heritage [9]. A more detailed reference to cultural heritage includes: movable cultural goods, non-movable cultural goods, underwater heritage, intangible cultural heritage natural heritage and the endangered cultural goods.

The intangible cultural heritage includes elements of popular culture, which is mainly oral and is passed down from generation to generation. In it there is a wealth of cultural elements included that are transmitted in the present, but at the same time part of them can still be alive and lived through by local communities or societies.

Regarding Cultural Heritage, as well as Intangible Cultural Heritage, two separate Lists have been created by UNESCO. The island of Chios has the following entries in these lists:

- Monasteries of Daphni, Hosios Loukas and Nea Moni of Chios (inscription 1990, the World Map of Cultural Heritage)
- Know-how of cultivating mastic on the island of Chios (inscription 2014, in the World Map of Intangible Cultural Heritage)

UNESCO's World Heritage Center is already active on the issue of climate change, which is an issue of interest worldwide, as it has been observed to affect a large part of the world's cultural heritage on many levels and put it at risk. The Commission has been dealing systematically since the past decade with matters of the environment based on observations from scientists, as well as experts. It is noted that "... the consequences of climate change are affecting and might increasingly

affect world cultural heritage goods, whether natural or cultural, in the years to come ..." [10].

In Vilnius in 2006, all participating countries were asked to apply the Strategic Plan, which was based on the previous reports, studies and scientific observations. More recent developments in 2015 on this issue led to UNESCO's encouragement of its participating countries to play an active role in a United Nations' world conference on climate change (2015) [10], where the global convention on climate change was passed (United Nation's Framework Convention on Climate Change, UNFCCC), so that the widest possible global collaboration could be achieved.

Climate change is considered, after the 1972 convention, as the greatest danger facing the world cultural heritage today. It was reported [10] that the average temperature has risen by 1°C resulting in temperature increase in the atmosphere and in temperature increase of the oceans. This implies reduction in the ice cover, the rise of sea levels and the disruption of its chemical composition. The result is obvious in the coral reefs, which are being destroyed, with an impact on the environment, the economy and in particular in tourism.

According to the UNESCO study [10] on the impact on world heritage and tourism, it is mentioned that tourism associated with cultural heritage sites will be affected to a large degree. From the case studies conducted in all continents, it is concluded that:

- Climate change is expected to negatively affect tourism destinations that are based on cultural heritage
- Some areas should now be transferred from the World Cultural Heritage Map and to be specifically managed and protected by placing them on the map of endangered Cultural Heritage.
- It is expected that there will be an increase in protection measures for visitors, especially in areas where flood and landslide phenomena occur.
- It is imperative that there be different management of sensitive resources that are at risk from extreme weather phenomena, floods, landslides, subsoil retreat, hailstorms, rising sea levels, lightning, tornados etc.
- It has been observed that there is traditional expertise of adaptation to climate change in indigenous populations, which has begun to be recorded locally so that dealing with phenomena of climate change can be supported.

4 The Case of the Island of Chios in the Northern Aegean

4.1 Description of Chios. Some Environmental Data and Problems

The island of Chios is part of the Northern Aegean Region, based in Mytilene on the island of Lesvos according to Law 3852/2010 [11], constituting a separate

Table 1 Minimum and maximum temperature deviations in C⁰ for the year 2017 compared with the values for 1971–2000 for Chios

Month	Minimum	Maximum	Average temperature
January	–1	–2.5	–
February	2.2	1	–
March	–	1–1.5	–
April	0.2	0.8	0.6
May	1.6–1.8	0.4	1
June	1.4	1	1.2
July	2	1.3–1.5	1.3
August	–	1.8–1.2	1.6
September	0–0.4	1	1
October	0.8	0	–
November	–0.1	0.8	–0.4
December	2.8	1.2	–

Source: Regional Plan for Adaptation to Climate Change, Northeast Aegean. Missing values are due to a lack of data from the National Meteorological Service Table edited by the authors [12]

Regional Unit based in Chios and consisting of the Municipalities of Chios, Psara and Oinousses.

In Chios there are many freshwater springs, but there is no recorded effective management for them. There are recorded brackish waters mainly in the area of Kampos, as a result of the salinization. The highest temperature occurs in July, the lowest in January. According to the available data, there are deviations observed in the minimum and maximum temperatures. The minimum temperature in February 2017 appears increased by 2.2°C for Chios and Psara. Table 1 presents the deviation of the minimum temperature in °C for the year 2017 compared with the values for 1971–2000 for Chios (Table 2).

4.2 The Most Critical Climate Change Issues Occurring in Chios

The areas of Kampos, Komi and Marmari, as well as the city of Chios as low zones, exhibit a potentially high risk of flooding. According to flood design scenarios a high floodrisk phenomenon appears at the mouth of the Kokkalas stream, where the airport area is. There is also a relatively high risk of flooding at the mouth of the Anilio stream and in a small part of the Partheni stream. These areas exhibit vulnerability to the rise of sea levels, but this depends on the height of the rise, as there are various scenarios. A more detailed approach based on contemporary relevant prediction and simulation models is obviously necessary.

Table 2 Percentage in the change of downpour for the year 2017 in relation to the reference period of 1971–2000 for Chios Island

Month	Values (%)
January	160
February	50–60
March	80–100
April	20–40
May	180,00
June	100
July	–
August	–
September	0
October	60
November	100
December	90

Source: Regional Plan for Adaptation to Climate Change, Northeast Aegean. Missing values are due to a lack of data from the National Meteorological Service. Table edited by the authors (p. 34) [12]

4.3 Description of the Natural and Cultural Resources of the Island of Chios

According to the current statutory framework in Chios there are several locations, besides the cultural monuments. More specifically, the islets of Agios Panteleimon, Pateronisos, Vatos, Antipsara, Agios Stefanos and its islets, Margaritis, Pelagonisos, Venetiko, Pontikonisi and Prasonisia have been recognized as "Landscapes of particular natural beauty" [12]. The FILOTIS database also mentions: Anavatos, in the Northern Region of Chios, Mesta, New Monastery of Chios and Pyrgi. Among the cultural monuments are the Castle of Chios, as well as monuments of the Castle area, such as the Ottoman cemetery with the tomb of Kara Ali, the Bayraklimosque, Saint George (former Eski Mosque) and the Ottoman baths. Other sights include Krya Vrisi, a tank of mainly Byzantine style, the Tower from the Ottoman period, but constructed using ancient building materials. In Chora there is a streamlined Byzantine Museum and a Byzantine archaeological collection at the home of the Genoese Justiniani family, which is today called Palataki. In the Emporeio settlement there is an archaeological site with an ancient temple dedicated to the goddess Athena. Among the recorded Natural Monuments there is Daskalopetra, in Vrontado, a rock which seatings have been carved on, associated with the goddess Cybele, however, according to local tradition it is associated with the poet Homer, thus it is otherwise called "Homer's Stone".

The New Monastery of Chios, a religious and cultural monument of extraordinary significance, of the Middle Byzantine period with brilliant mosaics. It is one of Greece's entries in UNESCO's World Map of Cultural Heritage. Another important

monument is the Panagia Krina near the village of Vaviloi, the Byzantine church of the Holy Apostles in Pyrgi and St. George of Sykousis. Also important are the traditional medieval settlements of Anavatos and Mesta. Of special is the Kampos of Chios because of the natural environment, the abundant agricultural production, as well as the monuments of various periods [13].

There are also significant geotopes, such as mammalian fossils found in the Thimiana clay mines and at Latomi Panagias, the cave of Agiogalousaina, Ammonoidea fossils in Marathovouno, fossilized flora in Komi, fossils of the Carboniferous Permian period were found in Northern Chios as well. Chios has been characterized by geologists as a "geological paradise" because it comprises Europe's most ancient rocks. It would be an omission if we did not mention the important caves of Olympoi, the cave of Holy Milk and the cave of Lithi. Also in Chios there exists a wealth of biodiversity and eight wildlife sanctuaries stretching 49,568 acres of land. There are significant wetlands noted, such as the moor of Lagada, of Mesokampos and of Nagos which are in danger due to salinization and the rise of the average sea level.

There are traditional settlements of great importance in Chios, such as Kampos, Mesta, Pyrgi and the now uninhabited Anavatos. A special environmental and cultural site is located at the southwestern part of the island, where the well-known Mastichohoria are, whose inhabitants have engaged since the ancient times in the cultivation and production of the world's unique mastic. The mastic tree that produces this specific mastic only grows in Chios and thrives only in this area. Recently, the Piraeus Bank Group Cultural Foundation (PIOP), so as to preserve the tradition of mastic production, established the Mastic Museum near the Mastichohoria area, which is a model of its kind and is among the nine thematic museums of PIOP in all of Greece. Among the cultural resources of the island are collections of sea professionals, the Maritime Museum, small shipyards, as well as many captains' houses. Chios has a powerful tradition in trade and the development of maritime professions Mastic, the culture of the sea and its monuments render it unique and outstanding in the world's cultural map with a potent and distinct competitive advantage.

4.4 Chios' Cultural Heritage in Risk

The tourism in Chios is upheld by the cultural heritage. Arrivals for 2017–18 reached a total of 58,593, putting Chios in third place among the touristic islands of the North Aegean, the first being Samos and the second Mytilene.

Already there are landslides noted in several spots on the road network of Chios. The problems of the island's basic infrastructure influence tourism directly, it being a mainstay of financial support for culture. In addition, it appears to be significant risk to the natural and cultural resources due to the fires that occur to a large extent and intensity during the summer months because of drought and hefty winds. In August 2012, Chios was struck by extensive fires, which even threatened mastic

trees. The fires have hit woodland, as much as arable areas. Floods and landslides are observed in these areas after the fires. Landslides, soil erosion and desertification are also recorded. Chios is included among the areas at high risk of erosion according to Greece's Maps of Potential Desertification Risk (National Commission against Desertification).

According to climate change prediction scenarios, Chios is expected to have an increase in average temperature in the years ahead, but the situation will not be as bad as inland, due to the insularity and the winds that hit the Aegean. However, a higher frequency of hot days over 35°C and hot nights over 20°C is expected, which will increase the levels of population discomfort. It is also possible that a reduction of the rainfall percentage will occur, but an increase in flash floods. The average increase in temperature is expected to amplify energy demand during the summer. The upside of climate change is that during the winter period the energy consumption for heating will be reduced. According to the study on climate change adaptation in the region of Northern Aegean, cultural heritage and, in general, cultural resources are exhibiting strong vulnerability to climate change. More specifically:

(A) Floods and sinking of monuments of tangible cultural heritage are expected to cause problems of statism
(B) Droughts, intense rainfall and temperature increase are expected to play a negative role in the maintenance of various museum collections and archives
(C) Extreme climatic phenomena, rising of sea levels and flooding are expected to dramatically influence certain materials.
(D) Dramatic loss of biodiversity is expected due to drought and to environmental problems, loss of forests and ecosystems, especially in coastal areas

With the increased mortality of elderly people, of people with chronic health problems, of children as one of the vulnerable groups and of immigrants who live in conditions of social exclusion, as well as of those who do not have access to health services, it is envisaged that a large part of the living cultural heritage will be lost and, thus, the same will happen to the intangible cultural heritage. Finally, for Chios it has already been requested that the Campos area and its monuments should be included in UNESCO's areas of endangered cultural heritage, since it exhibits intense phenomena of salination of underground water due to the over-pumping of underground water for crops.

5   Conclusions and Suggestions

Climate change is a visible and sustainable fact nowadays despite the concerns that occasionally come up. The global community has already put measures in place and is working together to abate the impact of climate change, which has resulted in great cultural heritage vulnerability. For this reason, UNESCO has already studied the issue and has taken relevant action. For the island of Chios, climate

change is expected to induce severe flood phenomena, extreme weather, droughts, heavy rainfall, increase in temperature, increased risk of fire, population discomfort due to increased number of hot days during the summer months and rise of sea levels, which will put more pressure on coastal areas. The island's biodiversity, the coastal area ecosystems and the sites of cultural heritage present with high vulnerability. However, due to a lack of evidence, and also because environmental conditions are relatively unpredictable, any absolutely safe forecasts cannot be derived, only approximate ones. Specifically for cultural heritage, a specialized study of environmental variables and their effect is proposed based on contemporary simulation models in each category of Chios' cultural capital, including the natural environment, the cultural heritage of the sea, as well as the living cultural heritage, i.e. the people as carriers of memories, which must be recorded as soon as possible [14]. Finally, it is proposed that Maps are created of vulnerability estimates by category of cultural heritage from the various before mentioned impacts of climate change. Following that, it is proposed that a Strategic Charter is created with clear priorities and an action plan for the coming years.

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Relationships Among National Tourist Destination Arrivals, Effective Governance, Environmental Performance, and Human Development

Barry A. Friedman and Merve Yanar Gürce

Abstract Competition among destinations for tourism steadily increased over the past few decades. Extant literature emphasizes tourist travel motivation, destination choice, decision making, and trends such as responsible tourism, medical tourism, and ecotourism. This study adds value with an empirical macro national approach that investigated relationships among tourist arrivals, national environmental performance, human development performance, and national effective governance (voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption). World Bank, World Economic Forum, and United Nations secondary data across 124 countries from 2016 were analyzed. Government effectiveness, political stability and absence of political stability and absence of violence, human development index and population were associated with the number of tourism arrivals. National environmental performance was not associated with tourism arrivals. Implications for future research and practice are offered.

Keywords Tourist · Governance · Environmental performance

1 Introduction

International tourism in 2017 generated $1.6 trillion (USD) in export earnings, grew by 6% to 1.4 billion tourists in 2018, and is expected to reach 1.8 million by 2030 [1]. The United Nations World Tourism Organization places tourism business volume as equal to or greater than oil exports, food products or automobiles [2]. As competition for tourists increases, more research will focus on factors associated with tourists' destination choice and decision making [3]. The purpose of this study is to explore variables that are related to tourists' destination choice. Specifically,

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this study uses a macro national approach that investigated the relationships among the number of tourist arrivals, national environmental performance, human development performance, and national effective governance (voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption) [4].

2 Literature Review

Extant literature emphasizes tourist travel motivation, destination choice, decision making, and trends such as responsible, medical, and ecotourism [5, 6]. Responsible tourism and ecotourism refer to the sustainability impact of tourism on the local environment and tourists' desire to appreciate the ecosystem, culture and history of a destination [7–9]. These and other trends have implications for destination branding and marketing to specific target tourist populations [10]. Sharpley [5] concludes that "there is little doubt that a number of factors, from financial constraints to values to beliefs, directly influence tourist decision making".

The "consumption by integration" concept proposes that tourists choose destinations partly to integrate or align themselves and their values with destination characteristics [11]. For example, tourists that value environmental sustainability may therefore choose destinations that are environmentally friendly or offer environmentally sustainable tourist experiences that align with their values and beliefs [12]. Tourists may also choose destinations that align with their values associated with freedom of its citizens, effectiveness governance, political stability, equality, and freedom of corruption [13, 14]. Similarly, tourists may prefer destinations that achieve high quality of life and standard of living for its citizens.

We first state our hypotheses related to number of tourists, effective governance, human development, and environmental sustainability. Study methodology, results, conclusions, and implications are then offered.

3 Methodology

3.1 Data

Secondary data from the World Bank, the World Economic Forum, and the United Nations World Tourism Organizations were obtained. The World Bank has tracked international tourist arrivals by country since 1995 [15]. Arrivals are defined as "international inbound tourists (overnight visitors) are the number of tourists who travel to a country other than that in which they have their usual residence, but outside their usual environment, for a period not exceeding 12 months and whose

main purpose in visiting is other than an activity remunerated from within the country visited" [15].

Effective governance, or World Governance Indicators (WGI), consists of six dimensions: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption [4, 16]. "Governance effectiveness" describes how well the government exercises power to create and enforce policies that benefit its citizens [13, 16]. The World Bank Development Research Group, in association with the Natural Resource Governance Institute (NRGI) and Brookings Institution, has tracked the WGI [17] since 1996, using enterprise, citizen and expert survey respondent data.

Environmental sustainability is measured using the Environmental Performance Index (EPI). The data was collected by the Yale Center for Environmental Law and Policy (YCELP), Center for International Earth Science Information Network (CIESIN) associated with Columbia University, World Economic Forum [18]. The EPI Index ranks 180 countries on 24 performance indicators across ten issue categories covering environmental health and ecosystem vitality (e.g., water and air quality, sanitation, carbon intensity). These metrics provide a gauge at a national scale of how close countries are to established environmental policy goals" [19].

The United Nations Development Program maintains The Human Development Index database (HDI). The HDI is "a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledge-able and have a decent standard of living" [20].

3.2   Hypotheses

Other things being equal, larger countries are expected to attract more tourists. Controlling for country population, we tested three hypotheses.

HYP1: There is a positive relationship between tourism arrivals and countries' effective governance.

It is hypothesized that tourists would be more attracted to countries that provide their citizens a voice in governance (voice and accountability), perceive that they are relatively safe from the destinations' leaders, government, military and crime (political stability and absence of violence), are have rational and efficient government institutions (government effectiveness), have an infrastructure that promotes regulatory quality, abides by the rule of law, and controls corruption (as measured by the WGI).

HYP2: There is a positive relationship between tourist arrivals (number of arrivals) and environmental performance (EPI) in a country.

Based on the "consumption and integration" concept, tourists would be more attracted to countries that produce favorable results with respect to environmental

sustainability (e.g., clean water, air, sanitation, biodiversity and habitat, carbon intensity).

HYP3: There is a positive relationship between tourism arrivals and a country's ability to increase its human capabilities.

Countries' ability to development human capabilities and health will attract tourists (as measured by the HDI). A high standard of living, long life expectancies and quality of life are hypothesized to align with tourists' values and beliefs.

3.3   Data Analysis

Countries' environmental performance (EPI) subscales (air quality, access to sanitation, access to drinking water, carbon intensity and access to electricity), countries' effective governance (WGI), and ability to increase its human capabilities (HDI) served as independent variables. The number of arrivals was the dependent variable. Means, standard deviations, and correlations among all variables were computed. Tourist arrivals was regressed on EPI subscales, WGI, and HDI (population was entered to control for country size). A univariate correlational analysis was first conducted, followed by a multiple regression analysis for the year 2016.

4   Results

Table 1 contains means, standard deviations, and correlations among all variables. Variables were considered for the regression analysis with significance levels of $p \leq .05$. Taking into consideration favorable correlations the multiple regression results were conducted for the hypothesized relationships. All of the variables had acceptable multicollinearity levels (Variance Inflation Factors were smaller than 10) and were entered into the multiple regression analysis. The results of the analysis showed for the year 2016 in Table 2.

Government effectiveness (GE), population, political stability and absence of violence (PV) and human development index (HDI) significantly explained 35% of the variance in tourism arrivals. In other words, GE ($\beta = 0.367$, $p \leq .05$), Population ($\beta = 0.318$, $p \leq .05$), PV ($\beta = -.34$, $p \leq .05$) and HDI ($\beta = .30$, $p \leq .05$) were related to tourism arrivals. Holding population constant, government effectiveness (GE) was the most significant predictor of tourism arrivals followed by human development index (HDI), and political stability and absence of violence (PV).

These results partly support the hypotheses that there is a positive relationship between tourism arrivals and effective governance. The hypotheses that there is a positive relationship between tourism arrivals and a country's ability to increase its human capabilities was also supported. Contrary to expectations, there is no

Table 1 Mean, standard deviations and correlations among 2016 arrivals, air quality, access to sanitation, access to drinking water, carbon intensity, access to electricity, population, government effectiveness, control corruption, political stability, regulatory quality, rule of law, voice/account, human development index

	Mean	SD	2016 arrivals	2	3	4	5	6	7	8	9	10	11	12	13	14
1. 2016 arrivals	9,162,571	15,050,617	1.00													
2. Air quality	79.25	13.95	−.10	1.00												
3. Access to sanitation	79.55	20.19	.34**	.26**	1.00											
4. Access to drinking water	80.30	23.67	.31**	.22**	.76**	1.00										
5. Carbon intensity	70.03	22.86	.13	.12	.40**	.23**	1.00									
6. Accesss to electricity	90.91	15.70	.30**	.29**	.82**	.73**	.36**	1.00								
7. Population	53.11	174.26	.37**	−.41**	−.05	.02	−.01	.058	1.00							
8. Govt effectiveness	.21	.93	.37**	.23**	.67**	.73**	.27**	.57**	.035	1.00						
9. Control of corruption	.08	1.01	.25**	.27**	.57**	.66**	.23**	.43**	−.04	.91**	1.00					
10. Political stability[a]	−.03	.87	.01	.39**	.42**	.54**	.17*	.36**	.17*	.70**	.82*	1.00				
11. Regulatory quality	.20	.98	.35**	.22**	.60**	.68**	.23**	.47**	−.02	.93**	.87**	.65**	1.00			
12. Rule of law	.12	.98	.30**	.23**	.59**	.66	.22**	.46**	−.02	.93**	.95**	.76**	.92**	1.00		
13. Voice/accountability	.05	.99	.15*	.36**	.39**	.56**	.20*	.33**	−.07	.68**	.75**	.67**	.73**	.77**	1.00	
14. Human development index	.75	.13	.36**	.34**	.86**	.79**	.32**	.82**	−.01	.84*	.73*	60**	.77**	.77**	.57**	1.00

[a]Political stability and absence of violence

*p ≤ .05, **p ≤ .01

Table 2 Multiple regression analysis: number of arrivals regressed on independent variables

Model (constant)	Standardized beta	t
Population	.31	4.10∗∗
Government effectiveness	.36	2.22∗
Political stability and absence of violence	−.34	3.03∗∗∗
Human development index	.30	2.11∗

$R^2 = .34$, $F(4, 119) = 15.41$

$p < .001$, ∗$p < .05$, ∗∗$p < .001$, ∗∗∗$p < .01$

significant relationship between tourist arrivals and environmental performance (EPI) was not supported.

5   Summary and Conclusions

This study found that government effectiveness (GE), political stability and absence of violence (PV), WGI subscales, and HDI were important predictors for the countries' tourism arrivals in 2016. These findings have implications for tourism and government sector practitioners. When tourism sector is compared to the retail and industry sector or oil exports, it can be the savior for the countries for next years. The findings also support previous research [13, 14] that tourists prefer places associated with their values, freedom of citizens, equality, and effective governance.

The present study has limitations. The data used do not specify tourist demographic characteristics, values, or beliefs. In addition, it's not known if the tourists are domestic or international. Future research may give more consideration to these topics, as well as ascertain the generalizability of the findings to other years. Country size should also be investigated. Future research can test the "consumption by integration" concept [11] which proposes that consumers allow themselves access to object's symbolic properties by integrating self and object [21].

In summary, the variables that were most highly related to tourism arrivals were government effectiveness (GE), political stability and absence of violence (PV)—subscales of countries' effective governance (WGI), human development index (HDI) and population. Policy makers and practitioners of tourism sector in countries should give higher consideration on efforts that move countries toward improving and strengthening of their place branding and attract much more tourists across the globe.

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Industrial Design in Event Tourism Marketing: The Case of Thessaloniki International Film Festival Pavilion

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Abstract Tourism is a growing worldwide industry, tourism marketing affects substantially the creation of a destination's brand. In this respect event tourism affects both the cultural and social realm, that is developed by local events and festivals. Film festivals and cultural events for example, increases the popularity of a destination because of the promotion taking place through the film industry, and other cultural organization and communities. In this paper the effect that industrial design has in tourism and more specifically in the event tourism marketing is examined. More specifically a case study that focus on the design aspects and elements of a pavilion created for the Thessaloniki International Film Festival, is presented and the ways that it promotes the event and tourism through an innovative design approach. Through this case study, we aim to introduce an industrial design approach to tourism marketing from a strategic and experiential point of view.

Keywords Event tourism · Tourism marketing · Film festival · Product design

1 Introduction

The tourism industry is an essential part of each country and it attempts to find many reasons with the intention of drawing in tourists. Through tourism, some people visit a destination due to the events. Specifically, the festivals are included in event tourism marketing strategies, which are very renowned cause so that people opt for visiting the destinations [1]. The role of product design is to assists and promote the visual identity of each festival. Consequently, design directs attraction at tourists and they could experience a unique adventure in the events [2].

This paper aims in presenting an innovative approach to event tourism marketing through industrial design and branding. More specifically we are proposing that

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design can be used as an innovative strategy of enchasing the experience of visitors in a festival, attract new visitors, and therefore contribute in the development event tourism. To demonstrate that we present the main design elements of the branding of the Film Festival of Thessaloniki (TiFF) through the construction of an innovative pavilion design, and we discuss the ways it provides visitors with an enhanced experience, promoting the festival and attracting new visitors.

The rest of this paper is structured as follows. Section 2 briefly discusses the literature on event tourism and its marketing and the importance of design and experience. Section 3 briefly presents the history of TiFF and presents the graphic and interactive element of the pavilion that was designed for the TiFF (2017), through images—renderings and finally Sect. 4 concludes the paper, discussing the contribution of industrial design on this event and event tourism and marketing in general, and offering suggestions for further research.

2   Event Tourism Marketing and Design

Events are a substantial motivation of tourism as many destinations are influenced by the development and marketing plans. Event management is the applied field of study and area of professional practice devoted to the design, production and management of planned events, encompassing festivals and other celebrations, entertainment, recreation, political and state, scientific, sport and arts events [3]. The term 'event marketing' is used to describe a variety of activities, including the "marketing of events and marketing with events" [4].

Therefore, it should not be a surprise that *event management* is a fast growing professional fields, and that event marketing is one of the fastest growing forms of marketing communication [5], apart from social media marketing [6]. Especially tourists and tourism in general that constitute a growing and dynamic industry [7] and can be a potential market for planned and future events contributing in their success and attractiveness [1, 2]. Event tourism is defined by [8] as *"an applied field devoted to understanding and improving tourism through events"*. Events and festivals, therefore, can attract new tourist in a city or a region contributing in the economic and regional development of a destination through event tourism [1].

Moreover, event marketing management process is a cross complex of flows of management processes, stakeholders' participation and governance [9] with management and marketing functions [10], that should be incorporated in the integrated marketing communications (IMC) framework of a firm or organization [5].

Events management and marketing, in order to be successful, should be characterized by high levels of interactivity and engagement [11] and also present innovative ideas and approaches on the theme of the event that present high levels of novelty [10]. These elements should catch the attention of tourists and visitors, by communicating the message of the event and motivating them to share their

experience from the event through social media and e-WoM creating virality and additional promotional user generated content [12, 13].

Although these dimensions can vary from one destination to another, they can mostly be presented through four characteristics describing the destination, namely as a product, as a symbol, as an organization and as a person with its own personality [14, 15]. These attributes due to the characteristics of a touristic destination, drive modern tourists that want to experience 'a sense of place' when visiting a destination, as experiential and symbolic benefits play as an important role as functional benefits in building a destination brand's identity [16].

Festival (like film or food festivals) have proved to be a suitable way for achieving visibility and building reputation for destinations [15, 17]. A properly targeted cultural festival can return significant regional and national benefits for the associated destination [15]. Furthermore, festivals can also help destinations develop their tourism industry by increasing visitor arrivals, and extending the length of stay and expenditures. They can also help host communities create and promote a positive image of the host community in the minds of both residents and prospective visitors [18].

Industrial design can contribute in creating and communicating, a unique identity and personality, along with symbolic meanings of the event strengthening the experience the visitor enjoys [19]. In the following Section we are going to present an industrial design view on event and festival tourism that will contribute in this multidiscipline approach of event tourism, examining the design aspects of the branding and logo design and communication of the 59th Film Festival of Thessaloniki (TiFF), and the pavilion that was built as a point of communication and information for the visitors of the festival and the tourists of the city.

3 The Pavilion Design in the Context of the Marketing Strategy TiFF

Thessaloniki Film Festival (TiFF) was first organized in 1960 called the Greek Cinema Week by Pavlos Zannas who introduced the idea and the original vision for the festival. In 1990 it was rebranded, and the organization of the festival was restructured, strengthening its brand and its identity, acquiring an international focus that led to an increase in the number of visitors to the city who wanted to attend the festival [9]. Nowadays, the Thessaloniki Film Festival (TiFF) is a well-known film festival that includes numerous sections and categories of films.

Although festivals and other cultural celebrations have less requirements on facilities [8], it is accustomed to create forms of infrastructure that are easy to assemble and disassemble in order to communicate the festival brand with visitors and tourists and provide them with relevant information. In that respect the pavilion we are going to examine was created, with specific and eye catching elements that differentiate it from ordinary design that focus on utility and informative purposes.

Exposure to innovative and creative design is used, to influence the person that will see it, as it communicates a narrative concerning the product (or the event), and sparkles emotions and reactions that stems from this contact. The transmission of information through exposure is by visual, acoustic and tactile means [20]. That design approach, integrated in the IMC strategy of the festival can be an innovative technique that would promote the success of the festival since festivals in order to be successful should provide a space and time away from everyday life in which intense extraordinary experiences can be created and shared [16].

In this way, the pavilion can be considered as a small museum of this year with the intention of promoting the philosophy of this festival. This could be a point of reference either of the city or of the organization. In addition, the aim of this design is to attract more tourists to the city and to make a profit for the organization and for the local community.

Concept The main concept of design is called *Light and Shadow*. The architecture is directly related to the play of light. This core idea of the design can be related to the concept of cinema, as the shade in architecture gives a theatrical aesthetics. In addition, the whole implementation of this idea will be realized through the white and black highlighting as well as the beginning of the black and white cinema.

Branding Influence The main concept of the pavilion is continued the idea of 59th poster of the Festival and it is illustrated by some sketches (Fig. 1), building on the concept of branding unity, and on the idea of uniform message communication.

Design Development The design development of the pavilion is inspired by the concept of light and shadow in architecture as it aims to focus on the user and how this perceives the philosophy of the festival through it.
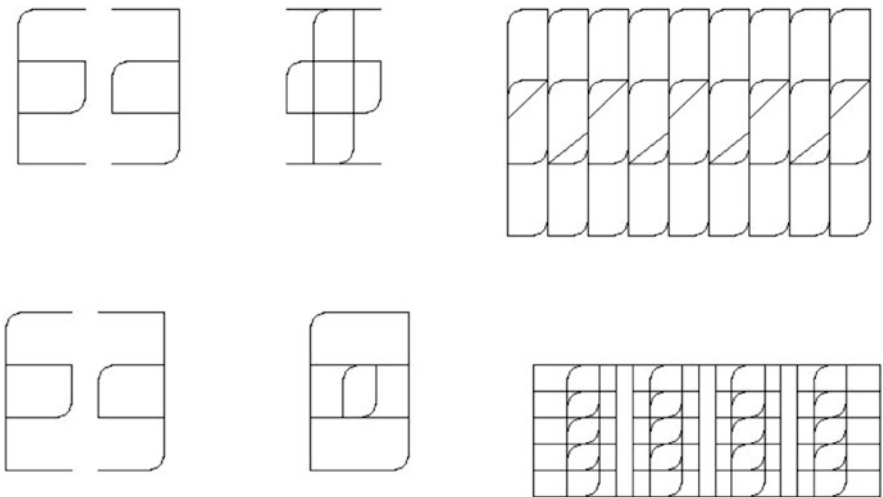
Fig. 1 Sketches of a logo as an inspiration theme for the structure of pavilion
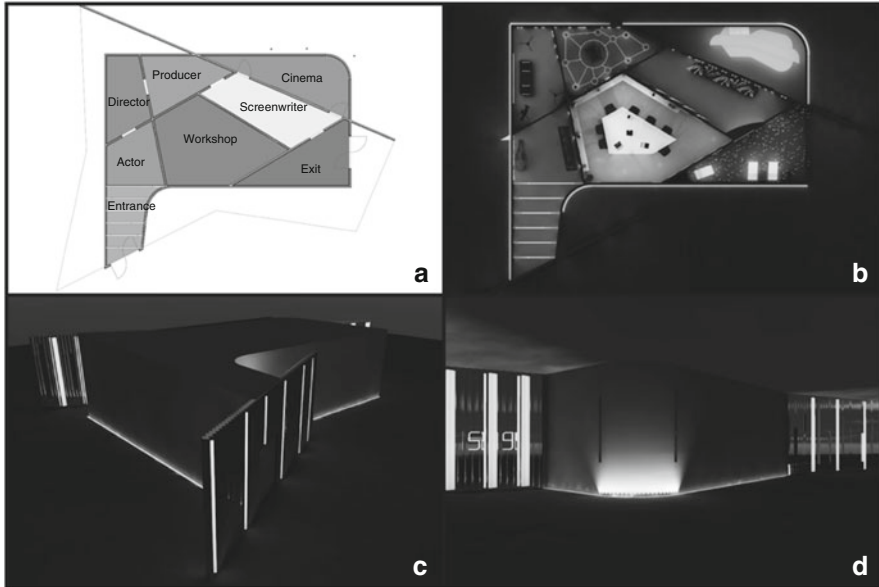
Fig. 2 The digital design development of Pavilion. (**a**) Section of pavilion, (**b**) top view of pavilion, (**c**) exterior of pavilion building, (**d**) entrance

The pavilion has six main spaces that express a different coefficient of cinema. As is to be expected, the main contributors to the production of a film are the director, screenwriter, producer and actor, communicating thus the film producing process, in an innovative experiential way, to the visitors of the festival and tourists. These elements are the main sources of inspiration for the creation of the spaces and the exhibits that were demonstrated within them (Fig. 2). Also a suitable cinema hall has been designed to feature short films for visitors, and a space for seminars and meetings of stakeholders, visitors, and participants of the festival and has also been created.

To enhance the marketing objectives of experience and communication through the pavilion to the visitor and the tourist, eight pavilion design elements were incorporated, that contribute in the creation of a unique experience for the visitor/tourist, generating not only a museum feeling but an active film shooting experience. Those elements are the following:

- **Entrance:** At the entrance of pavilion, visitor can observe the asymmetrical beams creating a "tunnel", emphasizing the route that follows.
- **Actor Section:** This space includes two sculptures depicting actors' movements when shooting a movie.
- **Director Section:** The next room influenced by the director emphasizes some objects he uses when filming. A director's chair, and different color cameras adds to the experience.

- **Producer Section:** The next exhibition venue can be considered quite essential since it is devoted to the producer of a film, with design elements that make clear the importance of funding and its dominant role in film producing.
- **Scriptwriter Section:** This room emphasizes its basic objects such as the paper and pencil used by the script writer to record his story, along with hidden lights telling a story about the festival and encouraging visitors to create their own.
- **Cinema Section:** This section is purposed in viewing short films with Plexiglas constructions that diffuse light creating a unique feel and experience of film watching.
- **Seminar/Workshop Section**: The seminar room can accommodate few visitors participating in various educational programs with the purpose of promotion of the festival or entertainment.
- **Exit:** Small light-colored Plexiglas lights are placed on the roof to remind the stars of the sky, bearing in mind different film stars for every visitor. This way, a special emphasis is placed on the scene of the exit that is intended to remain unforgettable for every visitor and creating him the desire to visit the pavilion again and communicate his experience through social media.

4 Conclusions: Suggestions for Further Research

In this paper we have presented a case study of the ways innovative design processes can be linked with the creation of experiential marketing in event tourism marketing. Considering that innovative design should aim in developing the event/festival in order to attract more visitors for the festival and at the same time more tourists in the destination where the event is organized. In our case the creation (development) of a pavilion to promote the TiFF and communicate the experience of cultural creation, and production, contributed in the branding of the festival, and to the strengthening of its identity and personality worldwide.

Design and event tourism marketing are two concepts, that can be strongly interconnected, serving towards the same goal, namely the creation of a unique experience for the visitor/tourist, that will contribute both in the success of the event/festival, and the development of the location as a touristic destination. In the intention of better promoting each destination, the identity that characterizes its most important points plays an important role. The design goal is to develop ideas for better exploitation, through interaction with visitors, by attracting them to the event, through the pavilion that would serve either as a museum or as a location for organizing parallel events. The inclusion of marketing concepts in our design provided significant insights that created innovative design elements, that influence positively visitors experience, and promoted the festival in the framework of IMC.

Our research comes with some limitations. The focus of this paper is on the elements of design and the way they interact with the visitors of the festival, but not on the way that the visitors perceive these elements and how actively they interact with them. Therefore, future research should shed light in the perceptions of

visitors towards the experience provided by visiting such an establishment, and the possibility of promoting the festival through e-WoM using social media, that focus in image and video posting, like Instagram and Snapchat, during their visit in the pavilion.

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Keep It Smart and Sustainable: A Bibliometric Analysis

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Abstract There is no doubt that tourism is one of the most important economic activities worldwide. Also, it is a scientific field of study with growing relevance in the academic circle. Smart tourism and sustainable tourism are two contemporary trends of tourism development. The combination of both smart and sustainable tourism paradigms is a brand-new concept in which smart tourism's pattern of technology, tourism and local development, and sustainable tourism's principles of development and equity in the economic, environmental, social and cultural spheres, can bring much more advantages for tourism as an economic activity and for all the stakeholders involved. Through a bibliometric analysis, a method of content analysis and metrics that makes it possible to delineate conceptual evolutions and trends in scientific fields, a total of 19 papers were found covering the two tourism paradigms. The results presented (only part of a more complete and in-depth analysis) reveal that this investigation theme is still scarce, very recent and mainly produced in Europe.

Keywords Tourism · Smart tourism · Sustainable tourism · Bibliometric studies

1 Introduction

Tourism is undoubtedly one of the most important economic activities worldwide. The millions of persons and monetary funds involved in tourism activities substantiate a prolific industry of businesses, enterprises, cooperation and partnerships, besides interrelations between tourists and local communities in a real cultural sharing. Due to its importance, tourism is also a scientific field of study that has deserved much attention in the last decades, with the number of studies growing in volume and relevance to better understand trends, patterns and behaviours, and its implications in the development of the activity.

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557

New paradigms of tourism have arisen as the smart tourism and the sustainable tourism. The combination of both smart and sustainable conceptualizations can bring much more advantages for tourism as an economic activity and for all the stakeholders involved, including host communities and tourists.

Bibliometric analysis is a review method used to draw the structure and development of scientific fields or disciplines to measure the evolution of specific disciplines [1, 2]. Aiming to understand how the combination of smart and sustainable tourism is being addressed and transmitted to academics and tourism stakeholders, this study analyses 19 papers that combine both smart and sustainable paradigms following the bibliometric method.

2 Background

A myriad of destinations around the world, regardless of their volume, resources and tourism objectives, are moving towards the smart concept, applying new technologies to achieve more personalized and satisfactory tourist services and becoming more attractive and competitive [3]. The term smart has a technological aspect (often used as a prefix) that implies specific technological characteristics such as connectivity and intelligence [4]. The main goal of a smart destination is to increase competitiveness and improve the quality of life of all stakeholders, including residents and tourists [5, 6]; the concept of smart tourism presents a new approach to destination management modelled of technology alongside new management perspectives [7]. In the smart tourism experience, the collection, exchange and processing of information feeds the experience, the business ecosystem and the smart destination, creating value propositions through available information and access to technology platforms [4].

As per Butler [8], the coordination of policies, proactive planning, acceptance of growth limits, education of all parties involved, and commitment to a long-term perspective, are prerequisites for the successful linkage between tourism and sustainable development; the concept of sustainability seeks to balance three main areas of action—the ecological; the social; and the economic.

Sustainability is a dominant theme in contemporary tourism studies [9], gaining relevance from the mid-1990s [10]. Institutional policies and initiatives have gradually evolved from an initial acceptance of tourism sustainability associated with environmental conservation to a more global concept that evokes the balance between society, the environment and economy [9]. The tourism destination is the stakeholder most interested in sustainability, that is, in managing income and quality rather than focusing on the number of potential visitors [11].

Lately, the evaluation and observation of the evolution of disciplines based on specific subjects with the assistance of advanced software programs tend to be a very interesting matter [2, 12]. Bibliometric is an instrument that serves to analyse

the evolution of disciplines based on intellectual structure, social structure, and conceptual structure [2]. The analyses performed can include citations, keywords, themes, authors, methods of study employed, journals published, year and country of publications, for example [13]. Bibliometric methods can be divided into three categories, namely, review studies, evaluative studies and relational studies [2].

The tourism field has also seen a series of bibliometric studies being conducted [13]. According to Koseoglu, Sehitoglu and Craft [12] and Koseoglu, Sehitoglu and Parnell [14], bibliometric analysis in tourism can be divided into six categories: journals assessment and ranking studies; article identification studies; content analysis; citation analysis; disciplinal relationship analysis; and country research analysis.

3 Research Methodology

Aiming to understand how smart and sustainable tourism paradigms' combination is being studied, the bibliometric analysis method was chosen for the study's elaboration. This analysis is intended to contribute to the fields of smart tourism and sustainable tourism studies, aspiring to highlight the importance of these two tourism conceptualizations and the benefits that can result from the adoption of their combined features.

In terms of data collection and analysis, the data was gathered in early 2019 from Web of Science, a very complete and reliable research database. Extracted automatically, the data covered all types of articles published in the time span from 2008 to 2019. The search was performed on a first level for "smart tourism", being refined to a second level, "sustainability", and at the last level, "tourists". This search resulted in a total of 19 papers that combine smart tourism with sustainability issues and tourists' behaviour. Quantitative and qualitative analyses were applied as data treatment in order to understand the relevance of the themes, the years and countries of production, and the types of papers published.

4 Results

The bibliometric analysis performed for this study revealed 19 papers for review. In terms of the time period selected, 2008–2019, it is possible to see that the production occurred between 2013 and 2019 (1 paper in 2013 and 2019; 2 papers in 2015 and 2016; 6 papers in 2018; and 7 papers in 2017), revealing that these are very recent studies (see Fig. 1):
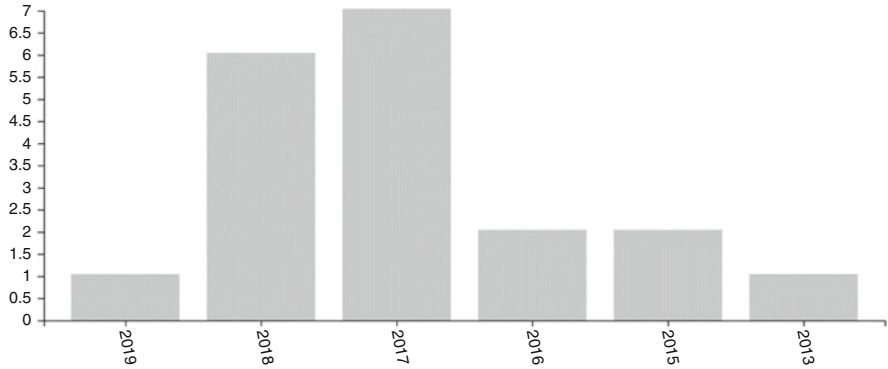
Fig. 1 Distribution of studies by year

From the total number of papers, six were published as conference proceedings, while the other 13 studies were published in scientific journals. Regarding the countries of origin of the studies, the production is mainly European, with a total of 14 papers (Italy and Spain—four papers each; Portugal—three papers; Croatia—two papers; Poland—one paper); China and South Korea produced two papers each, and Taiwan, one paper.

The analysis of the papers' main themes made it possible to construct the following word map (see Fig. 2):
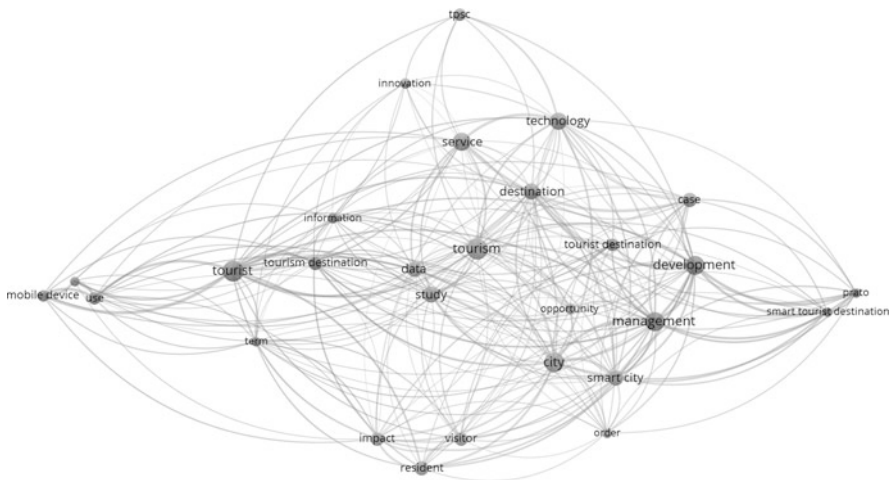
Fig. 2 Distribution of themes (word map)

In this word map, four clusters can be identified: Cluster 1 (ten items—city, data, impact, opportunity, order, resident, smart city, study, tourism and visitor); Cluster 2 (seven items—information, mobile device, term, tourism destination, tourist, use and usefulness); Cluster 3 (six items—case, destination, innovation, service, technology and tpsc); and Cluster 4 (five items—development, management, prato, smart tourist destination and tourist destination).

Cluster 1 shows a close relation between tourism, data and study; also, between city, smart city, opportunity and order; and between resident, impact and visitor. These results of the word map reveal that tourism is a very important activity and subject for data collection and study production; the smart city is seen as an opportunity in the context of a city; and that there is an inevitable relation between residents and visitors and the reciprocal impacts of it.

Cluster 2 reveals the following close relations: tourist, tourism destination, information and term; and mobile device, use and usefulness. The tourist is the essence of a tourism destination and information is the privileged vehicle for connecting people and places. The use of mobile devices and its effectiveness in helping before, during and after travel assist both tourists and tourism destinations in their quest for a reliable exchange between demand and supply sides.

Cluster 3 shows a triple relation example between destination, service and technology, complemented by innovation, TPSC (Tourism Products Supply Chain) and case. This cluster highlights that a destination is intimately connected with the level of its service performance and the advent of technology, with a subjacent correlation with innovation in the tourism production, being referenced as case studies because of the relevance of its subjects.

Cluster 4, composed of only five items, displays management and development in relation to tourist destination, smart tourist destination and Prato (an Italian city). Management and development are essential assets of a tourist destination; the smart tourist destination has been already a real happening, materialized in a series of management initiatives implemented or in the process of implementation (as in the case of the city mentioned).

In this map, it is also possible to visualize an interrelation between clusters, highlighting tourism in the centre, and a similar emphasis on related subjects, as the tourist, the service/technology/destination triplet, the development/management pair, and city. Tourism is the realm of experiences for tourists; is the engine ran by a service of excellence, supported by technology to transform any destination in a true tourism site; the development of tourism and tourism destinations can only be designed and supported by a consistent management; and finally, city tourism (or urban tourism) is one of the most common and profitable forms of tourism.

5   Final Considerations

Bibliometric studies offer helpful and timely information for scholars, managers, government officials, and consultants in the tourism field. As tourism studies are based on industry, this can benefit the creation and implementation of new

approaches and strategies in the business run; also, the findings of the bibliometric analysis in tourism can highlight the relationship between tourism and other disciplines or fields [13].

Smart tourism represents a social phenomenon based on three main areas, namely, the Internet of Things, tourism and local development [15]. Although smart tourism has an implicit correlation with sustainability principles, the combination of both smart and sustainable paradigms is still not very much investigated and, consequently, not valued as a contemporary trend in terms of tourism competitiveness and development.

Through a bibliometric analysis, a method of content analysis and metrics that makes it possible to delineate conceptual evolutions and trends in scientific fields, a total of 19 papers were found covering the smart and sustainable tourism paradigms. The results presented are only a part of a more complete and in-depth analysis that is being held. The study findings reveal that this research theme is still scarce (only 19 papers found), very recent (production of studies between 2013 and early 2019 in the time span 2008–2019), and mainly produced in Europe (14 of the total papers).

The study also highlights the importance of specific themes within the main fields of investigation, as tourism itself, the economic activity; tourists, leading actors in this context; service and technology are two of the pillars of a destination's tourism structure; development is a daily goal, but should be thought carefully by management organizations; and cities are some of the most attractive tourism destinations worldwide and can be examples of good practises in tourism management.

This paper presents some limitations as the sample size (sample only contemplated 19 papers), retrieved from only one research engine. However, by addressing and discussing the topics under study, this paper represents a very interesting and relevant kind of analysis, contributing with its results to enhance the investigation of the scientific field of study, and to develop the implementation of policy guidelines on the adoption of the smart and sustainable tourism combination of paradigms.

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Sustainable Tourism in Europe from Tourists' Perspectives

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Abstract Regardless the recognized importance of sustainable tourism, it still encompasses "grey areas" in what comprehends research, but above all in what concern commitment and application by the different stakeholders. This work attempts to contribute to a better understanding of tourism behavior regarding sustainable tourism. To unveil the answer to this question the latest database from Eurobarometer related to European attitudes toward tourism was used and the choosing behavioral pattern from the 28 countries was assessed.

Keywords Sustainable tourism · Europe · Tourist preferences

1 Introduction

Sustainable tourism is not a new concept or trend. Since the 90s, tourism and hospitality industries have looked at sustainability as a pathway that need to be pursue. Underlying this approach is sustainability, encompassing a complex ecosystem that leverages nature, society, and economic development [1–3]. If in the earliest years, sustainability tend to be understood in a narrow vision as environmental issues or industrial pollution closely link to production-intensive industries [4]; the path of the years enlarged this understanding, becoming synonymous of a continuous progress in preserving, maintaining and enlarging natural, social and cultural resources to future generations use.

Regardless the recognize importance of sustainable tourism, it still encompasses "grey areas" in what comprehends research, but above all in what concern commitment and application by the different stakeholders [2, 3]. In this domain, as the work of Tiago et al. [5] reported tourists present different profiles and majority didn't value hotels sustainable efforts, specially accreditation labels, when deciding

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where to stay or what to recommend. Adding to the manifest lack of interest of tourists in hotels green labels, the cost and challenges related to the accreditation and consequent processes lead many units to postpone the investments in this domain or simply don't communicate it. Nevertheless, when looking at consumer behavior in other fields of research, it's clear that consumers are getting green faster. This led us to question if a similar pattern could be happening in the tourism and hospitality field. To unveil the answer to this question the latest database from Eurobarometer related to European attitudes toward tourism was used and the choosing behavioral pattern from the 28 countries was assessed.

2 Literature Review

The paradigm of sustainable tourism development (STD) emerged during the late 1980s, applying the roots of sustainable development within a tourism context. Since then, the term STD has been used to represent many different ideas and its evolution can be observed when reading the different documents published by the World Tourism Organization over the years [6–8] (Fig. 1).

A common idea throughout these statements is the notion that, regardless of the terminology adopted, sustainable tourism development is a form that can maintain the economic, social and natural viability leverage of an area for an unlimited period.

Therefore, it can be considered that sustainability paradigm encompasses complex systems that integrate the interactions between nature, society, and economic development [9]. Initially, it was closely linked to environmental issues and industries directly polluting the environment. Later, as visibility of environmental pressure increased, it reached a wider range of industries, and sustainable tourism emerged [10, 11]. Lately, the paradigm of "sustainable tourism" has become one of the most impactful fields of tourism studies and scholarship [12].

1993 — Tourism which meets the needs of present tourists and host regions while protecting and enhancing opportunity for the future.

1998 — Sustainable tourism development meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future. It is envisaged as leading to management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems.

2005 — Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities.

Fig. 1 Different definitions presented by WTO overtime
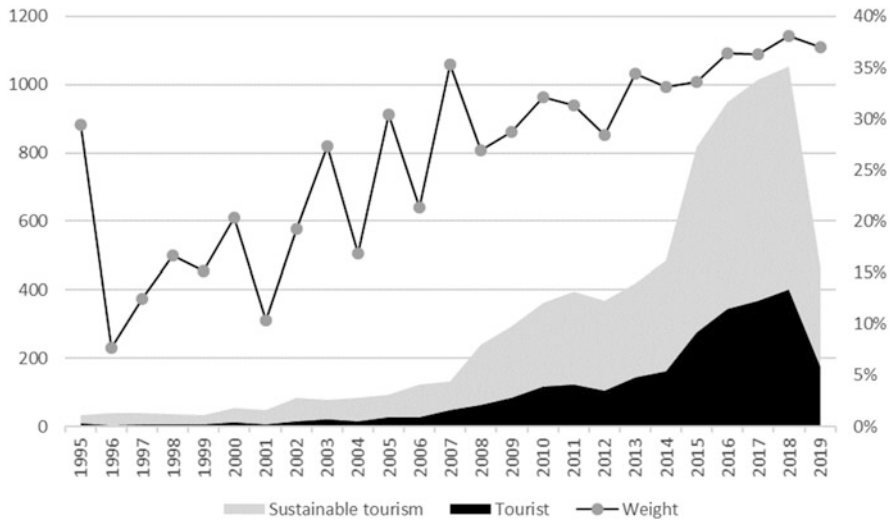
Fig. 2 Articles published according to Web of Science

Consider by many as a new sector [13], tourism and hospitality since the earliest years embraced sustainability [14]. This explains the number of articles published regarding sustainable tourism over the last two and a half decades (see, Fig. 2).

Thus, debates on sustainable tourism are not new; and, the term sustainable tourism emerged in the late 1980s [15]. As sustainable tourism development became a key issue for tourism destination planners and managers, the concept and its application received considerable attention within academia and policy agendas [16].

Crosschecking these articles for those related to tourist's behavior, it could be found that from the total of 7.779 articles 2.568 integrate both sustainable tourism and tourists (see, Fig. 2) and 888 were published in journals from the hospitality, leisure and sport tourism field. In the last 5 years the percentage of studies linked to tourist raised to 37%. A bibliometric network was constructed using VOSviewer 1.6.9 software (see, Fig. 3) following the approach adopted in the research work of Borges-Tiago et al. [17]. Based on the references retrieved from Web of Science and using a word list retrieved from the work of Hanna et al. [18] and four clusters emerged.

In analyzing these four clusters, the lack of studies integrating tourists buying behavior was more evident in the last 5 years; less than 4% of the articles addressed tourist attitudes and buyer behavior related to sustainable tourism offers. These articles are divided into two clusters mapped under the right-hand quadrant of the graph: the first, with 42 items (cluster 2), includes as major topics "attention", "attribute", "behavior", and "destination image"; the second, with 36 items (cluster 3), includes the keywords "attitude", "awareness", and "behavior".
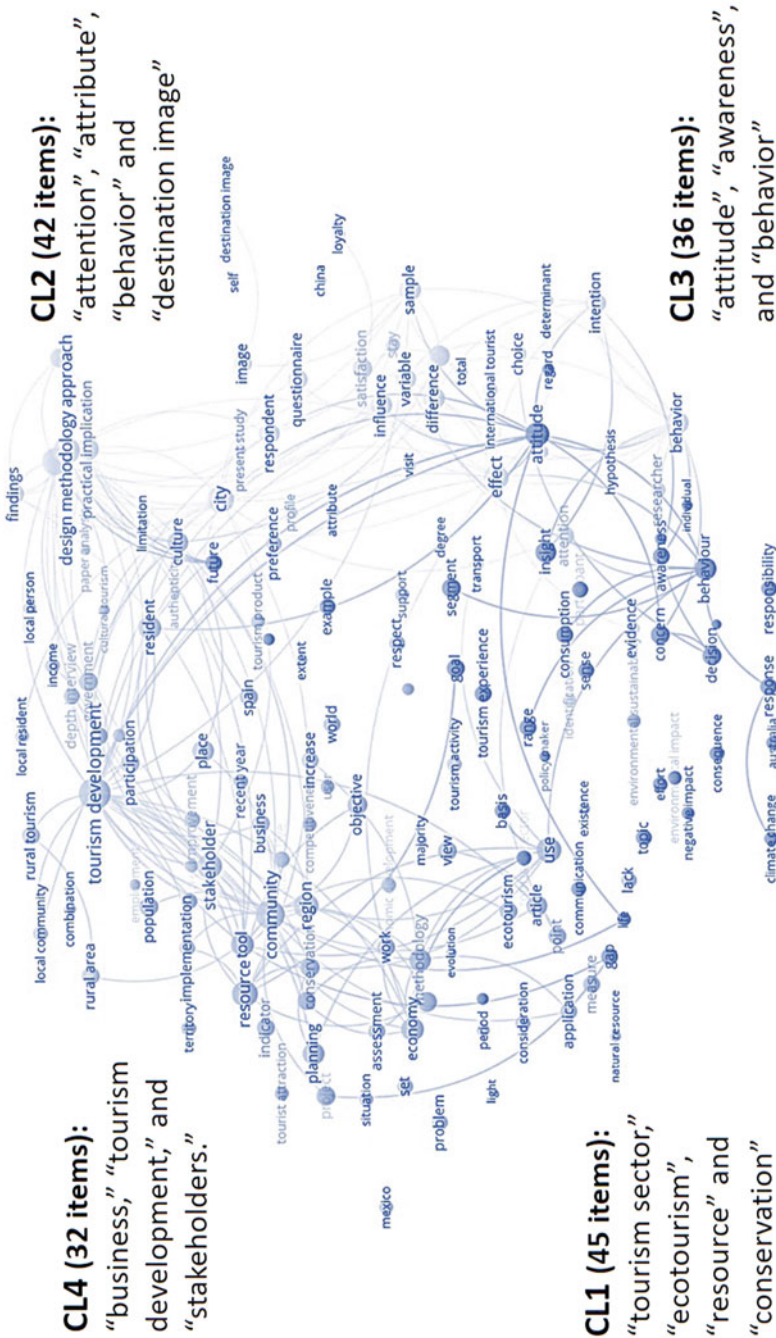
Fig. 3 Articles published according to Web of Science

Tourists are in essence consumers [19]. And like any other service consumers during the pre-encounter stage makes a wide range of decisions [20]. Sirakaya and Woodsid [21] added to the topic, asserting that these decisions rely on individual psychological processes such as beliefs, motivations and attitudes.

There are three main approaches to decision making: normative, descriptive, and prescriptive [22]. Considering that descriptive decision-making concerns are the manner people make choices, this will be the approach adopted in this study. The tourist journey starts when the "tourist to-be" searches online and offline for this information regarding the destination and its offers. At this point, tourists decisions are influenced by functional and emotional elements communicated [21] by destination management organizations, tourism and hospitality firms and above all other tourists [23]. Since most tourism destination-choice models came from traditional consumer behavior models, it seems relevant to understand if consumer personal traits influence their choice. For instance, Tiago et al. [5] posit that tourists, regardless of their personal level of environmental concern, tend to not value lodging sustainable efforts when deciding where to stay. Adding to this, Cvelbar and Grun [22] noted that the tourist behavior towards sustainability efforts in accommodations tend to vary according to the travel characteristics of hotel guests.

According to Hamele [24] the majority of tourists isn't aware of tourism efforts in what concerns sustainability. Along similar lines, Tiago et al. [5] referred that not all tourists value the same sustainability efforts. A more recent study on sustainable behaviors found that explicit claims and communications about the sustainability are often pushing away tourists, instead of engaging them [18]. These authors noted that more positive results could drive from subliminal sustainability communication from destination marketing materials.

At this point there are still few studies that investigate the tourist decision process from a sustainability standing point. For this reason, this study addresses the following questions:

1. To what extent destination sustainable attributes offered influence tourist's decision process?
2. Do all Europeans have a similar behavior with what concerns "green-holidays"

3   Framework and Results

Under the sustainable tourism umbrella several approaches can be found considering tourists, business-players and other stakeholders' perspectives. In the literature, it can be found several references to hoteliers and local government's concerns related to this matter. At this point, the major challenges face by all tourism and hospitality firms is to balance between sustainable practices and tourist's requirements, overcoming the dilemma: tourists as costumers are more sensitive to sustainable issues [25], but simultaneously, during holidays want comfort and high quality without any resource restrictions [3]. Thus, it's necessary to assess which are the sustainable practices that are truly valued by tourist [3, 18, 26]. Trying to

Table 1 Significant associations observed

Variables	χ^2	p-Value
Country	621,709	0.000
Age groups	26,622	0.000
Type of community	6521	0.089
Occupation of respondent	22,438	0.375
Age education	5781	0.448
Gender	5423	0.010

contribute to solving this dilemma, we focus your attention on how tourists value the sustainability concept when choosing a destination.

To this purpose data was extracted from a large European survey (Eurobarometer 432) concerning Europeans travelling patterns in 2015/2016. The sample comprehend 30,105 respondents from the 28 Member States of the European Union, and from Turkey, the Former Yugoslav Republic of Macedonia, Iceland, Montenegro and Moldova. 42.2% of the respondents were men. The majority of the respondents were aged over 55 years (50.8%), not working (51.3%), and with at least high school completed (80.9%). More than half of the sample is composed of people living in cities (67.9%). Regarding country of origin, the respondents were evenly distributed by all the countries considering the population size. In what concerns the motivations for going on holidays, sun and beach were the most popular answer (39%), followed by visiting friends and relatives (38%). Only 31% of the participants consider nature as a driver for going on holidays.

The variables described in the database used for this research included four main aspects of how tourists research and plan their holidays: (i) the main reasons for deciding to take a holiday; (ii) the list of factors considered important in deciding to go back to a place they had holidayed previously; (iii) the sources of information used in the decision buying process; and, (iv) how sustainable-related issues are valued in the decision process.

Using the Chi-square test of independence, significant associations were observed between the importance given to sustainability practices when planning holidays and all socio-demographic variables, as presented in Table 1.

The chi-square test revealed that there was a statistically significant association (p < 0.0001) between most of the variables. However, this test does not identify how the variables are related. Thus, a multiple correspondence analysis was performed, considering only the subset of the sample that values sustainability when planning travelling (n = 3.130). It considers as active variables the importance of certain elements to overall satisfaction, which factors would make the tourist go back to the same place for a holiday, how often he/she travels. The associated variables were indicators related to sustainable issues. The results obtained were synthesized in two orthogonal components that explain 62.8% of the total variance of the original variables. The dimensions reflect the highest contribution and the highest fraction of the total variance in the data. Afterwards, a cluster analysis was conducted using the segmentation criteria defined by Tiago et al. [27] and named as: explorers (n = 928); livewires (n = 215); vacationers (n = 806); and, homebodies (n = 1181).

Acknowledging the existence of the same four distinctive market segments, we analyzed their decision process and buyer behavior to understand why they travel, where they go, and how and what they buy. The four-cluster obtained reveal that explorers are younger and placed lesser value on all traveling preferences aspects and are more willing to accept different conditions, while homebodies are middle aged, traveling with family and are the most concerned with sustainable destination practices. Vacationers are mostly over 45 years-old and plan to travel to less explore European destination like Ireland and Croatia. Livewires are lonely travels that value accommodation quality and travel for visiting friends and relatives and enjoy nature. This segment is more visible in southern countries (Fig. 4).

The map shows the differences between the countries, with northern countries presenting more concerns with sustainability and preferring nature-driven holidays.

4   Final Considerations

As notice by several authors, the paradigm of "sustainable tourism" has risen as one of the most impacting fields of tourism studies and scholarship. The adoption of sustainability-related actions by tourism and hospitality firms is always under research. Not only because it's viewed as an industry response to the global concerns surrounding the trade-off between the positive and negative impacts of tourism on destination ecosystem. But also, no clear evidence supports the idea that tourists value it. So, it becomes a daily challenge to leverage what tourists are willing to have during their tourism experience and what destination can offer in a sustainable base. Most studies point to the fact that not all tourist value sustainable efforts in the same way. The present results show that sustainability practice is not the most valued dimension, since only 10% of the participants considered sustainable concerns in their decision process. And, also noted significant differences between northern and southern countries.

A limitation of this work results from the fact that although the Flash Eurobarometer is a large survey of European tourism profiles, it does not allow a deeper analysis of certain domains that could be of interest to a deeper knowledge of sustainable-related consumer behavior. Because "green" tourists evolve over the time, future research should concentrate on a deep explanation of the country differences.
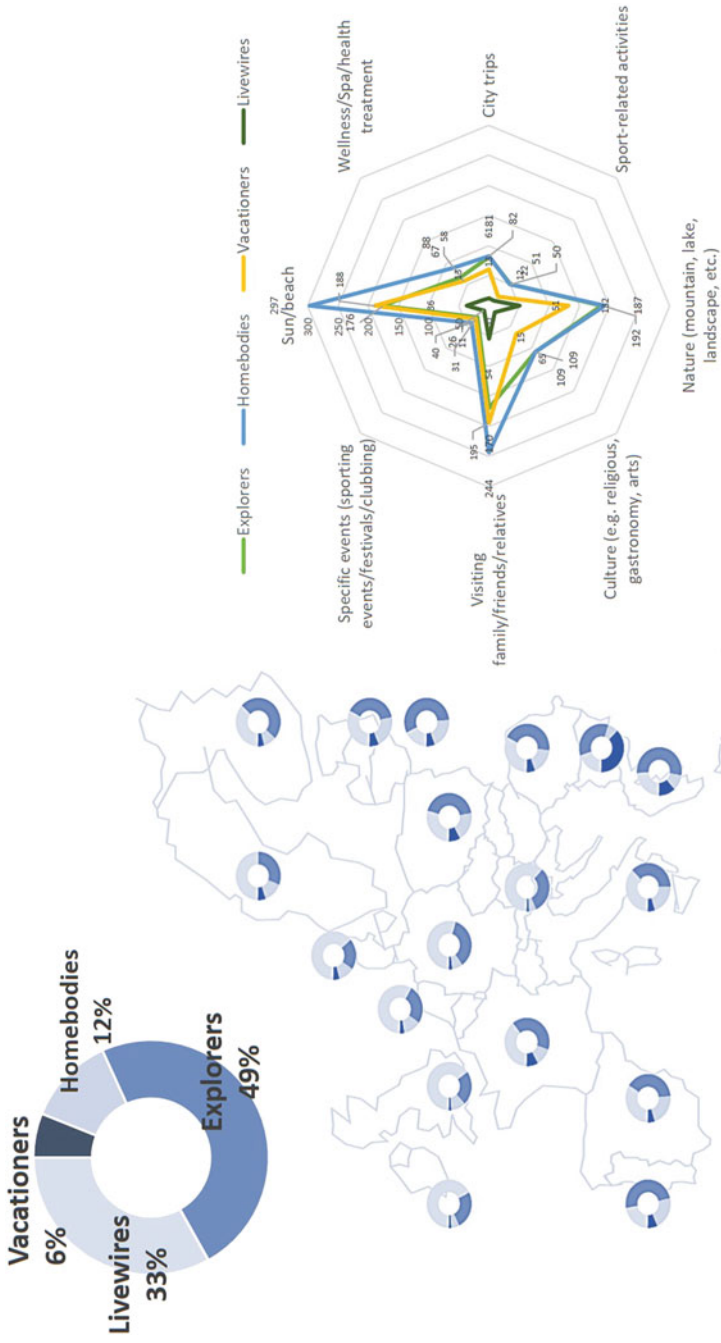
Fig. 4 Map with clusters distribution and main travelling preferences

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Employer Branding: Innovative Human Resource Practices in Tourism Sector

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Abstract The practices and actions undertaken by the tourism firms for the approach of their HR (Human Resources) are related to criteria which lead to the creation of a strong employer brand by creating a value proposition for it. Value proposition for a firm's HR consists of its actions that will be appreciated by prospective or existing employees and will convince them to participate or stay with it. Such actions may be of an economic nature, such as good pay levels, bonuses and varied benefits may also be non-economic. Respect for diversity, mutual support and mutual understanding among workers, the creation of work-life balance and opportunities for personal and professional development are policies that aim to create an "employer of choice" where people will want to work and stay with him. In this paper we are exploring how hotel firms in tourism industry can develop engagement strategies by enhancing practices for creating an "employer branding" through the satisfaction of their HR.

Keywords Employer of choice · Human resource satisfaction · Tourism sector

1 Introduction

The purpose of this paper is to investigate whether Greek tourism firms in the period of crisis are developing policies for selecting or approaching their HR by creating a strong "employer branding".

In recent decades, a new policy has emerged in the international literature on how to approach and maintain HR in business, that of a "employer of choice". The "employer of choice" creates a value proposition for the HR of a firm that includes all those policies and practices that will be evaluated and appreciated by prospective or existing employees and will create a strong desire to remain or expect

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to become members of the firm. Such policies are either of an economic nature, such as high levels of pay, bonuses or other special benefits, but may also be of a non-economic nature such as those listed below. Practices relating to: (a) the working environment and the working climate prevailing in it regarding the respect for diversity, mutual support and mutual understanding between workers, (b) the development of a balance between work and personal life, and (c) the creation of opportunities for personal and professional development and promotion of policies of a non-economic nature which aim to create an "employer of choice" where workers will want to work and stay with him.

Purcell et al. [1] point out that successful firms are able to meet the needs of people for a job offering both work security and an "extraordinary working environment" making thus these firms "employer of choice". Individuals are attracted by the "employer of choice" because these employers meet their needs for a satisfactory and creative job in which there are prospects linked both to their further training and the appreciation and interest they gain from their good boss, a boss who hears and gives autonomy but at the same time helps them through mentoring and coaching. At the same wavelength, Bellou et al. [2] emphasize that the operational dimension of the "employer of choice" is not related to the level of satisfaction drawn from the applied economic framework and its growth potential, but focuses on the benefits embodied in the various aspects of the prevailing organizational culture, while others are integrated into the self-development dimension and are guided by each one's attitude and value.

2   The Dimension of HR Satisfaction Concerning the Policies Creating an "Employer of Choice"

Darwish [3] and Locke [4] argue that the work satisfaction is defined as positive when it generates a more general positive emotional state resulting from the worker's perceptions of work and general working experience. Leap and Crino [5] consider work satisfaction to be related to employee attitudes toward work, financial gain, and the social, organizational and physical characteristics of the environment in which they work or wish to work. Robbins [6] regards work satisfaction as the general attitude of one person towards it.

Gunlu et al. [7] attempt to identify the impact of employment in "employer of choice" focusing on the organizational commitment of managers in large hotel units in the Aegean and Turkish regions. The findings of this research show that external, endogenous and general job satisfaction has a significant impact on the regulatory and emotional commitment of their executives.

Azeem [8] finally found that there was a strong positive relationship between work satisfaction and the organizational commitment of senior business executives to the Oman Sultanate.

Finally, Chadi and Hetschko [9] argue that the dimension of work satisfaction is one of the most important factors in understanding the way in which work is sought [10]. Despite the large number of relevant interdisciplinary studies, there is a remarkable lack of research findings on how job satisfaction depends on workplace changes. Although Freeman [11] states that job satisfaction can play a dual role in job mobility, both as a prediction and as a result, the second role has received much less attention than the former. In the context of creating a "employer of choice", the satisfaction of employees (candidates or not) is a pole of attraction for them in the wider context of organizational culture and business-related practices.

3   Methodology and Numerical Results

In our research, which took place in the period September–October 2015, the sample consists of 201 employees in 100 three-star hotel firms operating all year round in the most touristic areas of Greece (Athens—Thessaloniki—Patras—Crete—Rhodes—Corfu and Larissa).

For this reason, variables were selected through our bibliographic research which summarizes policies under examination into two major categories, economic and non-economic. Economic policies include variables that are related both to the degree of satisfaction of individuals by the firms they already work with, but also to financial satisfaction, or else the financial security provided by their employment in the tourism sector during the period of prolonged crisis. In contrast, non-economic policies include variables related to the level of satisfaction in the working environment, the hotel business culture, and the overall growth potential of the tourism industry. Through factor analysis we will identify the factors that lead to the formulation of the aforementioned policies (Table 1).

3.1   Configuration of Factors

First Factor: Level of Satisfaction Drawn from the Economic Context
– Satisfaction from firm's special benefits
– Satisfaction from the economic conditions (wages) prevailing in the wider Tourism Sector
– Satisfaction from firm's financial management
– Satisfaction from the Financial "collateral" as compared to the "collateral" offered by competitive tourism firms
– Satisfaction from the level of collective (financial) contracts in the tourism sector
– Satisfaction drawn from the level of collective (economic) contracts in the tourism sector

Table 1 Factor analysis

Variables	1	2	3	4
Satisfaction drawn from special business benefits	.799	.149	.025	−.051
Satisfaction drawn from financial earnings in the firm	.757	.134	.062	.280
Satisfaction drawn from the economic conditions (wages) prevailing in the wider tourism industry	.672	.217	.283	−.150
Satisfaction drawn by way of managing the financial situation of the firm	.668	.144	.478	−.033
Satisfaction drawn from the financial "collateral" compared to "collateral" offered by competitors in the tourism sector	.633	.423	.161	.063
Satisfaction drawn from the level of collective (economic) contracts in the tourism sector	.486	.413	.225	.104
Satisfaction drawn from working conditions compared to working conditions prevailing in the other firms of the tourism sector	.035	.849	.193	−.060
Satisfaction drawn from the subject of your daily work as it has been formed in the particular firm	.193	.807	.284	.135
Satisfaction drawn from the way the firm in which you are employed is operating	.438	.722	.128	.011
Satisfaction drawn from the opportunities for personal development—development that the company offers to its employees	.339	.526	.038	.043
Satisfaction drawn from the level of firm's development	.050	−.018	.863	−.163
Satisfaction drawn from the firm's strategic plan regarding constant search for "new customers" in response to direct competition	.275	.173	.733	.072
Satisfaction drawn from the change/improvement of the working environment in the tourism sector	.147	.342	.685	−.190
Satisfaction drawn from the level of development of the tourism sector	.073	.181	.572	.093
Satisfaction drawn from the climate of cooperation at all levels within the firm	−.164	−.030	−.028	.859
Satisfaction drawn from the culture and the values of the firm in terms of its HR	.376	.139	−.079	.675

Second Factor: Level of Satisfaction Drawn from the Work Environment
– Satisfaction drawn from the working conditions compared to working conditions prevailing in other firms in the industry
– Satisfaction drawn from the subject of your firm's daily work
– Satisfaction drawn from the way you work your firm
– Satisfaction from the opportunities of personal professional development—development offered by the firm

Third Factor: Level of Satisfaction Drawn from Firm's Growth Dynamics
– Satisfaction drawn from the level of firm's development
– Satisfaction drawn from the strategic plan for a constant search for "new customers" in response to direct competition
– Satisfaction drawn from the change/improvement of the working environment in the tourist sector
– Satisfaction drawn from the level of development of the tourism sector

Fourth Factor: Level of Satisfaction from the Value and Working Climate
– Satisfaction drawn from the climate of cooperation, at all levels, within the firm
– Satisfaction drawn from the firm's culture and values in terms of its HR

After defining the factors that shape the policies for creating the "employer of choice" through HR satisfaction, we then apply the cluster analysis method to determine the order of satisfaction for each one of the above factors. In our questionnaire, the answer scale is from 1 to 5 where 5 represents "very satisfied" and 1 "not at all satisfied" (Tables 2 and 3).

Concerning the first factor (level of satisfaction from the financial framework), we see that out of the 201 participants, 115 (about 57%) replied that they are not satisfied with either the wage and bonus levels or the other special benefits (Tables 4 and 5).

Concerning the second factor (level of satisfaction from the working environment), we observe that out of the 201 participants, 110 (approximately 54%) responded that they are satisfied with their working environment (Tables 6 and 7).

Table 2 Level of satisfaction from the economic context

Final cluster centers	Cluster 1	Cluster 2
Satisfaction drawn from special business benefits	1	5
Satisfaction drawn from financial earnings in business	1	5
Satisfaction drawn from the economic conditions (wages) prevailing in the wider tourism industry	1	5
Satisfaction by way firm's financial situation is managed	1	5
Satisfaction drawn from the financial "collateral" as compared to "collateral" offered by competitors in tourism sector	1	4
Satisfaction drawn from the level of collective (economic) contracts in the tourism sector	1	5

Table 3 Number of cases in
each cluster

Cluster 1	115
Cluster 2	86
Valid	201
Missing	.000

Table 4 Level of satisfaction drawn from the work environment

Final cluster centers	Cluster 1	Cluster 2
Satisfaction drawn from the working conditions compared to working conditions prevailing in other firms of the tourism sector	4	2
Satisfaction drawn from the subject of your daily work as it has been formed in the particular firm you are working in	4	2
Satisfaction drawn from the way the firm you are working in is operating	4	2
Satisfaction from the opportunities for personal development offered by the firm you are working in	3	2

Table 5 Number of cases in
each cluster

Cluster 1	110
Cluster 2	91
Valid	201
Missing	.000

Table 6 Level of satisfaction with growth dynamics

Final cluster centers	Cluster 1	Cluster 2
Satisfaction drawn from the level of firm's development	3	4
Satisfaction drawn from firm's strategic plan of constant search for "new customers" in response to direct competition	3	4
Satisfaction drawn from change/improvement of the working environment in the tourism sector	3	4
Satisfaction from the level of development of the tourism sector	2	3

Table 7 Number of cases in
each cluster

Cluster 1	110
Cluster 2	91
Valid	201
Missing	.000

Regarding the third factor (level of satisfaction from growth dynamics), we observe that out of the 198 participants in the survey, 102 (about 51%) responded that they are satisfied with the growth dynamics of the firm in which they are employed, as well as with the tourism sector in general (Tables 8 and 9).

Concerning the fourth factor (level of satisfaction from the value and working climate), we note that out of the 201 participants in the survey, 135 (about 67%) said they were not satisfied with business culture. The above percentages express the level of employee's satisfaction with each one of the factors shaping policies that will mark and characterize a tourism firm as a "employer of choice".

Table 8 Level of satisfaction drawn from the value and working climate

Final cluster centers	Cluster 1	Cluster 2
Satisfaction drawn from the climate of cooperation at all levels within the firm	3	1
Satisfaction drawn from the culture and the values of the firm in terms of its HR	3	2

Table 9 Number of cases in each cluster

Cluster 1	66
Cluster 2	135
Valid	201
Missing	.000

4 Conclusion

The purpose of relevant research is to check whether hotel firms are developing focused policies to satisfy financially and otherwise the various aspirations or demands of their HR in order to make themselves "employers of choice". Financial benefits and occupational safety are dimensions inherent in work choice and human resource engagement, and are the main features of job mobility, especially in low and high paid employee categories. As can be seen from the grouping of responses, workers in tourism sector are not satisfied with both the economic context and the working culture prevailing in it. With regard to the first part financial benefits, we could say that relevant findings were expected. Concerning the second part, we could say that the lack of satisfaction may be related to factors that have to do with the increasing competition for survival and career development in this sector. On the contrary, there is a lot of satisfaction from the working conditions, the everyday work, the way the company operates and the growth dynamics of the hotel firms whose employees participated in this research. These variables, as mentioned above, give workers the sense of security especially during the period of protracted economic crisis where one of its main features is job insecurity.

To summarize, we emphasize the fact that it is not possible to draw a safe conclusion as to whether the hotel industry in the tourism sector has policies that characterize the "employer of choice" so as to characterize this method as an appropriate one for selecting and maintaining the HR.

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Optimal Feature Selection for Decision Trees Induction Using a Genetic Algorithm Wrapper - A Model Approach

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Abstract The aim of this paper is to describe an approach to a sophisticated model of optimised subsets of data classification. This effort refers to a seemingly parallel processing of two algorithms, in order to successfully classify features through optimization processing, using a wrapping method in order to decrease overfitting and maintain accuracy. A wrapping method measures how useful the features are through the classifier's performance optimisation. In cases where big datasets are classified the risk of overfitting to occur is high. Thus, instead of classifying big datasets, a "smarter" approach is used by classifying subsets of data, also called chromosomes, using a genetic algorithm. The genetic algorithm is used to find the best combinations of chromosomes from a series of combinations called generations. The genetic algorithm will produce a big number of chromosomes of certain number of attributes, also called genes, that will be classified from the decision tree and they will get a fitness number. This fitness number refers to classification accuracy that each chromosome got from the classification process. Only the strongest chromosomes will pass on the next generation. This method reduces the size of genes classified, eliminating at the same time the risk of overfitting. At the end, the fittest chromosomes or sets of genes or subsets of attributes will be represented. This method helps on faster and more accurate decision making. Applications of this wrapper can be used in digital marketing campaigns metrics, analytics metrics, website ranking factors, content curation, keyword research, consumer/visitor behavior analysis and other areas of marketing and business interest.

Keywords Decision trees · Genetic algorithm · Data classification · Data optimisation · Overfitting · Classification accuracy · Chromosomes · Genes

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1 Introduction

The objective of our effort refers to the need of marketers handle huge sets of data when it comes to decision making. Due to the difficulty for a person to handle thousands of instances of data and extract results out of them the use of a sophisticated application was essential. The beginning of our quest started when we wanted to extract conclusions from online user behavior. For example, in digital marketing paid advertisements the features might include the age, location, interests of a user, and the class label might indicate whether a marketer can determine that the user would make a click or a purchase. Our goal is to develop an algorithm that could provide suggestions by fast and accurately calculating data. Since we will design, and future implement such algorithm will be in position to fast provide statistically correct, results. This project is an attempt to describe a model of combining two different algorithms and a programming technique in order to read, process, classify, optimize, mine and analyze data from a dataset. The two algorithms which are combined are; a basic optimization algorithm, the genetic algorithm and a basic classification non pruned algorithm, the decision tree.

In a few words the genetic algorithm repeatedly will handle the attribute selection from a dataset in order to be sent to the decision tree algorithm and represented in a tree form. The structure of the genetic algorithm is responsible to select the best representative attributes that can almost succeed the same accuracy as the entire original full tree. The genetic algorithm will find and will pick the best combinations of attributes in order to be classified from the decision tree. For each one of the combinations of attributes the decision tree will classify it and will return to the genetic algorithm a number which will define each combination.

The wrapping method will handle the entire communication between the decision tree algorithm and the genetic algorithm and makes it seem like they are executing in the same time [1].

2 Literature Review

Genetic algorithms and decision trees have been combined in many optimization and classification problems over the last decades. One of the very attempts was in 1996 when wrapper model was used to find optimal subsets of data using heuristic algorithm repeating a fivefold cross validation until the standard deviation of the mean of the folds and then estimate the classification accuracy of each one. The induction algorithm that run on the datasets partitioned into internal training and test sets. This wrapper approach had two approaches: a search component and an evaluation component. The evaluation component evaluates the settings by running the induction algorithm several times and getting an estimate of an accuracy [1].

In 1997 another accuracy optimization using a wrapper took place. There were used two families of induction algorithms: the decision-tree and the Naive-Bayes

induction algorithms. The wrapper algorithm was used as a "black box" by the subset selection algorithms and the research focused on the relation between optimal feature subset selection and relevance [2].

One of the most representative use of the wrapping method was made in 2003 by Hsu W.H. called "Genetic Wrappers for feature selection in decision tree induction and variable ordering in Bayesian network structure learning". This is the first time where a presented framework tried to reduce generalization error in classification and probabilistic inference controlling overfitting using validation set accuracy as a criterion for relevance. The use of a generic optimization fitness function emerged for validating input and then use it to implement two wrappers providing solutions to the: variable selection problem for decision trees inductions and variable ordering for Bayesian network structure learning. Then the wrappers were evaluated using real datasets [3].

The GA wrapper approach was used for password security. The author in order to protect the users from security issues referring to identity verification through password tried to use an automatic feature selection process for producing password typing patterns. Using a genetic wrapper finds the most accurate subset of features and ignores the rest. This way developed a model that learns how to produce safe passwords [4].

The GA wrapper also used for accepting or rejecting individuals based on typing criteria. The model was measuring the time intervals between keystrokes and creating set of time data which were classified. A fitness function solved the problem by providing the fittest populations of time intervals between keystrokes. The best population generated by the wrapper and selected [5].

In 2006 classification tasks managed to effectively be classified by multiple classifiers through a GA wrapper. The results show that this method was promising especially in conditions of limited training sets of data [6].

Due to of irrelevant or redundant features of real life data that may significantly degrade the model accuracy and reduce the learning speed of algorithms a genetic algorithm was adopted to find a subset of features that are most relevant to the classification task involving two stages: The external, completes the search for the best subset of features. The internal, performs the local search in which an improved estimation of the conditional mutual information acts as validation set of data, validating the external and the internal subsets. Both stages cooperate increasing global and local accuracy [7].

Another interesting approach was mentioned where feature set was partitioned into multiple subsets of features that were collectively useful, rather than finding the optimal subset of features [8].

Optimal feature selection used also in customer credit evaluation where a GA was used in order to manage the huge amount of data produced daily from the customers actions. The customers' online and offline acquisitions were gathered and described as the dataset attributes. The model managed to provide the results in an efficient manner. The process of finding enough features in the data analysis is called feature selection or subset selection. Feature selection managed to help improve

the decision making by producing optimal subsets of customer data, improving the prediction performance and eliminating risk fast and cost-effectively [9].

DWFS was a web-based toot that allowed the selection of features to remain in small numbers in order to succeed classify data avoiding irrelevant for the class prediction features. It applied a GA which examined large number of data and integrated filtering methods for pre-processing feature selection. Special weights were applied also in the fitness function [10].

A triple objective hybrid filter-wrapper evolutionary feature selection model proposed the use of two filters with statistical characteristics instead of using classi-fication algorithm for evaluation measure and the use of one wrapper corresponding to the accuracy. The interesting part is that once the population was classified into different non dominant groups only the filtered as best that belong to the dominant front would be improve. This model reduced the number of feature subsets evaluation process giving better results than the already existed wrappers [11].

3   Contextual Review

3.1   Decision Trees

A decision tree is widely used for data classification. Reading data from a dataset, separate the data to discrete classes and settle each value to one of these classes are the steps that a decision tree algorithm follows. Decision trees can also be represented as rules of if—then—else. A decision tree is a top–down approach of classified data.

Attributes: Decision trees take as an input data from datasets. The datasets are sets of attributes and each attribute has different properties and many instances of these properties. The attributes can be separated in numeric and nominal or categorical. The nominal attributes have values like words or letters or a string of letters and numbers. The numeric attributes can be continuing (classification) or discrete (regression).

DT Structure: The decision tree includes the main node, leaf nodes, lines and branches. The nodes are the attributes of the dataset; the branches are the possible values that an attribute can take. The first node is on the top and there are some leaf nodes and each leaf node consists of other leaf nodes or branches. The first node is a super-class, the leave nodes are sub-classes the lines indicates the domain of the branches and the branches are the objects. Each node can test only one branch at a time and finds a result which it stores and compare it later with the other results from the other branches. Every line can take different values (branches). The branches are the possible values. The examples are divided into three different sets; the training set, the validation set and the testing set. The training set is the biggest fraction of all the examples. After training the algorithm with the training set then a hypothesis will be produced. Then the percentage of correct examples of the validation set

which have been classified from the hypothesis is calculated. These two steps can be re-executed many times as long as the size of the training set and the content of the training set changes. The testing set validates only the best of the validated data with completely new data.

Overfitting: Overfitting is the phenomenon which takes place when the training of the tree reaches too deep and the training set has no more data to continue the classification thus, it guesses relationships between the nodes by chance. Another reason that causes the phenomenon of overfitting to occur is that when the tree classification goes very deep then the noise is increasing, and the decision may be misled. Post-pruning and the pre-pruning prevent the phenomenon of overfitting to occur. The pre-pruning stops the growth of the tree before the tree reaches the perfect classification. The post-pruning prunes the branches of the tree after detecting the overfitting.

Cross Validation: To evaluate the quality of the hypothesis to predict unknown data cross validation is needed. First the k examples are partitioned in s disjoint subsets each has size k/s. From the complete example space a tiny part of the examples will test the prediction quality of the rest part of examples. In each run a different tiny part will have the same role and the rest part of examples will be combined. The tiny part will work as a validation set and the rest of the combined examples as the training set. This tiny part of examples is saved somewhere and after repeating the same steps for different combinations of the training set an average of all the results will be calculated. These iterations are called folds [12–17].

3.2 Genetic Algorithms

Darwin's theory of evolution was published in 1859. In the early 1960 the evolution of species inspired a part of the scientific community and they believed that they could create algorithms based on evolution methods adopting in the same time the rules of nature and build algorithms which could combine current solutions in order to produce better.

GA Structure: The genetic algorithms are used for attribute selection. Attribute selection is the procedure that the genetic algorithm, after reading all the attributes of the dataset, creates subsets of these attributes, called chromosomes, and evaluates them by calculating a number which called the fitness of each subset. In genetic algorithms chromosomes are defined by bits of strings called genes. Genes are the values that each attribute may take. Genetic algorithms are always referred to atoms which have a single chromosome per atom.

Search Logic: Genetic algorithms are stochastic search algorithms. They combine an uphill deviation exploring the entire search space, exchanging information at the same time in parallel mode. In comparison with other search techniques the advantage of genetic algorithms is that they keep some of the possible solutions and continue generating other solutions combining the already generated solutions.

Genetic algorithms use the entire search space and find possible solutions in different domains of the same search space.

Fitness Function: The fitness function takes as an input a chromosome and returns a number. The chromosome which has the best fitness value is selected to be part of the new generation. All the possible parents are gathered in a mating pool in order to start the selection process and some of the parents may be selected to be part of a next generation and some other may never be selected.

Crossover: When there are two parent chromosomes with a specific bit string then a point is randomly chosen in the bit string that defines the point that the two parent strings are going to exchange bits. The group of bits from that point until the beginning of the bit string will be replaced from the bit strings which are in the same bit position of the other parent string (single point crossover). There are also two-point and uniform point crossover and the point mutation.

Mutation: Mutation is a process that imports new randomly chosen data in the chromosomes in order to find better solutions. There can be some random changes in the genes sequence of the chromosomes equal to the probability of the mutation rate [12, 18, 19].

3.3 The Wrapping Method

The wrapping method was invented in the early 1990s and borrowed the name from the procedure of wrapping gifts or other object with piece of paper or other material. By the word wrapping the scientists who invented it they wanted to show that they can wrap different kind of algorithms and data in one method and produce a result. Basically, it is a way to combine more than one different algorithm in order to exchange data and procedures. In supervised machine learning, an induction algorithm is typically presented with a set of training instances, where each instance is described by an attribute's values and class labels [3, 6, 7, 13].

4 Model Description

4.1 Fitness Model (Genetic Algorithm Wrapper)

This application model combines a genetic algorithm and a decision tree through a wrapping method. In this project the wrapping method will be used to combine a genetic algorithm with a decision tree algorithm and achieve more tested, faster and more accurate result. The genetic wrapper will try to exchange data with the decision tree algorithm in order to find and demonstrate an optimal classified tree. The goal of genetic wrapper is to send each chromosome that the genetic algorithm produces to the decision tree algorithm for classification and take as a return a value

which is the accuracy number of the generated tree. All the returned values will be stored in an array. The genetic algorithm will produce all the possible subsets of attributes for certain number of generations (50) and it will send them to the decision tree. If there is only one best value in the entire search space the program does not know it even if it will find some local optimums. Thus, the best solution is to check many training sets to find this optimal value if it is the only one. Through this procedure the accuracy of the results can be increased. The most important part of this model is the fitness evaluation of the chromosomes and the mechanic way of implementation. The fitness number and the accuracy are two identical numbers, basically it is the same number. Every time a chromosome is created it goes for classification to the decision tree. The decision tree calculates the accuracy of each chromosome and returns that number to the genetic algorithm. Thus, at the end of each generation the overall and the biggest fitness number are calculated. The chromosome will have 14 genes plus 2 for free space in case there will be needed (there is the possibility of an instance to be classified in a more than one classes). Accuracy is calculated when every instance of the data set will settle on the terminals of each binary tree. The tree will calculate the index of the cell of every instance and produces a number. This number will reveal how close is the classification which have been made to the real class. After evaluating all the instances one by one every instance takes a value true positive if the classification has been made correctly and the tree that made this correct classification take an extra vote. At the end the tree with the biggest number of votes will be represented as the tree which has mostly contributed to the classification. A classification of an instance is a combination of all the trees, all the preconstructed trees contributed. At the end of the classification the votes that each tree got during the classification will be shown and will reveal which tree finally contributed the most. The percentage of how correctly classified the instance was is the fraction of the correct classified examples to the number of all the classes. The accuracy will be returned to the genetic algorithm as the fitness function of the chromosome which already been classified. The fitness value will be stored in an array and waits until all the instances will be classified. The training, the validation and the testing data will be classified through the same procedure. The classification and the calculation of the maximum fitness and the average fitness of the chromosomes will deal with the population of the last generation only. The testing data and the validation data succeed almost the same classification accuracy-fitness [1–3, 12, 18, 20, 21].

5   Discussion and Conclusions

According to the literature of GA and DTs it seems to be a lack of parallel processing of data when it comes to wrapping methods involving GAs and DTs. The reason we have selected the wrapping method is that there were many occasions where the genetic algorithms and decision trees took place and executed separately without any outstanding performance and results. Even if they had processed the data
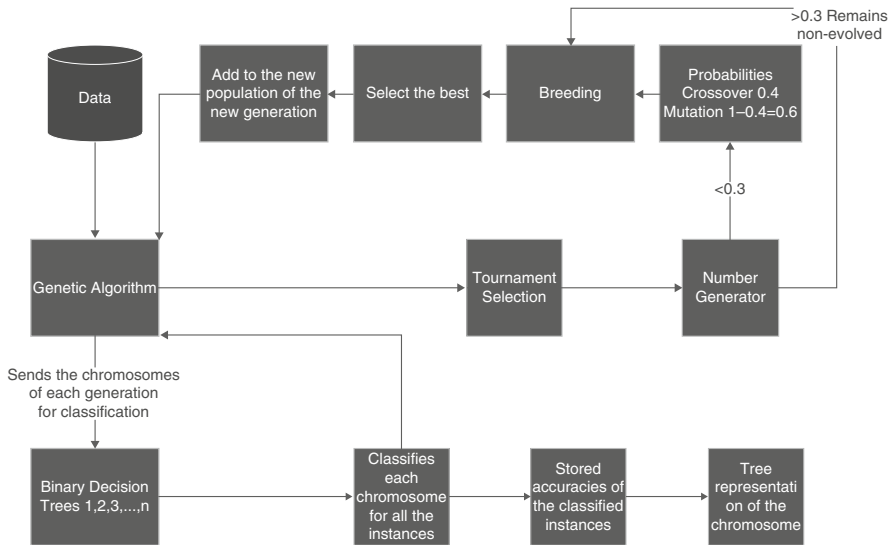
Fig. 1 Wrapper Model Flowchart explains how the GA and DT "discuss" [1]

together, they never combined in a way that evolves the meaning of parallelism. Thus, we have decided to design a model which will implement both genetic algorithm and decision tree to work in parallel. All the data will be processed from the decision tree algorithm first and then by the genetic algorithm and vice versa. The wrapping method allows both algorithms to communicate and exchange data simultaneously (see Fig. 1).

The main goal was to design a model that will eventually include the development of three different coding parts. The classification part through a decision tree induction algorithm, the data optimization part through a genetic algorithm and the in-between them communication through the wrapping method which will allow both algorithms to interact. During the procedures of the genetic algorithm like attribute selection, mutation, crossover, breeding the wrapping method intervenes and sends information to the decision tree. This method allows both algorithms "discuss" during the data processing. Also, this implementation tries to eliminate the phenomenon of overfitting in large datasets. However, by applying the wrapping method in two algorithms does not prove that is better than others. Experiments will reveal the performance of this method. This topic since it has not been widely used in the past it is a great opportunity for improvements, modifications and alterations.

This paper answers the research question of trying to find a sophisticated system to produce results in less time but with high classification accuracy. The objective of this system is to offer accurate solutions to different kind of decision-making situations across disciplines. Given certain data it could provide solutions to marketing strategy questions and problems.

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Analyzing the Brand Personality of Athens

Pinelopi Athanasopoulou, Apostolos N. Giovanis, and Spyros Binioris

Abstract In recent years, the concept of Brand Personality is increasingly important in the tourism industry. The personality of businesses and destinations is analyzed by various researchers. The purpose of this study is to analyze the Brand Personality of Athens as a destination from the tourist's perspective. A survey was conducted with a sample of tourists in 2018. A structured questionnaire in English was distributed to tourists in a central area of Athens. A total of 118 valid questionnaires were collected and analyzed with SPSS. Results show that on the whole tourists are mostly positive and moderate in their evaluation of brand personality of Athens. Athens scores higher in the Charming dimension and is described as particularly cool, imaginative and sentimental. On the other hand, while the dimension Outdoorsy gets the lowest score Athens is perceived as wholesome. Furthermore, tourists feel that the brand personality of Athens lacks in the excitement dimension, especially in the exciting, original and cheerful characteristics whereas the best score in this dimension is young and spirited. Finally, the competence dimension shows that Athens is particularly feminine, friendly and intelligent but needs to be supported to enhance the characteristics of successful, confident and smooth. This study serves as a guide to the city of Athens in managing brand personality. Future research can extend the sample and provide a more detailed analysis of the Athens brand personality.

Keywords Brand personality · Tourism · Destination branding

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1   Introduction

Brand personality is defined as "the set of human characteristics associated with the brand" [1, p. 347]. In recent years, the concept of brand personality is the focus of research in both product areas but also services, consumer brand relationships and destinations. The concept suggests that consumers attach personality characteristics to products, services and places and prefer the ones that match their personality. Consumers can use these brands as means of self-expression, if they can relate to the brand's personality or lifestyle (e.g., [2]). In fact, past research shows that consumers use brands as a way to reaffirm their self-image [3], as an expression and validation of their identity [1], and as a way of self-signaling their identities [4].

The benefits of having a good brand personality are many and documented in past studies. Aaker emphasizes that one of the best ways to create brand differentiation and make brands more desirable to consumers is to establish a distinctive brand personality [1]. A brand with a strong, distinctive personality attracts consumers more and helps them to identify themselves with the traits of the brand's personality [5, 6]. Furthermore, researchers show that when consumers have information about a brand's personality traits, they have a more favourable attitude towards the brand than when they don't have such information [7] Also, various studies conclude that there are many factors affected by brand personality, including consumer attitude and commitment [8], brand attachment [9], brand trust [10], brand commitment [11], perceived brand quality [12, 13], brand satisfaction [14], and consumers' intention to purchase [7, 15].

Brand personality as a branding construct has received considerable interest in recent years and this led to a significant effort to develop tools to measure the personality of brands. Although the majority of these studies have focused on the brand personality of conventional product brands, there is an increasing application of the brand personality concept in non-traditional products such as places [16]. There is considerable research on place brand personality, and the focus of these studies is on tourism destinations (e.g. [17, 18]). Locations and even countries are personified the same way as any brand [19] in brand personalities are used to differentiate places or cities from others. As Kavaratzis and Ashworth [20] suggest, places are brandable entities if their characteristics can differentiate them from each other.

The purpose of this study is to analyze the Brand Personality of Athens as a destination from the tourist's perspective.

2   Literature Review

Consumers describe brands using human personality characteristics and select brands that express their personality. Based on these characteristics of human behavior, Aaker [1] proposes a definition of brand personality as "the set of

human characteristics associated with a brand" [1, p. 347] and develops the Brand Personality scale which includes 42 personality traits in five dimensions: sincerity, excitement, competence, sophistication and ruggedness. Brand personality is gradually formed through the repeated contact of consumers with the brand [1] and is manifested through all areas of the marketing mix including product attributes, brand name, symbol or logo, advertising, price, and distribution channels [21].

Various studies show that consumers have a higher preference for brands that they perceive to possess a personality that reflects their self-identity. This preference is due to the fact that the personality traits associated with a brand facilitate consumers' expression of their actual or ideal dimensions of the self [22]. Consumers use brand personality as a way of self-signaling their identities [4, 23].

The creation of unique brand personality traits in the minds of consumers is regarded as an effective way of differentiating one brand from its competitors [24]. Aaker emphasizes that one of the best ways to create brand differentiation and make brands more desirable to consumers is to establish a distinctive brand personality [1]. When a brand possesses a distinctive personality, it attracts consumers' attention and helps consumers to identify themselves with the brand's personality traits [5, 6]. Also, the benefits of having a good brand personality are many and include brand attachment [9], brand trust [10], brand commitment [11], on perceived brand quality [12, 13], brand satisfaction [14], and consumers' intention to purchase [7, 15].

Brand personality as a branding construct has received considerable interest in recent years and this led to a significant effort to develop tools to measure the personality of brands. Although the majority of these studies have focused on the brand personality of conventional product brands, there is an increasing application of the brand personality concept in non-traditional products such as places [16]. The brand personality concept has been applied to tourism research since the 2000s. DBP was defined as "the set of human characteristics associated with a destination as perceived from a tourist rather than a local resident viewpoint" [17, p. 128]. However, other tourism studies have examined DBP scales from the supply side: what the destination says about itself (e.g. [25, 26]). The brand personality concept is applied in the marketing of cities, regions, and countries [17, 25]. Locations and even countries are personified in the same way as any brand [19]. In addition to developing DBP measurements, several studies examine the effects of DBP on visitor behavior, including destination choice, willingness to recommend, revisit intention, attitude, and satisfaction (e.g. [18, 27, 28]). However, since each city differs and the specific brand personality of each city is important for the marketing of each destination and its differentiation from competitors, it is imperative to analyse the brand personality of Athens as a destination.

Athens is a city that goes through the best tourism ear in its history, as from May 2017 there has been considerable increase in tourist arrivals. According to Euromonitor that has made a list of the 100 most popular tourist destinations worldwide, Athens has attracted 4.978 mil tourists in 2017, 10% more than in 2016 and is at the 47th place in world ranking of destinations. With this pace, in 2020

there will be more than 54 mil tourist arrivals in Athens [29]. Therefore, there is a need to understand better the dimensions of the brand personality of Athens.

The purpose of this study is to analyse the brand personality of Athens from the tourists' perspective. The main research questions is: Which are the dimensions of brand personality of Athens according to tourists' perspective and how do they differ according to tourists' demographic characteristics?

3   Methodology

This is a descriptive, quantitative study. The population of interest is all foreign tourists in Athens. A survey was conducted with a random convenience sample of 124 tourists in 2018. A structured questionnaire in English was distributed to tourists in a central area of Athens. A total of 118 valid questionnaires were collected during two weeks of May 2018 in Dionysiou Areopagitou avenue which is only for pedestrians and is very popular with tourists in the center of Athens. The scale of Aaker [1] was used to analyse the brand personality concept. However, some of the items used by Aaker have been shown to be unsuitable for describing the brand personality of cities [16, 18]. Therefore, a pilot study was done in order to select the items that are suitable for the Athens brand personality scale. As a result, 22 items were retained and used in the questionnaire. These were subsequently grouped into four major dimensions as follows: excitement (Exciting, young, original, cheerful, real, spirited, sincere); competence (reliable, friendly, intelligent, feminine, successful, confident, smooth); charming (glamorous, cool, imaginative, charming, sentimental) and outdoorsy (wholesome, good-looking, outdoorsy). All questions used a 5-point Likert scale. Also, demographic data of respondents was collected in the questionnaire. Data collected was analyzed with SPSS.

4   Results

A 37% of respondents is from Germany, 28% from France, 17% from China, 9% from the USA and another 9% from other countries. Also, 42% are male, 58% female and there is a good spread of age groups. 14.4% is 17–24 years old, 19.5% is 25–34, 16.9% is 35–44, 14.4% is between 45–54, 12.7% is 55–64, 11.9% is 65 to 74, and 10.2% is more than 75. Almost 70% of respondents have a bachelor's degree. For 40% of the sample, it is their first visit of Athens whereas 28% has visited Athens more than 3 times and only 8% traveled alone. 84% of the sample visit Athens for leisure and 72% strongly intent to visit Athens again.

Results show that on the whole tourists are mostly positive and moderate in their evaluation of brand personality of Athens. Athens scores higher in the Charming dimension with an overall mean of 3.55 and is described as particularly cool, imaginative and sentimental.

On the other hand, the dimension Outdoorsy gets the lowest score which is expected because the areas of recreation such as parks are very few in the centre of Athens. However, within this dimension Athens is perceived to be particularly wholesome but not good-looking.

Furthermore, tourists feel that the brand personality of Athens lacks in the excitement dimension, especially in the exciting, original and cheerful characteristics whereas the best score in this dimension is young and spirited. This is a particularly problematic area because lately Athens has tried to project a young and exciting character and a hip and modern image by renovating the central areas around Sintagma Square, Monastiraki and the Acropolis. So, these efforts should continue in order to change tourists' perceptions.

Finally, in the competence dimension we find that Athens is particularly feminine, friendly and intelligent but needs to be supported to enhance the characteristics of successful, confident and smooth. What is unfortunate is that the lowest score in this dimension goes to the reliable image of Athens. Athens is not considered reliable and this is an area that should be prioritized in communication plans regarding the Athens brand.

5 Managerial Implications

This study serves as a guide to the city of Athens in managing brand personality. Both public officials in the area of tourism and private companies that are active in tourism can use this guide to manage the personality of Athens. For example, they can determine the dimensions of personality where Athens does not score high and change the city's image with the right communication campaign.

6 Limitations and Suggestions for Further Research

This is a study done in one city in one specific time of year with a small sample of tourists. Future research can extend the sample by analysing the perspective of a large number of tourists in multiple cities and provide a more detailed analysis of the Athens brand personality. Also, the use of other scales can provide further insights into the dimensions of brand personality of Athens.

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Sport Motivation in Outdoor Sport Activities

Pinelop Athanasopoulou and Krinanthi Gdonteli

Abstract Physical activities in nature provide a series of important benefits for the physical, social and mental health, and well-being. Moreover, there is growing evidence regarding the benefits for people from direct contact with the natural environment. Outdoor sport activities are a type of exercise that is not difficult and appeals to all ages. Therefore, there is a growing interest in determining the motives of participants in outdoor sports. The purpose of this study is to explore the motives of participants in outdoor sport activities using self-determination theory. The Greek version of the Sport Motivation Scale (Pelletier et al., J Sport Exerc Psychol 17:35–53, 1995) was administrated to a random sample of 120 adults (64 males and 56 females), members of a naturalist club in the Attica region. The age of respondents ranged from 24 to 68 years old. Results show that the most significant motives are all three "intrinsic motivations" and the "extrinsic motivation of identification", whereas amotivation scores are not significant. Also, gender analysis shows that females have stronger motives than men whereas a sex motivation multivariate analysis did not show significant results. The present study shows which motives are more important for outdoor sport participants and can provide guidance to all those who organize outdoor sport activities.

Keywords Outdoor sport activities · Sport motivation · Intrinsic motives · Extrinsic motives · Self-determination theory

1 Introduction: Background

Modern lifestyle has a significant influence on the physical and mental health of human beings. Many diseases such as anxiety, cardiorespiratory problems, mental disorders, chronic fatigue, and reduced energy potential are present in modern

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societies in recent years [1, 2]. Involvement in leisure sport activities is connected with the quality of life that offers people a subjective perspective regarding their existence, and their living standards [3]. In recent research that was conducted in 22 E.U. countries, 20 out of 22 countries showed a deterioration of the living standard evaluation values recorded in 2007 and 2011. A great deteriorations of consumption availability is shown in some countries including Greece. Therefore, there is a need for increasing citizens' participation in sports and especially in recreational sports. Through leisure athletic programs, people develop interests and skills that enable them to make creative use of their free time, and contribute to their social, physical and mental health, security, self-confidence and personality [4, 5]. The purpose of such activities is to enrich the members' life with well-being, joy, pleasure and ecological consciousness, as they learn the secrets of nature and experience human intervention in nature [6]. They also offer stimuli and motivation to people for life-long training, without demands and high returns.

1.1 Sport Motivation, Self Determination Theory

From the above it springs that it is very important to study the motives that lead people to participate in such activities. Many studies examine people's motivations in leisure activities [7–10]. One of the most widely used theoretical model in the study of motivation is self-determination theory [11–15]. Self-determination theory tries to explain the motivational dynamics of human behavior, and the role of the social environment in the formation of the individual's performance [11–15]. Self-determination theory refers to the perception that the individual is independent and can make choices. Every time that an individual acts to satisfy his basic needs, to experience the feeling of ability and autonomy, then he/she develops this perception. Self-determination theory supports that the behavior of an individual may be either intrinsically or extrinsically motivated or amotivated [11]. The basic assumption of self-determination theory is that during the interaction with the environment, the intrinsic motivations get enhanced only when the individual feels self-determined [11]. The theoretical model of self-determination as well as the separation of motivations into intrinsic and extrinsic form a considerable theoretical basis for analyzing physical activity in the field of leisure activities. The cognitive approaches of motivations in leisure activities have been studied mostly regarding adults and students [16–19]. Pelletier [20] proposes a measure of motivation towards sport participation that is based on Deci and Ryan's theory. It is a three-dimensional conceptualization for intrinsic and extrinsic motivation, and amotivation (Sport Motivation Scale, Pelletier et al. [20]). Intrinsic motivation includes three sub-dimensions namely: intrinsic motivation to know, intrinsic motivation towards accomplishment and intrinsic motivation to experience stimulation. Extrinsic motivation includes the three sub-dimensions namely: identified regulation, introjected regulation and external regulation. The third dimension is called amotivation and is a learned sense of weakness [21]. Amotivation refers to those who do not experience

motivation, and do not understand the links between their actions and the results of their actions. They experience feelings of impotence and lack of control [11] and are not motivated either internally or externally. The Sport Motivation Scale was adapted and validated, in Greek [22]. This study aims to highlight participants' motivation levels, both internal and external during outdoor activities. According to the existing literature, which supports that the existence of internal motivations is strongly associated with exercise commitment, the results of this study can give us some indication of whether participants will continue or not their recreational activities. Considering the theoretical and practical importance of research in the area of sport motivation in leisure sport activities in Greece, this study, drawing on a sample of adults who are members of a naturalist club in the Attica region, is designed to explore the levels of sport motivation, and to find out whether there are any significant differences between males and females. This study is important for two reasons: (1) Investigation of motivation levels in outdoor sports activities in Greece is limited. (2) Results can indicate whether participants are self-determined in a specific sport activity, which is of considerable practical application.

2 Methodology

2.1 Sample

The sample consisted of 120 adults (64 males and 56 females), members in a naturalist club in the Attica region who participate in mountain hiking activities, all randomly selected. Their ages range from 24 to 68 years old (M = 41.78, SD = 11.96). Participants took part in the study voluntarily. They filled out the questionnaire in the presence of the researcher who provided clarifications where necessary.

2.2 Measures

The Sport Motivation Scale—S.M.S. consists of 28 questions under 7 sub scales.

(a) intrinsic motivation to know (e.g. for the pleasure it gives me to know more about the sport I participate),
(b) intrinsic motivation toward accomplishments (e.g. for the satisfaction I experience while I am perfecting my abilities),
(c) intrinsic motivation to experience stimulation (e.g. for the pleasure I feel in living exciting experiences),
(d) external regulation (e.g. because it allows me to be well regarded by people that I know),

(e) introjection (e.g. because it is absolutely necessary to do sports if one wants to be in shape),
(f) identification (e.g. because, in my opinion, it is one of the best ways to meet people).
(g) amotivation (e.g. I don't know anymore; I have the impression that I am incapable of succeeding in this sport). Regarding the validity of the questionnaire, many past studies support the credibility and internal relevance of all seven factors [22, 23] in Greece [24] in Germany [25] in France, and [26] in China. A seven-point Likert scale was used anchored by 7 = totally agree and 1 = totally disagree.

3   Results

Descriptive statistics of the Sport Motivation Scale show that all intrinsic motivation factors and also the 'introjection' of extrinsic motivation scores are significant. The most significant factor is intrinsic motivation to experience stimulation (M. = 5.74, S.D. = .59) whereas amotivation scores are not significant (M. = 1.95, S.D. = .90). Gender analysis shows that females have stronger motives than men in all intrinsic and extrinsic motivation subscales. Table 1 presents a sex motivation subscale multivariate analysis that shows no significant Wilks' Lambda (Wilk's λ = .941, F = .377, df = 7000, p = .911, η^2 = .059).

4   Discussion

Outdoor sport activities are an alternative form of exercise regardless of age and gender and do not require specific skills, exceptional physical condition or even technical knowledge, and target people who are interested to have a good time through a simple sport activity. It is very important for all professionals who

Table 1 Descriptive Statistics for Seven Motivation Subscales for Men and Women, and significances-p between Men and Women (Wilk's λ = .941, F = .377, df = 7000, p = .911, η^2 = .059)

Motivation Sudscales	Men M (SD)	Women M (SD)	Whole Sample M (SD)	p
IM to Know	4.93 (.77)	5.19 (1.01)	5.07 (.90)	.326
IM to Exp Stimulation	5.73 (.60)	5.74 (.60)	5.74 (.59)	.996
IM to Accomplish	5.22 (.75)	5.40 (.67)	5.32 (.71)	.391
EM Identification	5.40 (.63)	5.51 (.56)	5.46 (.59)	.507
EM Introjection	5.29 (.71)	5.52 (.98)	5.41 (.86)	.337
EM Ext Regulation	3.64 (1.39)	3.92 (1.48)	3.79 (1.43)	.501
Amotivation	1.84 (.82)	2.05 (.97)	1.95 (.90)	.407

provide leisure sports and develop strategies to facilitate adult participation, to understand how individuals make decisions regarding their exercise behavior. The present study aims to examine the role of self-determination, among participants of recreational sport activities. The in-depth knowledge of participants' motivations can be useful in attracting new participants and in retaining those who already participate in the offered sports activities. The findings of the present study show that the self-determination continuum is supported. Based on the hierarchical motivation model, intrinsic motivation and identification signify higher self-determination. In contrast, according to the self-determination continuum, introjection, external regulation and amotivation are related to progressively lower self-determination [27]. In addition, the results regarding external regulation and amotivation also support self-determination theory. These results are similar to Tsobatzoudis study [8] that investigates the effect of motivational dimensions on sport participation levels among adult recreational sport participants. Another study [28] reports that extrinsic identification and introjection are the only predictors of exercise dependence among sport participants, whereas intrinsic motivation is shown to have no relationship with exercise dependence. Probably further research in this field is needed to retest the hypothesis of self-determination theory. Furthermore, it can be argued that results regarding sex differences differ in previous studies. Results of the present study are in line with [29] and show that female participants tend to be more intrinsically motivated, therefore more self-determined than males towards participation, whereas other studies show that there are no gender differences in the levels of motivation [20, 22, 30]. According to the above results, leisure sport activity program managers should reinforce participants' intrinsic motivations by adding new routes, increase variety in exercise, and also increase the enthusiasm and the difficulty of exercises that should be tailored to participants' abilities. In conclusion, according to the results of this study, involvement in recreational sports is nowadays important and professionals should find ways to attract more individuals.

5   Study Limitations and Future Research

This study is based on a small-scale sample from the Attica region. If a different population is used results may differ. Future studies can extend the sample and include the influence of self-determination on subsequent aspects of participation such as leisure constraints and satisfaction. Vallerand [27] finds strong evidence on the influence of self-determination on these two behavioral characteristics. It could be argued that the variety of offered recreational activities, the environment, staff behavior, and their ability to build interpersonal relationships with customers [31], can affect participants as well. Research in the area of motivation in sports also includes facility-related aspects [32]. Research in the area service quality in sport participation, can also help managers of recreational sport clubs to identify participants' needs and expectations and design effective relationship-marketing

programs [33]. According to [34] there is evidence that service quality perceptions are related to positive behavioral intentions as high self-determination, loyalty and satisfaction.

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Residents' Perceptions of Tourism Impact on Local Economic Development During the Economic Crisis: The Case of Kavala

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Abstract The global economic and financial crisis has greatly affected the socio-economic sectors and the quality of life of many countries and particularly of Greece. Initially, tourism in Greece has been affected by the current economic crisis but its positive impact on the economy, social, national and regional development of country has been, and is being, considerable. The purpose of the present paper is to examine how economic crisis influences residents' attitudes toward tourism development. In order to achieve this aim, a primary quantitative research with the use of structured questionnaire has been conducted between August and October 2018. The sample of the survey consisted of 193 citizens of Kavala (Greece) selected by simple random sampling method. The results of the research display that the residents were aware the socio-economic impacts of tourism. In addition, they seem to be influenced by the economic crisis impacts and recognized the need that tourism should be strengthened as one of the key factors for the region's economy. Findings and discussions of this research are useful to tourism industry practitioners as well as to academic researchers interested in tourism in time of economic crisis.

Keywords Economic crisis · Residents' attitudes · Tourism impacts · Tourism development

1 Introduction

The 2008–2009 global economic and financial crisis has severely impacted on international tourism, causing a decline of 4% in international tourist arrivals and a decrease of international tourism revenues by 6% in 2009 [1:1]. As tourism has become a major economic sector at a global level, this recession had important impacts in many countries, and especially in developing countries, where the

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tourism has become an increasingly relevant source of income and employment. In Eurozone, these effects are long-lasting and extend to the economic, social and political environment in many countries, especially in traditional southern European tourist destinations such as Greece, Spain, Portugal and Italy [1–3]. Specifically, the main footprint of this situation is obvious in the factors, as an increase in unemployment rates and the job insecurity, the decrease or loss of income, the reduction or cuts in private and public investments, the limits of welfare state, the restriction of many productive sectors, as well as, a feeling of uncertainty, depression and pessimism about the future [4]. The decade-long financial and economic crisis of Greece has deeply affected the quality of life for large part of Greek citizens, which is reflected in a wide range of socio-economic indicators, a part of them listed in Table 1. The total unemployment rate tripled from 7.8 to 27.5% in 2013, presenting rapid increase from 2010 to 2013 [5]. Greek domestic demand went down by more than 30% in volume and more than one in three residents in Greece faces poverty daily. Real wages for Greeks have fallen by more than 15% on average, while Eurozone's average increased almost 7% [5].

Focusing on Greek tourism, according to SETE, decrease in international arrivals (−6.43%) and overnight stays (−7.31%) was observed in the period 2008–2009 accompanied by decrease in the total tourist revenues for the country [6]. In the contrary, in year 2010 until to date, tourism has been boosting, records a notably increase in terms of international arrivals and overnight stays, but unfortunately these rates are not proportionally reflected in total tourist revenues. In 2018, the contribution of tourism to the GDP of the Country was 30.9%, with major participation to employment (25.9%), and as a consequence the reduction of unemployment, especially during the summer months [7]. According to SETE tourism recommends one of the most important productive sectors of direct and indirect income generator, consists deservedly the backbone of development for Greece [7].

2   Literature Review

The literature has documented the pivotal role of tourism for national and regional economic development, as well as, its results in a number of social, cultural and environment impacts on the host communities [3, 4, 8–11]. Tourism may lead both to positive impacts (e.g. increase employment and investments, generate revenue and general facilities, improve quality of life, enhance local culture, protect natural environment, etc.) and negative ones (e.g. increase cost of life, natural and cultural resource degradation, crime and crowded living areas, etc. [3, 12–14]. Residents' perceptions about the total (positive and negative) tourism impacts are crucial as they influence their decision to participate in tourism activities and support the process of tourism development in the region [4, 15, 16].

Table 1 The social impact of economic crisis in Greece 2008–2018

Dataset	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total unemployment rate % of active population	7.8	9.6	12.7	17.9	24.5	27.5	26.5	24.9	23.6	21.5	19.3
People at risk of poverty or social exclusion %	28.1	27.6	27.7	31	34.6	35.7	36	35.7	35.6	34.8	31.8
Domestic demand by volume, base 100 in 2008	100	96.4	88.3	78.7	70.9	68	67.8	67.7	67.6	68.3	69.5
Real wages per job, base 100 in 2008	100	100.5	97.9	93.4	90.9	86.2	86	84.9	85	84.5	84.4

Source: Eurostat

Most of the surveys focus on the impact of the economic crisis on tourism demand and, as a result, on economic impacts on tourists' host countries [6, 17–22]. The study of understanding the mechanism via to which the economic crisis influences residents' perception and attitudes toward tourism is restricted [3, 4]. Stylidis and Terzidou [4] in a survey conducted in Kavala they developed a model exploring the process that economic crisis affected residents' attitudes towards tourism. The present research, based on the previous one, aims to investigate: (a) the attitudes towards tourism, 10 years after the starting of economic crisis, of the inhabitants of Kavala (Greece), a tourist region that is in the development stage, and (b) the factors which influence these attitudes and perceptions. The results of the survey can lead to useful research findings on the role of tourism as a crucial and supportive productive sector to the economy and society of a region during a period of economic recession. At the same time, they might provide useful information and recommendations for tourism planners and local authorities for the development and the management of the destination.

3   Methodology

3.1   Sampling and Data Collection

The main objective of the primary research is to explore the perceptions of residents of the region of Kavala towards the impacts of tourism activity and highlight their supportive attitude for tourism development during the economic crisis period. A structured questionnaire was used to carry out the purposes of the survey and its final type was formulated after successive designs [23]. In order to gather valuable information, each questionnaire contained 27 order scale questions as well as demographic questions, divided in three sections. The responses were measured on a 5-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5). Section A explored the residents' perceptions towards the impacts of tourism activity in their community and the perceived state of the local economy. Section B explored the perceived economic crisis impacts in local tourism development and the locals' supportive perceptions for tourism development. Section C referred to the demographic characteristics of the respondents. The determination of the sample size was based on the size of the population and on the research objectives. Taking into consideration that the figures of the population were already known, the simple random sampling method was applied as this scheme covered the basic requirement for the formation of a sample from a population and widely used, mainly because of its simplicity in terms of statistical inference. Correspondingly to the abovementioned facts, the current survey was conducted in the city of Kavala from August to October 2018. In total 250 questionnaires were distributed and 193 were successfully completed and collected. Prior to statistical analysis of the data, the validity of the sample was secured, in order to determine if the distribution

of the selected variables in the sample was approximately the same as that of the population. The analysis of the data was carried out using SPSSv.26 and descriptive and inductive or inferential statistics (correlation coefficient) were applied [24].

3.2 Proposed Hypothetical Model

The fundamental assumptions of the proposed theoretical model are consistent with existing studies in the broader literature [4]. For the current survey, it is sufficient to point out that eight hypotheses were formulated in order to address the main objectives of the study. These hypotheses displayed also as a path diagram (Fig. 1).

H1 There is a direct positive relationship between the perceived state of the local economy and the residents' relation to tourism sector.

H2 There is a direct positive relationship between the perceived state of the local economy and the perceived economic crisis impacts in tourism development.

H3 There is a direct positive relationship between the perceived socio-cultural impacts of tourism and the residents' relation to tourism sector.

H4 There is a direct positive relationship between the perceived socio-cultural impacts of tourism and the perceived economic crisis impacts in tourism development.

H5 There is a direct negative relationship between the perceived environmental impacts of tourism and the residents' relation to tourism sector.

H6 There is a direct positive relationship between the perceived environmental impacts of tourism and the perceived economic crisis impacts in tourism development.
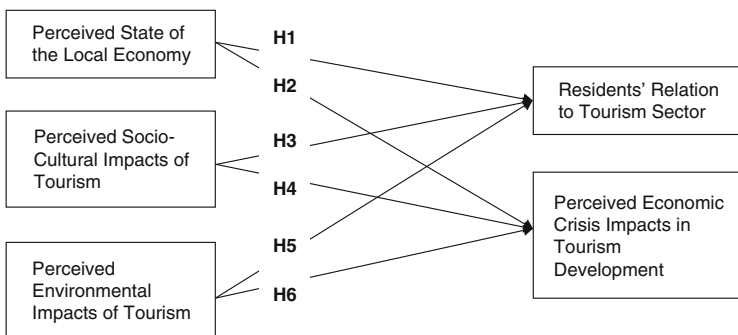
Fig. 1 Proposed hypothetical model on residents' perception for tourism development

4 Research Results

4.1 Residents' Demographic Profile and Descriptive Statistics of Residents' Perceptions

The majority of the respondents are male (53.4%), while middle-aged locals (36–55 years old) consist the 38.9% of the sample size. As for the educational level of the respondents, 63.8% have a high level (university to doctoral degree). Regarding job status, employed consist the 44% of the respondents, being private employees (31.1%), public servants (11.9%) and freelancers (1%), while one out of five was a university student. In reference to locals' income, it is observed that 59.1% of them gaining up to 12,000 €, 33.2% earning among 12,001–20,000 € and almost 7.7% exceeding over 20,001.

4.2 Hypotheses Testing

Aiming to test the hypotheses formulated in the theoretical part, the Pearson correlation coefficient were used, in order to present the direction of the relationship between two variables. Briefly results for hypotheses testing are displayed in Table 2. The three Hypotheses (H1, H3, H5), which exposed a relationship between the residents' perception about the state of the local economy, socio-cultural and environmental impacts of tourism and the locals' relation to tourism sector were rejected. A more comprehensive description about residents' relation to tourism sector can be retrieved from the aforementioned non-supported hypotheses, which reported an insignificant relationship between the impacts of tourism and locals' involvement in the tourism industry. Both hypotheses, however, are not in line with

Table 2 Hypotheses testing

H	Hypotheses	Pearson r	df	p
H1	Perceived state of local economy → Residents' Relation to tourism sector	0.10	191	0.143
H2	Perceived state of local economy → Perceived economic crisis impacts	0.05	191	0.484
H3	Perceived Socio-cultural impacts → Residents' Relation to tourism sector	0.04	191	0.555
H4	Perceived Socio-cultural impacts → Perceived economic crisis impacts	0.15[a]	191	0.038
H5	Perceived Environmental impacts → Residents' Relation to tourism sector	−0.08	191	0.234
H6	Perceived Environmental impacts → Perceived economic crisis impacts	−0.04	191	0.582

[a]Correlation is significant at the 0.05 level (2-tailed)

prior studies, which emphasized that residents' who gain financially from tourism activities perceived more positively the state of local economy and the economic benefits of tourism [25]. Regarding environmental impacts of tourism in Kavala, residents' opinions are consistent with findings from previous studies (Table 2) [26, 27]. In the economic crisis context, the results confirmed that H2 and H6, which proposed a relationship between the residents' beliefs about the state of the local economy and environmental impacts of tourism and the perceived economic crisis impacts, have not been supported. In contrast, H4, which suggested the linking of socio-cultural impacts of tourism and the perceived economic impacts have been substantiated (r = 0.15, df = 191, p = 0.038). This aspect derives mostly from residents' common ideas, who considered that the socio-cultural impacts of tourism are not so obvious in Kavala, since locals and foreign visitors have similar social values and cultural backgrounds.

It appears that the unpropitious economic circumstances change the residents' priorities and turn the individuals to overestimate the economic gains or to satisfy basic needs, such as employment, and to underestimate the environmental or socio-cultural imprints of tourism development.

5   Conclusion and Research Implications

This research focuses on understanding the influence of residents' perception about tourism contribution in local development during the economic crisis. The results of the research display that the residents not only were aware about the socio-economic impacts of tourism, but they seem to be influenced by the economic crisis impacts and recognized the need that tourism should be strengthened as one of the key factors for socio-economic development of the region. Regarding environmental impacts of tourism in Kavala, residents believe that tourism industry adversely affects the environment, which is consistent with findings from previous studies. However, it appears that the unpropitious economic circumstances change the residents' priorities and turn the individuals to overestimate the economic gains such as employment, and thus to underestimate the environmental or socio-cultural imprints of tourism development. The economic crisis has formed a different socio-economic context, which might also influence the relations between local community, local authorities and tourism stakeholders.

In order to overcome the limitations for the current research that relates with time and place, as the data come from a single destination on a particular time, an extension of the current research is suggested.

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Taxonomy of Supervised Machine Learning for Intrusion Detection Systems

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Abstract This paper presents a taxonomy of supervised machine learning techniques for intrusion detection systems (IDSs). Firstly, detailed information about related studies is provided. Secondly, a brief review of public data sets is provided, which are used in experiments and frequently cited in publications, including, IDEVAL, KDD CUP 1999, UNM Send-Mail Data, NSL-KDD, and CICIDS2017. Thirdly, IDSs based on supervised machine learning are presented. Finally, analysis and comparison of each IDS along with their pros and cons are provided.

Keywords Machine learning · Intrusion detection · Cyber analytics

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1   Introduction

Information systems that are not checked often will eventually develop exploitable weaknesses [1] as compared to systems that when checked frequently are more robust to attacks. In each organization a well defined continuous monitoring program must be established that include patching, incident management and response, malware detection etc. Only with such a program in place an organization will ensure that security controls, processes and technologies along with user behavior will be effectively monitored and this well defended against new threats. Continuous monitoring includes the following tools:

– Incident and event management tools that are constantly inspecting systems and applications for indicators of compromise. Intrusion detection systems, Security information and event management and Log management systems are examples of such controls. Host and network-based intrusion prevention and intrusion detection systems (IPS/IDS) can be put in place to perform real-time monitoring of the network and server/workstation activity [2]. These tools are typically signature based and look for suspicious activity that matches a preconfigured signature.
– Malware detection: Tools that allow for the detection of Trojans, spyware, viruses, and other malicious code throughout the information system. These tools could include antivirus that are installed on the operating systems, web proxies and email message transfer agents among others.

Intrusion Detection Systems (IDSs) and Intrusion Prevention Systems (IPSs) are among the most important defense tools against sophisticated attacks. With the adoption of automated monitoring and response solutions (based on AI and ML), cybersecurity professionals and decision makers are looking into new ways to prevent potential attacks [3]. This paper presents a taxonomy of supervised machine learning methods that can be used as intrusion detection systems (IDSs) in modern information systems under the evolving threat landscape. Social engineering, phishing mail and scams that directly attack the user or Web and browser based attack, internet exposed assets, fileless or memory-based attacks or even disinformation-disinformation are some of the new attacks that can be used in order to compromise modern systems.

2   Related Work

According to the nature of the processing involved in the *behavioural* model considered, Garcia-Teodoro et al. [4] presented a classification of the anomaly detection techniques, which can be classified into three main categories, namely, (1) Statistical-based, (2) Knowledge-based, and (3) Machine learning-based. The study discussed the foundations of the main anomaly-based network intrusion detection

systems (A-NIDS) technologies, but it does not present a practical study on the performance of each A-NIDS technology.

Zhou et al. [5] summarized the research directions in detecting coordinated attacks using collaborative intrusion detection systems (CIDSs). The study reviewed three main coordinated attack methods: large-scale stealthy scans, worm outbreaks, and DDoS attacks. Elshoush et al. [6] presented a survey on alert correlation in collaborative intelligent intrusion detection systems. The study provided the measures to quantify the performance of IDSs but no numerical evaluation is provided.

In order to detect scans, worms, Botnets, and Denial of Service (DoS) attacks, Sperotto et al. [7] provided a survey of current research in the area of flow-based intrusion detection. Specifically, the study presented a classification of attacks and defense techniques. The attack classifications can be categorized into physical attacks, buffer overflows, password attacks, DoS attacks, information gathering attacks, Trojan horses, worms, and viruses.

Modi et al. [8] presented a study on different intrusions affecting availability, confidentiality, and integrity of Cloud resources and services. The study classified the IDS/IPS techniques into several categories, including, signature-based detection, anomaly detection, artificial intelligence- based detection. Note that there are hybrid techniques that use the combination two or more of previous categories.

Generally, the classifications of attacks are based on several criteria, namely, the network infrastructure and the behavior of the attacker. According to the study in [9], Ferrag et al. the classification of attacks frequently mentioned in the literature is done using the following four types:

– Type A: Passive or active. This type is especially for the network layer attacks in MANETs.
– Type B: Internal or external.
– Type C: Key-based attacks, data-based attacks, impersonation-based attacks, and physical-based attacks. This type is especially for smart grid communications [10].
– Type D: Identity-based attacks, location-based attacks, eavesdropping-based attacks, manipulation-based attack, and service-based attacks. This type is especially for ad hoc social networks [11].

Butun et al. [12] presented a survey of the state-of-the-art in intrusion detection systems for wireless sensor networks. This study classified IDSs as follows: (1) Intruder type, (2) Intrusion type, (3) Detection methodologies, (4) Source of the audit data, (5) Computing location of the collected data, (6) Infrastructure, and (7) Usage frequency. Intruder type can be classified into two types: external intruder and internal intruder. Intrusion type may happen in various ways such as Masquerade and DoS attacks. Detection methodologies are categorized into three groups: anomaly-based detection, misuse based detection, and specification-based detection.

Vasilomanolakis et al. [13] presented a taxonomy and survey of collaborative intrusion detection (CIDS). The study classified the CIDSs into centralized,

decentralized, and distributed. To protecting large networks using CIDS, the study proposed the following requirements: accuracy, minimal overhead, scalability, resilience, privacy, self-configuration, and interoperability. According to the properties of IDSs, Milenkoski et al. [14] proposed a categorization, including, monitored platform, attack detection method, and deployment architecture. In the monitored platform, there are three IDS types, namely, host-based, network-based, hybrid. In the attack detection method, there are three IDS types, namely, misuse-based, anomaly-based, and hybrid. In the deployment architecture, there are two IDS types, namely, nondistributed and distributed.

Buczak and Guven [15] described a literature survey of machine learning and data mining methods for cyber analytics in support of intrusion detection. Usually, a machine learning approach consists of two phases: training and testing. However, there are several machine learning approaches that are used by IDSs, including, artificial neural networks, association rules and fuzzy association rules, Bayesian network, clustering, ensemble learning, evolutionary computation, hidden Markov models, inductive learning, naive Bayes, sequential pattern mining, and support vector machine.

Ahmed et al. [16] presented an in-depth analysis of four major categories of anomaly detection techniques, including, classification, statistical, information theory, and clustering. The classification based network anomaly detection uses four approaches, including, support vector machine, Bayesian network, neural network, and rule-based. The statistical anomaly detection uses three approaches, including, mixture model, signal processing technique, and principal component analysis (PCA). The information theory category uses correlation analysis. The clustering-based category uses regular clustering or co-clustering.

3   Public Data Sets

Many researchers struggle to find comprehensive and valid datasets to test and evaluate their proposed IDSs and having a suitable dataset is a significant challenge itself since datasets that become available are heavily anonymized and thus difficult to be used while many cannot be shared due to privacy issues [17]. There are five public data sets that are used in experiments and frequently cited in publications, including, IDEVAL, KDD CUP 1999, UNM Send-Mail Data, NSL-KDD, and CICIDS2017. Note that the KDD CUP 1999 is extensively used. The IDEVAL is MIT Lincoln Laboratories network traffic data. The KDD CUP 1999 is based on DARPA 1998 TCP/IP data and has basic features captured by PCAP (with about four million records of normal and attack traffic). The UNM Send-Mail Data is based on an immune system developed at the University of New Mexico. The NSL-KDD is a modified version of the KDD99 data set, which it does not include redundant records in the train set. The CICIDS2017 dataset contains benign and the most up-to-date common attacks, which resembles the true real-world data (PCAPs) developed at Canadian Institute for Cybersecurity (University of New Brunswick).

4 Supervised Machine Learning

Table 1 lists the supervised machine learning for intrusion detection systems, including, machine learning and data mining methods used, the dataset used to evaluate their performances, pros, and cons.

4.1 Decision Trees

There are two known methods, including, ID3 and C4.5 algorithms for automatically building decision trees. To improve signature-based intrusion detection, Kruegel and Toth [22] use decision trees. Specifically, an algorithm generates a decision tree to replace the detection engine of Snort, which is used to find malicious events using as few redundant comparisons as possible. The proposed system is implemented patches named Snort NG (next generation) for Snort-1.8.6 and Snort-1.8.7. In addition, the proposed system was applied to tcpdump files from the 10 days of test data produced by MIT Lincoln Labs for their 1999 DARPA intrusion detection evaluation. Bilge et al. [28] proposed a passive DNS analysis service, named EXPOSURE. The EXPOSURE service use a decision tree classifier to detect and report malicious domains, which it constructs a decision tree from a set of labeled training set by using the concept of information entropy. After 17 months of operation, the EXPOSURE service detected over 100K malicious domains.

4.2 Rules-Based

There two types of rules-based approaches, including, association rules and fuzzy association rules. Brahmi et al. [26] introduced new intrusion detection systems, called OMC-IDS, which integrates data mining techniques and online analytical processing (OLAP) tools. The OMC-IDS system integrates association rule mining in order to extract interesting information under different perspectives and levels of granularity. The experimental results on the DARPA 1998 dataset show achieve detection rates 99%, 97%, 86% and 74%, respectively corresponding to the detection of four attack categories (i.e., DoS, Probe, R2L, and U2R). Therefore, Apiletti et al. [24] proposed a framework, named NETMINE, which allows the characterization of traffic data by means of data mining approaches. To detect anomalies, the NETMINE framework uses generalized association rule extraction. In addition, the NETMINE framework is based on three main blocks, including, data stream processing, refinement analysis, and rule classification. Note that there are some systems that combine decision tree and rules-based concepts such as our previous work in [30].

Table 1 Supervised machine learning for intrusion detection systems

Year	IDS	Machine learning	Data set	(+) Pros and (−) cons
1998	Cannady [18]	Neural network	Private network traffic	(+) Analyzing the data from the network, even if the data is incomplete or distorted (−) The method is not effective for big dataset
2000	Lippmann and Cunningham [19]	Neural network	DARPA 1998	(+) High detection rate of roughly 80% at a low false alarm rate of roughly one false alarm per day (−) Dataset used is very limited practical value for a modern IDS
2002	Bivens et al. [20]	Neural network	DARPA 1999	(+) False positives rate = 76% and reported successfully predicting 100% of the normal behavior (−) Dataset used is very limited practical value for a modern IDS
2003	Kruegel et al. [21]	Bayesian network	KDD99 dataset	(+) Reduction of false alerts (−) Dataset used is very limited practical value for a modern IDS
2003	Kruegel and Toth [22]	Decision tree	DARPA 1999	(+) Time to build the tree is 12 s (−) The accuracy is not considered
2008	Benferhat et al. [23]	Bayesian network	DARPA 2000 data set	(+) Detecting coordinated attacks (−) Accuracy and FAR are not presented
2009	Apiletti et al. [24]	Rules-based	Private network traffic	(+) Effectiveness to characterize traffic data (−) Attacks against the Internet of Things traffic are not considered
2011	Amiri et al. [25]	Support Vector Machine	KDD99 dataset	(+) Improve the classification accuracy (−) Dataset used is very limited practical value for a modern IDS

Table 1 (continued)

Year	IDS	Machine learning	Data set	(+) Pros and (−) cons
2012	Brahmi et al. [26]	Rules-based	DARPA 1998	(+) Detection rates 99%, 97%, 86%, and 74%, respectively corresponding to the detection of four attack categories (i.e., DoS, Probe, R2L, and U2R) (−) Dataset used is very limited practical value for a modern IDS
2012	Li et al. [27]	Support Vector Machine	KDD99 dataset	(+) Accuracy achieves 98.6249% in tenfold cross validation and the average Matthews correlation coefficient (MCC) achieves 0.861161 (−) Dataset used is very limited practical value for a modern IDS
2014	Bilge et al. [28]	Decision tree	Real-time deployment	(+) Proposed system works well in practice (−) Privacy attacks are not considered
2018	Aljawarneh et al. [29]	Naive Bayes with other classifiers	NSL-KDD data set	(+) Accuracy of the model is 99.77% and 99.63% for the binary class and multiclass NSL-KDD data sets, respectively (−) Attacks against the Internet of Things traffic are not considered
2018	Ahmim et al. [30]	Decision tree + Rules-based	CICIDS2017	(+) Lowest false alarm rate with 1.145% (−) Privacy attacks are not considered

4.3 Neural Network

The neural networks are inspired by the brain and composed of interconnected artificial neurons capable of certain computations on their inputs, as discussed by Buczak and Guven in [15]. The neural networks consist of input layers, hidden layers, and output layers. Based on the artificial neural networks, authors in [18] proposed an approach for misuse detection. The advantage of using artificial neural networks is analyzing the data from the network, even if the data is incomplete or distorted. To improve the baseline keyword intrusion detection system, Lippmann and Cunningham [19] proposed an approach using keyword selection and artificial neural networks to detect user-to-root attacks in the 1998 DARPA intrusion detection evaluation. The proposed system shows a high detection rate of roughly 80% at

a low false alarm rate of roughly one false alarm per day. Bivens et al. [20] proposed a network-based intrusion detection using neural networks. Specifically, the system uses classifying, self-organizing maps for data clustering and MLP neural networks for detection. The experimental results on the DARPA 1999 dataset show achieve false positives rate 76% and reported successfully predicting 100% of the normal behavior.

4.4   Support Vector Machine

Support Vector Machine (SVM) is a classifier based on finding a separating hyperplane in the feature space between two classes in such a way that the distance between the hyperplane and the closest data points of each class is maximized, as discussed by Buczak and Guven in [15]. Based on SVM and gradually feature removal method, Li et al. [27] proposed a intrusion detection system. The experimental results on the KDD99 dataset show that the accuracy achieves 98.6249% in tenfold cross validation and the average Matthews correlation coefficient (MCC) achieves 0.861161. Therefore, Amiri et al. [25] introduced an intrusion detection system that uses an improved machine learning based method, the least squares support vector machine.

4.5   Bayesian Network

A Bayesian network is composed of nodes in the probabilistic graphical model that represents the variables and the relationships between them. Benferhat et al. [23] proposed a naive Bayes approach to alert correlation. For detecting coordinated attacks, this approach used intrusion detection histories to build a naive Bayes for each observed intrusion objective. Note that there are some systems that combine naive Bayes with other classifiers such as the work proposed by Aljawarneh et al. in [29]. The study proposed a hybrid algorithm consists of following classifiers: J48, Meta Pagging, RandomTree, REPTree, AdaBoostM1, DecisionStump and NaiveBayes. The NSL-KDD data set is used with the binary and multiclass problem under a 20% training dataset. The accuracy of the model is 99.77% and 99.63% for the binary class and multiclass NSL-KDD data sets, respectively.

5   Conclusion

In this paper, we presented the state-of-the-art supervised machine learning for intrusion detection systems. Firstly, we provided related studies on intrusion detection systems. Secondly, we reviewed the public data sets used in experiments

and frequently cited in publications. Finally, analysis and comparison of each IDS based on supervised machine learning along with their pros and cons are provided.

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A Detailed Analysis of Using Supervised Machine Learning for Intrusion Detection

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Abstract Machine learning is more and more used in various fields of the industry, which go from the self driving car to the computer security. Nowadays, with the huge network traffic, machine learning represents the miracle solution to deal with network traffic analysis and intrusion detection problems. Intrusion Detection Systems can be used as a part of a holistic security framework in different critical sectors like oil and gas industry, traffic management, water sewage, transportation, tourism and digital infrastructure. In this paper, we provide a comparative study between twelve supervised machine learning methods. This comparative study aims to exhibit the best machine learning methods relative to the classification of network traffic in specific type of attack or benign traffic, category of attack or benign traffic and attack or benign. CICIDS'2017 is used as data-set to perform our experiments, with Random Forest, Jrip, J48 showing better performance.

Keywords Intrusion detection system · Machine learning · CICIDS 2017 · IDS · Network security

1 Introduction

Critical incidents targeting National Critical Infrastructures are happening more and more often [1]. Recent attacks, that happen to be both more sophisticated and persistent, can even replicate life. One such example is the cyber attack that targeted

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the aviation sector [2], where information screens in University of Bristol were taken offline to contain an attack similar to so-called ransomware that followed the Cyber Europe Exercise tested European reaction and cooperation. Some years ago, in 2015, Ukraine was hit by a massive blackout due to an attack to their SCADA systems, leaving 230K citizens of Ukraine without electricity for several hours. Another attack that took place in 2013, although reported in 2016, targeted a small dam in Rye Brook in New York [3]. The real target of this attack, based on a report of FBI and Homeland security, was Wolf Creek Nuclear Operating Corporation, the impact of which, if successful, would go beyond a single nation. Recently, UK's National Cyber Security Centers (NCSC) is concerned about suspicious attacks that are taking place on UK energy sectors [4]. All of the above are only some of the attacks that are happening every day around the globe and are targeting NCIs, such as oil and gas industry, traffic management, water sewage, buildings, transportation, and digital infrastructure.

Moreover, the annual report from the World Economic Forum (WEF) declares Cybersecurity threats atop their 2019 Global Risk Report. The report outlines the potential of cyber attacks towards national critical infrastructure, and the lack of security resources employed to keep these utilities protected. Officials reference the nation-state based attacks including an incident of hackers accessing US electric utility control rooms [5]. New hardware weaknesses have been revealed through strings of data breaches throughout the past year. Just recently, hackers were able to take control of two industrial-level cranes, maneuvering the machinery as they desired [6].

In order to combat cyber attacks, NCIs need to follow a proper Cybersecurity lifecycle that consists of four stages:

– Prediction: Risk assessment, threat assessment
– Protection: cyber security policies, procedures, software and hardware security measures
– Detection: monitoring, log files collection, intrusion detection systems
– Reaction: incident response, mitigation, crisis management

Detection stage consists of monitoring of systems and networks, collection of log and network files and deployment of efficient intrusion detection systems (IDS). Intrusion Detection Systems (IDSs) and Intrusion Prevention Systems (IPSs) are among the most important defense tools against sophisticated attacks. Due to the lack of reliable test and validation datasets, anomaly-based intrusion detection approaches are suffering from consistent and accurate performance evolutions. Tourism industry, for example could use such procedure in order to find the root cause for a blackout at huge hotel chains or an attack that happens in maritime. In this article we present a comparative study of different IDSs that are evaluated under a recently issued dataset, CICIDS2017 dataset contains benign and up-to-date common attacks, which resembles true real-world data (PCAPs). It also includes the results of the network traffic analysis using CICFlowMeter with labeled flows based on the time stamp, source and destination IPs, source and destination ports, protocols and attack (CSV files). The dataset also incorporates abstract behaviour

of 25 users based on the HTTP, HTTPS, FTP, SSH, and email protocols. This comparative study aims to exhibit the best machine learning methods relative to the classification of network traffic under different circumstances.

2 Experimentation

In this section, we present the details of our experiments, where we detailed the used DataSet and the pre-processing procedure. Then, we provide the performance metrics used to compare the different supervised machine learning. Finally, we present and we discuss the different result obtained by the different learning machine. Our experiments are made on a Windows 10–64 bits PC with CPU Intel(R) I5 2.7 GHz and 8 GB RAM. To implement the different supervised machine learning we used Weka Data Mining Tools.

2.1 Data-Set Pre-processing

CICIDS 2017 [7] contains 2,830,743 rows devised on eight files, each row having 79 features.

The contents of the eight files are described as following:

– File 1 Monday-WorkingHours: it contains only benign traffic
– File 2 Tuesday-WorkingHours: it contains benign traffic and two kinds of Brute-Force attacks, which are FTP-Patator and SSH-Patator.
– File 3 Wednesday-workingHours: it contains benign traffic and five kinds of DoS attacks, which are DoS slowloris, DoS Slowhttptest, DoS Hulk, DoS GoldenEye and Heartbleed.
– File 4 Thursday-WorkingHours-Morning-WebAttacks: it contains benign traffic and three kinds of Web attacks, which are Web Attack - Brute Force, Web Attack - XSS and Web Attack-Sql Injection.
– File 5 Thursday-WorkingHours-Afternoon-Infiltration: it contains benign traffic and infiltration attacks.
– File 6 Friday-WorkingHours-Morning: it contains benign traffic and bot attacks.
– File 7 Friday-WorkingHours-Afternoon-PortScan: it contains benign traffic and PortScan attacks.
– File 8 Friday-WorkingHours-Afternoon-DDos: it contains benign traffic and DDoS attacks.

In order to create a training and test subset, we concatenate the eight files in the same table that contains all benign traffic and attacks. Then we remove all rows that have the feature "Flow Packets/s" equal to 'Infinity' or 'NaN'.

After that, we remove the features that have a unique value for all rows, these features are: Bwd PSH Flags, Bwd URG Flags, Fwd Avg Bytes/Bulk, Fwd Avg

Table 1 Composition of training and test sub-sets

Label		Total	Total(rows with lack info)	Training	Test
BENIGN	BENIGN	2,273,097	2,271,320	20,000	20,000
	DDoS	128,027	128,025	2700	3300
	DoS slowloris	5796	5796	1350	1650
DOS	DoS Slowhttptest	5499	5499	2171	1169
	DoS Hulk	231,073	230,124	4500	5500
	DoS GoldenEye	10,293	10,293	1300	700
	Heartbleed	11	11	5	5
PortScan	PortScan	158,930	158,804	3808	4192
Bot	Bot	1966	1956	936	624
Brute-Force	FTP-Patator	7938	7935	900	1100
	SSH-Patator	5897	5897	900	1100
Web attack	Web Attack-Brute Force	1507	1507	910	490
	Web Attack-XSS	652	652	480	160
	Web Attack-Sql Injection	21	21	16	4
Infiltration	Infiltration	36	36	24	6
Total attack		471,454	470,365	20,000	20,000
Total		2,830,743	2,827,876	40,000	40,000

Packets/Bulk, Fwd Avg Bulk/Rate, Bwd Avg Bytes/Bulk, Bwd Avg Packets/Bulk, Bwd Avg Bulk/Rate and Fwd Avg Bytes/Bulk.

After the elimination of the features, we create the training and test subsets based on the composition described in Table 1.

Finally, each value x_i of the feature j is normalized based on the following equation:

$$\overline{x_i(j)} = \frac{x_i(j) - min(x(j))}{max(x(j)) - min(x(j))} \tag{1}$$

2.2 Performance Metrics

IDS performance is measured based on the correct classification of each network traffic in its corresponding category. Table 2 shows the four possible cases of correct and wrong classification.

Based on confusion matrix, we can extract different metrics, the most used ones to evaluate intrusion detection are: detection rate (DR), false alarm rate (FAR) and accuracy (ACC).

$$DR = \frac{TP_{Attack}}{TP_{Attack} + FN_{Attack}} \tag{2}$$

Table 2 Confusion matrix

		Predicted class	
		Negative class	Positive class
Actual class	Negative class	True negative (TN)	False positive (FP)
	Positive class	False negative (FN)	True positive (TP)

$$TNR_{BENIGN} = \frac{TN_{BENIGN}}{TN_{BENIGN} + FP_{BENIGN}} \tag{3}$$

$$FAR = \frac{FP_{BENIGN}}{TN_{BENIGN} + FP_{BENIGN}} \tag{4}$$

$$Accuracy = \frac{TP_{Attack} + TN_{BENIGN}}{TP_{Attack} + FN_{Attack} + TN_{BENIGN} + FP_{BENIGN}} \tag{5}$$

2.3   Results and Discussion

In this section, we present and we discuss the different results obtained by the twelve machine learning methods namely J48 [8], Forest PA [9], Random Forest [10], Rep Tree [11], Jrip [12] FURIA [13], Ridor [14], MLP [15], RBF [16], LibSVM [17], SMO [18], NaiveBayes [19]. The different learning machine are compared relative to their performance in the classification of network traffic in:

– Case 1: benign and fourteen types of attack including DDoS, DoS slowloris, DoS Slowhttptest, DoS Hulk, DoS GoldenEye, Heartbleed, PortScan, Bot, FTP-Patator, SSH-Patator, Web Attack-Brute Force, Web Attack-XSS, Web Attack-Sql Injection, Infiltration
– Case2: benign and six categories including DoS, PortScan, Bot, Brute Force, Web Attack, Infiltration
– Case 3: binary classification including Attack and Benign

Tables 3, 4, and 5 represent the results obtained for respectively Case 1, Case 2, and Case 3.

Case 1 To analyze the performance of the different machine learning against to the fourteen types of attack, we compare using both the detection rate for each type of attack and true negative rate (DR for each type of attack and TNR) and the global metrics (FAR, DR(Average and Overall), Accuracy (Average and Overall)). As shown in Table 3 the highest performing machine learning for BENIGN, DDoS, DoS slowloris, DoS Slowhttptest, DoS Hulk, DoS GoldenEye, Heartbleed, PortScan, Bot, FTP-Patator, SSH-Patator, Web Attack-Brute Force, Web Attack-

Table 3 Result of the different machine learning relative to the fifth type of network traffic

	Decision tree				Rules based			Neural network		SVM		Bayes
	J48	Forest PA	RF	REP Tree	Jrip	FURIA	Ridor	MLP	RBF	LIBSVM	SMO	NaiveBayes
TNR (BENIGN)	94.960%	96.450%	98.120%	95.165%	95.530%	96.835%	95.380%	92.650%	86.150%	94.870%	91.815%	66.545%
DR DDoS	99.788%	99.818%	99.818%	99.788%	99.667%	99.758%	99.424%	91.212%	97.333%	55.970%	80.485%	93.879%
DR DoS slowloris	93.879%	92.848%	93.758%	92.727%	93.333%	93.758%	92.545%	78.485%	80.909%	78.182%	78.182%	82.667%
DR DoS Slowhttptest	80.325%	86.826%	81.352%	75.364%	85.543%	78.358%	81.523%	88.537%	82.549%	76.561%	84.688%	70.060%
DR DoS Hulk	93.600%	93.945%	95.164%	92.218%	97.364%	98.655%	96.964%	86.891%	72.400%	73.709%	95.273%	73.782%
DR DoS GoldenEye	67.286%	67.571%	67.571%	66.429%	63.857%	65.143%	62.143%	65.429%	61.571%	57.571%	63.714%	62.143%
DR Heartbleed	100.000%	100.000%	100.000%	100.000%	80.000%	40.000%	80.000%	0.000%	80.000%	0.000%	80.000%	80.000%
DR PortScan	98.569%	99.594%	99.881%	99.881%	99.881%	87.118%	99.165%	48.521%	99.666%	48.521%	99.571%	99.499%
DR Bot	47.756%	48.718%	49.679%	47.756%	46.474%	48.077%	48.237%	51.282%	3.205%	0.000%	26.603%	29.968%
DR FTP-Patator	99.545%	99.727%	99.727%	99.182%	99.545%	99.636%	99.636%	99.000%	99.545%	0.000%	99.636%	99.455%
DR SSH-Patator	100.000%	100.000%	99.818%	100.000%	100.000%	100.000%	100.000%	99.727%	99.545%	0.000%	99.545%	99.182%
DR Web Attack-Brute Force	60.408%	73.469%	70.408%	70.816%	61.837%	49.796%	65.918%	90.408%	80.408%	80.816%	80.816%	5.102%
DR Web Attack-XSS	41.250%	34.375%	37.500%	32.500%	38.125%	38.750%	36.250%	1.875%	0.000%	0.000%	0.000%	91.875%
DR Web Attack-Sql Injection	50.000%	50.000%	100.000%	50.000%	75.000%	50.000%	75.000%	50.000%	0.000%	0.000%	0.000%	100.000%
DR infiltration	66.667%	83.333%	83.333%	83.333%	100.000%	83.333%	100.000%	16.667%	0.000%	0.000%	0.000%	83.333%
FAR	5.040%	3.550%	1.880%	4.835%	4.470%	3.165%	4.620%	7.350%	13.850%	5.130%	8.185%	33.455%
DR (overall)	91.990%	92.920%	93.050%	91.640%	93.400%	90.500%	92.885%	77.830%	83.555%	54.595%	87.765%	82.510%
Accuracy (overall)	93.475%	94.685%	95.585%	93.403%	94.465%	93.668%	94.133%	85.240%	84.853%	74.733%	89.790%	74.528%
DR (average)	78.505%	80.731%	84.144%	79.285%	81.473%	73.741%	88.013%	62.002%	67.377%	33.666%	70.023%	76.496%
Accuracy (average)	79.602%	81.778%	85.075%	80.344%	82.410%	75.281%	82.146%	64.046%	62.886%	37.747%	65.355%	75.833%
Training time	8.34	110.64	20.03	2.73	76.65	234.98	440.23	942.98	2754.18	318.60	40.45	0.45
Test time	1.12	0.99	1.70	0.52	0.51	0.96	1.18	1.61	4.91	343.96	1.00	12.39

Table 4 Result of the different machine learning relative to the seven categories of network traffic

	Decision tree				Rules based			Neural network		SVM		Bayes
	J48	Forest PA	RF	REP Tree	Jrip	FURIA	Ridor	MLP	RBF	LIBSVM	SMO	NaiveBayes
TNR (BENIGN)	97.830%	96.400%	96.695%	97.585%	98.435%	96.995%	95.645%	94.025%	77.720%	92.895%	91.560%	66.840%
DR DoS	97.631%	97.817%	95.326%	98.174%	98.418%	97.071%	97.655%	91.861%	73.150%	80.510%	88.924%	69.093%
DR PortScan	99.881%	99.881%	99.881%	99.761%	99.881%	87.118%	99.857%	48.521%	53.793%	48.521%	99.571%	99.141%
DR Bot	47.756%	47.917%	49.840%	48.237%	46.474%	48.077%	52.083%	27.404%	1.603%	0.000%	26.603%	29.808%
DR Brute Force	99.636%	100.000%	100.000%	99.727%	99.909%	99.818%	99.955%	99.227%	99.727%	0.000%	99.682%	99.227%
DR Web Attack	98.930%	99.235%	98.318%	98.930%	98.165%	98.624%	98.930%	82.263%	83.028%	82.875%	83.180%	90.979%
DR Infiltration	83.333%	83.333%	83.333%	100.000%	100.000%	100.000%	100.000%	0.000%	33.333%	0.000%	0.000%	83.333%
FAR	2.170%	3.600%	3.305%	2.415%	1.565%	3.005%	4.355%	5.975%	22.280%	7.105%	8.440%	33.160%
DR(overall)	96.805%	96.975%	95.470%	97.145%	97.260%	93.810%	96.990%	81.235%	70.095%	62.490%	90.180%	78.200%
Accuracy(overall)	97.318%	96.688%	96.083%	97.365%	97.848%	95.403%	96.318%	87.630%	73.908%	77.693%	90.870%	72.520%
DR(average)	87.861%	88.031%	87.783%	90.805%	90.475%	88.451%	91.413%	58.213%	57.439%	35.318%	66.327%	78.597%
Accuracy(average)	89.285%	89.226%	89.056%	91.774%	91.612%	89.672%	92.018%	63.329%	60.336%	43.543%	69.931%	76.917%
Training time	5.95	103.50	18.17	2.30	58.96	302.05	140.94	1037.20	99.00	245.09	83.78	0.52
Test time	1.61	0.84	1.63	0.47	0.84	1.47	0.77	1.15	3.28	283.31	0.60	6.08

Table 5 Result of the different machine learning relative to the binary classification

	Decision tree				Rules based			Neural network		SVM		Bayes
	J48	Forest PA	Random forest	REP Tree	Jrip	FURIA	Ridor	MLP	RBF	LIBSVM	SMO	NaiveBayes
TNR	97.975%	96.165%	96.590%	98.680%	95.875%	96.465%	96.110%	91.240%	95.805%	80.130%	88.325%	92.915%
DR	97.967%	96.330%	96.565%	96.955%	97.055%	97.285%	96.055%	95.790%	42.150%	91.765%	90.795%	42.190%
FAR	2.025%	3.835%	3.410%	1.320%	4.125%	3.535%	3.890%	8.760%	4.195%	19.870%	11.675%	7.085%
Accuracy	97.971%	96.248%	96.578%	97.818%	96.465%	96.875%	96.083%	93.515%	68.978%	85.948%	89.560%	67.553%
Training time	5.42	90.10	19.25	3.18	34.30	237.03	15.76	702.04	2.33	262.07	154.50	0.45
Test time	0.83	0.77	1.66	0.70	0.77	1.49	0.42	1.22	0.87	228.50	0.58	1.61

XSS, Web Attack-Sql Injection, Infiltration are respectively Random Forest with 98.12%, Forest PA and Random Forest with 99.818%, J48 with 93.878%, MLP with 88.537%, FURIA with 98.654%, Forest PA and Random Forest with 67.571%, J48 and Forest PA and Random Forest and REP Tree with 100%, REP Tree and Jrip with 99.880%, MLP with 51.282%, Forest PA and Random Forest with 99.727%, J48 and Forest PA and REP Tree and Jrip and FURIA and Ridor with 100%, MLP with 90.408%, Naive Bayes with 91.875%, Naive Bayes and Random Forest with 100%, Jrip with 100%. Note that Random Forest gives for five times the best performance for the classification of network traffic.

Concerning the global metrics, we show that Random Forest gives the lowest FAR with 1.88% and the highest Overall Accuracy with 95.585% and Average Accuracy with 85.075%. Jrip gives the highest Overall DR with 93.400% and Ridor gives the highest Average DR with 88.013%. For the training and test time the fastest machine learning methods are Naive Bayes with 0.45 s and Jrip with 0.51 s.

Case 2 In this subsection, we present the results obtained by the different machine learning for the classification of network traffic in different categories namely BENIGN, DoS, PortScan, Bot, Brute Force, Web Attack, Infiltration. Table 4 show that the best performed machine learning for BENIGN, DoS, PortScan, Bot, Brute Force, Web Attack, Infiltration are respectively Jrip with 98.435%, Jrip with 98.418%, Jrip with 99.881%, Ridor with 52.083%, Forest PA and Random Forest with 100%, Forest PA with 99.235%, REP Tree and Jrip and FURIA and Ridor with 100%. Note that Jrip gives that highest performance for four categories of network traffic. Table 4 illustrates also that Jrip gives the lowest FAR with 1.565%, the highest Overall DR with 97.260% and overall accuracy with 97.848%. Then, Ridor gives the highest average DR with 91.413% and the highest average accuracy with 92.018%. Concerning the training and test time the fastest ones are respectively Naive Bayes with 0.52 s and Rep Tree with 0.47 s.

Case 3 To finish this comparative study, we compare the different machine learning techniques relative to the binary classification. Table 5 shows that the REP Tree gives the highest TNR with 98.680%, J48 gives the highest DR with 97.967%, Rep Tree gives the lowest FAR with 1.320% and J48 gives the highest Accuracy with 97.971%. Concerning the training and test time the fastest ones are respectively Naive Bayes with 0.45 s and Ridor with 0.42 s.

2.4 Discussion

Based on the comparison of the different machine learning methods for case 1, case 2 and case 3 we can deduce that:

– To create an intrusion detection system that correctly classifies the network traffic in a specific type, we recommend the use of Random Forest that gives the highest accuracy and a short training and test time.

– To create an intrusion detection system that correctly classifies the network traffic in the correct category, we recommend the use of Jrip that gives the highest Overall accuracy. Moreover, it is faster that its competitor Ridor.
– To create an intrusion detection system that makes a binary classification of a network traffic in attack and benign, we recommend the use of J48 that gives the highest accuracy in addition to its short training and test time.

The use of machine learning for intrusion detection automates this task, which means a gain in time and money. In addition, and thanks to the speed and high accuracy of machine learning that allows a real time detection, industries can avoid catastrophic incidents.

3 Conclusion

In this paper, we conducted a comparative study of twelve machine learning that belong to different categories of machine leaning methods, namely decision tree, rules based, neural network, support vector machine and Bayes. These machine learning methods are compared relative to three cases namely specific type of network traffic, category of network traffic, attack and benign. This comparative study shows that for each case there is a machine learning method that dominates the other ones. We show that for classification between a specific type of attack and benign the Random forest has the best performance and for the classification between attack or benign the best choice is Jrip. Finally for binary classification of network traffic in attack and benign J48 is performing better that the other methods.

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Multispectral Monitoring of Microclimate Conditions for Non-destructive Preservation of Cultural Heritage Assets

Nikolaos Bakalos, Nikolaos Doulamis, and Anastasios Doulamis

Abstract Cultural Heritage assets are of great interest and value, as being an integral part of every civilization. Thus the conservation and protection of those assets remains an issue of particular interest. In the following approach, there are presented innovative low-cost methods sensing methods in order to measure the degree of decay and preserve the cultural heritage objects from deteriorating. New innovative actions will be applied, that can tune, configure and deliver "targeted" HSI and THz sensing interface addressing the particularities of Preventive Conservation actions, as defined from the interaction of the material with micro-climate conditions over time.

Keywords Cultural heritage · Preventive conservation

1 Introduction and Motivation

The protection and conservation of Cultural Heritage (CH) [1] is an issue of particular interest because every artwork undergoes deterioration over time that can be natural, owing to its age, or may come as a consequence of the effect of the weather and climate conditions. Such degradation depends on the type of the material, the micro-climate conditions the artworks are exhibited to or stored at, and of course on human factors. Actions must be taken to manage these risks and to mitigate the artworks' damages [2] resulting in Preventive Conservation (PC) actions. Therefore, we need to quantitatively measure the degree of decay of a CH object [3] usually stemming from a combination of "local" micro-climate conditions and material type interweaving together in a highly dynamic manner. For this reason, over the last decades, many observations and studies [4, 5] have

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been carried out regarding the impact of the microclimate conditions on CH objects providing new knowledge for the definition and planning of CH-PC actions [6].

The current way of implementing PC actions on CH items is mainly through the use of Non-Destructive Techniques (NDT) [7] by exploiting novel sensors that can scan CH item surfaces, identify preliminary decays' phenomena on items' material and submit this information to conservators or other experts to take critical decisions. The NDT can be divided into those that present good depth penetration capabilities (looking inside the "object body") and those that estimate decay on object surfaces. Recently, HyperSpectral Imaging (HSI) [8] and TeraHertz (THz) radiation technology [9] have been proven to be very effective for CH object preservation and conservation [10]. The key limitation, however, of the current NDT sensors is that they are expensive making such solutions non-affordable especially for small and medium size museums which have not adequate financial resources to support such a high-cost conservation. This is due to the fact that the existing commercialized HSI and THz sensors have been manufactured for generic purposes increasing the respective device cost [11]. For example, an HSI sensor is mostly designed to capture the reflected or absorbed energy from the whole electromagnetic spectrum that is not always useful to detect the pathology of CH assets, increasing the respective cost of the device.

Thus, we need to apply new innovation actions that can tune, configure and deliver "targeted" HSI and THz sensing interface addressing the particularities of PC actions, as defined from the interaction of the material with micro-climate conditions over time. To achieve this main innovation, a series of integrated actions are considered. In particular, (1) an extensive experimentation framework to identify the most suitable spectral bands on which the existing HSI and THz sensors should operate on; (2) reconfiguration of existing HSI and THz sensors for making them sensitive to "targeted spectral bands" (where PC requirements are met); (3) integration of software-based image processing algorithms for increasing sensor resolution and Signal to Noise Ratio (SNR); (4) spatio-temporal monitoring of micro-climate attributes that highly affect the reconfiguration of the delivered targeted HIS/THz sensors; (5) definition of certain material decays and how these are evolving in time and expanding in space in relation to microclimate; (6) creating advanced 4D modelling tools [12] to reveal the 3D geometry of a decay over time; and (7) optimizing the PC actions that should be taken through an intelligent decision support architecture incorporating machine learning to transform the raw captured data into quantitative high-level entities.

2   Concept

The implemented actions can significantly reduce the cost of NDT of CH objects' conservation, making it affordable for small and medium size museums. In order to achieve this goal, state of the art hardware and software methods of mid to high Technology Readiness Level (TRL) are integrated, and properly adapted to cover

the decays appearing in CH objects, thus fitting the needs of CH conservators. For this reason, the following innovative components are integrated: (1) The targeted HSI and THz sensors properly tuned and reconfigured through a set of CMOS compatible production steps, the Fabry-Pérot principle (for the HSI sensors) and continuous wave (cw) THz beams (for the THz sensors) in order to fit specific requirements of CH material types, kind of decays under specific microclimate conditions and conservators' needs. (2) The IoT architecture that spatially and continuously in time monitors the museum's microclimate, through the integration of low-cost environmental sensors, BLE devices, and multi-purpose raspberry pi micro-controllers. (3) The software image processing component for increasing sensors' resolution and performance by integrating noise removal algorithms (median, Wiener, and Gauss low-pass filters), image enhancement methods (Markov Random Fields-MRF combing with interpolation), contrast correction (histogram equalization and gamma correction) and anti-aliasing filtering (Finite Impulse Response-FIR and Infinite Impulse Response-IIR filters) to allow software-based, and therefore affordable, dynamic sensors' reconfiguration. (4) The machine learning algorithms with the main purpose of transforming the low-level captured data from the sensors to high-level qualitative and quantitative semantic entities through integration of linear and non-linear regression models, neural network classification and support vector machines and clustering. (5) A vocabulary of PC strategies that models CH assets decays in terms of material attributes and local microclimate conditions and simulate how these decays are evolved in time and expanded in space. (6) A set of visualising tools enabling the depiction and evolution of CH decays in 3D geometry and time (4D representation) [13]. To ensure replicability and remote access to the monitored data the micro services framework will be utilised that will provide specialised web services to the museum conservators. (7) An integrated DSS platform that fuses hardware and software solutions that encapsulates all modules in a product applicable for small/medium scale museums. This module selects a set of optimal PC actions that should be taken to avoid decay in CH objects.

3 Methodology

The main phases of the innovative actions are depicted at the following Fig. 1:

The first *Action#1* requires the setup of the scene, which consists of the following tasks: (a) *Definition of CH assets and Application Scenarios*: In this phase, the CH assets are defined. Each CH asset is associated with a list of materials undergone a certain decay under specific environmental (e.g., microclimate) conditions. This phase summarizes the existing knowledge in material science and provides semantically enriched vocabularies that relate material science knowledge with decays cause as an effect of certain environmental conditions with specific list of decays (e.g., moisture, erosion, degradation). (b) *Specifications and characteristics of existing HSI and THz sensors*: A study of the specifications and the characteristics of existing HSI and THz devices is carried out, to reveal operational functionalities and
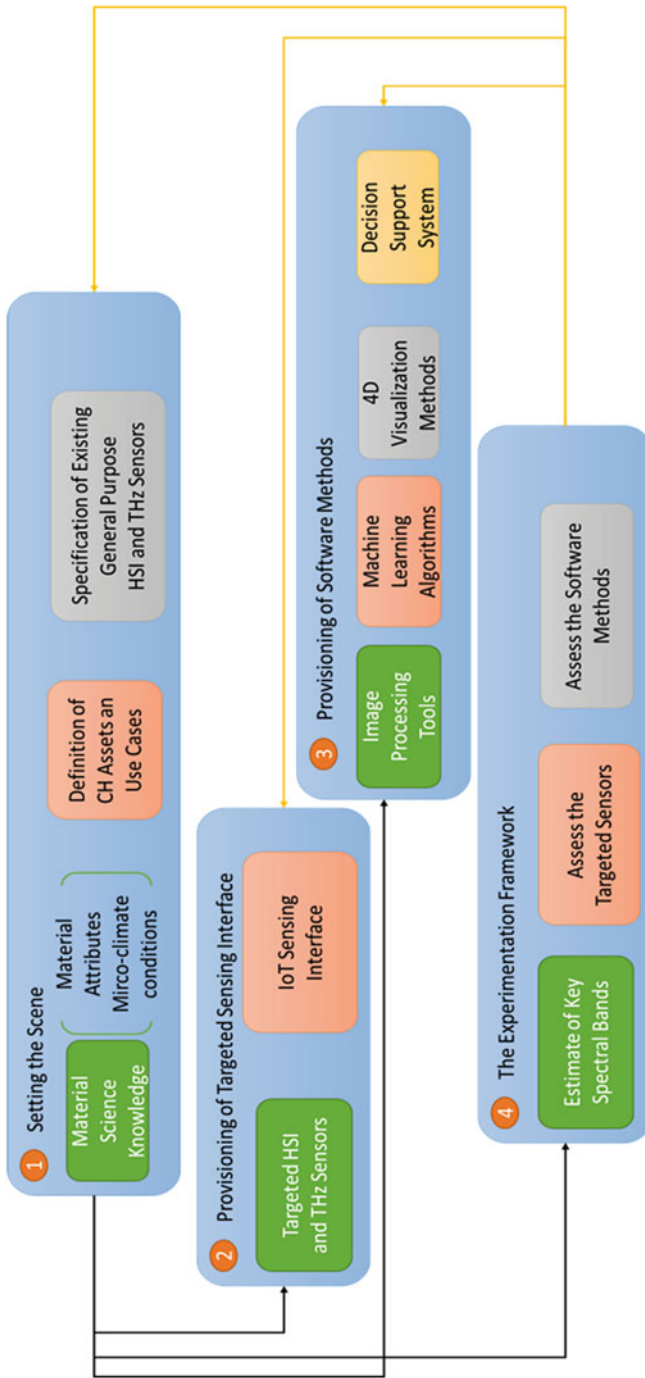
Fig. 1 Main phases proposed

the respective cost of production and therefore it is a roadmap for further reducing the sensors cost. (c) *Knowledge relates the type of decay with certain material and environmental conditions*: First, we need to identify the type of the materials applicable for the exhibits of a museum and the environmental conditions these exhibits are exposed to. Then, a knowledge repository is delivered to summarize existing experience from the chemistry and material science sector in order to create a reliable model that simulates and foresee the expansion and evolution of a decay in space and time under given environmental conditions.

The second action *Action#2* requires provisioning of targeted sensing interfaces, which consists of the following tasks: (a) *Reconfiguration of HSI and THz sensors to meet the specific particularities of Preventive Conservation actions*: In this phase, we reconfigure the existing general purpose HSI and THz devices in order to meet the particular requirements of Preventive Conservation actions un the CH sector. In particular, based on the information of phase #1, we tune commercialized HSI and THz sensors to operate in much more narrow spectral bands being more suitable for cultural heritage use cases. (b) *IoT sensing interface*: We also integrate in the museums distributed sensing mechanisms to monitor the microclimate conditions using low cost sensing devices for microclimate estimation in the spatial and temporal scales.

The third action *Action#3* requires provisioning of the software methods, which consists of the following tasks: (a) *Image processing tools*: This phase includes the software tools for processing and analysing the information captured by the sensors to reduce noise while increasing resolution of the sensorial data. (b) *Machine learning algorithms* are incorporated to transform low-level raw sensorial data into high-level semantics. (c) *4D Visualization*: to present the 3D geometry and temporal evolution of decays over a scanned CH artefact. (d) *The integrated decision supported platform* that fuses all the captured information by the sensors, the outcomes of the aforementioned tools and the PC strategies to provide suggestions to the conservators.

The fourth action *Action#4* is related to the experimental framework and the assessment of the proposed platform in real-life use cases. It consists of the following tasks: (a) *Estimating the most appropriate (key) spectral bands* over which the targeted sensors are configured to operate. (b) *Evaluating the capability of the targeted sensors* to capture the level of material decays under certain microclimate conditions [14]. (c) Assessing the development software solutions (e.g., image processing for noise reduction/enhanced resolution) for improving the performance of the sensors without further increase of the respective production cost.

4   Conclusion

An approach was presented for Preventive Conservation of Cultural Heritage assets, which will be using low-cost sensing methods. This approach foresees a strong and multidimensional impact targeting (a) Technology, (b) Industry, and (c) Cultural

Heritage sites (small/medium size museums). Moreover, it will establish a set of indicators to measure the actual impact achieved during the project's lifetime and after its end.

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Ancient Digital Technologies Using ICT Tools

**Anastasios Doulamis, Nikolaos Doulamis, Ioannis Rallis,
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Abstract History of Technology (HoT) describes the invention of tools and techniques, and entails in many ways the history of humanity. Society evolution is strongly connected to technology evolution and vice versa. Thus, in order to better understand society, we need to grasp HoT. Although great effort is made on recording HoT and related topics, from various scopes (e.g. social, economic, geographic), little is done towards their connection in an efficient way and on the re-use of ICT tools to understand and verify ancient technological levels. The proposed framework exploits the recent advances in ICT technology and particularly in (1) 3D precise digitalization, (2) computer vision, (3) computer graphics, (4) multimedia analysis and (5) cross media production to exhibit the spatial and temporal relations of ancient technological levels (social status quo, engineering levels, production cycles, economy, materials, manufacturing methods and tools, etc.). It focuses on the ancient technology developed in Mediterranean basin from the Semite tribes (located in the today region of Jordan), the ancient Greek civilization and how is affected from the Semitic technologies up to the Hellenistic period, the early Latin civilization up to the Greek colonies in the Iberian peninsula.

1 Introduction and Motivation

As known, history of technology (HoT), invention and their evolution goes back for several thousand years, and their results and achievements is full of interest. Historically, technology was defined by Homer and Hesiod as the spoken word of manual craft or cunning skill, and by 330 BC, Aristotle coined the Greek term technologia

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and split scientific knowledge into three parts: theoretical science, practical science, and productive science (technology). However, James E. McClellan and Harold Dorn in their work "Science and Technology in World History: An Introduction, 2006", identify two great scientific traditions: the useful sciences, patronized by the state from the dawn of civilization, and scientific theorizing, initiated especially by the ancient Greeks.

HoT describes the invention of tools and techniques, and entails in many ways the history of humanity. Society evolution is strongly connected to technology evolution and vice versa. Thus, in order to better understand society, we need to grasp HoT. Tracing HoT back to the origins of humanity is a desirable and, yet, a rather complex task, premising the understanding of engineering evolution; ancient technology is inherently depended on the engineering advances in ancient times. Although great effort is made on recording HoT and related topics, from various scopes (e.g. social, economic, geographic), little is done towards their connection in an efficient way.

The goal of this proposed framework is to bring the world of ancient technology into people's homes, in order to understand technology as a social phenomenon in both the ancient and modern worlds, and to elucidate the ingenuity of the ancient mind, in order to understand their technology, which in turn will help us to better understand our own and apply these, and new, ideas to the future. Specifically, this framework examines the technology of the ancient world, in particular the classical phase and investigates its integral relationship to other facets of human activity in relationship to space/time. It examines how we should understand ancient technology according to achievements of our digital age, the importance of various preindustrial technologies, and the techniques and methods involved in their manufacture and use.

Towards this direction, several actors need to be involved; engineers, human scientists and end-users. Cultural Heritage (CH) researchers and archaeologists can better document sites and objects (CH resources), relate their operational uses with past social and political structures, economical factors and past advances in science and technology [1]. Curators can exploit the digital counterparts to design exhibitions and disseminate cultural knowledge to wide public [2]. Creative industries and Small Medium Enterprises (SME's) can build new services promoting Europe's culture worldwide, forging Europe's cohesion and integration through its diverse cultural legacy and boosting European economy. During the recent severe economic crisis, creative enterprises and tourism industries are some good examples of withstanding economic recession and (though slightly) contribute towards sustainable growth of Europe's economy [3]. Finally, the visitors and the public can share unique cultural experiences on handling digital CH objects and navigating through a digital cultural world [4].

2 Overall Research Approach

The proposed framework addresses the gap between ICT approaches in CH technology assets and the social impact over them. We aim in producing unified structures of technological objects, which will contain all related information in a meaningful and easy to understand way. Rather than focusing only on the 3D model detail, we, also, emphasize on the socio-economic scope. Research will result in a new metadata format and appropriate archiving models, which will describe fully specific technologies related to technological CH assets from a social point of view. Additionally, if possible, we will provide further information regarding the evolution in time/space [5]. That way, we can validate the interaction and the impact among various civilizations in the Mediterranean basin [6].

We will focus on use cases were significant technological effort is made. An analysis from multiple scopes (social, political, economical) will accompany the individual cases. Emphasis will be given not only on technology but also on specific items of interest and how they affect the involved societies. Thus, studies around materials, operation standards, origins and location will also occur. Produced results will be supported by a vast amount of historical documentation, connected to aspect of the project conceptual part for the idea to connect ancient realities to contemporary social technological issues.

In order to identify original purpose of the tools and their evolution in time/space we utilize a variety of ICT tools. Content based search & matching allow linking and clustering of different CH objects so that CH researchers can improve documentations and historical conclusions about our past. Additionally, we could digitize new assets using a variety of technologies (e.g. lasers). Such founding will be stored in appropriate metadata formats in order to facilitate access from end users. Also, 3D content-based search enriches the pool of virtual/augmented reality services so as to enhance cultural experience for simple users and sites' visitors.

3 Methodology

The following Fig. 1 presents the overall workflow of the proposed framework. It should be clarified that under the framework's technology will be studied focusing on the major methods that ancient scientists, writers, archaeologists and others have used to study ancient technology, in addition from the perspective of the ancient craftsperson, focusing on basic production technologies that we see their effects till now. Towards this, the overall concept of the project consists of the following four steps/phases:

Step 1: The theoretical phase In this phase, all reasons for the development and adoption of new technologies, either social and cultural or economical and functional, will be examined. Some theories of technological change will be explored initially in order to develop a socially-informed understanding of technology. To do
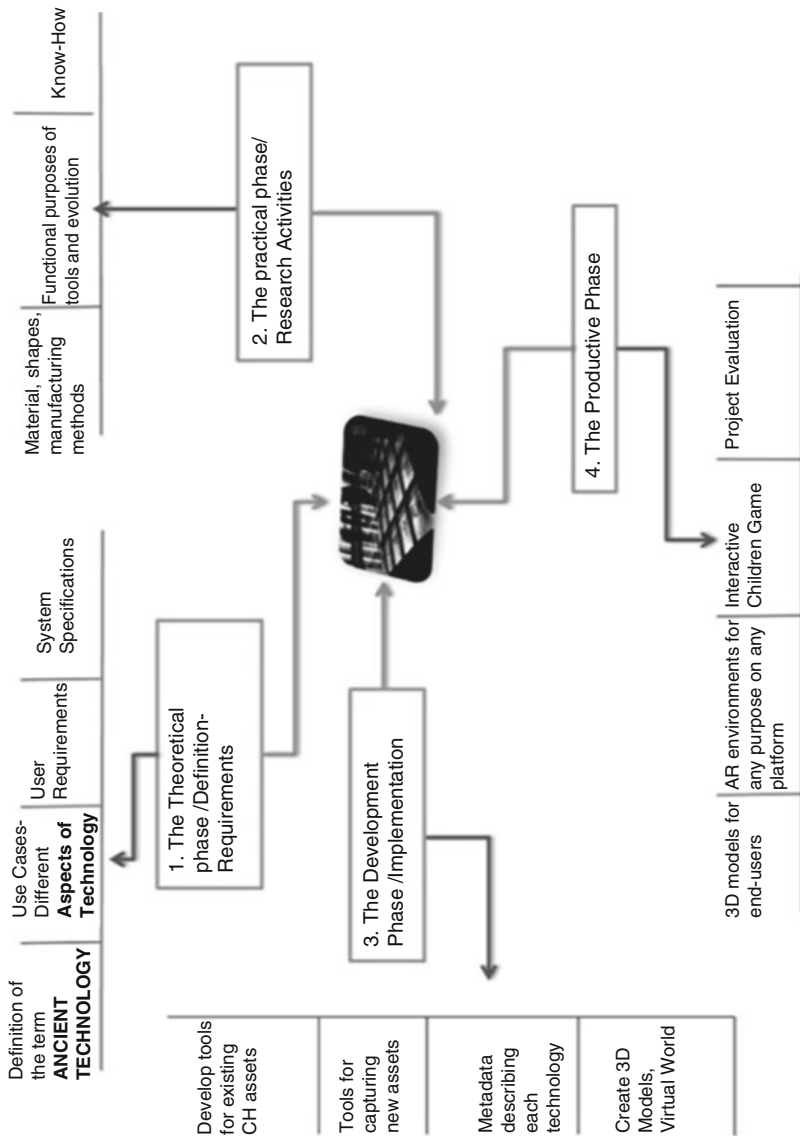
Fig. 1 Overall workflow of the proposed framework

so, many questions that will be addressed include what the ancients knew, when and how did they know it; what machines and tools did they use and for what purposes; how does technology and engineering help society advance; how can we apply these principles to our world and to the future.

Step 2: The practical phase In this phase we will focus on specific and interesting examples in the ancient technological achievements including:

– Stone, wood, and hide working, ceramics and pottery, metallurgy, agriculture, hydraulics, transportation, and geography astronomy, security, communication, architectural engineering, construction and techniques, and through hands-on techniques of reconstruction, experimentation and analysis of how did the ancient people move all these materials and build these amazing things!
– Other crafts essential to human survival in ancient and contemporary societies around the world. Intertwined with this, a number of themes in the study of technology will be examined, such as organization and control of production, style of technology, and the value of objects.
– Identification of the final topics/themes be derived from, after group discussions in special workshops with museums, institutions, and public. Discussion points will include the item's original purpose; whether there is a modern equivalent; if it is lost technology, discuss why it went out of use and whether it would be useful to reinstate its use today; its impact on society; building or manufacturing techniques; the way(s), if any, modern is society affected by it and what can we learn from it today.

Step 3: The development phase Believing that communication, both within societies and between them, is a key factor of humanity development, which now in our digital age is so easy to achieve, in this phase of the project, the team will investigate and select specific ancient technologies using archaeological and textual evidence in order to create 2D & 3D animation models for certain technological machines, instruments and tools, showing the evolution of the function of these systems in detail. These shall be used to exhibited and demonstrated for public knowledge using the models and the 3D animation of these systems in museums and in the web site.

Step 4: The productive phase In order to expand the public utility of the developed 3D models of some of the selected technological machines and instruments/tools, the project seeks to develop some interactive children's games, operating on both web and mobile phone platforms. In working to truly acknowledge ancient technology, projects must address the youngest cultural citizens, developing in them a deeply ingrained appreciation of heritage. But reaching twenty-first century children requires a re-imagination of conventional educational technological pedagogy, accounting for their changing interactions with the world around them. Thus in endeavouring to secure our cultural technological legacy, the team will weave the project's stunningly accurate models with captivating creative storylines and loveable characters, creating a basket of tools that are as educational as they are entertaining.

4 Ambition

The proposed framework incorporates novel ICT technologies in the area of (1) 3D precise digitalization, (2) computer vision, (3) computer graphics, (4) multimedia analysis and (5) cross media production to exhibit the spatial and temporal relations of ancient technological levels (social status quo, engineering levels, production cycles, economy, materials, manufacturing methods and tools, etc.) [7]. This is unique in the social field since the overwhelming majority of works done in 3D digitalization and processing is for construction, preservation and restoration purposes [8].

Moreover, it exploits existing 3D models of high fidelity to survey the engineering status of ancient peoples and civilization and how this status affects social and economic evolution. The project also supports innovations in the area of (1) simulation and visualization to validate the historical documentation using current technologies, (2) multimedia production so as to make publicly available and easily understandable the results and (3) precise 3D digitalization to survey the engineering status of a monument and/or the technological level of a mechanism [9].

Society evolution is strongly connected to technology evolution and vice versa. Thus, in order to better understand society, we need to grasp the evolution of the History of Technology (HoT). Ancient technology inherently depends on the engineering advances in ancient times. Thus, understanding the technological level of the ancient peoples and how this was affected by trading and communications we can explain historical events, social phenomena and technological evolutions.

4.1 Current Limitations

Nowadays, ICT technologies are not applied to discover ancient technologies. They are mostly used for preservation and conservation purposes [10]. Example includes (1) image based methods that exploit photogrammetric aspects in creating high fidelity 3D maps [11], (2) photometric stereo that exploits light reflection properties for 3D modelling [12], (3) real-time depth sensors, such as Kinect [13], to create cost-effective but of low fidelity RGBD images [14], (4) structured light technologies with the capability of simultaneously capture 3D geometry and texture [15] and (5) laser scanning for large scale automated 3D reconstruction [16].

Each of the aforementioned methods present advantages/disadvantages making high fidelity 3D modelling of CH assets [17] a complex decision making process. Photogrammetric stereo presents the advantage of creating high fidelity 3D point clouds [18], but the respective accuracy significantly falls in cases of uniform texture images, which is a usual case as regards cultural assets. However, none of the existing methods have been applied to test the effectiveness of the technological level of the ancient civilizations.

Thus, the goal of our proposed framework is to involve new trends in ICT technology like photogrammetry, 3D reconstruction, computer vision and virtual reality so as to examine the precision in construction of ancient mechanisms and tools, and hence to reveal information about the technological level, how this technological knowledge was crossed from different Mediterranean areas and regions through merchandized and trading. The main objective of this project is to exploit partners from different fields (archaeologists, computer vision scientists, photogrammeters, VR/AR reality and ancient technologies surveyors) to verify ancient technologies, how these were evolved in time and how the mixing of different cultures and civilizations can stimulate a level of technological process.

5   Impact

The aim of the proposed framework is to develop a unified for investigating technology in antiquity, focusing on Mediterranean region, and all necessary methods for relating ancient technological achievements to specific space and time, including their evolution through time, their impact on society, economy and culture, as well as, ICT tools, available to all different CH community users being accessed forever and from everywhere, for managing, exploring and disseminating acquired knowledge. In particular, inside the framework, on the one hand, the functional purposes, available tools and materials, manufacturing procedure, production cycle, energy management and scientific principles behind the development of ancient technological achievements will be explored, documented and archived, and on the other, appropriate ICT tools, such as 2D/3D animations, storytelling, infographics, acoustics, augmented and virtual reality, will be developed to make publicly available the research outcomes and familiarize large audiences to the roots of modern technology and science through the dissemination of ancient technological achievements in an intuitive and entertaining way.

5.1   Social and Economic Impact

Europe's cultural legacy is one of the world's most diverse. It is a beacon that draws millions every year to our archaeological sites, churches, museums libraries, as well as to concert halls and festivals. It is both the accumulation of past scientific and artistic achievements and the expression of continuing tradition and creativity. Our proposed framework will provide acquired knowledge derived from the investigation of ancient ingenuity to develop products and services that assist cultural heritage researchers in documenting cultural assets and understanding the historian paths and diversity of Mediterranean, and in general, Europe's civilization. Relating cultural assets with materials, manufacturing tools and methods, production cycles, acoustics, functional purposes and ancient society assist cultural researchers to

find commonalities among objects and verify or not archaeological theories and civilization influences from one people to another.

Tracing and investigating ancient ingenuity and technology and relating ancient technological achievements and cultural assets to history, society structures and, in general, to the ancient way of living, lead on a second stage on delivering proper multimedia content and services to wide public regarding such scientific knowledge to forge in the sequel Europe's integration stressing our common past but also focusing on our diversities. Culture, which is the accumulated outcome of technological and scientific achievements through centuries, is playing a growing role towards Europe's integration. Indeed, the attempt to bring together the peoples of the continent with their different habits, traditions and languages has clearly a cultural dimension. Cultural heritage has much in common with education and health. We all have our own heritage in the same way we've all acquired learning and a state of our health, and it's a unique combination of an inheritance from our past and the results of life's journey. This individualized, very personal association with cultural heritage has led some to define it as the significance of the tangible evidence of the past in the present.

As for the economic impact, culture and tourism represents 2.8% of the total GPD product, while it seems to be tolerant to Europe's economic crisis. The proposed framework promotes the emergence of new knowledge, regarding ancient technology and CH, and the development of specific products and services for knowledge exploitation. Such product and services are extremely important for museum and archaeological sites curators, schools, universities and creative and tourism industry. Specifically, regarding tourism industries, acquired knowledge, inside the particular framework, plays a crucial role towards the development of innovative and more competitive products and services that target the millions of Europe's tourists every year.

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Greek Traditional Dances 3D Motion Capturing and a Proposed Method for Identification Through Rhythm Pattern Analyses (Terpsichore Project)

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Abstract Intangible cultural heritage (ICH) includes the practice, representation, expression, knowledge, or skill, as well as the instruments, objects, artifacts, and cultural spaces that are considered by UNESCO to be part of a place's cultural heritage. Intangible cultural heritage is considered by the Member States of UNESCO in relation to the tangible World Heritage focusing on intangible aspects of culture. Terpsichore project aims to, analyse, design, research, train, implement and validate an innovative framework for low cost digitisation, modelling, archiving, e-preservation and presentation of ICH content related to traditional dances, in a wide range of users. The Department of Physical Education and Sport Sciences of the Aristotle University of Thessaloniki was involved in the performance of Greek traditional dances and the three-dimensional capturing. We performed three-dimensional recordings at the Laboratory of "Motor Behaviour and Adapted Physical Activity". For data capturing, we used the Vicon 3D recording system. Six traditional Greek dances from different regions of Greece were performed and captured. The results of the three-dimensional capturing of movement showed that the assessment of foots' movement through markers gives us the ability to identify Greek traditional dances. Finally, we distributed data from the recordings to the project partners in order to further analyse them for the fulfilment of the project objectives. With the completion of Terpsichore project, a bundle of services will have been created, including virtual and augmented reality applications, interactive maps, presentation and learning of traditional European dances with a significant impact on European society culture and tourism sector.

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1 Introduction

An intangible cultural heritage (ICH) is a practice, representation, expression, knowledge, or skill, as well as the instruments, objects, artifacts, and cultural spaces that are considered by UNESCO to be part of a place's cultural heritage [1]. Intangible cultural heritage is considered by the Member States of UNESCO in relation to the tangible World Heritage focusing on intangible aspects of culture. In 2001, UNESCO did a survey among States and NGOs to try to agree on a definition, and the Convention for the Safeguarding of Intangible Cultural Heritage was drafted in 2003 for its protection and promotion. Improving the digitization technology concerning capturing, modelling and representation of performance arts, especially in traditional dances, is crucial in promoting cultural diversity to young people through the safeguard of traditional dancing arts; making local communities and primarily indigenous people aware of the richness of their intangible heritage and strengthening cooperation and intercultural dialogue between people, different cultures and countries [2].

Even though ICH content, especially traditional dancing arts, are commonly deemed worthy of preservation by UNESCO and the EU Treaty, most of the previous research efforts focus on tangible cultural assets, while the ICH content has been given less emphasis. The main difficulty stems by the complex structure of ICH, its dynamic nature, the interaction between the objects and the environment, as well as emotional elements (e.g., the way of performing expression and each dancers' personal style). Previously, there have been some outstanding efforts in this direction. Previous efforts included projects such as the i-Treasures project which provides a platform to access ICH resources and contribute to the transmission of rare know-how from Living Human Treasures to apprentices [3] and the RePlay project, who aimed to understand, preserve, protect and promote traditional sports [4, 5].

Towards this direction, the Terpsichore project, which is a European funded research and innovation project under the umbrella of European Union's Horizon 2020, aims to study, analyze, design, research, train, implement and validate an innovative framework for affordable digitization, modelling, archiving, preservation and presentation of ICH content related to traditional dances, in a wide range of users (professional dancers, dance teachers, creative industries and general public).

The main scope of the Terpsichore project is to develop such previous efforts towards the transformation of intangible cultural heritage content to 3D virtual content, through the development and exploitation of low cost digitisation technology. In this direction, a combination of multiple scientific and technological fields, such as 3D motion capturing technology, video capturing, computer vision and learning,

3D modelling and reconstruction, virtual and augmented reality, computer graphics and data aggregation for metadata extraction, is needed [5].

The usage of digitisation technology regarding traditional dancing constitutes a significant impact at European level. On the one hand, the multi-cultural intangible dimension of Europe has been reported, preserved and available to everybody on the Internet. On the other hand, the figurative value to the ICH content for usage in education programmes, tourism sector, arts, media, science and leisure settings are added. At present, the use of digital technology has been widely adopted, which significantly accelerates efforts and efficiency on preservation and protection of Cultural Heritage (CH). At the same time, digital technology enhances CH in the digital era, creating enriched virtual surrogates. Previous research works have been proposed in the literature aiming to archive tangible cultural assets in the form of digital content [6]. Although the above mentioned significant achievements for improving the digitization technology towards a more cost affordable automated and semantically enriched representation, protection, presentation and re-use of the CH by the use of the European Digital Library EUROPEANA, only a few efforts exist in creating breakthrough digitization technology, improving the e-documentation (3D modelling combined with multimedia metadata and ontologies), the preservation and re-use of ICH traditional music and fashion, tradition, handcrafting items, etc. [2].

Three dimensional (3D) modelling is based on computational geometry techniques such as skeleton origin, separation of space into subspaces and mesh reconstruction. Previous authors have presented new approaches in order to identify human body motions from a 3D perspective using 3D human skeletal models, which are an a priori articulated model consisted by the kinematic chain of segments or joints representing the human body posture [7]. The 3D portrayal is an essential process in order to visualise modelled content. Despite this, the real-time portrayal of detailed animated characters, in particular in crowded simulations such as traditional dances, is a challenging situation in computer sciences. Textured mapping for polygonal meshes provides high-quality representation at the expense of a high rendering cost. In order to handle this problem, several methods focusing on providing high definition representations have been proposed. Based on images and pre-computed imposters provide distant characters as a textured polygon in order to improve rendering of animated human shapes [8]. A much more memory-efficient but view-dependent approach includes the separation of each animated character into sub-parts of pieces, aiming to use separate impostors for different body segments [9]. A three-dimensional capturing method has been described, combining the quality animation of dynamic meshes with the high performance offered by static meshes and impostors [10]. One other technique uses a brief mapping approach to encode details in arbitrary 3D models with minimal needs of supporting geometry [11].

Terpsichore project aims at integrating the most up-to-date innovative results of photogrammetry, computer vision, semantic technologies and time evolved modelling, all together with the narrative and traditional choreography. A crucial outcome of this project is expected to be a Web-based cultural server-viewer aiming to allow user's interaction, visualization, interface with existing cultural libraries

and enrichment functions to result in virtual surrogates and media application scenarios that release the potential economic impact of ICH. The final product is expected to support a bundle of services such as virtual/augmented reality, social media interactions, interactive maps, presentation and learning of traditional European dances with significant impact on the European society, culture and tourism sector [5]. The aim of this paper is to describe Terpsichore objects and scopes and to further describe the contribution of the Department of Physical Education and Sport Sciences of the Aristotle University of Thessaloniki in Terpsichore project. The Department of Physical Education and Sport Sciences of the Aristotle University of Thessaloniki was involved (a) in the performance of six traditional Greek dances and (b) the three-dimensional capturing.

2 Methods

2.1 Participants

The recordings included 3 professional dancers of traditional dances, 2 men and one woman who was asked to perform, one by one, the steps of dances guided at first by counting the rhythm orally and then, by the proper music for each dance. All performances and captures took place in the Laboratory of Motor Behaviour and Adapted Physical Activity at the Department of Physical education and Sport Sciences at the Aristotle University of Thessaloniki. All three participants were chosen because of their expertise in the performance and didactics in Greek traditional dances and their previous experience in human motion capturing process. The procedure lasted 3 days. The 3D motion capturing for each participant lasted one day, from 9 a.m. to 1 p.m.

2.2 Instruments

In the Laboratory of Motor Behaviour and Adapted Physical Activity, we performed the Greek traditional dance capturing using the VICON system (Nexus Vicon, Oxford, UK). This system consists of 10 high precision and sampling camcorders to record human motion (Bonita 3, Nexus Vicon, Oxford, UK).

2.3 Procedure

We captured dancing trials from three different dancers performing several parts of traditional Greek dances. Dancers performed and we captured 6 different Greek

traditional dances from different regions of Greece. The Greek names from each of the six dances were: "Sirtos sta dio", "Sirtos sta tria", "Sirtos Makedonikos", "Sirtos Kalamatianos", "trexatos" and "enteka". After collecting anthropometric measurements of the dancers, we calibrated the Vicon system capturing area and started capturing. The capturing procedure lasted about an hour for each dancer. The capturing frequency of the Vicon system was set to 100 Hz. For the 3d video capture, we used the PIG (plug-in gait full body) market placement using 36 reflective markers placed on specific anatomical points of the body of dancers. Before capturing the dancers, we performed a static subject calibration. After the 3d video capturing, we labelled reflective markers based on the full-body plug-in gait model and exported data concerning, segments, joints and trajectories of each market. After the post capturing data processing, we exported a c3d format type file and a txt format type file containing those entire variables for further analysis.

3 Results

After editing the captured content, we calculated in which frame of the time series the speed of the toes markers trajectories (left toe and right toe marker) were zeroed in all tree direction axes. This calculation provided us with the ability to count the number of steps of each dance after capture. Consequently, we identified 6 dance steps for "Sirtos sta dio" (Fig. 1) and "Sirtos sta tria", 12 steps for "Sirtos kalamatianos" and "Sirtos makedonikos", 10 steps for "Trexatos" and 3 steps for the dance "Enteka".

Additional time-series analyses conducted in order to evaluate the rhythm pattern of each dance by counting the frames of each step (Fig. 2). The first and the fourth step of "Sirtos sta dio" had the same duration of 100 frames. The second, the third, the fifth and the sixth step, had the same duration of 45 frames. Data concerning the
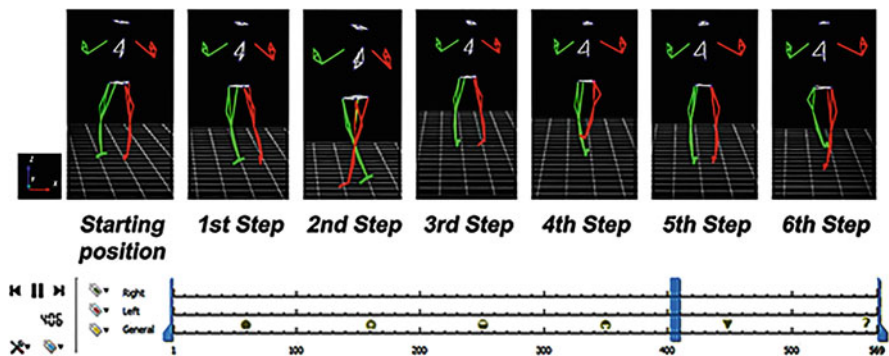
Fig. 1 The six steps of the Greek traditional dance "Sirtos sta tria"
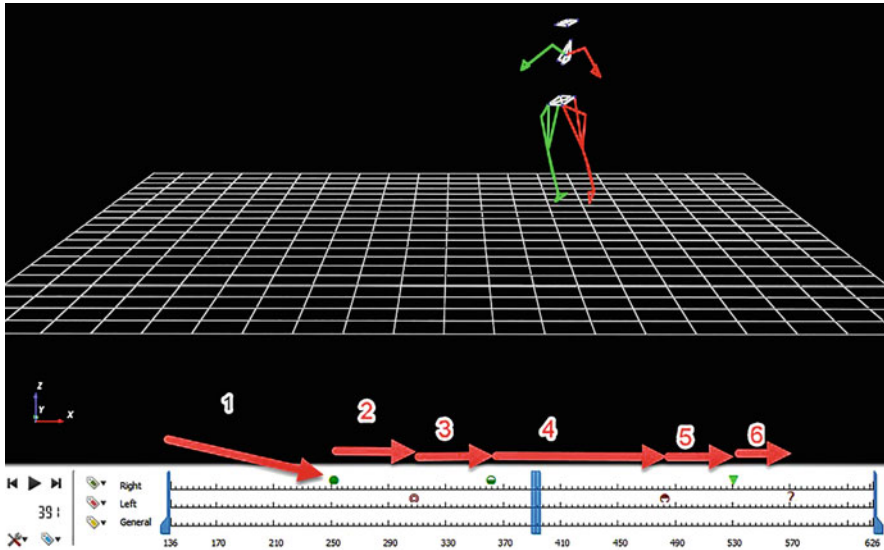
Fig. 2 Rhythm pattern evaluation of the Greek traditional dance "Sirtos sta dio"

number of steps and the duration of each step for all the six dances are presented in Table 1.

4   Discussion

The aim of this paper was to describe Terpsichore project objects and scopes. Additionally, to further describe the contribution of the Department of Physical Education and Sport Sciences of the Aristotle University of Thessaloniki in Terpsichore project. The Department of Physical Education and Sport Sciences of the Aristotle University of Thessaloniki was involved (a) in the performance of six traditional Greek dances and (b) the three-dimensional capturing.

The findings of this paper present a new methodology in order to improve traditional Greek dances identification using a rhythm pattern analysis of dancing steps by counting the number of frames. Three-dimensional motions capturing and modelling is crucial for encoding the complex three-dimensional reconstructions of traditional dancing arts into a bundle of robust semantic signatures in a similar way that a music song is encoded using a music sheet. Aiming to this direction, a branch of computer science devoted to the study of algorithms is used to decode the spatial-temporal trajectory of each reflective marker during the performances. This procedure includes methodologies for positioning both in spatial and temporal space. Later, semantic data and respective spatial-temporal relations are extracted to represent the traditional dancing performances with high-level concepts. It is

Table 1 The number of steps and the duration of each step for all the 6 dances

Greek traditional dance name	Rhythm pattern	Number of steps	Means of the duration of each step (frames *10)											
			1	2	3	4	5	6	7	8	9	10	11	12
Sirtos sta dio	2/4	6	10	4,5	4,5	10	4,5	4,5	–	–	–	–	–	–
Sirtos sta tria	3/4	6	7	7	7	7	7	7	–	–	–	–	–	–
Sirtos kalamatiatos	7/8	12	7,5	4,5	4,5	7,5	4,5	4,5	7,5	4,5	4,5	7,5	4,5	4,5
Sirtos makedonikos	7/8	12	8	5	5	8	5	5	8	5	5	8	5	5
Trexatos	7/16	10	4	4	2	2	2	2	2	2	4	4	–	–
Enteka	7/8	3	2,5	2,5	6		–	–	–	–	–	–	–	–

already known that semantic analysis contributes to the digitization and computer vision process and vice versa. The visualization of data improves the understanding of each dance and helps the audience, dancers and choreographs to understand the structure and the intention of each dance. Better documentation of each traditional dance will be supported with the automated mapping of captured data to abstract choreographic notations [5].

The main goal of the Terpsichore project is to transform the intangible cultural heritage content into three-dimensional virtual content using the development and exploitation of the state of art digitization technology. In this direction, a fusion of different scientific and technological fields, such as three-dimension capturing, modelling and reconstruction, virtual and augmented reality, computer graphics and data collection for metadata extraction, have to be used [5]. The findings of this paper represent visual and mathematical representation of the rhythm of Greek traditional dances witch can be used for the purposes of Terpsichore project.

5 Conclusion

The results of the three-dimensional capturing of movement showed that the assessment of foots' movement through markers gives us the ability to identify Greek traditional dances. Finally, data from the recordings were distributed to the program partners in order to further analyze them for the fulfilment of the project objectives. With the completion of Terpsichore program, a branch of services will be created including: virtual and augmented reality applications, interactive maps, presentation and learning of traditional European dances with a significant impact on European society culture and tourism. In this paper, we have presented the concept of the Terpsichore project. Through the described approach Terpsichore aims to study, analyze, design, research, train, implement and validate an innovative framework for affordable digitization, modeling, archiving, e-preservation and presentation of Intangible Cultural Heritage content related to folk dances, in a wide range of users, including dance professionals, dance teachers, creative industries and the general public.

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Greece, Tourism and Disability

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Abstract Accessibility, Tourism and Greece. How are these three words connected, collide or consistent? The concept of access takes its true value when talking about universal access to all sectors focused to the specific category of people with disabilities. Accessibility is everyone's right. The right of access for people with disabilities to culture, tourism and entertainment is a fundamental human right, and is directly related to their quality of life and their ability to participate in social activities and in that way should be dealt by the State and its law enforcement agencies, according to the Constitution of Greece. The need to participate in the tourism sport activities, the lack of access in the structured or not environment for the disabled groups of visitors, create misinterpretation and lack of guaranteed levels of services. In 2003, which was also the European Year for People with Disabilities, in the Council of Ministers of the EU the resolution on the Accessibility of people with disabilities to Cultural Infrastructure was adopted in many respects, including accessibility to travel and tourism. It was that year when the first official actions to build access to the 'sea and sand' were run in Greece under the guidance of the Ministry of Development. Since then many accessible beaches were created in many Greek places and structures has been used independently by people with disabilities. After a great number of beaches all over, the accessible beaches and bathing facilities remain minimal in number and location.

Keywords Tourism for all · Accessibility · Disability · Accessible beaches · Adaptable sports

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1 Introduction

People with disabilities as the wheelchair users are, experiencing daily exclusion and the obstacles imposed on them both in the environment and in any form of social expression, claim with force the fundamental right of access to infrastructure, goods and services [1]. "Persons with disabilities have the right to enjoy measures that guarantee their autonomy, integration and participation in the social, economic and political life of the country", and according to Article 30 of the International Convention on the Rights of Persons with Disabilities, which has been ratified by Greece under Law 4074/2012 (Government Newspaper 88A/11.04.2012), as part of its national institutional framework, states are required to take all necessary measures to ensure that disabled people have access to tourism infrastructure and services [2].

In the context of promoting "Tourism for All", the necessary conditions are:

(a) The improving accessibility to more spaces both privately and in state-owned areas, such as tourist sites, recreation and entertainment areas, archaeological sites, museums, cultural centers beaches and sea sides areas etc.
(b) The implementation of universal accessibility is the simultaneous provision of accessibility to infrastructure, services and information for people with disabilities.
(c) The use of the most modern electronic applications for the benefit of people with disabilities and their updating with tourist guides either in print or in electronic form.

In this way, disabled people can benefit as tourists but also as workers for tourism, the elderly, and any other disabled person, contributing in this way to promote the social inclusion of people with disabilities and strength social cohesion.

The notion of accessibility acquires another substance when it concerns people with disabilities (PWD). People with access requirements are often disappointed with the lack of facilities and information that would make travelling easier. Let's make a thought of what their simple daily needs are, regarding their holiday breaks [3].

Is it feasible or not for this group of people to enjoy their summer vacation? How easy or not they can organize their journey? What factors should they take into account? [4] Which cities in our country are suitable for people with mobility problems?

Everyone is concerned with fitness and sports these days. The aim of this paper is to learn in how many sports people with disabilities could take part, enjoy activities and have fun especially during their vacations, come closer to their needs and at the same time know better the growing number of tourism policy makers who are looking for information, help them to improve their understanding and their ideas to feed into better strategies for the accessible tourism market. The object of design for all is not special requirements but simple, accessible friendly and safe facilities for all users.

2   What About Greece

Greece is world famous for its beautiful destinations and every year it is an option for millions of tourists around the world. Tourism is a very important part of the country's economy and development.

Greece is a paradise for people with any kind of disability, for example people with arthritis, small or severe cases of disability. The glorious sunshine, which helps to pacify musculoskeletal pain, symptoms such as psoriasis, contributes to the normalization of various neurological diseases such as depression, in conjunction with the seawater therapist abilities, is our powerful weapon to advertise the uniqueness of our country and to extend the exploitation of new revenue chains as Tourism is.

The balanced climatic conditions with the lack of humidity and low temperatures, in combination with a magnificent natural environment is a pole of attraction for the group of tourists. What makes the tourist with disabilities anxious is that at every stage of his travel process accessibility is changeable and every time tourists need to take account a series of barriers that the non-disabled tourist do not have to intercede. The experience of travelers must characterize from dependency, despair and indignity and the tourist must feel independent and equitable. To archive that we must demonstrate simple solutions, to apply rules and open the destination to accessibility requiring markets.

The tourist access demands start from his arrival to the visiting country. To have a global idea for disabled people needs, we have to participate to his daily route to the urban landscape, to his transfer from the airport to his residence, and to every day or night visitor's point of view [5]. It will be clear enough that creating universally designed, barrier-free environments we could support ageing population, families with young children, people that may have temporary or not disabilities, families with young children, will offer a safer environment for everybody in tourism area. In order to achieve this accessible environment, it is necessary to get access to any everyday small part as routes, parking, accommodations, visits to archaeological sites, museums, cultural centers and experiential activities, facilitating participation in any sports activity that can be developed and respond to the main questions about Greece's tourist profile for people with disabilities [6].

The disability area is enormous and its species a lot. We can divide them into four major categories: sight, hearing, speech and pathology (kidney, diabetic etc.). At this time, unfortunately, it would be unfortunate if necessary and prerequisite to cover all these categories of disability [7].

In order to talk about accessible tourism, there should be facilities and infrastructure for all these categories, but due to the size of space, we have started to deal mainly with motor disability, especially wheelchair users (estimated in Greece at 130,000 and in Europe at 5 million) [8]. Here, we should mention that the infrastructure for these users can also cover another major category, those of disabled people (elderly people with reduced mobility, mothers with a baby stroller etc.) [9].

In our country, tourism concerns people with disabilities? Are there any restrictions to them?

3   How Much Is Greece Accessible for People with Mobility Difficulties?

Greece as a country has many hidden beauties and treasures that, if anyone finds them, it will rank it in one of the most enchanting countries in the world. But what about the Infrastructure level for disability? Greece is not a fully accessible country, as this does not allow in many cases the redevelopment of its territory. Our country is full of beautiful corners that, through pictures, make the round of the world, impressing even the most demanding travelers [10].

Despite the large number of visitors expected to cross the airport gates and to get in contact with the rare Greek beauty, its cities and villages do not have full accessibility and proper infrastructure. This is not the case, of course. There are infrastructures well built to satisfy the tastes of every visitor who will definitely want to visit again. The issue with Greece is that there are, if only a few, infrastructures and organized cities, beaches, activities and businesses for people with disabilities, but they are not known to the target audience [11].

For this reason, the prosvasis.co platform, which has so far been targeted at Greek destinations, has been developed to address this market gap in information.

There is also a volume of accessible recreational activities in Greece which has been issued by the National Confederation of Disabled Persons (ΕΣΑμέα) [6].

In general, what characterizes Greece is the lack of implementation of legislation on access to the built environment, the non-acceptance of the laws application from the citizens, the lack of education on equality and the human rights on access [12]. We miss the implementation of the research and studies in the long run of time.

Which city-regions of our country are suitable for people with disabilities and what are the criteria that make them suitable or not?

In Greece there are few towns or areas that could very well be a model of accessibility. Here we must emphasize that a ramp does not make any point accessible. A point is considered being accessible when it meets certain requirements and has a set of infrastructures both at the building level and the public spaces such as squares and pavements [13].

Appropriate dimensions are needed in corridors, sidewalks, lifts and ramps. Also great emphasis should be placed on the interconnection of accessible points, as a wheelchair user should be able to go from one place to another. As an example, a suitable disabled parking place needs to communicate with the other accessible places; otherwise it does not serve the reason why it was made.

Some of the general accessibility features should be existed in a structured environment of a city is: the installation of traffic lights on central crossings with an audible alarm system to facilitate the passage of blind and visually impaired people.

The existence of accessible public WC maintaining the conditions of cleanliness [14].

Most of the roads should have modern sidewalks that almost always carry the necessary "tents" for wheelchair users as well as "blind guides".

The entrances of the buildings must be accessed by a wheelchair, steps and narrow openings of less than 90 cm are not allowed, and the corridors should made of stable material without stairs and unevenness. Access route and circulation preferably minimum width 120 cm. For outdoor minimum width 150 cm to allow a pedestrian and wheelchair to pass each other, and for two wheelchairs minimum width 180 cm.

For the outdoor spaces as resting areas we should provide level access from the buildings, replace steps with ramps, and have wide paths, non-slip surfaces without gaps as between paving stones, branches in sufficient height, benches with rounded edges and with enough space at the benches-end for wheelchair [15].

For the ramps, handrails at both sides are recommended of high 100 and 75 cm, recommended inclination less than 5% otherwise a hand-powered wheelchair will require assistance. Top and bottom of the ramps should be indicated with a visual mark avoid people to have accidents.

Referring to some examples of access interventions there are many examples almost in every city all around Greece. In the city of Komotini, great progress has been made thanks to the "walking" club, perpato.gr, and is one city with access facilities, where many people with wheelchair improve the quality of their lives.

The sidewalks have been formed with the right width and ramps with the right inclination. Some places of mass catering have a suitable ramp at the entrance, while most public services have provided by access and all of them are accompanied by appropriate disabled parking spaces. The question is if these parking places are available and not occupied from other people cars.

In Kos, there has been a good job with suitable designed hotels and bicycle lanes which facilitates access. Several other cities follow like Trikala, Drama, etc.

Everybody can consult the access travel guide of ΕΣΑμεα (National congress of disabled people) [6].

What are the proper infrastructures on beaches to be considered ideal for people with disabilities? For many people with disabilities, the usual question might be, 'How do I even get to the water?', or 'is it possible to park as closely as I can to the water?'

4   As Regards Access to Beaches

There is a need for a set of infrastructures to have proper access to beaches, such as appropriate inclined corridor that interconnects the parking lot with the beach. The beach must have installed corridors of non-slip material suitable for a wheelchair, as well as access to the water, there is a corridor up to the water and amphibious wheelchair for entry into the sea, in the absence of the SeaTac platform (there are

few of them) or an electrical seat lift which falls into the water. Many of public beaches will be able to provide a beach wheelchair, which has much larger tires than a traditional chair to help move through the sand. Ideally, they would be accompanied by a large changing room suitable for a wheelchair. It is worth a call or quick internet search prior to heading out to find whether a beach wheelchair is available to help you gain access to the water. However, for the SeaTrac system, which is the only platform for independent access to the disabled, you can see that it has been placed on prosvasis.co and tobea.gr. For the use of the SeaTac platform, you must obtain the necessary remote control from the municipality that belongs to the area where it is located and ask if it has been re-installed for the current season. Every popular coast should be provided by a lifeguard service and accessible WC.

On the beach there must be access points with umbrellas and sun loungers, wheelchair accessible showers, accessible changing rooms and accessible restaurants and cafes and bars.

Some beaches and islands have the slightest specifications for their proper operation focusing on their time placement (as they are not permanent constructions), and it is the responsibility of the municipalities that are not famous for their organization and their speed with most of the infrastructure being gathered usually at the end of August [16].

As far as accommodation is concerned, we can easily have access to prosvasis.co and find information about certified hotels published online at: www.accessibilitypass.org/hotels [17]. accessibilitypass® is an international certification standard that classifies hotel accessibility, taking into account the infrastructure, the services it offers and the skills of its staff.

Its goal is to provide assembled useful and reliable information about the accessibility of certified hotels so that people with accessibility needs can easily choose a hotel that caters to their own personal needs.

Many hotels in the whole country are certified with accessibility pass, for people with disabilities vision, hearing and intellect, providing service by certified staff.

Many hotels provide the necessary equipment (electric or manual wheeled carts), equipment for activities, full board (adapted diet if necessary), transportation, as well as 24-h health care. Specially designed and implemented holiday and leisure programs for people in need of increased care for the disabled, with full health support.

Disability poses unique challenges and can affect participation in many activities. Tourism is an activity that many people with disabilities feel they must give their best, as it requires the cooperation of mental, physical and social capabilities. These disabilities are automatically affected or limited by the Disability. The disabled people face many social and practical obstacles that can block their full participation in the tourism sector. Tourism includes more than just buying a ticket, booking rooms or baying tourist gifts. Comparing with people without disabilities, people with disabilities have to look out for more things and face more challenges before and during a trip. Indeed, it is sometimes a challenge with themselves.

Research in the field of recreation and Tourism shows us a series of problems encountered by disabled travelers during their participation in sports and activities

for pleasure. The problems focus mainly on accessibility, the existence of inaccessible sites, accessible facilities and means of transport, economic costs and the lack of appropriate information and obstacles to confront.

Physical access is a major obstacle to travel for existing and potential travelers with kinetic disabilities [12]. One reason why many people with disabilities do not travel is simply because the facilities have no physical accessibility.

Respondents to researches said that obstacles contributed to feelings of isolation, depression, lack of physical activity and the feeling that they should be accustomed with less. Research results was found that in addition to the removal of physical barriers, people with varying and specific disabilities need different tailored activities, services and equipment and the creation of spaces and activities more accessible to all.

The degree of participation of people with disabilities in sports tourism is based on a set of obstacles that are of compelling importance to accessibility. Accessibility is an important issue in terms of travel and the participation of people with disabilities in sports tourism and the lack of accessibility in sports tourism serves as a barrier for tourists with disabilities, appending any of their desire and effort to carry out a journey. The travel and Tourism industry must act at every level.

Nature and the countryside provide opportunities for sustain health and well-being. The participation to sports the contact with nature the social participation helps their rehabilitation, help them to "reconcile" with their disability, making them feels full personalities. While therapeutic recreation programs contribute to rehabilitation, at the same time the right of choice allows a person with a disability to seek both sport in his own way and a sense of normality from the experience of recreation [18]. In a survey of Burns et al. (2009) it was noted that people with disabilities do not have access to the countryside for therapeutic purposes only, but their motivation is more comprehensive with a view to the joy of sharing with their friends [19].

They participate in recreational activities in outdoor environments for many reasons, many of whom are common with those who are not handicapped. Their involvement in natural activities in the countryside offers them a wide range of sensory irritants. For example, for people who are deaf or blind, they can feel the wind, rain, sun, soil, flora and fauna. They can perceive the big variety of stimuli. They seek a sense of strength, autonomy and prosperity, as well as the experience of risk and risk that many times seek to feel in parallel with the improvement of their physical condition.

5 Adaptive Sports

The human side to the sports is the very powerful experience, brings people together in a marvelous way. Let mention which sports sampling and encourages people to participate in life, have and find options to enjoy life and have benefits on health issues. Are the followings:

Sports that are related with:

- Water activities (Canoeing, Fishing, Kayaking, Rafting, Sailing, Scuba, Swimming, Water Skiing)
- Mountain activities (Cross-Country Skiing, Cycling, Downhill Skiing, Golf, Hiking, Hunting, Mountain Biking, Rock Climbing, Running, Snowboarding, Snow shoeing, Surfing)
- Gymnastic (Martial Arts, Strength Training, Tai Chi, Yoga)
- Team activities (Basketball, Boccia, Curling, Paddling, Power Soccer, Tennis, Volley ball)

With assistive devices, all the sports can be played by anyone, no matter their ability.

Many traditional adapted sports require a massive amount of physical ability, strength and endurance, but there are more that require less physical exertion as wheelchair curling is. The World Sports Federations has established classification guidelines and eligibility criteria with focus on individuals.

Some of the adapted sports are naturally therapeutic, as Horseback riding is. Whether they have physical, cognitive, emotional or sensory disabilities, participants benefit from workings or riding with horses.

Experts of the lessons determine the goals—cognitive, physical, social, emotional—and then set up the lesson appropriately.

For those who prefer more tranquil ways to communicate with nature or those who prefer extreme sport enthusiasts and can be enjoyed by almost every ability.

6   Discussion and Conclusion

Accessible tourism is the free choice to visit any place at any time. Maintaining disability not as a specific category, benefits come from the consumer demand. Accessible infrastructure will be viewed as a proactive design with economic sense in a long term revenue. Unfortunately, the economic value of accessible tourism is not yet addressed in political communication and projects in Greece, in a way to provide the scenario for the financial potential of accessible tourism. We have to work hard on that lack of mechanism and evaluating accessibility standards.

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Turning a Problem into an Opportunity Through Tourism and Marketing: The Case of Wild Rabbits in Lemnos Island, Greece

Georgios K. Vasios, Ioannis Antoniadis, Yiannis Zevgolis, Costantinos Giaginis, and Andreas Y. Troumbis

Abstract During the last decades, a large increase of the European wild rabbit (*Oryctolagus cuniculus*) population (WRP), in Lemnos island (Greece), has become a significant problem, creating imbalances for the biodiversity and ecosystem of the island and inflicting damages in grain crops. This problem affects the local economy, imposing the need for actions that will set the WRP under control. In this paper we examine the social and economic aspects of the problem, surveying the perceptions of stakeholders in the island on the ways that the problem should be addressed. Many local stakeholders view hunting as viable and sustainable solution for the problem, and are in favor of using this biotic resource to produce high quality food products, and develop alternative forms of tourism. Hunting tourism can play a significant role in dealing with this ecological imbalance, providing business opportunities, contributing to the local and regional development of the island and promoting the further development of the branding of the island as an alternative touristic destination.

Keywords Wild rabbits · Stakeholders perceptions · Sustainable development · Hunting tourism · Tourism marketing · Lemnos · Greece

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677

1 Introduction

Mediterranean Sea has been one of the most important touristic destinations in the world. The development of tourism in the region [1] along with the others human activities has affected significantly Mediterranean ecosystems and biodiversity [2, 3]. The high diversity of species, landscapes and ecosystems services supported the creation, survival and thrive of multiple diverse cultures, transforming the region to a unique socio-ecological system (SES) [4, 5] that led to its significant economic growth over the centuries. However, as a result of the economic and social changes during the last decades, the SES of the Mediterranean islands is under extreme pressure, setting its core characteristics out of balance and affecting overall its food chains and agricultural production [6], but also its potentials for sustainable economic [7] and touristic growth [8].

Such a case is Lemnos Island, located in North-eastern Aegean Sea, Greece, that faces a different kind of problem concerning its touristic and economic development, compared to other touristic destinations in the Aegean Sea. Although the island has unique and beautiful landscapes, these natural and semi-natural ecosystems on the island are under a systematic degradation and pressure, due to the abandonment of rural landscape, overgrazing, desertification, climatic change, and the seasonal touristic activity around the coastal zone. In addition and due to these pressures, the European wild rabbits (*Oryctolagus cuniculus*) population (WRP) of the island has increased significantly, over the last decades, affecting the island's biodiversity, food chains, and agricultural production [9], hindering its balanced and sustainable development.

In this paper we are presenting a sustainable solution for this problem that will help control the population of the wild rabbits, through tourism and marketing, based on the perceptions of the islands' local stakeholders. Exploring these perceptions, we have found that wild rabbits could become an important and sustainable biotic resource with a potentially positive impact for local economy and regional development of the island.

The rest of the paper is structured as follows. The following section reviews the WRP problem and presents ways to deal with the problem through hunting tourism as presented in relevant literature. Section 3 describes the main characteristics of the conducted research, while in Sect. 4 our main findings are presented. Finally, the last section concludes the paper discussing these finding and the potential contribution of tourism and marketing in tackling this problem.

2 Controlling a Thriving Population Through Hunting

The WRP in Lemnos has increased significantly during the last decades as a result of the abandonment of cultivated land in many rural areas of the northeastern part of the island, due to economic and social changes, and the development of tourism

during the summer season. These changes, and the rise of WRP, has affected parts of the island's natural and agricultural ecosystems along with the structure of the local and regional economy, as it has significant effects in every aspect of the agricultural production of the island.

Moreover, it has built up conflicts between local stakeholders regarding the conservation and management priorities that should be implemented, which is referred to as Human-Wildlife Conflict (HWC) [10, 11], and thus imposes the need for the introduction of a different WRP control on the island.

Several management practices have been implemented including rabbit-proof fencing, systematic hunting, biological control, introduced predators, warren ripping, fumigation, poisoning and explosives [12, 13]. Despite the fact that various control actions were applied, both by the local authorities (legal practices) and individuals (including illegal practices), for dealing with the problem, the results were only temporary and local. Mainly, they led to the development of controversies among the stakeholders, while the problem remained, creating significant economic damage to local individuals (mainly farmers) and burden with the financial budget of local and national authorities in the form of compensations [14].

The need for a new approach in the WRP problem is obvious. Hunting tourism has been a niche market segment for tourism that could offer a valuable solution for the problem. This form of tourism is considered to be an important one for other regions of the world like Africa [15], or Northern countries like Finland and Sweden [16, 17] providing significant and sustainable business opportunities for local communities.

Hunting tourism also improves the attitudes and perceptions of local residents towards wild-life conservation, and the creation of income for local communities [15, 18]. *Additionally*, selective and controlled hunting of overpopulated species contributes significantly to biodiversity conservation [19], while creating multiple financial benefits. Since the hunting season is outside the summer high touristic season, it could help local tourism firms to extend their business activities into late autumn and during the winter, providing higher levels of capacity for almost the whole year, and a more balanced stream of their cash flow [16].

Moreover, the development of hunting tourism can lead to sustainable economic growth for rural areas, especially through the development of small companies [20]. Local residents and stakeholders are also reported to be positively inclined towards hunting for tourism and economic purposes in many occasions [21]. Another important aspect of hunting tourism, that fuels local and regional economic growth, is the development of local entrepreneurship focusing on tourism related to nature [22], providing specialised accommodations to hunters [18], combined with local and traditional products, gastronomy etc.

Proper marketing planning and promotion actions could play a significant role in communicating the provided service through push and pull techniques and aspects of the "targeted" touristic segment [23]. Push factors include personal aspects of the hunter, like relaxation and competency, while pull factors are mostly oriented in the services provided by the tourism firms on the destination like meal preparation, services, destination novelty and hunting grounds etc. We must note that at the best

of our knowledge most of the literature concerning hunting tourism and its prospects focus in Africa or, the Northern countries, and none of them examines a summer high touristic destination, like a Mediterranean island.

3 Research Methodology

The research took place on Lemnos Island, Greece, which is located in the North-eastern Aegean Sea covering an area of 475.6 km^2 and inhabited by approximately 17,000 residents. The climate is typical Mediterranean and its annual precipitation is about 500 mm [24].

A questionnaire was designed in order to investigate Lemnos residents' perceptions and views towards the wild rabbits' population problem. The questionnaire was distributed to the residents of Lemnos Island through face-to-face interviews, and clarifications were provided when necessary, using convenience sampling. The interviews were conducted, from November 2016 to January 2017, only to local permanent residents, in order to ensure that they had a deeper knowledge of the issue and an interest of its effect to their island.

A total of 318 questionnaires were collected and analysed. A confidence interval of 95% and a sampling frame with maximum confidence level of 5.5 was calculated in order to estimate the sample size. The study population consists of 318 adult participants mostly between the ages of 18–65 (94.0%); 61.3% male and 38.7% female (Fig. 1). The majority (62.5%) of respondents were from the lowest annual income bracket (0–10,000 €), while the average age class of the participants were 46 and 55 (26.1%). As far as educational level is concerned, the highest percentage
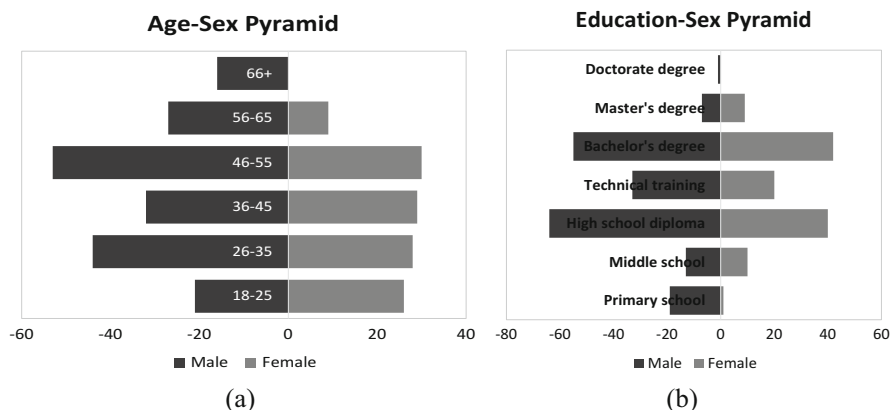
Fig. 1 The distribution of (**a**) age—sex and (**b**) educational level—sex pyramids of the study population ($N = 318$)

was for respondents who had graduated from high school (12 years of education: 32.7%), followed by graduates of higher education institutions.

4 Perceptions of Local Stakeholders and Hunting Tourism Development

Concerning statistical control, $p = 0.05$ was adopted as a minimum level of statistical significance. The reliability of the questionnaire, both as a whole and in its individual parts, was measured using the Cronbach alpha factor (Cronbach's a: total questionnaire: 0.74, first section: 0.74, second section: 0.72, third section: 0.76). The good fit of the variables is evident both from the high Cronbach's a indicators as a value near or over 0.70 is regarded as acceptable [25].

Two main key economic impacts caused by wild rabbits on Lemnos Island were identified by the conducted research: (a) the decrease in harvesting agricultural crops (58.8%), and (b) the management costs due to damages (22.7%). Moreover, amongst respondents there was an acknowledgement that rabbits cause significant environmental damage mainly through systematic grazing (53.7%).

There is a general consensus among the respondents (70.3%) that the wild rabbit should be used as a biotic resource (Fig. 2), either by its use as a consumer dietary product (69.1%), or via hunting tourism (53.1%), contributing that way in the island's local and regional developing perspectives.

To prevent degradation of crops and ecosystems, respondents agreed that direct management measures were needed. Between proposed management practices, fencing (48.4%) and systematic hunting (43.8%) gathered the consensus and approval as the two most reliable and accepted methods that can be used to control the wild rabbits' population. On the other hand, poisoning (81.9%) and explosives (87.5%) are two methods that are definitely precluded by stakeholders and islands' residents (Table 1).

Since there is such controversy concerning hunting and hunting tourism, it is important to note the positive attitude of the stakeholders, towards hunting the wild rabbits as a way of controlling their population and minimizing their ecological impact.

Additionally, an 80.2% of the respondents in our survey, believe in a sustainable economic development of Lemnos Island, in which the natural environment should play a critical role. This potentially could be accomplished by combining the development of (a) high quality local products, and (b) alternative forms of tourism and ecotourism.

Therefore, we can argue that there is fertile ground for the development of hunting tourism in the island as a way of controlling the population of wild rabbits, as both the legal environment is favourable towards hunting *Oryctolagus cuniculus*, and the local stakeholders have positive attitudes towards this management practice. The development of hunting tourism will expand the touristic product of the island
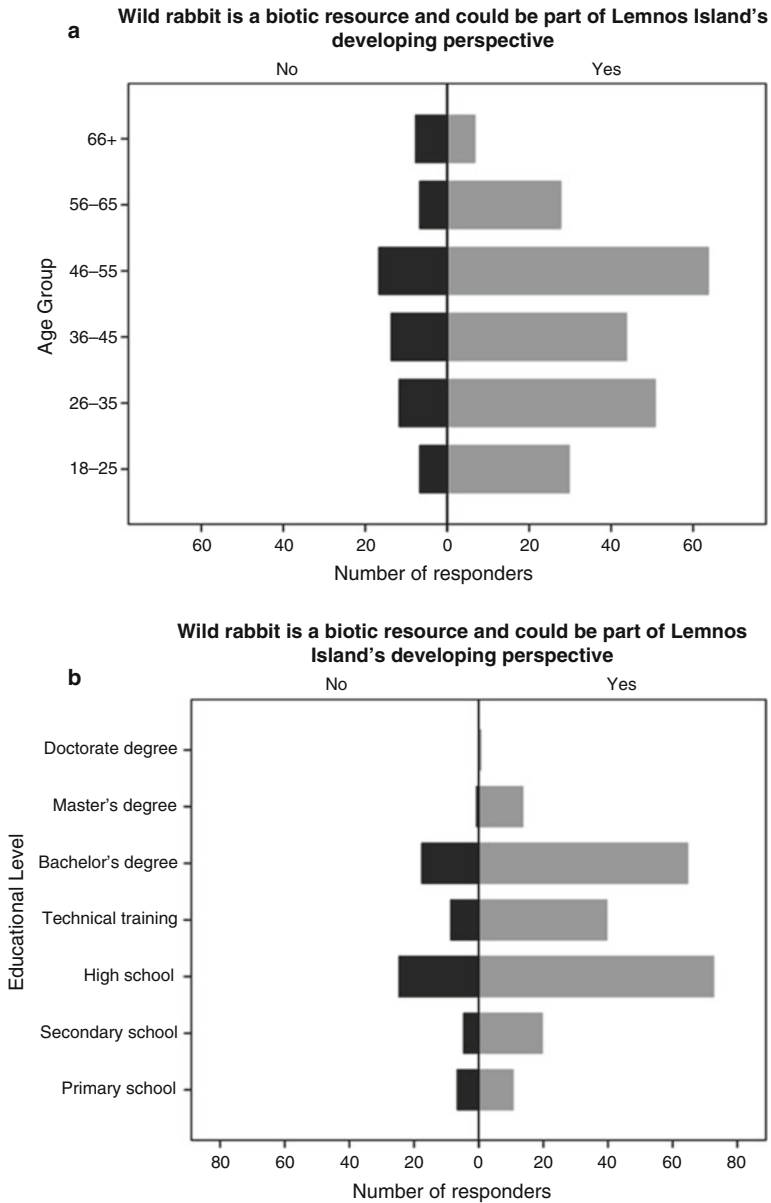
Fig. 2 Perceptions (number of yes/no answers) about using wild rabbits as a biotic resource contributing to the island's developing perspective, grouped in: (**a**) Age Group, (**b**) Educational Level

Table 1 Wild rabbit's population control of management practices and Lemnos residents' perceptions (1 = entirely disagree, 6 = entirely agree)

	Respondents' perceptions (%)					
Management practices	1	2	3	4	5	6
Fencing	16.3	3.8	8.1	7.8	15.0	48.4
Systematic hunting	16.3	5.9	6.3	11.3	15.9	43.8
Biological control	43.1	7.2	8.8	9.7	8.1	22.5
Introduction of predators	41.6	6.6	11.3	9.7	15.0	15.3
Warren ripping	47.5	10.0	15.3	9.4	6.9	10.3
Fumigation	58.8	13.1	5.9	13.1	4.1	4.4
Poisoning	81.9	5.9	3.1	2.5	1.9	4.1
Explosives	87.5	5.3	3.4	0.9	0.3	1.9

sustainably, extending the touristic period beyond "peak" season [15], and creating new jobs, along with the traditional tourism related jobs, like guides and dog breeders for example. Moreover, it would lead to better use of touristic infrastructure outside high season creating a multiplying effect for all business activities in the island. Targeted touristic marketing campaigns will promote the "rabbit season" for the island, attracting visitors that seek differentiated experiences, and who can in their turn promote the island as a touristic destination, through word of mouth and social media. Furthermore, the meat of the wild rabbits can be used by local taverns and restaurants to offer a gastronomic experience to visitors, through traditional and new recipes, promoting the local characteristics and branding of the island as touristic destination [26, 27].

We should also note that two main factors for the successful development of nature related tourism and more specifically hunting tourism firms are: (a) access to natural resources, and (b) financing of the project and its operation [22]. These conditions exist in our case since the biotic resource is in abundance, and can replenish itself sustainably during the non-hunting season, while financing can be achieved through existing touristic firms that will wish to expand and differentiate their activities and provided services, or through financial support to new firms, that will specialize in hunting tourism.

5   Conclusions: Suggestions for Further Research

In this paper the perceptions of Lemnos' residents concerning the human-wildlife conflict due to the wild rabbit population increase and its potential resolution, were surveyed. From these initial results, it is clear that the wild rabbit overabundance issue could be converted from a conflict field between stakeholders, to a biotic resource with potential economic benefits for the local community, with the development of hunting tourism.

Although there are some impediments concerning the taste and the general perceptions towards hunting (especially in younger consumers), the positive perceptions of local stakeholders, combined with favourable changes in wild rabbits' hunting legislation over the past years, offers a field of opportunity for the development of innovative hunting tourism in the island that will contribute to the local and regional development.

Appropriate marketing, and integrated marketing communications campaigns with the use of social media to influence younger consumers [1, 28], could help promote the potential use of wild rabbits as a local food, and touristic innovation opportunity both for local stakeholders, but also for tourists, enriching the current touristic product of the island in a sustainable way, and extending the touristic period. That will result in an increase of visitors in the island, the creation of new jobs, the increased utilization of current touristic infrastructure and the development of new, that can be operated sustainably for longer periods.

Since there are statistically significant differences in respondents' views regarding the proposed management practices, in relation to the area of residence, occupation and age, further research should be directed. Also the perceptions of visitors and potential tourists on the prospect of visiting an island during winter for hunting should be examined, in order to measure the potential effect hunting tourism may have to the ecological problem that intends to solve, and the economic contribution to the development of tourism of the island, and its branding as a destination. Additional research should also focus on the development of gastronomic tourism that will be based on local products and culinary experiences that will be based on the wild rabbits' meat.

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A Systematic Literature Review on E-Commerce Success Factors

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Abstract Purchases from online stores are preferred by the majority of European customers. Thus, it has stimulated both academic and business interest the identification of the factors that can affect their success. The objective of this article is to increase the understanding of the factors affecting the success of an online store. Thus, it can be a tool for online shop managers to have an overview of the factors that are important for an e-shop success. To achieve this, we contact a systematic literature review which tries to determine the success factors. In order to achieve this, we examine 24 articles published between 2013 and 2017 from peer-reviewed journals and conferences. Then we classify the factors in four main categories design and site presentation, e-marketing techniques, trading, delivery and customer support before and after the purchases and site's reliability, safety and reputation.

Keywords Online retailing · E-commerce success factors · E-shop evaluation · Systematic literature review

1 Introduction

According to Eurostat seven out of ten internet users made an online purchase in 2017. The main buyers are users between the group age of 16–24 and 25–54 and the most popular purchases are clothes and sports goods (64%) following by travel and accommodation (53%). The biggest e-commerce markets in Europe are the United Kingdom (87%), Denmark (86%), Netherlands and Sweden (84% each) and Germany (82%). These percentage indicates that 80% of internet users made orders

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for product or services over the Internet. However, the main problems that EU e-customers face are about the delivery process (17%) and having technical problems with the site while ordering or paying (11%) [1].

On the other hand, in Greece, there is a development of 15–20% of the Greek Online Business-Customers market even the fact that the number of online buyers remained stable. Greek online shoppers it is showed that they prefer mainly Greek online stores (85% of respondents replied that they make over 80% of their online purchases) and the reason that they choose online stores are because they find better prices and offers, bigger range of products and they save time because the processes are automated. The main problems that Greek customers faces are about the delivery process of the products and the support post-purchase [2].

The above surveys recorded two opinions of different consumer audiences. The first one describes the situation that exists in Europe e-commerce market and the second one describes the situation in the Greek market. However, both underline some factors that are important for an e-commerce store. Thus, we believe that is very interesting to summarize the factors that influence the success of an e-shop according to literature. The paper follows the above structure: first, it is presented the methodology of the Systematic Literature Review (SLR). Then, we present the results of the selected articles and we conclude with the limitations and suggestions for future research.

2 Methodology

To conduct our Systematic Literature Review we use as the guidance proposed by Tranfield [3]. First, we plan the review by specifying the objectives of the research and the main data source of our review. Next, we conduct the review by setting the selection criteria, grouping the publication and classify the results. Finally, we comment on the results (in Sect. 3).

Our objective is to identify and categorize the main factors that affect the success of an e-commerce store. To achieve this the data collection came mainly from the sources such as Science Direct, Scopus, and Google Scholar. In order to identify the right content keywords, it is important to refer that they included the concepts of key points of the research, such as e-shop, electronic shop, online shop, electronic commerce, e-commerce combined with success factors or evaluation, quality. The above keywords led to a variety of results. In order to limit and identify the most suitable sources, the advanced search was made using combinations between the above terms and success. At the same time, as data in e-commerce is changing at a dizzying pace, a limitation on the release date was considered. The articles that explore the factors that an online store succeeds in are limited to the last 5 years with most being published between 2013 and 2017. A review of the research results was done by studying the summaries from articles and book chapters. Sources whose summaries did not include words related to e-commerce and its success were rejected by the study. A final audit was carried out in more than 80 articles, of

Table 1 Stages of literature review

Stage	Description of stage	Number of articles
First stage	Search in three main sources (Science Direct, Scopus, Scholar Google)	Extremely big number of articles
Second stage	Combination of keywords with terms such as success factors, evaluation or quality	Big number of articles
Third stage	Use of limitations (time frame 2013–2017 etc.)	80 Articles
Fourth stage	Study of summaries of both articles and chapters	24 Articles

which 24 were involved in analyzing the data for the conduct of this work. Table 1 summarizes the stages of the literature review.

After the final choice of articles, a grouping process followed. At each source, researchers studied the subject of "e-shop success factors" from a different perspective. It was necessary to create broader sets of factors in order to limit them and study them effectively. According to Webster and Watson [4], the approach was based on the content of the sources (concept-centric). The contents of the latest scientific publications led to the creation of four major categories of factors. The conceptual pieces are factors related to site design and general presentation, factors related to marketing techniques, factors related to trading, delivery and customer support before and after the completion of their purchases; and finally, a category of factors related to the site's reliability, safety and reputation.

As mentioned above, for this systematic literature review are selected 23 papers published between 2013 and 2017; the majority of them have been published in 2017 and in 2016 when were published 8 papers (see Fig. 1). Most articles have been published in Computers in Human Behavior (7), followed by Telematics and Informatics (2), Electronic Commerce Research and Applications (2), Information and Management (1), The Service Industries Journal (1), Conference/Congress (1),
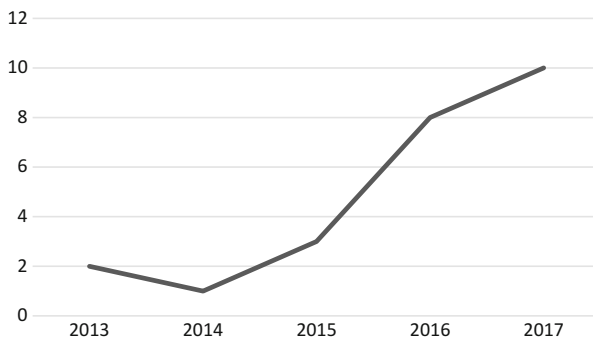
Fig. 1 Publication per year (2013–2017)

Asia Pacific Management Review (1), ACM Transactions on Management Information Systems (TMIS) (1), Theoretical Issues in Ergonomics Science (1), Computer Standards and Interfaces (1), International Journal of Information Management (1), International Journal of Production Economics (1), Industrial Management and Data Systems (1), IJASRD (1), Electronic Commerce Research (1) and The Electronic Library (1).

3   Results

3.1   Factors Related to Site Design and General Presentation

The most important factor during the design face is to identify the sites' target group [3, 4] because different generations pay attention to different things. For example, Gen Y focus on site response time, presence, structure. Specifically, they want a fast site, a clear presence and simply structure [5]. Interactive interfaces and elements such as design, virtual arts and graphics [6], structure and site layout [7] consider key elements for a quality e-shop [6]. The ultimate goal for combing all these different elements is to create a satisfy [7] and enjoyable [8] site. Another element, that affects the satisfaction rate is the accurate guidance that receives when it is needed [9], services personalization and instant response to problems [10].

In an online store, there is not a physical presence, so the only touchpoint between customer and product is the product presentation. An interactive interface (using pictures, video, etc.), an accurate product description is extremely important because it creates a better picture for the presented product [11–13]. Except for the usability of content and product presentation Shin [6] adds the payment methods and customer services in site general presentation. As the online market has no limits the online stores should be able to adapt easily in different language and cultures maintaining its design and presentation [9]. Consequently, the site design process and site presentation is the result of a collaborative project between experts from different scientific fields [14].

3.2   Factors Related to Marketing Techniques

An online store has no physical presence, thus marketing is an extremely important factor for its survival and success [15]. Equally important is an attractive presentation which is a tool for the marketing manager to attract new customers and to create a sustainable competitive advantage [6]. The creation of a strong customer base through continual communication, interaction and having sufficient information about customers [14] is the key for an online shop successful. The customer base engages with the online store with comments/feedback for products or services

during and after purchase. Increasing engagement can be translated to improving customers' loyalty and increase online sales [16]. On the other hand, the online comments/feedback or recommendations can be the reason to attract new clients [13]. Social media is a big part of the Electronic Word of Mouth (e-WoM) because it offers a way for customers to communicate and express their opinions about a company. However, businesses have to be willing to learn about their experience and communicate with them during their customer journey [17].

The variety of personal data give businesses the opportunity to follow a customer-centric strategy where the customer is in the center of business processes. In the case of an online store, this strategy (having a detailed profile of customers) can influence customer satisfaction and its survival [18]. Furthermore, recommendation systems are an important parameter for customer-centric strategies. Recommendations purpose products to customers that are similar or products that can be combined with their purchase. A customer who has a solid relationship with an online store trusts easier the proposed recommendations [19]. Same results have personalized messages which are more successful in the case that customers have an opinion about a product [20].

A big part of an online marketing campaign is online advertising and especially the advertising in search engines [14, 21]. An e-shop must have good representation in the organic results of search engines. For example, Lu [21] points out that the existents of a link with the brand name of the company are very important for recognition purposes. On the other hand, the landing page of the link plays an important role in the creation of a relationship with customers. The reputation, site security and interactions with customers influence the choice of customers. Quick response to customer message can influence customers' intentions about the site [22].

Advertisement through social media is another way an online shop to be promoted. However, this type of advertisement has to focus only on existing customers in order to be successful because they respond better to the advertising message [14]. Media multitasking advertisement offers a complete view of the products because they encompass different source of information. Thus, they are more effective [23].

Digital marketing can improve the communication, interactions, and responses between the online store and customers. In addition, digital marketing can be the reason that a company starts its digital transformation processes by improving the back end processes [24].

3.3 Factors Related to Trading, Delivery and Customer Support Before and After the Purchases

The term e-services include services that are capable to satisfy their customers such as information search, required services to make a deal, services to fulfill a deal,

services after selling a product [25]. Consequently, there is a connection between the information and the e-services that an online shop provides. Two conditions should be existed in order to offer advanced services, improved main activities related to site services (order fulfillment, privacy precaution) and enhance services after the selling process (customer services, recovery services, etc.) [12]. Each online store can offer different services related to product types, risk rate [25]. Offered services can increase the sales rate [12, 25] customer royalty, create additional value and customer satisfaction [25].

Payment services [26] and different type of costs (delivery or transaction) [12] are considered important factors that underline an e-shop success. There are two main payment methods. Pay-to-order method is the most common and it is used by the variety of online stores. Pay-on-delivery is an upcoming payment method which can improve the quality of offered services but it more expensive for sellers. Furthermore, this type of payment is capable to attract new customers that are unfamiliar with online shopping [26].

3.4 Factors Related to the Site's Reliability, Safety and Reputation

The lack of trust is the main reason that customers do not choose an online shop to make their purchase [27]. In a physical shop, trust can be achieved through the conversation with a salesperson. However, in online stores trust can be created through fast transactions, having no additional charges, fulfill obligations and responsibilities and through standardized customer services [27]. Extremely important for the reputation of an online shop is the reliability and the support after the purchase [8]. Call centers play an important role in online stores because it is a way that customers communicate with the business [14].

4 Conclusions

The preference of European customers to shop online has increased the competition between online stores which try to increase their market share by offering sophisticated services. In the domestic market, online shopping is in intermediate stage, namely, it is not in its infancy neither it is mature enough. Furthermore, Greek customers preference to shop from online stores creates an opportunity for domestic online market to grow and thrive. Thus, this research can be an informative tool for managers, policies in order to pay attention to specific characteristics that can affect the success of an online store.

The results of the Systematic Literature Review indicate that there are four main categories that influence the success of an online shop. Site design and

presentation (speed, structure, product presentation, easy navigation), marketing techniques (customer-centric strategy, e-WOM, marketing campaign), offered services including services before and after the purchases and factors related to trust such as payment methods, protection of personal data, etc. However, this separation cannot be strict because there is interdependence of the factors. For example, simple design or safety issues can be helpful for improving marketing results and sites' reputation.

This research has some limitations. An important limitation is the small number of articles that are used in order to contact the SLR given the fact that the time span is 5 years (2013–2017). The SLR results have not been tested in quantitative research in order to check their significance. Nevertheless, these limitations can be suggestions for future research. The small number of articles can be considered an indication that a factor categorization exists, and researchers should scale up the existing research by including many more articles. Finally, it is important to test which of these factors are considered more important for online shops managers by testing these factors in the field in markets which different maturity.

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Influencer Versus Celebrity Endorser Performance on Instagram

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Abstract With the evolution of technology, social network sites become a new medium for consumers and marketing professionals. Instagram is one of the fastest growing mediums since it allows marketing practitioners to interact with their audience by capturing and sharing photographs and videos to build a relationship and also has a great potential of online shopping. Instagram offers not only a new medium or e-shopping platform but also offers new ways of celebrity endorsements. Thousands or even millions of people follow not only traditional celebrities like actors, singer, etc. but also accounts of normal everyday people, called as influencers on these social media platforms like Instagram. The purpose of this paper is to examine how brands utilize influencers and celebrities for building and maintaining relationships with various publics on Instagram. This paper presents the results of a content analysis that examined the use of brands by Turkish influencers and celebrities on Instagram. Brands appearing on ten influencers' and ten celebrities' Instagram pages, during the first 5 months of 2019, were examined using a criteria set to make comparisons. The results of this research can be used as a starting point by brands targeting Turkish audience for determining marketing strategies on Instagram.

Keywords Brand endorsement · Influencer marketing · Celebrity endorsement · Social media · Instagram · Content analysis

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1 Introduction

The use of social network sites has grown rapidly in the last decade around the world, especially among younger generations. Turkey is one of the youngest populations in Europe. According to Turkey Statistics Institute (TUIK), as of the beginning of 2019, the total population of Turkey was nearly 82 million, while the people using internet is 60 million people [1]. According to We are social and Hootsuite statistics [2], Facebook and Instagram hold the highest number of registered users, where Facebook has 43 million users and Instagram has 38 million users in Turkey. This high volume of users brought new mediums to discover in terms of marketing communications. Consumers have the tendency to replicate opinion leaders, their style and trends and their way of consuming [3]. These opinion leaders could be celebrities, or people they admire around them. Traditional celebrities such as actors, singers, models, athletes, etc. were heavily seen on traditional mediums such as TV, magazines, etc. endorsing a brand or a product. Celebrities are also using social media platforms and some of them has upgraded their fame. Following the celebrities' daily life creates a bond between their fans and apparently they feel closer [4]. According to Marshall [5], online celebrity practices narrows down the gap between celebrities and their fans. Non-traditional celebrities or influencers are regular people who become idolized by masses with their posts on social media platforms like Instagram, Twitter or YouTube. Researchers argue that information coming from a non-marketing source is more credible than coming from a marketing source [6, 7]. Product reviewers online are now much more influential as they are perceived to be more authentic and accessible by the masses [4].

The purpose of this paper is to examine how brands utilize influencers and celebrities for building and maintaining relationships with various publics on Instagram. This paper presents the results of a content analysis that examined the use of brands by Turkish influencers and celebrities on Instagram.

2 Background and Related Work

Instagram is a social network platform which enables users to take, design, upload and share photographs and videos. Instagram users can also share posts and interact with other Instagram users by liking and commenting on each other's posts. Users could benefit from multiple symbols like hashtags "#" and tags "@" to describe their posts and influence their impacts widely.

Instagram marketing can be defined as a set of customer-oriented activities that are designed to maximize the brand awareness and achieve sustainable competitive advantages through Instagram [8]. Research on Instagram marketing is still limited. Goor [9] and Hassan [10] focused on different types of brands that are trying to apply traditional strategies of brand management on Instagram. The customers'

preference and demands to understand content brands should include on Instagram [11, 12]. Bergström and Bäckman [13] discussed how brands are utilizing Instagram commercially. Gong [8] focused on how B2C brands like Red Bull, Starbucks and Netflix to engage customers on Instagram efficiently. Lee and Hong [14] stated that social networking site ads would likely induce positive perceptions and responses, and thereby would create WOM effect and greater sales for brand. One of the main platforms for WOM and influencer marketing is Instagram, which recently has reached high popularity with the user number in social media platforms. Marketing activities through Instagram can drive the consumers to online shopping [15]. In addition, Instagram is preferred by users because of its more interactive platform and its fast use. For this reason, influencer marketing applications are mainly implemented on Instagram platforms in Turkey [16].

Instagram, with all these unique functions to share visuals, offers companies to communicate with their potential and existing customers and affect their perception of brand product image in a more memorable way [17]. According to Cho and Huh [18], images are more prominent on product preferences. Also, visual power of Instagram reduces uncertainty and enriched the communication between the company and their customers and generates a more interactive relationship [19, 20]. This made Instagram a new medium for promotion and advertisements. Celebrities and micro-celebrities (influencers) in social media, specifically on Instagram, can be considered easily identifiable opinion leaders with a large number of followers. Opinion leaders in social media may grab attention of consumers to products/brands, play a key role in e-WOM advertising, thereby may create viral communication effect.

Celebrity endorsement is a technique to increase purchase intentions by exposing a celebrity in an advertisement [21, 22]. Celebrities use Instagram to communicate with their followers, announce themselves to fans and remove the borders between the audiences [23]. Dean and Biswas's [24] study revealed that celebrity endorsement can result in more favorable attitudes to manufacturer of product and consumers' buying behavior. Djafarova and Rushworth [3] have found followers aspire to the lifestyles of some celebrities. They follow posts of celebrities and imitate their lifestyle. Therefore, endorsed brands by celebrities influence audiences' purchase intentions [25]. Apeyoje [26] found that celebrity endorsement has an effect on purchase intention of students. On the other hand, Kutthakaphan and Chokesamritpol [27] found that the use of celebrity in commercials did not have much effect on the buying intent of the Y generation. Most of the research on the effectiveness of celebrity endorsement has focused on celebrities' source credibility including expertise, trustworthiness and attractiveness [28]. Bhatt et al. [29] have found that all dimensions of source credibility has influence on consumers' attitude toward the ad, especially celebrities' attractiveness is more effective than the other dimensions.

Social media platforms also created their own opinion leaders. Social media influencers represent a new type of independent third party endorser who build and/or change audience attitudes via blogs, tweets, and the use of other social media [30]. There are different ways of using influencers in order to promote the products:

discount code offering, product placement, and giving an advice. Discounts offered by influencers ensure that there is a direct link between a person spending money on particular product and the influence of micro-celebrity. Product placement is when an advertised product appears on a picture with a hidden intention to catch a follower's attention [31]. Nandagiri [32] stated that the negative or positive reviews about products/brands by influencers influence to the viewer to buy products/brands. Jargalsaikhan and Korotina [31] have found that especially teenagers are easily influenced by micro-celebrities (social media influencers) when they purchase. Furthermore, it is found that consumers' attitude towards influencers are mostly positive. In addition to this, the attitude towards promotion done by influencers varied according to the type of marketing tool: Discount code was recognized as the most favorable tool, followed by advice giving, and product placement was found to be the least favorable marketing tool. De Veirmann [33] stated that endorsements by influencers who have sizeable followers is perceived more credible e-WOM than paid ad, because influencers use content with brand integrated to their personal posts.

Based on the literature, Schimmelpfenig [34] identified six types of endorsement (celebrity, typical consumer, Professional expert, company president/CEO, spokescharacter and employees) and examined the product categories in the magazine ads with these endorser types. According to this study, it was founded that ads with expert endorser usually promote pharmaceuticals and medical/personal care products in magazines. Ads featuring consumer endorsers mostly promote pharmaceuticals and other medical care products and ads with employee endorsements advertise automobile and news magazines, whereas spokes-characters, especially animal forms, are used the most to market cleaning products and pet food.

Nouri [4] compared the performance of traditional celebrities and influencers on YouTube and Instagram. Cılızoğlu and Çetinkaya [35] have expressed that influencers and new celebrities use their Instagram pages and stories as an advertisement media and they directly share advertisement contents. Sabuncuoğlu İnanç and Yağlıcı [36] have carried out content analysis method with food pages or woman food cooking influencers on Instagram who have more than 250,000 followers and accordingly, it is founded that sweepstake method is the most used ad type in order to direct the sales page by food cooking influencers in Instagram. It is also revealed that food advertising is the most shared product type by these influencers, because of their field of interest is food. Likewise, Cılızoğlu and Çetinkaya [35] have stated that Danla Biliç who is a YouTuber and influencer have shared content with brand related to cosmetic sector which is her profession. In addition to this, Alikılıç and Özkan [37] have examined Instagram posts shared by 30 opinion leaders in cosmetic industry using content analysis. According to study, they have expressed all of the influencer promote at least one product in their account and hashtag the name of the product in the post. Furthermore, they have concluded that influencers' content posts related to brand is more than their personal posts. Instagram is a fast growing media but still there is need for academic research and insight for this new medium. Also these scarce literature represents the results of the findings from developed countries. This study was carried out to achieve a deeper understanding celebrity and

influencer endorsement in Instagram as a marketing strategy and provide a basis for future studies in an emerging market (Turkey) with a large young consumer group using social media actively.

3 Research Method

Content analysis was chosen as investigation technique, since it has been proven as an objective, systematic and quantitative description of mass communications by past empirical investigation [38–44]. To gain an understanding the performance of influencers and celebrities on Instagram, a quantitative approach was adopted from Gong [8] with using a measurement like number of followers, likes and comments. The top ten celebrities and influencers according to their followers on Instagram were chosen for this study using a criteria set. This criteria set was compiled from related studies [13, 28, 35–37, 45, 46]. The data were collected between 1 and 20 May 2019 by looking at between 1 January 2019 and 23 May 2019 posts' of influencers and celebrities on Instagram. The data collected from top ten Turkish influencers and top ten celebrities 2019 posts were subjected to a content analysis. According to Mayring [47] content analysis could be used with texts, pictures, music or plastics. This study coded both the text and the multimedia (photograph or video). Two independent judges who were trained beforehand analyzed the posts using categories shown in Table 1. Bruner [48] suggested that coders should be a member of the medium's natural audience. PhD candidates, young coders regarded as appropriate for this study. During the training process researchers were clearly informed about the key concepts and the process of the study. Coding forms including definitions and guidelines developed and handed out to the coders. Kolbe and Burnett [40] suggested that intercoder reliability is seen as a measure of quality of research in content analysis. Scott's [49] pi index of reliability, which was used to assess inter coder reliability was calculated. The most frequently used indexes are coefficient of percent agreement [44], Scott's pi [41, 50], Cohen's kappa [51] and Krippendorff's alpha [52]. Scott's pi index is considered as appropriate for this study because of its appropriateness only for nominal level variables and two coders like this study. This index corrects for the number of categories used and for expected frequency of categories used [41]. The coders achieved $\pi = \pi = 0.95$ average.

4 Findings and Discussions

Table 1 shows the Celebrities and Influencers included in content analysis and their basic statistics on Instagram. A total number of 2879 posts were examined, where 660 of them were shared by celebrities and 2219 were shared by influencers in 2019. Only by looking at this finding, influencers are more active on Instagram between

Table 1 The characteristics of influencer and celebrity accounts included

	No. of followers	No. of posts	Posts in 2019	Posts with a brand
Celebrities[a]				
1. Mesut Özil	19.7m	1240	63	10
2. Burak Özçivit	12.7m	73	24	6
3. Murat Boz	9.5m	683	58	10
4. Hande Erçel	9.5m	406	15	1
5. Hadise	8.9m	1162	87	0
6. Fahriye Evcen Özçivit	8.1m	839	9	3
7. Demet Akalın	7.9m	5805	297	2
8. Serenay Sarıkaya	7.9m	829	56	12
9. Neslihan Atagül Doğulu	7.5m	515	22	6
10. Acun Ilıcalı	7.1m	324	29	0
Influencers				
1. Cezmi Kalorifer	6.1m	16,000	556	8
2. İncicaps	5.3m	19,700	1279	8
3. Aykut Elmas	3.8m	803	54	1
4. Danla Biliç	3.5m	432	42	7
5. Enes Batur	3.4m	307	5	0
6. Şükran Kaymak	3.2m	2631	161	35
7. Atakan Özyurt	3.2m	993	33	0
8. Yasemin Sakallıoğlu	2.7m	260	22	0
9. Murat Sakaoğlu	2.4m	72	24	2
10. Orkun Işıtmak	2.4m	495	43	0

For the top 10 celebrities: https://dijitalkralice.com/ [53]
For the top 10 influencers: https://www.boomsocial.com/ [54]
[a]"Nusr-et" account has been removed from the top 10 celebrities list because he is famous for his ownership

first day of January, 2019 and 23th of May, 2019. Total number of posts with a brand in both parties is 111, where influencers shared 61 posts with a brand, in total and celebrities shared a total of 50 posts with a brand. The most frequent brand endorsed posts were shared by celebrities. The top ten celebrities according to their followers on Instagram, are mostly actors and actresses. There are also three singers, a football player and a producer included in the list. Six out of ten celebrities are women. The first and second account in influencer category with the largest number of followers are entertainment accounts with anonym admins. Actually eight out of ten influencers have an entertainment theme. One of them is a beauty and make-up account and the other one is food and cooking account. It could be said that majority of the first ten influencers with the highest number of followers share fun-oriented content whereas the top ten celebrities who have the most followers are mostly working in the field of music and acting. In addition to this, it is thought that the number of followers of these celebrities is high due to their visual attractiveness and activeness on television.

Eight out of ten celebrity accounts have posts with brand endorsement, where as six out of top ten influencer accounts have brand endorsement in their accounts. It was also found that celebrities often endorsed the brand they played in TV commercials. The reason is that as being integrated marketing strategy of the brand, the marketer may have a deal with spokesperson who is the celebrity about sharing posts with ad related to brand. However, influencers first shared ads on their social media accounts, then some of them were played on TV ad, but it was not the same brand with ad of social media posts. This is because, they were common people before they had millions of followers. Marketing professionals generally use celebrity who is well-known by most of the people on TV ads. So, when influencers become a well-known person, they become possible and target audience for marketers to be stared in TV ads.

According to the further findings, the number of influencers who share advertising is less than celebrities. This is remarkable, because it is assumed that influencers' main focus is to share post in their own social media account and try to increase the number of followers and their income by sharing ads. Another interesting finding is that neither celebrities nor influencers use hashtags showing their content is an ad or sponsored content except a football player celebrity and his posts with Adidas. On the contrary an influencer with food themed account uses brand and product placement without mentioning it is a sponsored content.

Additionally, it could be said that the most recent endorsements are clothing brands in terms of product categories. Food, beauty and self-care brands are the second and third recent brands endorsements among the included posts. When the celebrities and influencers who share the ad content are examined in detail, it is seen that the number of likes and comments of the posts with brand as ad content are lower than their posts as personal content. Besides, it is noteworthy that especially celebrities did not advertise for different brands from the same product category. The reason for this may be explained by the fact that such a condition has been established when the celebrities agree with the brands as the spokesperson; for influencers, it is thought that they may have applied to such method in order to not reduce their reliability by consumers.

5   Conclusion and Limitations

With the recent emergence of Instagram, an increasing number of brands are communicating on Instagram. Considering its unique characteristics for personal and mass communication, Instagram could be an efficient tool to develop and sustain effective relationships. This study focuses on the performance of Turkish celebrities and influencers on Instagram. Findings reveal that there is no one-fits-it-all strategy on Instagram. Influencers are more active on Instagram than celebrities, but celebrities have more followers and brand endorsements. Even though celebrities have fewer posts in total, they have more posts with a brand. This could be explained by companies traditional brand strategies. Companies still

prefer traditional celebrities to present their brands although there are findings supporting influencers are perceived as reviewers and so perceived more reliable. Another notable finding is that using hashtags like "#ad" or any form of stating sponsored contents is not common, even exceptional for posts of celebrities and influencers included in this research. This could be explained with the lack of legal restrictions since the medium is still in its emerging stages. Successful marketing communication on Instagram is possible with the ability to differentiate oneself in a dynamic manner. Brands should engage their audience by using Instagram specific strategies. Future studies need to explore how influencers and celebrities effect brand image, promotion and sales.

Like every other research, this research has limitations too. Time and other scarce resources limited the number of examples in this research. Future studies could present the findings of a larger sample to gain enriched insights. In terms of measures, a survey or in-depth interviews with users could be encouraged for future research.

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Displaced Due to Conservation and Tourism in the Heart of India: A Review of the Relevant Policies

Check for updates

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Abstract Madhya Pradesh (MP) is a central Indian state positioned as the heart of India. The MP tourism board undertakes the responsibility of developing tourism in the state with the aim of promoting sustainable form of tourism. One of the key attractions promoted is the wide range of wildlife destinations in conservation areas, which has displaced many local indigenous communities. The main aim of paper is to review the relevant policies concerning the wildlife tourism product in MP to examine the involvement of the indigenous local communities and highlight their plight due to displacement. This paper utilizes a critical interpretive lens in reviewing the policies and the concerned acts. Findings highlight three areas of concern; firstly, there is a lack of clear information on how wild life tourism would be developed, implemented and governed. Secondly, the relevant policies do not mention the involvement of the local indigenous community or their issues and finally the policies does not clearly address the displaced indigenous communities' issues while subsisting to a sustainable tourism vision. Implications for ... are discussed.

Keywords Policy review · Wildlife tourism · Conservation · Displaced communities · Tourism impacts

1 Introduction

India is a country with dynamic and abundant natural resources. In the heart of India, lies Madhya Pradesh, which is the second largest state in the country, known for its several wildlife attractions. Madhya Pradesh State Tourism Development

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Corporation Ltd. (MPSTDC), a state government organization is the nodal agency responsible for development and promotion of tourism. Its wildlife destinations include nine national parks, 6 tiger reserves and 25 wildlife sanctuaries [1]. However, when it comes to managing the wildlife attractions, there are other agencies also involved. For conservation of flora and fauna, the state government began setting up a network of in-situ conservation or protected areas (National parks and sanctuaries) under the provisions of the Wildlife Protection act, 1972. On the same note, to protect the population of tigers, Government of India with the World Wildlife Fund (WWF) also launched the "Project Tiger". Kanha tiger reserve is first protected area launched under "Project Tiger" in the country. Alternatively, these in-situ conservation areas have also displaced the indigenous communities who originally lived in those areas, depending on the forests for their livelihoods, losing their homes with often hardly any compensation. The success of conservation depends frequently on the impacts on the local communities, which also influences their support for conservation [2]. In some cases, they are given lands right outside the conservation areas as a part of the scenery and wildlife, commoditizing their traditional culture. Madhya Pradesh (MP) also has such conservation areas where the indigenous communities have been displaced and live on the outskirts of the conservation areas. With many stakeholders and different policies being applied, it is vital to review existing policies to meet the MP tourism policy vision of promoting a sustainable and balanced tourism that facilitates socio-economic development. Hence, this paper aims to review the M.P tourism policy and relevant policies pertaining to wildlife tourism product; to examine the involvement of and impacts on the indigenous local community by; firstly reviewing the MP tourism policies with regards to the wildlife tourism; secondly to understand the involvement and the extent of how the policies impact the indigenous communities.

2 Wildlife Tourism in India

The total area of India's protected wilderness is around 140,000 km^2, which constitutes 4% of the country's total land area [3]. According to International Union for Conservation of Nature (IUCN), the area covers more than 544 wildlife sanctuaries and 103 national parks. It is a home of over 360 mammals and 1300 bird species and has finest wildlife, bird sanctuaries and tiger reserves [3]. Many of these parks, sanctuaries and reserves include tourism as well. Wildlife tourism encompasses both ecotourism and sustainable tourism principles for the proper augmentation of the place. Recent research on wild life tourism in central Indian tiger reserves suggest that wildlife tourism is growing and contributes significantly to the local economy around the reserves, yet not enough to impact the lives of local communities [4]. Imperative global issues led to calls for conservation in an environment of challenges with increased infrastructure, tourist impacts, declining wildlife population and the overdependence on the resources by the indigenous community [5, 6]. Wildlife tourism in India is mostly controlled by state along with

other agencies. These agencies set up in-situ conservation areas such as national parks, sanctuaries protecting the declining tiger population and the flora and fauna. Wildlife conservation policy does not view tourism in protected areas as a source of revenue for the local communities [6]. Besides, Karanth [5] claim that tourism revenue has not contributed towards conservation and despite the growth in visitor numbers, their findings suggests that direct economic benefits of tourism do not entirely reach local communities. This lack of a community based or beneficial form of tourism can contradict sustainability goals and principles.

2.1   Conservation and the Plight of the Displaced Indigenous Communities

Research on conservation and displacement has been indicated mainly through lens of poverty reduction, sustainable livelihoods and income [4, 7–11]. Other lens such as social cultural impacts and human rights perspectives need to be explored further to be able to be sustainable for both biodiversity and local communities [10]. There is also acknowledgement that conservation of biodiversity depends on the local communities [12, 13] as well as realisation that policies that ignore the indigenous communities within the parks are bound to be unsuccessful [14] and that displacements from original lands has often been catastrophic to those displaced [15]. Yet, there is a lack of research emphasising the social impacts and human rights issues due to conservation and displacement compared to research on biodiversity conservation. Whilst human activities including tourism can negatively affect biodiversity conservation, survival of wildlife and protection of wildlife habitat; indigenous communities living in protected areas face raiding of crop, livestock predation and even displacement. This creates a predicament on how the protected areas are managed.

Initially, in 2002, development agency such as World Bank recommended a resettlement policy framework for displacement that acknowledges land rights, however from a human rights perspective; it is not acceptable to be displaced from one's traditional lands leading to poverty and marginalisation. Displacement also will distance the local communities from conservation and be unsustainable in the midst of the need to increase policing. On the other hand, policies that seize devoid of prior consultation, compensation and informed consent; tend to violate international laws [10]. Hence, as aptly emphasised by Mishra et al., such a challenge requires "*an integrated approach that recognises the interconnectedness of social and ecological systems and attempts to link science, policy and societal goals through interdisciplinary methods of problem solving and multi-stakeholder decision making*" (p. 149).

This has also led to a paradigm shift in the governance of conservation conflict from a '*preservation focused*' (1970s) approach that excludes local people to conserve biodiversity [9] to a '*community based conservation*' paradigm [16]. This

shift in paradigm had also opened up questions on how the community-based conservation is to be carried out. Some attempts for community based conservation approaches include the '*Integrated Conservation and Development Projects*' *(ICDPs), Inclusive Management* and community Conservation Areas' [17]. The ICDPs include providing compensation for the lack of access to the protected areas and providing economic benefits by creating alternate income sources to the local community preventing them from destructive activities [17]. This approach in any case displaces the indigenous communities from the protected areas and the conflict arises when the relocation is not voluntary. Furthermore, the communities are kept out of decision-making or in the conservation efforts. This approach is based on the assumption that monetary benefits can solve the conflict; nevertheless, ICDPs approach is still practiced. Alternatively, the 'inclusive management' approach comprise of partnership that engages participation of the local communities in the management of the protected areas [18]. It involves active involvement and collaboration in the daily management of the protected areas by all stakeholders including NGOs to ensure that the indigenous communities receive a large share of the benefits and play a big role in decision making in the protected areas. It comprises of capacity building, empowerment of indigenous communities and working based on trust. Alternatively, the '*Community Conserved Areas*' consists of ecosystems that are natural or have been modified and are voluntarily conserved by local communities [17]. This could include diverse initiatives by the communities in not only biodiversity but also ecological services and cultural values. Even though all three approaches are practiced and some proved to benefit the local communities through poverty reduction; of their own accord, they are hardly able to reduce poverty significantly [17]. Nevertheless, ultimately the conditions of the poor indigenous communities should not get worse due to the establishment and the management of protected areas.

In India, the eco-development approach aims to promote social change, ensure community's participation in conservation of biodiversity without ignoring the rights of the communities; mainly due to the failure of voluntary and forced displacement projects. As per Lasgorceix and Kothari [19], only few examples can be noted where successful relocations happened such as Corbett tiger reserve, Rajiv national park and Bhadra tiger reserve. Majority of the relocation process have been unsuccessful [20]. The significance of managing relocation has led to eco-development projects and ICDPs in some protected areas in the country. Yet, the displacement of forest dwellers continued; with the most recent being their eviction from their traditional homesteads by forest departments seeking to consolidate the enclosure process under the Wild Life Protection Act of 1972 and its 1991 amendment, which severely restricted the rights of forest dwellers in wildlife sanctuaries and curtailed their rights in national parks [21]. Having no common national rehabilitation law or policy, several states within India adopted their own state policies for displacement and resettlement. Thus, one of the key issues of wildlife, flora and fauna conservation in India is the issue of displacement of the local indigenous community locally referred to as the '*adivasis*'. These adivasis

mostly earned their livelihoods through rearing livestock, selling forest produce and agriculture.

The cost of such displacement has mostly been impoverishment, loss of traditional livelihoods, withdrawal of the displaced and loss of culture. Thus, conservation has been at the cost of the local indigenous communities. As it affects communities, displacement is a key issue of conflict and significant aspect of policies [22]. It has been observed that the displacement in India due to tiger reserves since 1973 could have impacted 80 villages and 2900 families, though the actual figures are higher, making it a conflict between conservation and social justice [22]. Furthermore, it becomes a case of social exclusion if the local communities are from a marginalized community as in the case of some of the '*adivasis*' in India. Tourism further complicates the conflict where other powerful stakeholders like the tour operators and hoteliers have continued access to the forest reserves while the locals have been displaced. Despite the gravity of the 'displacement due to conservation' dilemma, it is still not a part of the discussion levels of policy makers [22]. This study focuses on reviewing the policies related to it within the Madhya Pradesh context. How does this take place? For which period?

2.2   The Madhya Pradesh Context

Madhya Pradesh has diverse tourism offerings, however the four key tourism offers, it promotes are wildlife, heritage, pilgrimage and leisure. It is also referred to as the tiger state as it accommodates a huge tiger population and protects and preserves them. Altogether, Madhya Pradesh has nine national parks, 25 wildlife sanctuaries and 6 tiger reserves [1], it also has a large population of scheduled tribe constituting to 23% of the state's population. They comprise the indigenous communities living in the forest areas of Madhya Pradesh. While it may be hard to put an exact figure to the number of the tribes to have been displaced due to conservation in Madhya Pradesh, however due to Kanha tiger reserve created in 1973, over 650 families were displaced and the creation of the Pench national park is said to have displaced over 1000 tribal families [23]. The Baigas tribes displaced from Kanha have been excluded from their natural habitat and confined to certain areas, lost their livelihoods, which led to impoverishment, became vulnerable to debts [22]. On the other hand, Madhya Pradesh has a vision to "*promote balanced and sustainable tourism which enables socio-economic development and establishes Madhya Pradesh as a destination that provides a complete tourism experience*" [24]. Given such a vision, the sole idea of displacement for conservation opens a veiled debate. To understand the framework under which wildlife tourism is developed and the impacts it has on the local indigenous community, it is vital to review the policies and acts in place.

3   Reviewing the Relevant Policies and Acts

In India Ministry of Tourism (MOT) is the primary agency, which also manages the central government agencies, state government agencies and private sector development and promotion for tourism. Some of the functions include administration of the Public Sector Undertakings (PSU); planning and coordination, publicity, international cooperation and events; market research, overseas marketing; and manage the hospitality sector. The key objectives of the ministry of tourism are boosting and facilitating tourism in a sustainable way by active participation of all segments of the society and effectual corporation with different stakeholders. The question arises in if such objectives have been implemented through the policies and acts that govern tourism practices.

3.1   About the Indian Tourism Policy

Indian Tourism policy originated from the Second Five Year plan in 1956, when the main purpose of travel was primarily pilgrimage and Visiting Friends and Relatives (VFR). The 1980s and 1990s witnessed the growth of the tourism industry and the publication of the National Tourism Action Plan, which focused on improving the tourism industry in India through increased capacity building of infrastructure, human resources and marketing. The rise of domestic tourism and it importance led to its inclusion in the tourism action plan under the responsibility of the states [25]. Later the action plan was converted as the National Tourism Policy in 2002. The policy emphasizes the significance of tourism for the economy; aims for a community welfare oriented government led and private sector driven structure wherein both are responsible to uphold the social and economic development of the local communities. It is founded on sustainability as the guiding principle; emphasizes eco-tourism to widen scope beyond nature to include poverty elimination and other social cultural benefits. While the national tourism policy does mention wildlife and nature tourism, yet it only stipulates that wildlife tourism should become a vital part of the Indian tourism product and issues such preparation of site, visitor management needs to be given high priority at key parks and sanctuaries. It does not discuss about how the land for national parks and sanctuaries been made available; local communities, their displacement and plight; how are they compensated and involved. As this study focuses on Madhya Pradesh, it is essential to review the state policy.

The state tourism policy of Madhya Pradesh governs tourism development and practices within MP. The ministry of tourism in Madhya Pradesh drafts the policy. It is modified each year to include changed goals and other changes as determined by the government. In order to implement the tourism policy, an advisory council with experts from a wide cross-section of the government had been formed to advise the state government on various aspects of the tourism and travel trade. The latest MP

tourism policy, 2016–2021 claims to ensure the community participation by IEC (information, Education and Communication), however, it has been drafted by the advisory council consisting of mainly heads of relevant government bodies, which clearly indicates the lack of community involvement in policy decision making. It also aims at a vision toward sustainable tourism with the plans to set up an initiative for an effective regulatory mechanism for sustainable tourism, which is essential to achieve the vision. However, the strategies proposed to translate the current policy also fail to provide a clear understanding of specific measurable objectives. There is lack of a link mapping the vision to the strategies and to the hopscotch list of tourism projects that promote niche tourism forms. While the policy discusses land allotment for tourism projects, it hardly mentions displacement or the impacted communities. Though it stipulates that tourism activities (wildlife tourism in particular) would be carried out in notified zones under the Madhya Pradesh forest rule 2015 except the areas notified as sanctuaries or national park under the wildlife conservation act, 1972. The policy also does not go into details on plans of how wildlife tourism would be developed, managed, governed considering that there are many stakeholders involved. Plus, sustainability is merely mentioned in the vision and later listed as a niche form. However, sustainable tourism development needs to be in uniformity with the principles of sustainable development and the United Nations (UN) sustainable development goals based on inclusivity of all, which emphasizes the significance of community engagement, social, cultural and economic development. Though, implementing sustainable tourism development is not without challenges due to the money driven nature of the industry; and the fact that, sustainable tourism development promises rational and equal opportunities for everyone, current and future [26]. Yet the plight of the displaced indigenous communities is a serious concern for sustainable tourism development despite the fact that national parks are considered as under the forest authority. Tourism also benefits from these parks and hence there is a need for a collective approach to address their issues. Overall, the policy has a great vision for sustainable tourism development, which is very significant considering pressing global issues, yet it lacks certain basic tools to implement and develop tourism based on sustainability principles. The other policies relevant to wildlife tourism are the forest policy and wildlife acts.

The National Forest Policy of 1988 was the first to recognize for the first time the relation between forest resources and tribal communities. It asserts the need for local community involvement in order to manage sustainably. It aims to give importance to the social needs and goals in the utilization of products, that have been obtained from sustainable operation of the forests and to put in efforts for sustainable development of the forest dependent tribal communities and others who are marginalized in view of their social, cultural, economic and environmental connection with the forests. It also intends to develop eco-tourism and other tourism forms like herbal-health tourism in the forest to benefit the forest dependent communities and at the same time help in conservation [27]. However, the state forest policy fails to effectively address the pressing issues of displacement. It simply recognizes the need for conservation and creation of the national parks

and sanctuaries by extending their areas, states that it may lead to inconvenience to the local communities, and claims alternative arrangement would be made. It also assures relocation of those villages situated within the national parks and wildlife sanctuaries to another place with appropriate rehabilitation arrangements. For the other villagers living close by within 4 km from the boundaries of the forest, the policy promises to offer to allow access to limited enlisted villagers and make efforts to provide alternative employment, to those who cut and remove wood from the forest. It also reduces dependence on the forests by the villagers; develop villages; encourage active participation of indigenous communities and empower women [27]. Overall, there are at least certain community rights in forest policy which states that right of ownership and access to collect, use and dispose of minor forest produce. While the policy offers assurance, it does not have in place a monitoring and evaluation system that can follow up its implementation to achieve objectives. In addition, there is a need for an empirical study to contribute towards practical implementation and evaluation. The other relevant act is the wildlife (protection) act of 1972 which is an act in place to specifically to protect animals, birds and plants. It stipulates that the state government has the right to declare any area as a sanctuary, except any reserve forest or near territorial waters, provided the area has adequate natural resources. It also specifies the restriction of movement in to the national parks or sanctuaries and issues permits to access them as per certain predetermined reasons such as photography, research, tourism and for any lawful transactions with those residing within. Thus these policies and acts needs to address the practical issues and impacts on the indigenous communities and take a joint stakeholder approach to address it. The whole idea of conservation is debatable when there occurs a displacement due to conservation and the tourism angle can both add positive and negative impacts to those displaced. As per Cernea and Schmidt-Solta [10], forced displacement as a strategy in protected areas in developing countries is in deep conflict against poverty reduction and based on decades of experiences, it is not credible, creates damage, inflicts infuriated poverty on many and hence must not be considered as a mainstream strategy.

4   Conclusion

Madhya Pradesh is blessed with natural and cultural heritage that makes the place one of the finest tourist destinations. The essence of the place is its wildlife which if managed properly, the tourism industry can prove to be an important engine for the economic growth in the state. The current policies and acts in place by the MP state government has the idea to provide the benefits to the local people but still the role of local community in policy making and decision taking is not included. The vision of the policies has not been translated efficiently to address pertaining issues such as displacement of the local indigenous communities due to conservation.

This paper draws the awareness that local communities if supported by government and private sector can become active participants in empowering their knowledge and skills. Future empirical studies can contribute further by highlighting social cultural impacts and the perspectives of the indigenous communities who have been displaced which can lead to further policy implications.

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Review of Social Media's Influence on Airbnb Accommodation's Booking Intention

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Abstract The impact of social media on the tourism industry has great significance for all stakeholders. The purpose of this paper is to highlight and comprehend how social media's (Social Networking and Review Sites) influences accommodation's booking intention, with regards to Airbnb accommodation. To achieve the purpose, the paper focuses on exploring the scope of social media, comprehending the different levels of exposure or usage of social media by different generations, and analyzing the influence of social media in booking Airbnb accommodations. Through these objectives, it intends to emphasize the role of social media in the tourism industry, as well as brings out the benefits for tourists across the globe. This research expresses the factors that are considered to influence Airbnb booking intention through a conceptual framework. In analyzing the scope of choosing Airbnb as a traveler's accommodation, this study also demonstrates that social media is a useful tool in improving not only the quality of business but also increasing the revenue.

Keywords Social media · Airbnb · Accommodation · Booking intention · Online reviews · Trust

1 Introduction

Social media is revolutionizing tourism businesses and all aspects of life. A study by Thomas [1] showed that 74% of tourists participated in writing reviews about places they visited on completion of the trip and 98% believed that the reviews on Trip Advisor are accurate and provide much needed information for potential tourists. The study also indicated that 53% of visitors will not book if there is no information about it online and that 70% of consumers believe in evaluating

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destination on social media sites to make decisions about destination when traveling [1]. Through social media, people in different countries can see online destinations as well as well as know the necessary information such as weather, food, and room rates in hotels to calculate possible, ability to pay and make decisions easier. Hence, the role of social media is emphasized to influence visitors' decisions. By using social media platforms, visitors can make their decisions more dynamic [2] and shapes how they find, discover, trust and exchange information with other customers [3]. Social media channels not only bring convenience to customers, they are also considered effective marketing methods to maintain competitiveness in the accommodation market [4]. In terms of advertising, hotel managers can use social media as a tool to introduce and reinforce their hotel names on a wide platform. Another important role of social media is showing the traveler's decision-making process so that can help the lodgings reach new potential customers. However, it is essential to understand that different generation have different exposure and usage of social media. According to Wiedmer [5], Generation X (1961–1981) and Generation Y (born after 1981) have many differences. Differences between generations can be analyzed with many different factors such as their demand on the quality, prices, security, and the environment. While much of the research on social media's influence on booking intention focus on hotels [6, 7], this research contributes to literature by focusing on Airbnb accommodation. The aim of this study is to clarify how Social media's (Social Networking and Review Sites) influence on Airbnb accommodation booking intention. In order to achieve that aim, the research explores the scope and role of social media, different level of exposure to social media by different generations and their impact on intention of booking Airbnb accommodations. This is a literature review study. Concepts that were searched were social media posts, online accommodation, booking intention and reviews in social media sites and relevant literature from books and journal articles. The research is not exhaustive.

2   Literature Review

2.1   The Role of Social Media in the Decision Making Process

Social media plays a significant role in the daily life of people and has also become indispensable aspect for marketing in the tourism industry [8]. The percentage of users who visit social media platforms to select destination is high which has influenced accommodation selection [9]. Social media's most significant usage is during the pre-travel period, when tourists are planning for their trip, searching for information and making the decision [10]. Therefore, online platforms are playing a substantial role in the traveler's accommodation decision-making process. The public reviews and feedbacks are available everywhere from the travel website like Booking.com, TripAdvisor or Travelloka to the official website of the lodging on

Facebook, Instagram or Twitter. It has changed the way people search, comment, evaluate, rank, and purchase services or product of the tourism industry [11]. Customers check prices on travel websites like Booking.com, TripAdvisor or Travelloka, and compare the price to make the final decision [12]. Visitors also tend to use social media to share their post travel related experience including experience from the lodging, engaging and connecting with others from different places. A study about the impact of customer's feedback on lodging bookings has found that most people tend to avoid and stay away from the lodging that has negative feedbacks to choose the lodging that they see a lot of positive comments [13]. Almana and Mirza [14] also found that high ratings in reviews on the online platform is very effective to enhance the decisions making process (DMP) [14]. Gazdik [15] has done a recent survey to find out how people search and choose lodging using a poll of 1000 people from the age of 18 to 34 years old. The finding from the survey, indicated that 76% of those surveyed have posted their picture, which shows image of themselves and internal design in a lodging. Gazdik has also found that 83% of those surveyed said they are likely to choose a lodging after seeing its images from someone they follow on social media platforms [15]. Moreover, organizations can use the feedback feature in order to increase their service value, or they can even control it by creating fake feedbacks [16]; showcase, promote events and strengthen their lodging's name on a broader platform [17]. As a result, the relationship between lodging and clients can be improved and they might be inclined to choose the lodging that impresses them for the next trips [17].

2.2 Different Generations, Their Exposure to Social Media and Its Impact on Their Booking Intentions

Social media has evolved over the years and so has its usage. Different Generations have different level of exposure to or usage of social media platforms in terms of purchasing accommodations. According to Brosdahl and Carpenter's [18], generations are categorised by birth dates: Baby Boomers (1946–1960), Gen X (1961–1981), and Gen Y (born after 1981). Gen Ys, who are also known as Millennials, are often referred as Digital Natives rather than Digital Migrants [19, 20], and this generation are the children of Baby Boomers who believe good education is the key factor to achievement. Digital Natives spend their entire lives in the digital world and are open-minded with changes, better learners of doing multi-tasks and more tolerant towards diversity because they experience quick changes in technology, have access to education and are well supported by families. However, there is vague consensus agreement on the exact beginning and end of Gen Y [21], which is preceded by Generation Z. As Gen Y has grown up in the digital era that increases the ability of communication and socialisation via technology [22], they rely heavily on technology for entertainment and interaction with others, as well as actively contributing, sharing and searching for consumer content in social media

platforms like Facebook, official websites and TripAdvisor. Therefore, service companies and managers show foremost interest in Millennials and their online behaviour when using social media [21]. The use of social media can influence consumers' identity formation, their expectation of service, cultivating of habits, engaging with and believing in brands, buying behaviour and more importantly, the value of the company [21]. Besides that, services sectors rely on Gen Y heavily, because this group of always use social media to share and learn from others' travel experiences. Millennials have been profiled to be optimistic, demanding and savvy with technology, therefore their character could be the reason why they are interested and keen to obtain good knowledge compared to older generations [23].

Generations have different motivation of using online media, as these new digital tools will gradually change traditional ways of communication [24]. In comparison among generational differences, Ordun [25] stated that Gen X is one of the most educated people as they value autonomy and independence. Members of Gen X who have a greater life experience and family responsibilities tend to find high quality of products and services, and try to get as much information as possible about future purchases [26]. Although they are not familiar with advanced technology like Millennials, Gen X often shop online as a way to relax. Gen X does not show strong dislike when it comes to the internet because they still use this source to gain their knowledge [27]. Exposure to online advertising does not affect their buying decision because they always ignore it as they have only a little interest in this kind of advertising [26]. Depending on the type of product or service, Gen X rely on blogs, forums and social networks when making decisions to purchase. Members of the older generation are more loyal and purchasing activities are influenced by expert and close friend [25].

Facebook remains as the most popular channel that the younger generations use as their social media app on their smartphones compared to other generations. However, about 93% of Baby Boomers are surprisingly checking their Facebook more often than the younger generations [28]. According to a new analysis by Pew Research Center [29], Baby Boomers are still behind both Gen X and Digital Natives on adaption of technology adaptation, but the rate for this group has been growing fast since 2011 as they started to have their own smartphones [30]. The wide availability of mobile communication networks and the improvement in their quality of life encourage the elder generation to adopt the usage of smartphones, as they can reduce their feeling of loneliness and increase their mental well-being by connecting more easily than before with their families and friends [31]. A recent study has confirmed that online social media platforms play an important role for holidaymakers and decision-making [32]. According to e-Marketer [33], 82% of online consumers in the United States have checked online reviews, blogs and other online forums of social media for their holidays before making any decision. Besides that, about 20 million users visit TripAdvisor every month to check other travellers' vacation experiences via their reviews and comments [34]. Recommendations from other holiday makers who have past experience with tourism products are not only sources of information, but have also become influenced sources for purchasing behaviours [35]. Hence, it is not only Gen Y, but also other generations who

use social media for the same purposes such as for information, leisure and entertainment [21].

2.3 Accommodation Promoted Through Social Media

The most popular online platforms concerning travel-related information that can affect customers' purchasing patterns and their decision-making process are social networks (such as Facebook, Twitter), content communities (YouTube), rating and review sites such as TripAdvisor. Shared information on social media includes the users' personal feelings and opinions about the characteristics or usage of services or products that has been purchased previously [36]. According to a report from TripAdvisor, social media has become one of the priorities of hoteliers with around 70% of hotel properties actively engaging in some forms of social media as a major part of their marketing strategy [37]. Social media is also an effective tool for electronic word-of-mouth, therefore spreading the brand image to reach new market of customers [38]. Hence, social media provides real-time data for hotel managers to understand customers' perceived value and perceived service quality [39]. Improving online visibility and encouraging customer engagement are the fundamental factors for an effective social media marketing campaign [39]. Other than hotels, Airbnb and homestays are other popular accommodations. Unlike hotel properties that are often requiring a significant amount of investment, homestays are family owned and managed, predominately [40]. While Airbnb hosts have an opportunity to generate additional income by renting their rooms, travelers have an opportunity to choose accommodation that are more budget-friendly and authentic vibe. The prevalence of social media and electronic word-of-mouth has made Airbnb to its success today. Compared with other accommodations, in 2016, Airbnb growth rate ranked the top in spite of the fact that the company does not own any real estate. In a research conducted on the factors contributing to the success of the sharing economy, Zhang et al. [41] viewed that those customers who look for peer-to-peer accommodation pays significant attention to social and emotional values [42]. As a result, the author suggested how Airbnb hosts can encourage booking intentions on their social media platforms in order to maximize occupancy and perceived value. Along with low prices, it is recommended that the hosts emphasized on how customers will able to experience the warm atmosphere and local vibes from renting the places [42].

Social media helps customers enjoy significant new benefits that have never been available before, such as collecting pre-departure information about the properties, reading online reviews from previous guests, as well as engaging in two-way communication where they can connect directly with the hosts. On the other hand, from hosts' perspective, there are new areas for opportunity exploitation. Some of which are increasing brand awareness among customers through electronic word-of-mouth, improving customer relationship management by analyzing and meeting guests' demands expressed via online feedbacks. Two new challenges that have

only been raised in recent years are the importance of managing online reputation and online competitive positioning on all these virtual platforms [42]. To optimize the potentials of social media in lodging industry, it is advised that the hosts practice online market segmentation by considering different influencing factors among generations, such as: level of usage, technology dependence, perceived key values in life, as well as their willingness to share and interact with other online peers [43, 44]. Fully understanding aspects leading to customers' booking intention will help Airbnb hosts exceed guests' expectations by fulfilling their perceived value and service expectation when choosing an accommodation, including price value, home benefits, authenticity and enjoyment of the whole experiences. In spite of the potentials brought by Airbnb, there are several current issues remaining to be controversial about this online interface: the problem of trust, regulation, privacy concerns, as well as safe and security aspects. There are many frameworks that exist in capturing social media or online reviews' influences on consumers decision making [43, 44]. However, there is gap in literature focusing framework for decision-making process pertaining to Airbnb.

Airbnb is well known for low cost compared to traditional accommodations like hotel and homestay, which is one key influential factor that drives customers' purchase intention. Therefore, it is common that the younger generation between 21 and 30 years old uses Airbnb [45], as most of them are students who mostly rely on their parents for financially, and adults who are just at the beginning of their career and may not have high income. Moreover, more than 80% of Digital Natives are adventurous and will want to look for new travel experience [46], as they feel the best way to learn new things is to live like how local people do, so they will feel that Airbnb present them with more value in this aspect. Besides that, Airbnb provides guests with properties of geographical locations that may rival hotels, in terms of near public transportation, shopping malls and restaurants, and uniquely very popular properties that are away from hotels' strip but nearer to friends' houses who reside in those countries [47]. Furthermore, it has home benefits which refer to functional attributions of a home [48], such as having a kitchen for guests who wish to cook during their stay. Tech-savvy generations will be thrilled with free Wi-Fi and smart TV with Netflix in Airbnb properties. On the other hand, Baby Boomers may stay away from Airbnb as properties with free Wi-Fi and smart TV are not influencing factors, and houses with stairs and walk-up apartments are inconveniences that drive away the elder generations. Authenticity also often plays an important role with destinations not frequented by tourists [49, 50], which is also a fundamental experience of Airbnb as its properties offer guests with authentic local experience, which hotels lack. Generational differences play a significant part, as travelers of all ages tend to explore with authentic local experiences. In terms of enjoyment in the Airbnb context, it is defined as the hedonic motivation for consumers' acceptance of a new product and innovations [51]. To attract customers, Airbnb offer new sign-ups to enjoy a $40 discount for their first booking. Airbnb properties tend to market themselves as stays with more value, privacy and entertainment than traditional hotels that translate to more enjoyment, which will influence the visitors' attitude towards Airbnb [52].

The current controversial issues that dissuade travelers include trust, privacy, regulation, safety and security. In Airbnb where all transactions are done online, there will be a lack of trust between hosts and guests when reviews on Airbnb's website may not disclose shortcomings of guests' experiences as much as desired. The guests' perception of fear can happen as their only knowledge of the properties is through guests' reviews and hosts' replies. Recently, there were reports that some Airbnb properties were found to have hidden cameras. An Airbnb guest in Miami noticed that there were emitting lights similar to phone chargers in the bedroom facing the bed and upon discovering they were actually camera recordings, they took out the memory cards and reported to Airbnb before leaving the property [53]. According to a survey of 2000 Airbnb users, an average of 1 in 10 users found hidden cameras in Airbnb properties but they were claimed as security measures and not used for malicious reasons [54]. Airbnb forbids camera devices in private areas of the properties including bathrooms and bedrooms but allows surveillance in the living room, common areas and kitchens. The guests have the right to cancel the booking and the hosts will be penalised if the hosts are found to have installed cameras without indicating on their posts on Airbnb's website [55]. Although Airbnb has introduced the insurance mechanism to the maximum extent with both Airbnb and its property owners continuously improving the safety conditions of their guests [56], it is still unable to match the 24-h security offered by established hotels. The above discussion has been expressed through a conceptual framework (refer to Fig. 1).
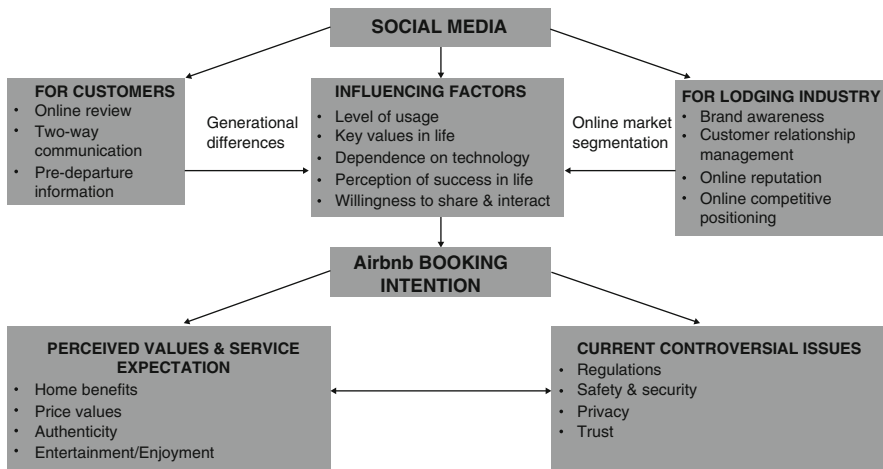
Fig. 1 Proposed conceptual framework

3   Conclusion

The ever-increasing popularity of social media in recent decade has been reshaping the traditional lodging industry. Lodging industry practitioners, particularly Airbnb hosts, need to look at the process by putting themselves in the shoes of their target market. Their marketing efforts would be less effective if some major components are neglected, such as online reviews and customers' expectations for two-way communication and more interactive engagement with the hosts. In addition, it is important that market research and segmentation be properly identified with considerations towards different perception and usage of social media amongst generations. This difference is especially more essential in the case of technology since the customers' expectation may vary greatly depending on their age, background, as well as the key values they are pursuing in life. Airbnb hosts have the opportunities to achieve the highest level of guests' satisfaction and revenue maximization. Four critical components price value, authenticity, home benefits and entertainment or enjoyment from the whole Airbnb experience gets the priority ranking from customers. Due to the nature of Airbnb as a peer-to-peer accommodation, there are some unavoidable controversial issues that are catching the public attention, including trust, regulation, privacy, and safe and security.

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Blockchain Technology: A Case Study from Greek Accountants

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Abstract While most Blockchain technology seems to be new, applications of this technology, beyond electronic payments, such as supply chains, health care and asset management appear every day. All of them stem from the distinctive advantages of Blockchain technology; volatility, trust, transparency and reliability. Blockchain already affects the banking and accounting sectors, and all its economy-abided activities. Under this context, the purpose of this study is to explore the knowledge and the attitude of Greek accountants towards Blockchain technology and its advantages and disadvantages with regards to the accounting area. For the analysis, a convenient sample of 100 Greek accountants was used. Results reveal that Greek accountants use digital infrastructure and technology, but they report low knowledge on Blockchain technology and lack of trust in using it for their transactions. The questionnaire has been factor analyzed and the following factors emerged: (a) The attitude of the accountants, (b) The need for validated files and reliability of sources, (c) The reliability of Blockchain technology, and (d) The need to eliminate intermediaries. Implications for providing more training through seminars and education for the accounting sector, businesses and employees are discussed.

Keywords Accounting · Blockchain technology · Bitcoin · Cryptocurrency · Cybersecurity · Fraud · Transparency

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1 Introduction

Bitcoin was developed by an individual under the pseudonym of "Satoshi Nakamoto" in late 2008, as a third-party online payment system [1]. In 2011, "Satoshi Nakamoto" disappeared without leaving a trace and became one of the most mysterious persons in modern history, leaving behind the Bitcoin conceptualization. Bitcoin, which solves the "problem of Byzantine generals" [2], is using a growing list of files called blocks that are linked using Blockchain's encryption technology. Nowadays, the Blockchain technology is here and consumers are imagining it as odd and mysterious as its creator.

Mention the word "blockchain" to most people and, if they have heard of it at all, they will most likely associate it with Bitcoin, or perhaps another crypto currency [3]. Indeed, Bitcoin is a cryptocurrency whose transactions are recorded on a distributed, openly accessible ledger. Despite criticisms about illegal uses and social consequences, Bitcoin is attracting the interest of the scientific community [4].

But Blockchain in not all about Bitcoin. Recently, Blockchain has received special attention being used as a new platform for digital information, to store encrypted data and process secure digital transactions. Furthermore, data on Blockchain and Bitcoin platforms are assumed to be highly encrypted and in secured state [5]. Blockchain technology in today's time is changing the world of transactions and documentations. Mainly it gives a transparency to the numerous fields like accounting, electronic voting, and cost analysis of product manufacturing, paying employees, cloud storage and smart contracts. Such applications are fundamental economic activities of a country, which can be effectively achieved through the blockchain technology [6].

It is noteworthy that the accounting profession could not remain unaffected, and the Institute of Chartered Accountants in England and Wales (ICAEW) already acknowledged Blockchain as a promising tool to advance "*revolutionary technology for the accounting and auditing professions*" [7]. Certainly, the accounting profession and the accountants can benefit from it. In Greece, the severe economic crisis and the poor technological development, all contribute accounting profession to face challenging issues that are opposed to the distinctive advantages of Blockchain technology, thus further affecting its financial spur in accounting services and their businesses benefited.

Within the previous research topic, this paper focuses on studying Greek accountants' knowledge and perception towards the technology of Blockchain, since no other paper that links accounting with blockchain has been traced for the case of Greece.

2   Literature Review

Nowadays, Blockchain technology is proven to be effectively applicable in a wide spectrum of activities, such as business processes, accounting, auditing, and supply chain management. Interesting applications of blockchain technologies are focusing on the accounting and auditing profession [8–10]; on improving business practices [11] and eliminating redundant activities. Blockchain applications can offer a better level of data security (setting guidelines by EU) and improvement of the everyday quality of life [12].

The main determining aspects of accounting and auditing processes are governance, transparency and trust issues in the blockchain ecosystem, blockchain-enabled continuous audits, smart contract applications and the paradigmatic shift in accountants' and auditors' roles. Based on these themes, critical implications for accountants and auditors are to find ways to support the blockchain development both at their profession and for future perceptions on accounting and auditing in the blockchain era [10].

An important feature of blockchain technology is its capability to transform accounting because transactions recorded on a blockchain can be aggregated into financial statements and confirmed as true and accurate [13]. Specifically, blockchain technology can affect the database engine of the accounting information system (AIS) through digitization and research validation process. In such a blockchain-based AIS, accountants will no longer be the central authority but will remain the preparer of financial reports required by regulations, thus, continuing to influence policies such as the choice and accreditation of validators and serve as validators of last resort. However, audit evidence still needs to be gathered for rendering of an audit opinion in a blockchain-based AIS. AIS alone does not guarantee that financial reports are true and fair. Subsequently, lower error rates and reduced incentives for accounting fraud in a blockchain-based AIS should improve audit quality, thus, this prediction will need to be empirically tested when blockchain-based AIS become available [13].

At an inter-organizational context, through the growth of cloud computing and network technology, different organizations need to share data and resources between each other. However, cross-organizational authentication systems usually need a central and fully trusted control system. Blockchain technology can store the access control list of users due to its tamper-proof and decentralized feature.

Accounting recordkeeping techniques can balance public access with privacy using a blockchain. This research framework can enhance the representational faithfulness of financial reporting systems because they use shared data from independent entities, a transparent system, and open-access immutable storage. Faithful representation is further enhanced because information from this system can be used by auditors to support their audit opinion or by stakeholders who need credible information about the entity [14].

IFAC [15] refers to the technology and Blockchain automation as a seismic shift after 600 years of a two-ledger bookkeeping practice: "Businesses are moving

quickly toward the use of automation to account for daily transactions. This seismic shift will not only impact the way business operates, but also the day-to-day role of accountants". Accounting education and especially training in new technologies will be one of the main roles to play in the professional development of accountants and even more so in improving their professional skills [16].

Blockchain technology is expected to gain more and more ground in the future, especially in the field of accounting since it has the potential to increase the efficiency of the accounting functions for transactions and assets, operating as a system of universal entry bookkeeping [7]. For this purpose, we consider critical to investigate the views of Greek accountants on the emerging blockchain technology.

3   Research Methodology

The method of quantitative research was deployed for the analysis. A questionnaire was used for the collection of data, constructed in a 5-point Likert scale. The research population includes Greek accountants and economics managers working in public or private sector companies, in the area of Peristeri, Attica.

The tool included two sections: section 1 explored the company's digital infrastructure and section 2 investigated participants' knowledge and attitude about Blockchain technology, with the questions coming from our literature review. The final sample size is one hundred (100) accountants and economics directions employees, constituting around 5% of the total accountants' population of the area. The questionnaire was completed by the accounting officers. An attempt was made to share questionnaires by using convenience sampling across a range of companies in the area of study without restrictions, particularly banks, IT companies, large supermarket chains and accounting offices to make the sample as representative as possible. Although we distributed more than 300 questionnaires, the survey revealed that even by reading the explanations provided, a great percentage of the initial sample did not even respond, probably due to lack of information on the subject. As far as large companies are concerned, it was very difficult to draw up questionnaires because in many cases special licenses were required.

The authors used SPSS V.21 and applied the methods of descriptive statistics, chi square tests of independence and factor analysis to interpret the collected data.

4   Results

Concerning sample demographics, the average age of the respondents is 41 years, while 75% of respondents are under 45 years of age. During the survey, we observed a tendency for questionnaires to be answered by younger accountants. By examining gender, most of accountants are males (63%). Most respondents are employed in

Table 1 Views of accountants on digital infrastructure (%)

	Low	Very low	Moderate	High	Very high
Dependence on digital infrastructure	0.0	2.0	23.0	41.0	34.0
Ability to permanently save your file digitally. but not tamper with it	3.0	4.0	23.0	44.0	26.0
Data storage importance for the company you are working	0.0	0.0	10.0	38.0	52.0
Necessity of data saving to a third party (e.g. cloud services. online backup)	5.0	24.0	31.0	25.0	15.0
Need for employees to have common access to accounting records	1.0	5.0	22.0	34.0	38.0
Personal preference for faster and more direct transactions	0.0	3.0	24.0	43.0	30.0
Need to draw up and sign contracts (e.g. with customers. suppliers. banks)	4.0	12.0	31.0	29.0	24.0
Guarantee of the execution of the contracts with the current system	3.0	25.0	21.0	32.0	19.0
Common economic vision in the company	6.0	26.0	30.0	29.0	9.0
Are you looking for ways to eliminate intermediaries?	5.0	11.0	31.0	28.0	25.0

tax and financial accounting, while 69% are private sector employees. The majority (92%) of respondents have university education.

The views of accountants on digital infrastructure are summarized in Table 1. Computerization is high in the accounting sector, as according to the respondents, there is a strong dependence on digital infrastructure. Concerning the existing accounting programs and applications, it seems that, according to respondents, the "accounting" file can be safely stored in a digital form. Data storage is considered of high importance according to the majority (90%) of the sample. The accountants also reported that backup files are mostly stored on physical disks (e.g., hard disk) rather than on-line services. The need for common access to accounting records is high, while most respondents would prefer more rapid and direct transactions than the current method. The need for drafting contracts and contracts with suppliers and banks is high. The elimination of intermediaries seems to concern accountants and businesses as well.

Concerning the Blockchain technology, accountants that took part in our survey do not seem to be adequately aware of it. Around 1/5 of the sample has never heard of the concept, while only 11% declare familiar or extremely familiar with the concept and applications of Blockchain. Figure 1 represents their answers.

Table 2 summarizes the views of accountants on Blockchain technology. We observed that the respondents are mostly hesitant in implementing the technology of blockchain. Moreover, around 2/3 of the sample are not interested in implementing this technology and only 22% clearly recognizes the various Blockchain products. On the contrary, most of the respondents report that they would accept a payment without the presence of a bank, but they would not easily accept a payment in a
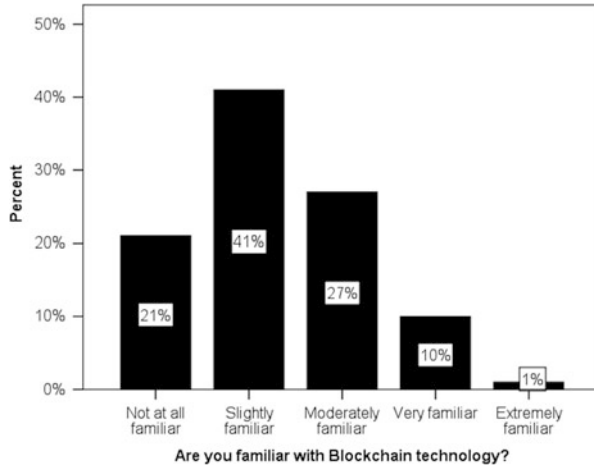
Fig. 1 Familiarization of accountants with Blockchain technology

Table 2 Views of accountants on Blockchain technology (%)

	Low	Very low	Moderate	High	Very high
Are you familiar with Blockchain technology?	21.0	41.0	27.0	10.0	1.0
Interest in implementing Blockchain technology	34.0	37.0	17.0	11.0	1.0
Trust in a payment without bank mediation	9.0	21.0	32.0	27.0	11.0
Recognize of Blockchain products (e.g. Bitcoin. Ethereum. Smart contract)	10.0	31.0	37.0	19.0	3.0
Would you accept a crypto-coin payment?	24.0	36.0	19.0	17.0	4.0
Do you want cash tracking transactions via blockchain?	13.0	36.0	32.0	14.0	5.0
Blockchain technology can be a new era for accounting science	12.0	34.0	33.0	19.0	2.0
Is Blockchain technology mature for application?	31.0	49.0	15.0	3.0	2.0
Afraid to use Blockchain technology?	13.0	41.0	29.0	16.0	1.0
Blockchain technology could make the accountant's business obsolete?	15.0	38.0	34.0	13.0	0.0

crypto currency. Greek accountants also believe that Blockchain technology will not bring a new era in accounting science and that it cannot make the accountant's business out of date.

After performing x^2 tests of independence between demographics (age and gender) and the questions of both sections, we only found a statistically significant relationship between gender and respondents' opinion on blockchain technology maturity. Specifically, male accountants believe to a greater extend that blockchain

technology has reached a mature state. No other significant difference was located between the other variables we tested and the demographics.

We extended our conclusions with performing factor analysis. KMO and Bartlett confirmed that our data is suitable for this method. In the initial factor analysis, seven factors emerged that could affect the penetration of Blockchain technology in business and the accounting profession. But the solution was not "clean" because there were overlaps and loads on many factors that emerged from the variables. After these were removed, the model selected resulted in the four most important: Factor 1: *Knowledge towards Blockchain*. Factor 2: *Need for validation of Files*. Factor 3: *The trust on Blockchain technology*. Factor 4: *The need to eliminate intermediaries*.

5   Discussion and Conclusions

The results of our analysis revealed that Greek accountants are very dependent on digital infrastructure and the nature of their work usually demands the ability to digitally encrypt their files and share them with others. Greek accountants ask for faster transactions and the ability to eliminate the intermediaries. Most of the sample is not familiar with Blockchain technology and accountants believe that this technology is not mature for wide use and they would hesitate to use it. Factor analysis indicated the issues of knowledge and trust that should be further reinforced before Blockchain technology can become accepted and applied in a wider context.

The results of this preliminary and explorative study in the accounting area may be indicative of the overall market functionality and a future research would need to further validate the present outcomes. The first target of this research has been to investigate the need of Greek businesses for digitalization of their business, for data safety and intermediaries' elimination. This need has been confirmed by participants in this survey; however, most of them appear to store back up files on physical disks rather than online applications. This might indicate an overall low penetration of new technology in the Greek market [17]. Furthermore, the financial crisis of the last 10 years has affected companies and individuals who hardly invest in new technologies of high risk. They usually prefer to adopt proven solutions with immediate and obvious performance [18].

The second target of this study was to explore the views of accountants on Blockchain technology in relation to accounting activities. The results highlighted that accountants do not have deep knowledge of the Blockchain technology. This low level of knowledge about Blockchain technology and its applications in the accounting sector was expected since Blockchain technology is not yet included in the accounting curricula and the market is not widely informed about new tendencies. Furthermore, it may designate that the level of in-house training for employees is rather low or is limited to currently used technologies.

The limitations of this study include the local and small sample of accountants. A bigger and most "proper" sample that would include more knowledgeable accountants and business executives might have provided different results. A second

limitation is the absence of a similar validated questionnaire in the accounting literature that would focus on specific factors with specific statistical models which could be used in diverse contexts.

Future research may focus on creating a more specialized questionnaire from Blockchain's literature on trying to focus on one of the factors that emerged from research. It will be interesting to resume research after training a group of accountants on Blockchain technology, perhaps accountants working in the banking industry that seems to be the first to be affected.

The implications of this study may affect the accounting education community in Greece that should put more emphasis on radical technological issues and especially include Blockchain technology subjects in its curriculum [19–21]. The effects of the technology innovations are among the most important issues that will affect the accounting sector and financing reporting in the years to come [7, 15, 21]. The same considerations apply to the businesses which should be forward looking by adopting new technological applications for their AIS that will boost their activities and will increase their network safety [13]. Employers should also offer appropriate related training to their employees on these new technologies that will enhance the representational faithfulness of their financial reporting information [14].

As Blockchain technology reaches maturity and specific standards are globally set, new pathways are opening for online reporting and accounting. The issue of providing more information on this technology to businesses and accounting employees can motivate them to further examine and use this new form of data sharing and handling since this technology adequately addresses the needs of direct transactions, common access of data and security.

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University Pedagogy in Greece: Pedagogical Needs of Greek Academics from Ionian University

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Abstract The present paper reports on the results of a small-scale research which took place in 2018. Fifty-eight (58) Greek academics from the Ionian University (56.7% of the total Faculty members) completed the Teaching Perspectives Inventory (TPI), in which an open-ended question was included, aiming to detect their view on the issue of University Pedagogy and their potential needs for pedagogical training. Their responds showed that the majority of them recognize the need for pedagogical training, while they suggest specific interventions to the direction of the improvement of Faculty's pedagogical teaching skills. Issues raised from their responds such as the development of Faculty's communication skills, the psychological support of students, the creation of relationships of trust and respect with them, the creative exploitation of new technologies and the specific teaching and learning needs of the several disciplines are further discussed.

Keywords University Pedagogy · Faculty training · Teaching skills

1 Introduction

Due to the rapid demand for Higher Education in the last few decades, it seems that the importance of teaching is reviewed and reassessed and a pedagogical culture has been launched in Academia in Greece [1, 2]. However, academics that participated in a National Program for Continuing Vocational Training had at the beginning of the program the least positive attitude towards pedagogical training compared to other groups of trainees [3]. It seems that a large percentage of Academia in Greece still resist against training on pedagogical and teaching issues. On the other hand, research findings confirm that University Professors in other countries point out that, although they are experienced in their discipline and have the control over the

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teaching content, the level of their self-confidence and efficacy remains low in terms of their teaching skills [4]. In addition, they often state that the development of their teaching role depends also on their positive feelings for teaching, such as comfort, certainty, and the sense of self-efficacy [5].

An important percentage of academics argue that they are more focused on and satisfied with their research than with teaching and learning activities [6]. Conversely, some Faculty members are stressing out that effective teaching requires a combination of field expertise and pedagogical knowledge, while others are reluctant to broaden their professional identity and in doing so, they use as alibies the lack of training, time etc. [7, 8].

Lately, though, the picture has been changing. In EU and USA teaching is becoming increasingly important as a part of a researcher's academic career, and it leads to the argument that "a good teacher makes a good learner". In Europe, for example, the EUI Max Weber Programme has included teaching in its diversified training on academic practice. Universities, even big names such as Harvard, Oxford and the MIT launch learning and support initiatives to equip their academic staff (traditionally focused on research) with teaching skills, through reflective and flexible training programs to improve the quality of their teaching outcomes, while some North American Universities have started to request a "teaching portfolio" from candidates to their academic positions, to prove a candidate's (self-) evaluation of past teaching experiences and also, the actions the candidate undertook to improve his/her teaching skills [9]. From a humanistic perspective, the Professor as a human being and a "person" is of main importance in every teaching and learning activities. Thus, the focus of teaching is placed on the relationship between the teacher and the student and on the interaction and the teaching style as a whole, not as just a mere method or technique [10].Therefore, in higher education's policy makers agenda, it is included the notion that Faculty has to invest the necessary effort to become more effective instructors, through appropriate training [11, 12].

Since, only recently, academics in Greece have launched the debate on innovative teaching and learning methods and practices in higher education institutions [2], the present study aims to record their opinions about their needs for acquiring a pedagogical background, leading most probably to a relevant training to improve their teaching practice, meaning according knowledge, skills and attitudes.

2 Methods, Materials and Participants

In the current study a quantitative part of a broader case study research project [13] is presented. Purposive and snowball sampling [14] was used. The total of the Faculty members of the Ionion University of Greece (102 Greek Professors) received via email an invitation to participate in the research, conducted by the Teaching Perspectives Inventory—TPI—[15]. Data were collected from January to March 2018. Finally, 58 Professors answered back. The response rate by the academics asked to, was 56.7% (58/102), which is considered satisfactory for inventories delivered by email [16]. In this Inventory, in order to reveal any quantitative and

in depth data on views and believes of the academics [14, 17], an open-ended item was included [13]: "What do you think about a University Professor's need for pedagogical training? Please note briefly your point of view or suggestions on any aspect related to training needed for improving your knowledge, skills or attitudes as teachers."

Results from the TPI Inventory are not presented in this paper. Data collected from the open-ended question was processed by the Content Analysis method, which allows the researcher to convert the qualitative into quantitative data [14, 17]. Using relevant keywords or phrases, selected data was categorized to three main context groups of answers, including sub-categories, that seem significant: a "Necessary/High necessity" category, an "Important-useful-interesting" and a third "Not really necessary" category, referring to the extent to which academics consider training on pedagogical issues necessary. Suggestions by respondents selected from the open-ended question were approached via Content Analysis, too, and they were grouped accordingly, but for the economy of the current, small-scale research, we present only some, those considered the most revealing and interesting ones.

We note, though, that this is a small-scale research and by no means do we intend to generalize its conclusions, but we only seek to reach a deeper understanding of the Faculty's reflection and opinions on their pedagogical training.

3 Findings

The Ionian University is located on the island of Corfu and it consists of the following Faculties: Faculty of History & Translation—Interpreting, faculty of Information Science & Informatics, faculty of Music & Audiovisual Arts, faculty of Environmental Sciences and faculty of Economic Sciences. In the survey participated 59 members of the Ionian University faculty, 43 (72.8%) of them are men and 16 (27%) are women [13]. 53 out of the 59 Greek academics answered the open-ended question, while 6 of them didn't (Table 1). Overall, the majority

Table 1 Frequency of the 53 Professors' responses on the "Need for pedagogical training" category

Categories (and subcategories) of needs regarding the pedagogical training of academics	Frequency of reporting	
	N	%
Necessary/High necessity	18	34
Necessary for the teaching of people with disabilities or learning difficulties	2	3.8
Important-useful-interesting	10	18.9
Different pedagogical training needs depending on the discipline and the teaching framework.	5	9.4
Not really necessary	6	11.3
Faculty should prioritize on their research work	7	13.2
In a few cases only, pedagogical training is needed	5	9.4

of Greek University Professors clearly recognize the need for pedagogical training ("necessary/of a high necessity" or "Important-useful-interesting"), suggesting specific interventions to the direction of the improvement of Faculty's pedagogical and teaching skills, while there are 18 of them who seem to find the need for teaching training "not really necessary".

Those who consider **pedagogical training as necessary**, suggest:

We absolutely need seminars, lectures or conferences that guarantee the updating and improvement of specific knowledge and skills.

Seminars from experts are a necessity, because they can bring the Faculty members into line with innovative pedagogical knowledge.

Therefore, experimental-pilot courses and also rewards for good teaching should be applied.

There is a strong need for sharing and experimentation on "good" teaching practices.

In the case of Faculty members, the procedure of their election must include the criterion of the certification of pedagogical and teaching skills—it should be a prerequisite.

Some put emphasis on **pedagogical training that could be "important-useful-interesting**":

It is important that each Faculty member could be supported to keep himself updated on scientific developments in the subject via training projects for Faculty members.

Training programs are important in order to introduce innovations in teaching.

Continuing reflection on pedagogical issues through seminars, exchange of experience and views through specialized platforms could be proved very interesting.

It would be interesting to learn how to effectively communicate with our students.

Targeted training and evaluation on teaching outcomes should be applied on an annual basis.

It would be fruitful to participate in seminars on digital skills or counseling.

Visits to other universities could be very useful.

In teaching, our awareness on students with disabilities or leaning difficulties—and their needs—is vital but we miss it.

Some participants though, argued that Faculty members should stick to their role as researchers. They suggest that **pedagogical training should not be a primary concern for a Faculty member, since research and raising funds is a priority for an academic**:

To me, raising funds is vital for my research, so I cannot afford investing on teaching.

My priorities are different: research is vital for my Lab, not teaching!

I don't feel I really need any training on teaching.

Some others, note that **pedagogical training would be beneficial in some cases**:

If the teacher follows an unconventional teaching process and the results are moderate, then, he may need to learn more on new pedagogical methods.

> This is the only way to ensure a qualitative relationship of trust and respect that is necessary to achieve dialectical assimilation and the creative manipulation of knowledge.

There were some Professors that **linked pedagogical knowledge to the needs of different disciplines**:

> The question is very general and cannot be convincingly answered if we don't talk about a specific discipline . . . different needs in Science Departments, others in Life Science or Social Studies, others in Art Department.

> It is difficult to generalize, as needs vary between different subject-matters and teaching contexts (seminars/workshops/lectures etc.).

4 Discussion

The recognition from the majority of Greek Faculty members in this study of the value of innovative pedagogical teaching competence, is mostly connected with major issues such as: the reflection on pedagogical and teaching adequacy for Faculty members, the need for the development of their communication skills or the support of students and the awareness of the personal needs of students, the creation of qualitative relationships of trust and respect with them, the creative exploitation of new technologies, all meeting specific teaching and learning needs of each discipline.

Research on learning in higher education values an effective teaching process that causes positive emotions (comfort, self-efficacy etc.) and contributes to the comprehensive development of a University Professor's teaching role [5]. Thus, we can explain the Greek academics' notion with regards to the need for pedagogical training, often connected with aspects of teaching as a particularly enjoyable process from which they derive satisfaction, the development of a deep relationship with their students and the provision of the conditions that can facilitate learning [4, 10]. In any case, the emphasis is on teaching as an art, not exhausted in the mastery of teaching techniques and the authority of the Professor, on the human interaction and the role of emotions in the teaching-learning process, since it is possible and desirable for emotions to become a starting point for teaching at a highest level, bringing the best learning impact for the Universities [18], probably underpins Professors' needs and suggestions for pedagogical training. Pedagogical training for teaching, connected to values for the equal treatment of all students, which takes into account their (dis)abilities and special educational needs, is probably expected to enhance Faculty's task to turn into the democratic values [19].

Additionally, approaches to pedagogical training, in relation to the specific needs of a Professor's discipline, shows that Faculty members think that effective teaching requires a combination of content and pedagogical expertise, while others take steps to broaden their professional identities via lifelong training referring to teaching skills [7, 8]. It seems that, since there are areas where pedagogical and professional competences overlap, a merged approach could be adopted for a more

holistic perspective on academics' non-disciplinary competence training [20]. In this view, collaborative inquiry-oriented pedagogical training courses proved to be very effective [21]. A good example is ICT training and reflection nowadays, focuses on how these resources can be beneficial for students and their learning, competencies, attitudes, etc., in the framework of creating the kind of citizens and professionals that modern societies demand [22].

Finally, for the participants in this study that stated that pedagogical training for higher education's teachers is not necessary or that the priority should be given to research instead of teaching, findings confirm that academics are more satisfied with their research work than with teaching activities [6]. It seems that Greek academics, despite lacking teaching and counseling skills or awareness of different personal learning styles for every group of students, still show some resistance towards their lifelong education [3]. This is an interesting point, which came out of this case study research, though its results cannot be generalized: Faculty members take into account the adequacy of their teaching and counseling skills [5], since they lack an extensive and well developed knowledge base, which is considered as an obstacle to the use of alternative teaching material and methods [23], but at the same time they do not seem willing to go on with their own training.

5 Conclusion

University Pedagogy, an area built on a complicated picture of pedagogical skills, emotional interaction between Professors and students and research innovations, modern technologies and approaches and critical learning, could help Greek University Professors towards the notions, the directions, the needs and the specific suggestions they expressed with regards to the potential content and methods of pedagogical training procedures. Academics should reflect more on their teaching practice and its impact on their students—and their institutions accordingly. That means they should challenge their assumptions about teaching, researching, knowledge creation work within the Academia. Therefore, a proposal emerged from this small-scale research is that the Greek Ministry of Education could establish a training program in higher education that would provide University Professors with credential for their teaching expertise [24]. The standards and certification process of such an initiative could be both designed and led by experts (Professors or not), and when established, all Faculty members, especially newcomers, would benefit of it [25].

A Symposium (2016) and a Conference (2019) that took place at the Democritus University of Thrace on University Pedagogy, along with a significant empirical research which has been launched, have already marked the beginning of an emerging culture, which incorporates the concern for teaching and learning excellence within higher education's institutions in Greece [2].

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Experiencing a Museum After Dark: The Practice of 'Lates' in the Industrial Gas Museum of Athens

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Abstract In the competitive leisure marketplace, museums are systematically seeking new ways of engaging and retaining audiences as well as attracting new markets. Over the past decade, late night thematic events, known as 'Lates', are becoming an increasing feature of museums, and a key method of attracting underrepresented visitor groups. As the growing body of studies suggest, these events, balancing between entertainment and learning, are addressed to a new target audience segment, the Generation Y. The paper aims to explore this emerging practice in Athens and in particular in the Industrial Gas Museum. Given that the phenomenon has not yet been investigated in the context of the Greek museum landscape, the paper takes as starting point the development of themed night-time events in museums elsewhere, mainly the UK, and reviews their typical features and their evaluation. It then focuses on the novel adoption of late night events by the Industrial Gas Museum entitled 'Let's be late!'. Key questions are raised: Are the attendees non-traditional museum visitors and do they respond to the characteristics of Generation Y? How does their feedback relate to the Museum's intentions? Does the 'Lates' event encourage engagement with the permanent collections or intentions for subsequent visits? The study draws on two forms of data collection: observations of use of space, and a research questionnaire. Results illustrated that frequent museum visitors and young audiences who are familiar with the museum respond well to the event. Implications are discussed.

Keywords Audience research · Lates in museums · Industrial gas museum · Generation Y · Museum visitors

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745

1   Introduction

In the competitive leisure marketplace, museums are systematically seeking new ways of engaging and retaining audiences as well as attracting new markets. Over the past decade, late night thematic events, known as 'Lates', are becoming an increasing feature of museums, a key method for attracting underrepresented visitor groups and more broadly a tool for diversifying the range of night-time activities. The paper aims to explore this emerging practice in Athens and in particular in the Industrial Gas Museum (IGM). Given that the phenomenon has not yet been investigated in the context of the Greek museum landscape, the paper takes as starting point the appearance and the development of themed night-time events in museums elsewhere, mainly the UK, and reviews their typical features, their evaluation and their multilevel contribution, as identified by the museological and cultural economics literatures. The paper then focuses on the novel adoption of late night events by the IGM entitled 'Let's be late!'. This, it is suggested, can be seen as a development consistent with the Museum's activities providing attractive experiences (such as late openings, adult-only events, sleepovers for families) that differ diametrically from its usual core offerings.

2   The Concept, the Development and Key Features of 'Lates'

Originating from the 'European Night of Museums' (an initiative of the French Ministry of Culture and Communication, in 2005, for the opening of museums with free entrance for a night all over France, which was later promoted by the Council of Europe, UNESCO and ICOM), the term 'Lates' has come to describe the events that take place in museums after 5 pm, whether free or charged-for. Though museums operating extended opening hours is now commonplace worldwide, 'Lates' are thought to be in an early stage of development. It is of particular interest that although night-time events have been a feature of nightlife in UK museums since 2000, they are considered to be 'still in their infancy', in comparison to the performing arts—theatre, music and dance [1].

   Beyond the late-night exhibition openings, the Lates' programming includes music performance, film, installation, debate, DJs, provision of alcohol points, experience-driven interaction with collections and playful and social activities (such as adult treasure hunt games). By balancing between entertainment and learning, museums aim through these to encourage the audiences in the age range of 20–35 years to regard them 'as places to meet, socialise and think' [2]. In effect, the fact of visiting a museum in night time rather than during the day, suggests in itself a different context for the visit and so a different museum experience [3].

   After-hours programming can be organized as part of a festival (as for example the UK nationwide 3-day festival 'Museums at Night', organized since 2009 by Culture 24) or as stand alone, as in the case of the Victoria and Albert Museum, the

first London museum to experiment with the concept of late-night events with the 'Friday Lates' (free and drop-in events the last Friday of each month—except May and December). Museum night-time events can also be part of collaboration with other venues so as to develop joint Lates programme.

In the growing body of literature, Lates are discussed from different points of view and set in different contexts. From a sociological point of view, the extension of opening hours has been integrated into the post-modern context of 'acceleration': technological change and the availability of multiple offers generate a constant multi-activity and favor the diversion of the time period which used to be dedicated to resting—the night [3]. From the cultural economy perspective, Evans [2] situates the phenomenon of late-night activity and events in the global trend of rediscovering of city centres and sees their development as 'place-marketing tools' and as means for providing 'an alternative to the problematic effects of late night binge drinking and mono-use of city centres by a younger cohort'. In the *museological* literature, emphasis is given to the museums' distinctive approach when it comes to curating late events and activities, and to the audience they are addressed to. It is argued for example that they are specifically designed to change the perception of the museum, emphasize its sense of a shared social space and render the visit mainly a leisure, rather than a learning, activity. Through this, they seek to diversify audiences with non-traditional visitors, and attract younger audiences, in particular the Generation Y (born between 1980 and 1995, through there is no general agreement about the start and end years) audience of museums. As Generation Y is thought to be not the key audience of museums at present, late events can provide an opportunity of engagement with this audience segment. In fact, it is argued that their distinctive characteristics are favourable to this, in that they include being consummate 'experience seekers', looking for opportunities of socialisation within 'a child-free environment', and preferring events targeted at them and offering a variety of experiences characterized by flexibility and choice [4].

A series of surveys have also sought to map the key features of Lates, by drawing on data deriving from a single institution, such as the Science Museum in London [5] and the National Museum of Scotland [4, 6], or by a nationwide research project, such as 'A Culture of Lates', conducted by Culture24h in 2018 on the impact of Lates on the UK night-time economy, or by taking an international perspective and comparing data across cities which have a strong offer, including Melbourne, Sydney Moscow and Mexico city [7]. Among others, the comparative analysis of 2009–2016 data of the UK project showed a shift from free to charged-for events, while there were also indications that 'charging does not necessarily reduce attendance numbers to Lates' [1]. This research aims to explore this emerging practice in Athens and in particular in the IGM.

3 The Industrial Gas Museum in Technopolis City of Athens and Its Audience

The IGM opened its doors to the public in 2013. The main goal of the Museum is the promotion and protection of the old Athenian Gasworks plant, an industrial heritage monument that supplied energy and lighting in the Athens metropolitan area for 130 years. The visit to the Museum includes a museum path with 13 stops in 6 buildings of the old factory. The Museum possesses a rich collection of photographs and archival material as well as audiovisual material, including short films and oral testimonies of factory workers and residents of the area. Apart from its research and scientific direction, the Museum organizes cultural actions that aim at the engagement and involvement of the public and local communities, such as educational activities for all ages, theatrical performances, site specific activities, summer camp, Easter camp, and interactive exhibitions of historical character [8, 9, 10]. The IGM is conducting each year audience evaluation in order to find out the profile of its visitors, their preferences and their degree of satisfaction concerning the offered activities. The typical IGM's visitors are mainly families between 31 and 45 years old, that participate to various family events. They are frequent museum visitors, as they tend to visit museums 3–5 times per year, and most of them are well educated, as they hold a university degree. These activities, apart from their educational character, have created an audience that evolves into conscious "users" of the offered Museum's activities.

4 The "Let's Be Late!" Event at the Industrial Gas Museum

In line with this intention to develop a more open approach to opening hours, the IGM has organized for the first time a late night event in the Museum entitled 'Let's be late!'. The first 'Let's be late!' event took place on the 1st of March 2019, while two others are planned on the 17th of May and on the 1st of November. The aim is to create a set of events that have periodicity in order to be impressed on the public consciousness. The admission fee of 4 € allowed users to participate in a treasure hunt game where they had to solve the "Secret of Francois Feraldi", an important historic personality of the old factory. They could also participate actively in a graffiti workshop and leave their own footprint in an "interactive wall" by writing down their experience from the event. Finally, they could have a drink and listen to a well-known DJ in the old retorts house, the most visited building of the Museum. The activities offered were designed by the museum team in order to activate the participants and to familiarize them with the Museum as a place and with its history.

5   Methodology

The methodology chosen for studying the novel adoption of late-night events by the IGM employed two forms of data collection: a quantitative survey, which took place by holding structured interviews with the participants and an observation of visitors' behavior. The research aim was to explore whether the IGM event has similar features to the distinctive characteristics of late night events as discussed in the literature, and to understand how visitors' responses relate to the Museum's intentions. Key questions raised were: Are the attendees non-traditional museum visitors and do they respond to the characteristics of Generation Y? Is the need for socialization a key motive for participation? Does the 'Lates' event encourage engagement with the permanent collections or intentions for subsequent visits? Data collection took place on site, on March 1st, 2019, during the first 'Let's be late!' event, at the IGM. The methodology was based on previous relevant research, undertaken for studying late events in museums [6, 11, 12]. The 89 interviews conducted included almost the total population of the event, as the event gathered 90 attendees.

At the beginning of the event, volunteers conducted the structured interviews. Then, they observed if and how visitors explored the six different areas of the museum (where activities specific to the event were occurring, such as treasure hunt game named "The Secret of Francois Feraldi" and the well-known DJ performance), as well as the permanent galleries that were open, which event goers could visit. For this purpose, volunteers employed the paper and pencil method of observation of visitor behavior [13].

6   Results of the Quantitative Research

As research focused on the event experience, visitors were approached during their stay in the venue. A total of 89 interviews were conducted. The questions covered demographic characteristics (gender, age, education, occupation), visitor behavior (newcomers to the IGM, frequency of visiting museums in general), attendants' motives, source of information for the specific event and, finally, intention to revisit the IGM and to return to a subsequent late night event.

Please note that the first paragraph of a section or subsection is not indented. The first paragraphs that follows a table, figure, equation etc. does not have an indent, either.

In terms of gender, women were most likely to participate in the event (67.1%). Furthermore, the majority of the sample (87%) were attendees belonging to the Generation Y audience. The average age of respondents was 30.5 and over half of them (61.2%) were under 30 years old. The level of education was high, as 32.2% of the participants had successfully completed university training, 29.9% held a masters' degree, while 27.6% were graduate students. The analysis of occupation

indicates that 58.1% of the respondents were full time employees, 10.5% part time employees and 31.4% unemployed.

Of the event-participants 39.3% were newcomers to the IGM. Most of the event goers have already been to the IGM and were familiar to that through their friends (41.8%), while only 1.3% was aware of the existence of the Museum on the occasion of the 'Let's be late!' event. If we focus on the frequency of museum attendance in general, it is clear that event-goers show a high attitudinal attachment to museums. The vast majority (79%) claims that they visit museums at least once a year, and 23.5% more than 5 times per year. This finding is in accordance with surveys [6, 12] suggesting that late museum attendees are most likely to be regular museum visitors. But it doesn't comply with relevant studies indicating that special museum events attract wider audience and diversify patterns of attendance [14–16]. Further findings of the interviews suggest that 70.8% of participants are likely to visit the IGM again, to more fully engage with permanent displays. A small percentage (17.1%) states that they will not revisit the IGM, while 14.3% is not sure. This high rate of intentions to revisit future events could be seen as an indication of respondents' positive experience. The favorable impact of the event is also enhanced by the fact that very few of the respondents (4.2%) stated that they are not likely to participate to the next late event of IGM.

Accordingly, most of the participants were attracted to the event by their social group, either by their friends (63.2%) by their partners (23%), reflecting the idea that one of the main reasons people are visiting museums is to socialize [14, 15, 17, 18]. The social character of the event was also expressed when respondents were asked to comment on the incentives of visiting. The most frequently selected motivation statement was "to spend a joyful evening with my friends" (55%), followed by "to listen to the music" (52.8%). On the contrary, the activities specifically designed for the event by the IGM—such as the "treasure hunt game" and "the graffiti workshop"—drove a small percentage of visits (23% and 16.9% respectively). It should also be noted that the idea "to visit a museum late at night" was very popular amongst respondents (56.2%), while the opportunity to visit a museum without children and other visitor groups received low levels of preference (13.5%). This result doesn't fully comply with surveys suggesting that Generation Y prefers events and activities that are targeted specifically at them and recognize that they represent a distinct audience group [19].

Social media (34.8%) and friends (33%) were the two main sources of information about the event, supporting the argument that for Generation Y interaction is mainly based on recommendations from friends, and on the online social networking [19].

7   Observation: Visitors' Engagement with the Displays

In attempting to understand how visitors use the museum space and engage with the collections during the particular event, it was decided to explore attendees' engagement with the permanent collections at the IGM by monitoring the use of

space and interactions with activities or objects. In particular, timing and tracking visitors at late events had to be customized based on the characteristics of the event.

Turning to the observation of visitor behaviour, the research team recorded visitor use of space in the permanent galleries of the old retorts and exhausters, the control room and the washer scrubber, the new water gas and finally the outside area of the main entrance of the permanent gallery. It must be noted that the area of the old retorts, is a gallery but contains no objects or textual information.

At 15-time intervals volunteers recorded the following information: Total number of visitors in the area, number of visitors who stopped and engaged with the exhibition material, number of visitors who had a level of engagement with a specific exhibit, the "exhibit of sensory functions" (smell, vision, hearing, touch perception), number of visitors who interacted socially with other visitors/friends, making comments on the exhibition material, number of visitors who stopped and looked or read gallery texts, wall panels and videos.

8   Results of the Observation

Synthesizing and analyzing the observation data shows that the exhibition spaces which attracted visitors' attention were the spaces close to those accommodating the activities. The further the exhibition spaces from the activities the less visits they attracted. Perhaps not surprisingly—given that similar findings have been reported elsewhere [6]—visitors tend to enter and move around in the exhibition space but not actively engage with the collections. Small percentages of visitors were observed to read texts or interact with exhibits. A prime example of this finding is the new gas galleries, where the 16 visitors who entered the gallery and participated at the treasure hunt game, mainly ignored the exhibits. In addition, very few visitors stopped and engaged with the series of sensory exhibits throughout the galleries. In fact, from the 43 people tracked at the exhausters only 8 were monitored to interact with the sensory exhibit. Again the spaces, where more attentive viewing was recorded, were those close to the activities, such as space no 4 and no 6, the areas containing permanent exhibits (old retorts and exhausters). Taken together these findings show that the most popular exhibition space, both in terms of visitor numbers and viewing patterns, was the outside area of the main entrance of the permanent galleries, followed by the exhausters gallery. On the contrary, the space with the lowest rates was the control room, as well as the washer-scriber gallery.

9   Discussion

Unlike the expectation that event attendees would be a wider and more diversified museum audience, the 'Let's be late!' event attracted a significant number of newcomers, although the majority of attendees had already visited the museum on

another occasion. The percentage of the newcomers to the IGM were museums' frequent visitors, which means that they had already a specific interest in cultural institutions. Hence, the late event attracted well-educated, frequent museum visitors, but unlike the typical IGM visitors, the attendees were younger and came to the event as part of a friend's group. Furthermore, the present research provides some evidence regarding the relationship between the visitors' demographic profiles and the pattern of museum attendance. We found that event visiting patterns are positively associated with education level. Hence—since 'Let's be late!' participants are well educated—education seems to be a strong predictor for event attendance. These results fully comply with museum surveys in Greece and abroad that indicate a correlation between education and museum attendance [20–24], suggesting that the specific event did not manage to attract a diversified audience, based on education level.

In terms of the age range and preferences of participants, IGM seems to have achieved the aim of attracting the segment audience described as Generation Y. Not only because of the age range of the young adult audiences (55.5% of the participants are born between 1980 and 1995), but also because half of them agree that a key factor for participating was to visit the museum in the evening, and saw this as mainly a social activity and a chance to be playful, to be shared with friends. The findings are both aligned with Generation Y studies [19] which emphasize that opportunities for socialization are ranked highly in leisure and recreation experiences sought by this particular group [4, 6].

The event goers were mainly focused on entertainment and socialization, rather than having an educational experience. On the contrary, the engagement with permanent collections was limited, mainly in the context of the treasure hunt game. Further, it can be observed that only galleries that involved activities specific to the event and next to the busiest areas, which included the live music and the bar, attracted audience. On the contrary, galleries far from the areas where the main event took place, like the new gas water, attracted very few visitors. The most popular area was found to be the area of the old retorts which contained no exhibits or audiovisual material, but included the DJ set and the bar.

The low attendance level as well as the limited interaction with the exhibits in many galleries—the new gas water, the washer scriber, the control room—is due to the fact that IGM comprises different buildings scattered throughout the vast space of the factory. This minimizes the possibility of visiting areas far enough from the areas which retained visitors longer and are not directly related to the event or spent considerable time in them. As research suggests [6] interaction and engagement with permanent displays was limited, as most visitors preferred to stay in areas with few or no permanent exhibits or to walk through the space of other permanent exhibition areas and briefly to read the information. Perhaps the fact that the majority of participants have visited the museum before can partly account for the low level of visitor engagement with the collections.

10 Concluding Remarks

The research, in spite of its small scale, can be thought of as contributing to an understanding of the impact of the event in the IGM which is the first event of this type. It is positive that the research has brought to surface that frequent museum visitors and young audiences who are familiar with the museum respond well to the event. This is further enhanced by their intention to revisit the museum and attend subsequent late night events. No less importantly, from a marketing point of view, the research provides a basis of knowledge upon on which to build the next late night event(s) and facilitates more conscious planning, as for example through different platforms that allow people to access information more easily. But, more broadly, it can also be seen as a restricted but meaningful addition to the current low level of data specifically relating to late night events, and to the need for comparative analysis of Lates in capital cities. It is acknowledged that "there are big gaps in knowledge that, if filled, could make a significant contribution to developing practice" [1].

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Culture as an Instrument of Mass Construction

Dorothea Papathanasiou-Zuhrt, Aldo Di Russo, and Kevser Cinar

Abstract In the Programming Period 2007–2013 cultural heritage has always been defined as an emerging market, however from the total sum of 47 billion euros Structural Funds, only 6 billion (1.7%) are allocated to culture, as culture is thought to be an issue of national interest. Given the fact, that only few fields of application require such a vast integration of different skills, the question is: why culture is considered a trans-European market but remains heavily subsidized at national level. This paper builds an attempt to shed light on how do we measure the return on cultural investment; if it is correct to measure only direct returns; what does it exactly mean to invest in culture rather than investing in construction or in the production of ice cream; if we use should the same criteria or is it necessary to proceed differently. We argue that the understanding that the social value of any investment is far more important than the actual income: the sums for example governments can save health services, if violence is decreased, are substantially higher than the sums invested for culture to regulate social behavior. We further argue that in order to achieve this goal, the cultural sector needs to transcode contemporary impressions into emotion by employing art and artists, while economists need to demonstrate the social balance and the social profit of a market such as culture.

Keywords Culture · Violence · Regression

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1 Introduction

The title of the paper *Culture as an instrument of mass construction* is a phrase taken from a banner advertising the work of filmmaker Feo Aladag for the film *When we leave*, winner of the European Parliament Film Prize 2010. It's a sad film discussing intercultural conflicts, violence and lost opportunities of integration. Transcending the film and its deeply social topic, we would like to focus on the ad: *culture as an instrument of mass construction*: what does it exactly mean to construct through culture and how is this different than the production of ice cream or a pipeline? Can we use the same criteria or is it necessary to proceed differently? Why culture is considered *a market* in the first place: may be because of tourism, or because of the number of existent museums and the rising numbers of visitors or the increasing demand of digital media industries which have succeeded to attract the youth market? The purpose of this paper is mainly to figure out the intention embedded in the policymaking declaration about *culture*, and to look for the rational and pragmatic body in the statements affirming the principle. In an effort to investigate and define the possible advantages, the application fields shall be analyzed one at a time, being aware of the necessary structures that will allow the forecasts to be realized. We are formulating a hypothesis, that the purpose of the cultural investment is to increase the knowledge of a particular phenomenon, of a particular time period, a particular work of artistic or historical value and that this, precisely because knowledge is the amplifier of critical consciousness and of the intrinsic ability of humans to establish individual collocations in the interconnected and interdependent world. For precisely these reasons Stuart considers the investment in knowledge advancement [1]. We will attempt to make explicit the extent of this indirect gain in the cultural investment towards a numerical index able to weigh the social contribution of culture and translate it in the only yardstick that for now society understands: money.

2 Literature Review

The development of the cultural heritage sector has reached a crossroads, and has become strategic for the times we are living. Studies demonstrate that economic contribution of Cultural and Creative Industries (2.1%) is higher than that of the sector of food, beverages and tobacco manufacturing (1.9%), the textile industry (0.5%) and the chemicals and plastic products industry (2.3%) [2, p. 6]. In 2017 around 8.7 million people found cultural employment across the EU (3.8% of total employment), while nearly all EU countries, jobs in cultural field were held predominantly by people with tertiary education [3]. The EU's cultural goods trade balance grew from 6.3 billion euros in 2012 to 8.6 billion euros in 2017: jewelry, works of art and books represented three quarters of EU cultural exports; in terms of value added the AV sector came first [4]. Still the market of culture, to its inherent characteristics,

is not a market that can be traditionally understood. A market economy is an economy in which decisions regarding investment, production, and distribution are based on supply and demand, and prices of goods and services are determined in a free price system [5]. At the beginning of the supply-demand mechanism, there is a need that must be met: it must be produced in order to satisfy the need. The easiest way is to buy products with set prices. While market surveys precisely define, through established patterns what are the preferred tastes of consumers to define products that may have the widest possible demand, we wish to confute this thesis in the domain of art and culture. To expose the mercantile view of art assessment, we refer to the Chase Manhattan Bank project, *The most wanted paintings*, that offers deeper insight for the argument of the experience being realized in the sphere of the unexpected. The artists, Vitaly Komar and Alex Melamid have investigated, using traditional methods of market research, the preferences of users for paintings, treating them as customers of the consumer society. Selected for each country in terms of individual preferences, colors, backgrounds, sizes, have been processed as data. According to the results, paintings have been produced exactly as if they were potato chips for the evening entertainment [6]. However although the paintings are made according to the average preference of the country selected, no one wants them. We further assume that the extent of this indirect gain in investing in culture towards a numerical index able to weigh the social contribution of culture and translate it in the only yardstick that for now society understands: money. Well established studies demonstrate that intellectually active seniors are less prone to be frequent hospitalized and therefore spending money on culture, means to substantially save on the huge health care costs [7, pp. 287–230, 8]. The above mentioned literature leads us to think that the cultural market continues to be the driven by the market economy, but market laws do not work if applied to the chain of cultural production. By examining this precarious phenomenon we attempt to subvert the dominant market view that is currently regulating the production and distribution of culture.

3 Research Methodology

We suggest that the income of today cannot be separated from the problems of tomorrow and vice versa: a cost of a culture-driven, socially and civilly virtuous activity today that benefits another sector must be reflected within the budget depicting the benefits and be allocated as the right measure to the actual generator. Well established studies demonstrate that intellectually active seniors are less prone to be frequent hospitalized and therefore spending money on culture, means to save on health care [7, 8]. Knowledge is embedded in everything we do and every product we use and in this vein any innovation become progress only if it is followed by public and intensive use infiltrating the society as a whole. If the encounter of artworks is indeed knowledge acquisition, the investment purpose would be a noble one and the direct benefit of those who had an active part in that

encounter, immediate and fruitful. In the spirit of the Aristotelian logical grammar, by imagining the world as result of critical consciousness, culture becomes the social glue, the cohesion of the substrate itself. This leads us into the world where the desire to discover is measured on the ability to understand, a world where opinions are formed on the basis of awareness and self-awareness and not on undigested suggestions of others [9, pp. 9–25]. In order to define a strategy that invokes the utility of a cultural investment, we have evaluated three public-private sector partnerships in the Programming Periods 2007–2014 and 2014–2020:

(a) The SEE/B/0016/4.3/X Project SAGITTARIUS (2,596,480.00 €): the Project has created a Roving Museum in GR/IT/RO/BG/HU/MD/SI/HR accessible via QRCs in the territory and an mobile app for iOS and Android operating systems [10];

(b) The MIS/ETC2617/BSBJOP Project ALECTOR (1,065,894.30 €): the Project has created an open source cultural heritage infrastructure in GR/RO/BG/MD/GE/TR working with local actors at grass roots level to co-create place-driven local projects with high cognitive and emotional value [11];

(c) The COS/TOUR/699493 Project DIVERTIMENTO (312,129.00 €): the Project has launched an iBook collection exploiting the powers of the Cultural and Creative Industries to internationalize tourism SMS in peripheral destinations in GR/IT/ES/BG/RO/SI/TR and inspire policy makers towards new cultural investments [12].

In the time period 2014–2018 a Scope Survey with 240 stakeholders and a Satisfaction Survey with 610 randomly selected users of cultural services has been conducted in the intervention area of the three projects aforementioned.

The Stakeholder Survey has revealed a series of outcomes independently of the country and participant age. Stakeholders in GR//IT/ES/HR/SI/HU/ME/GR/TR/-MD/GE have clearly formulated their wish to:

• make wise use of public money tailored to cultural goods and services and reform the public procurement procedures, which they currently view as inadequate to respond to cultural contents
• lift and skills-gap mismatch that dominate public heritage institutions;
• identify the needs of the audience in the twenty-first century in particular the youth
• enhance the cultural capital of young people, decreasing delinquent behaviour

The Visitor Survey, mainly targeted to millennials, has identified a clear need for:

• large scale cultural investments with sites, museums and collections that exploit the technology intense experience at the maximum to communicate heritage
• digital communicate that create the authenticity in the heritage experience both onsite and offsite
• understanding and appreciating heritage in the new world order of pervasive media.

4   Content Analysis

To explore, if culture can ensure the investment return in cultural goods and services, we change for a moment, but only apparently, the topic: in recent years we witness an increase on violence eruptions of all kinds. The UN has professionally studied the phenomenon also from the economic point of view and the following are the criteria of analysis and conclusions which researchers have come to in regards to the costs that the company incurs as a result of the increase in this phenomenon (UN Women Facts and Figures 2017) [13]. Day, McKenna and Bowlus discuss three categories of costs [14, pp. 6–7]: (a) **Direct tangible costs** are actual expenses paid, representing real money spent, like taxi fare to a hospital and salaries for staff. They costs can be estimated through measuring the goods and services consumed and multiplying by their unit cost; (b) **Indirect tangible costs** have monetary value in the economy, but are measured as a loss of potential, like lower earnings and profits resulting from reduced productivity. They are also measurable, although they involve estimating opportunity costs rather than actual expenditures; (c) **Direct intangible costs** result directly from the violent act but have no monetary value, like pain and suffering, and the emotional loss of a loved one through a violent death. They may be approximated by quality or value of life measures; (d) **Indirect intangible costs** result indirectly from the violence, and have no monetary value, like negative psychological effects on children who witness violence which cannot be estimated numerically. The authors conclude that the costs of violence against women are enormous and that the economic costing literature indicates that the whole of society pays for the costs of not addressing this pressing social concern [15, p. 45].

Scholars argue that the inability to reduce violence is often due to an empathy *gap* [16, pp. 120–128, 17, pp. 480–484, 18, pp. 150–164, 19, pp. 1–2, 20, pp. 1–14]. Galimberti uses the term *regression* explaining that the power of the reason, character and thought are dramatically diminished against a single specimen with instinctive behaviors of animal species [21]. Regression is indeed the right word, because humans in their evolution have gone a long way from gestures to word and language, from confrontation to dialogue, from nature to culture. Reason and thought are achievements of culture that are forming the basis of our democratic society. The aphasia, inherent to the digital Dark Age, is putting the human evolution into reverse. Bullying and violence are clearly indicators of regression. Merely listing the number of assaults without reflecting on the recession of the human evolution underestimates the danger and is obscuring the answer. Thus we are being led into a world, a society where the animal instinct leads the strong to appropriate the weak for reasons of physical strength. By accepting this, we forget that the identity of the sapiens human species is a cultural one, and not natural. And here it is imperative to quote Charles Darwin: "The very essence of instinct is that it is followed independently of reason" [22, p. 405].

Sentimental education that alone banishes violence against the weak is a lesson that comes from ancient literature, the theater, the cinema, thought to represent

and disseminate human achievements. In the remote past, constructing artifacts, which we now call archaeology, was the symbolic message of our ancestors to represent human achievements. If the sentimental model, e.g. love, compassion, solidarity, that is to say the code used by artists for millennia, is our distance from the animal world, then the widespread and conscious use of culture reinforces our awareness and evolutionary growth. This alone is enough to give practical meaning to the adjective "strategic" continuously used about the culture. The sentimental and behavioral model, dialogue and mutual understanding are life contexts alternative to bullying and opposed to violence against women. A society regulated by culture leaves no room for aggression; it is easy to understand how an investment in culture is generating a clear reduction of these phenomena and therefore spectacular economic growth.

5 Findings

Twenty-five culture-driven Pilot Projects have been analyzed within the framework of the regional investments by the (a) SEE/B/0016/4.3/X/SAGITTARIUS; (b) the MIS/ETC2617/BSBJOP/ALECTOR and (c) the COS/TOUR/699493/-DIVERTIMENTO in GR/IT/HU/TR/HR/SI/ES/RO/BG/MD/GE in regards to a cultural heritage agency's communication with the public. Major findings include (a) inability of heritage institution to understand audience needs independently of the country; (b) inability of the audience to perceive the values of heritage in the short time budget of a visitor independently of the origin; (c) inability of the public sector to implement attractive cultural investments independently of the national rules for procurements. All 25 cases have revealed miscommunication between heritage institutions and their audiences. All 25 cases have revealed a clear wish requirement: the information architecture offered to the public visitor in sites museums and collections has to be entirely redesigned in order to attract and retain the attention of the audience: it must be "administered" through a narrative structure that is capable to activate the cognitive and the motivational component, both essential to the assimilation of data necessary for the construction of the information environment, essential to allow the interpretation of the artwork. The narrative, the language of cinema and that of the theater, born thousands of years ago, helps to decode the symbolism behind which artists conceal the reality. It is the narrative that brings with it all the emotion and emotionality assisting the public to navigate in their wealth of ideas and thus reconstruct the meaning of the artwork itself. This process provokes the chain reaction that multiplies the results. If a story is written and performed so compelling, it increases interest and curiosity. It thus encourages the structural integration supporting the cognitive approach. It is the latter that allows knowledge to be processed and assimilated in the aforementioned context. This is the kind of knowledge that regulates behavior, preventing it of being delinquent, let alone to nourish violent acting. The awareness of having understood influences strongly the motivation to keep going, offers satisfaction and reinforces

the focus in all future processing activating the chain reaction-cognition-motivation releasing new energies to real learning and citizenship objective. The process of alignment between symbolic signals deriving from the past and the context capable to deliver the tools to decipher them, we call *cultural communication* and has to be part of the overall cultural investment.

The human brain develops concepts learned throughout life and acquires a new experience based on previous experiences and incorporates the active higher functions, such as memory and judgment, which are the key for comparison [23, p. 49]. Without deepening into the perception that is beyond the scope of this paper, it is critical to understand that in the world of culture is the supply that is creating the demand and not vice versa. By being confronted with the unexpected, a cognitive imbalance is created, which through the redeployment of the previous experience, produces a new balance in a new frame of reference: the *new experience*. Experience exists only as a function of the fact that it appears in front of something unknown, something that has the potential of upsetting the procedure, the status quo. Cultural experience can take place only if it becomes the production of new artworks in the hands of present day artists [24, pp. 204–217]. The work of art should not be giving everything to the senses, but just what is required to put imagination on the right path. This is the spirit of Voltaire's much quoted phrase *the secret to being boring is to say everything*. Along the lines Schopenhauer declares that in art the best is too spiritual to be offered to the senses; it must be born from the imagination of the viewer, generated by the work of art [25, pp. 1883–1884]. Very often the sketches of great masters are more effective in being understood by the public than their completed, finite paintings. In Rhapsody C, Homer deals with Helen's beauty in the teichoscopia incident [26, pp. 141–244]: she approaches the part of the wall, where the aged Trojans are watching their sons die in battle for her sake. But her divine beauty urges the aged fathers take their eyes away from the dying sons. This is how Homers immortalizes Helen's beauty: by shaking the audience. In other words, experience happens only if we meet the unexpected.

6 Conclusion

The cultural market continues to be the driven by the market economy, but market laws do not work if applied to culture and the promotion of cultural heritage. We need a new approach, as by applying the old procedures, we are damaging the goods. The Gross Domestic Product (GDP) has lost its ability to be an indicator of quality of life of the society that generates it, including its ability to attract new capital since the choices of citizens attribute a constantly increase to the social quality, a dimension that is beyond the mere economic calculation, but has a devastating indirect effect on the economy [27]. In the classic representation of the mathematical model whose balance is determined from the intersection of supply and demand, when as a result of an advertisement, a fashion, the demand grows, more people wish to satisfy their need to possess that good or make use of that service willing

to pay a higher price. The supply adjusted to this demand, the assumption is, that to satisfy my need to acquire an asset that I clearly want: all this has little to do with the cognitive activity.

Public authorities would learn from the artistic and cultural mechanisms that the latter naturally tend to the maximum possible quality, while continues unabated the destructive work of those seeking only the lowest economical level. This practice with which we still live, does not lead to saving the public money, on the contrary it allows choices without implications on the civic responsibility of commissions and produces tenders without any expertise on the subject. EU funds taking into account the social impact of culture and national fiscal incentives could present favorable conditions to those organizations and institutions that contribute more than others to the brake of "regression" to growth. The recent destruction of globally valued heritage in Syria and the Iraq, urges to underline that scientific research, heritage conservation, landscape preservation, the protection of historical-artistic past are characteristic of nations with conscious awareness, that results from the daily production of culture, used as a social regulator and cohesive social glue [28, pp. 1–5, 29, pp. 1–3, 30, pp. 229–233].

Culture is a strategic sector by definition, we took some practical examples and demonstrated how this sector can address the quality of the social life of a nation and that cultural and creative industry cannot exist without the production of new culture. All the sector needs is to rewrite market rules and representations of market incorporating the impact on society and clarifying the strategic importance through the emergence of growth of other sectors that culture allows. The involvement of sectors of society interested in the effects of the lack of culture, the effects of regression: the police hospitals, from schools to religious institutions. For years, we study systems of integrated budgets, for years enlightened economists claim the idea that the value of a company is no longer is its material assets, but the intangibles are the real frontiers of integration and then small museums continue to complain about budgets at a loss just because the business management is not able to address and measure the social impact.

The creative cultural industries are the pinnacle of the development of culture in the economic sense. But creativity puts a new perspective: its use to increase social quality. The challenge is to align the discipline to this revolution, becoming part of the linguistic turn, override the tendency to try to represent the new within the fossilization of the traditional thinking. We need new rules and new economic indicators that are applicable in the practice of public government and the economy. We should be managing with new rules, or else to create a management culture for culture is a useless occupation.

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Travel and Tourism Competitiveness of Economies Around the World Using Rough SWARA and TODIM Method

Emel Kızılkaya Aydoğan and Mihrimah Özmen

Abstract In recent years, Travel & Tourism (T&T) has demonstrated to be important drivers of economic growth. The sector continues to provide specific possibilities for improving and emerging nations to uprise the value chain. T&T Competitiveness Index (TTCI) is an evaluation tool to evaluate the case of how to strengthen the global competitiveness of the T&T sector and ensures a global platform for multi-stakeholder dialogue. TTCI serve to achieve a strong and sustainable T&T sector which effectively contribute to international economic development. TTCI involves a variety of criteria as well as in many decision-making problems. Although the TTCI is not taken into account when calculating, these criteria importance are different from each other and different criteria weights changes the ranking results. By considering this situation, to consider the T&T competitiveness of the countries, a hybrid MCDM method, consists of Rough SWARA and TODIM (an acronym in Portuguese of interactive and multi-criteria decision making), has been developed. By using this hybrid method, policy makers and stakeholders can obtain more prudent and informed decisions than TTCI.

Keywords T&T competitiveness · MCDM · TODIM · Rough SWARA

1 Introduction

T&T sector can affect to regional economic development with abundant foreign exchange earnings. T&T has become one of the largest and fastest growing sectors in the world with its ongoing growth and diversification. Thanks to forecasts 1.8 billion international tourists by 2030, the sector has become a role position in creating employment opportunities. According to the researches, for every 30 new tourists creates a business opportunity; and already today, the T&T sector employs

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almost twice as many women than other sectors. Besides, T&T constitute of 30% of world services exports, and is the largest export sector in many developing countries; and the sector generates a considerable amount employment. Because of the importance of the T&T sector, many countries are now making effort to promote the competitiveness of their tourism sectors in the global market. T&T competitiveness ranking is a useful resource for measuring the competitiveness of the tourism sector in a global market for a country. This ranking was first published in the T&T Competitiveness Report in 2007 by the World Economic Forum. T&T competitiveness rankings help the sector to set future goals and formulate policies and actions in line with these goals. In addition, thanks to the sector's trend analysis; It provides a global and long-term perspective to the industry, international organizations and government leaders [1].

Considering the contribution of T&T competitiveness to the country, studies are being carried out in recent years. According to other researchers, T&T competitiveness is associated with the economic prosperity of the residents of a country [2, 3]. Therefore, the recent studies are more and more concentrated on T&T competitiveness [4, 5]. Zhang et al. [4] applied TOPSIS and information entropy to evaluate T&T competitiveness of the Yangtze River Delta of China. Furthermore, Kozak and Rimmington [6] applied an approach to obtain the both quantitative and qualitative competitiveness criteria of international T&T competitiveness. Moreover, Cracolici and Nijkamp [5] presented several multidimensional statistical methods to predict the T&T competitiveness of Southern Italy. Wu [7] proposed a method which implies objective weighting methods, including DEA, GST, and ANN, to improve ranking trustworthiness, besides using Borda count approach to merge these rankings. Peng and Tzeng [8], produces strategies for developing T&T competitiveness applying a new hybrid MCDM approach which consist of DANP (DEMATEL-based ANP). Peng and Tzeng [9], constitute the strategy for developing T&T competitiveness by applying a hybrid fuzzy MCDM approach which consist of fuzzy DEMATEL-based ANP. However, few studies have explored and rank all countries with all TTCI criteria.

TTCI ensures an extensive strategic approach to measure the many criteria, which affects the development and competitiveness of a country. By contributing extensive evaluations of the T&T sector of countries worldwide, the comparisons can be useful for sector's competitiveness. As shown in the Fig. 1, it contains four main-criteria and 14 sub-criteria. These four main-criteria are (A) Enabling Environment, (B) T&T Policy and Enabling Conditions, (C) Infrastructure and (D) Natural and Cultural Resources. Besides, countries TTCI rank order is obtained by calculating the arithmetic mean method to aggregate the values of these four main-criteria. That is, the TTCI ranking accepts these four main-criteria to be equally important. However, in the real-world criteria do not have the same importance. Hence, the criteria weighting methods should apply to obtain more meaningful rankings. In evaluation of countries' T&T competitiveness, we recommend a hybrid multi criteria decision making (MCDM) approaches include: Rough SWARA and TODIM.
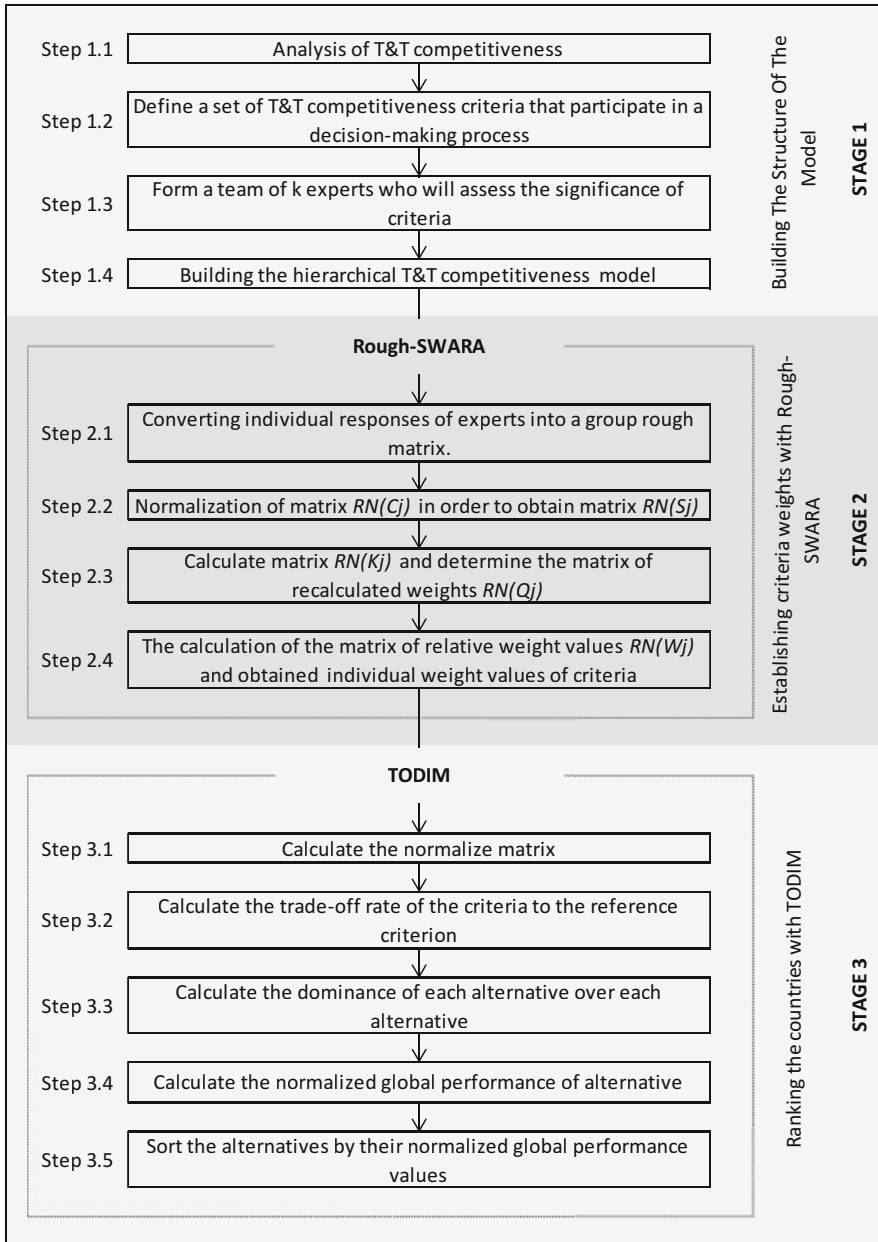
Fig. 1 The proposed hybrid method: Rough SWARA-TODIM

The TODIM method, was proposed as a significant and simple MCDM technique by Gomes and Lima [10]. TODIM is one of the first multi-criteria decision models that incorporate the psychological behaviors of decision-makers in the decision-making process. The basic principle of TODIM is based on a value function that calculates the global dominance degree of an alternative relative to others in all criteria. An important step in the degree of global dominance is to first determine the degree of dominance of one's alternative for a given criterion. All degrees of global dominance are then applied to the alternatives in the order [11].

2 Evaluation of the T&T Competitiveness of the Countries' Using the Hybrid MCDM Method

In this section, we have ranked the countries in terms of T&T competitiveness with the proposed hybrid method as the basis for "The Travel & Tourism Competitiveness Report 2017" dataset [1]. The proposed hybrid model for evaluation of T&T competitiveness is summarized in Fig. 1.

The 136 countries are evaluated according to 4 main and 14 sub-criteria. The hierarchical structure of criteria is shown in Fig. 2 and the definitions and weights of the criteria have been given in Table 2.

2.1 Establishing Criteria Weights with Rough SWARA Method

All criteria have a critical impact on T&T competitiveness. The criteria, used in the ranking, was introduced. Then the weights of the criteria are calculated with
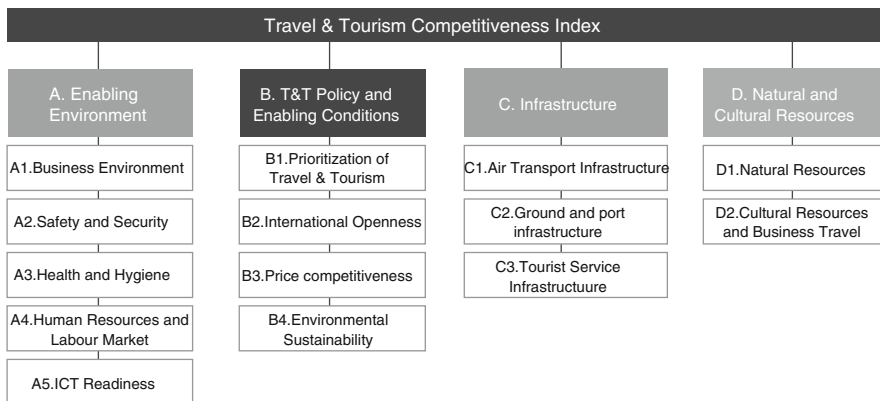
Fig. 2 The hierarchical structure of T&T competitiveness of countries [1]

Rough SWARA. The SWARA was proposed by Kersuliene et al. [12] and, method characteristic is the possibility of evaluating experts' opinions on the importance of criteria in obtaining their weights. Zavadskas et al. [13] developed a Rough SWARA method.

In order to create the criteria weights for T&T competitiveness with Rough SWARA, firstly, five T&T sector experts took part in the evaluation of criteria. The evaluation carried out by the experts is shown in Table 1.

After the all steps of the Rough SWARA are performed relative weight values of criteria are obtained, given below.

$RN(w_A) = [0.0639, 0.0934]$, $RN(w_{B1}) = [0.4545, 0.5012]$,
$RN(w_B) = [0.4545, 0.4855]$, $RN(w_{B2}) = [0.1246, 0.1746]$,
$RN(w_C) = [0.2849, 0.3193]$, $RN(w_{B3}) = [0.267, 0.3273]$,
$RN(w_D) = [0.133, 0.1703]$, $RN(w_{B4}) = [0.0609, 0.0998]$,
$RN(w_{A1}) = [0.0342, 0.058]$, $RN(w_{C1}) = [0.5325, 0.5931]$,
$RN(w_{A2}) = [0.3941, 0.4407]$, $RN(w_{C2}) = [0.2514, 0.3369]$,
$RN(w_{A3}) = [0.2455, 0.3047]$, $RN(w_{C3}) = [0.1141, 0.184]$,
$RN(w_{A4}) = [0.0721, 0.1102]$, $RN(w_{D1}) = [0.6667, 0.6667]$,
$RN(w_{A5}) = [0.1487, 0.2049]$, $RN(w_{D2}) = [0.3334, 0.3334]$.

To obtain countries ranking, the crisp weight values of criteria are obtained with mean of lower and upper Rough SWARA weights. The criteria crisp weight values and definitions are given in Table 2.

When the main criteria weights which affecting evaluation of the countries, are examined, we observe that "B. T&T policy and conditions" with %45.45 weight, is more important than "C. Infrastructure" has %28.49 weight. The most important sub-criterion is "B1. Prioritization of Travel & Tourism" has %21.72 weight. This value is obtained by multiplying the following two values: the weight of "T&T policy and conditions" (%45.45) and the weight of "Prioritization of Travel & Tourism" (%47.78) between the performance areas sub-criteria.

2.2 Evaluating Countries' T&T Competitiveness with TODIM Method

The T&T competitiveness rankings of the countries are evaluated with TODIM method and when the results are analyzed, there are significant and reasonable ranking differences of the proposed Hybrid method and TTCI. In view of the weight difference between criteria, to have these differences is an expected situation. The rankings of all countries have changed. In the rank ordering of 21 countries, there have differences 1 or 2. However, there have been serious differences in the rank ordering of other countries. The ranks obtained by TTCI and TODIM are given in Table 3.

Table 1 Assessment of criteria by five experts

| Expert | Main criteria | | | | Sub criteria' of | | | | | | | | | | | | | |
| | | | | | A | | | | | B | | | | C | | | D | |
	B	C	D	A	A2	A3	A5	A4	A1	B1	B3	B2	B4	C3	C1	C2	D1	D2
E1	1	2	4	3	2	1	3	4	5	1	2	3	4	1	3	2	1	2
E2	1	2	3	4	3	1	2	5	4	1	2	3	4	1	2	3	1	2
E3	1	2	3	4	2	1	3	4	5	1	2	4	3	1	2	3	1	2
E4	1	2	4	3	2	1	3	4	5	1	3	4	2	1	2	3	1	2
E5	1	2	4	3	3	1	2	5	4	1	2	4	3	1	3	2	1	2

Table 2 The definitions and crisp weights of the criteria

Main criteria	Weight	Sub criteria	Definition	Weight	Total weight
A. Enabling environment	0.0786	A.1	Business environment	0.0460	0.0036
		A.2	Safety and security	0.4174	0.0328
		A.3	Health and hygiene	0.2751	0.0216
		A.4	Human resources and labour market	0.0911	0.0072
		A.5	ICT readiness	0.1767	0.0139
B. T&T policy and conditions	0.47	B.1	Prioritization of Travel & Tourism	0.4778	0.2246
		B.2	International openness	0.1496	0.0703
		B.3	Price competitiveness	0.2971	0.1396
		B.4	Environmental sustainability	0.0803	0.0377
C. Infrastructure	0.302	C.1	Air transport infrastructure	0.5627	0.1699
		C.2	Ground and port infrastructure	0.2941	0.0888
		C.3	Tourist service infrastructure	0.1490	0.0450
D. Natural and cultural resources	0.1516	D.1	Natural resources	0.6667	0.1011
		D.2	Cultural resources and business travel	0.3333	0.0505

3 Conclusion

The T&T competitiveness of countries has a potential impact on policy components. Therefore, it would be important to evaluate countries more detailed technique like MCDM approach than a score evaluation. In this study, a hybrid approach is modeled to investigate the T&T competitiveness of countries by considering criteria weights with Rough SWARA method. In addition to considering the criteria weights, the 14 criteria are separately evaluated with TODIM, instead of ranking the average values (as in the TTCI score). Thus, a more realistic perspective was gained to the pro-posed hybrid method. In addition, the application of different MCDM techniques stochastic and fuzzy environment, integration and comparison with other methods can be considered as a topic for future research.

Table 3 The comparative ranking results of TTCI and Proposed Hybrid methods

Countries	TTCI Rank	TODIM Rank	Countries	TTCI Rank	TODIM Rank	Countries	TTCI Rank	TODIM Rank
Albania	98	87	Chad	135	136	Ghana	120	101
Algeria	118	114	Chile	48	36	Greece	24	32
Argentina	50	90	China	15	52	Guatemala	86	93
Armenia	84	62	Colombia	62	81	Honduras	90	96
Australia	7	10	Congo, Democratic Rep.	133	132	Hong Kong SAR	11	5
Austria	12	6	Costa Rica	38	42	Hungary	49	45
Azerbaijan	71	50	Côte d'Ivoire	109	113	Iceland	25	21
Bahrain	60	47	Croatia	32	43	India	40	89
Bangladesh	125	123	Cyprus	52	41	Indonesia	42	65
Barbados	58	53	Czech Republic	39	29	Iran, Islamic Rep.	93	97
Belgium	21	25	Denmark	31	20	Ireland	23	17
Benin	127	120	Dominican Republic	76	94	Israel	61	48
Bhutan	78	73	Ecuador	57	77	Italy	8	40
Bolivia	99	117	Egypt	74	88	Jamaica	69	71
Bosnia and Herzegovina	113	107	El Salvador	105	102	Japan	4	2
Botswana	85	75	Estonia	37	26	Jordan	75	59
Brazil	27	79	Ethiopia	116	118	Kazakhstan	81	57
Bulgaria	45	39	Finland	33	16	Kenya	80	95
Burundi	134	133	France	2	11	Korea, Rep.	19	27
Cambodia	101	112	Gabon	119	116	Kuwait	100	85
Cameroon	126	122	Gambia, The	112	108	Kyrgyz Republic	115	100
Canada	9	15	Georgia	70	49	Lao PDR	94	86
Cape Verde	83	76	Germany	3	1	Latvia	54	34

Country			Country			Country		
Lebanon	96	99	Nicaragua	92	104	South Africa	53	64
Lesotho	128	121	Nigeria	129	125	Spain	1	19
Lithuania	56	38	Norway	18	9	Sri Lanka	64	66
Luxembourg	28	14	Oman	66	58	Sweden	20	12
Macedonia, FYR	89	70	Pakistan	124	130	Switzerland	10	3
Madagascar	121	129	Panama	35	37	Taiwan, China	30	23
Malawi	123	119	Paraguay	110	103	Tajikistan	107	98
Malaysia	26	28	Peru	51	67	Tanzania	91	110
Mali	130	131	Philippines	79	80	Thailand	34	46
Malta	36	30	Poland	46	33	Trinidad and Tobago	73	74
Mauritania	132	134	Portugal	14	22	Tunisia	87	82
Mauritius	55	44	Qatar	47	31	Turkey	44	63
Mexico	22	61	Romania	68	55	Uganda	106	109
Moldova	117	105	Russian Federation	43	56	Ukraine	88	91
Mongolia	102	92	Rwanda	97	78	United Arab Emirates	29	24
Montenegro	72	68	Saudi Arabia	63	51	United Kingdom	5	4
Morocco	65	72	Senegal	111	115	United States	6	18
Mozambique	122	124	Serbia	95	84	Uruguay	77	60
Namibia	82	83	Sierra Leone	131	128	Venezuela	104	126
Nepal	103	111	Singapore	13	7	Vietnam	67	69
Netherlands	17	13	Slovak Republic	59	54	Yemen	136	135
New Zealand	16	8	Slovenia	41	35	Zambia	108	106
						Zimbabwe	114	127

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E-commerce Success Factors: A Taxonomy and Application in the Fashion Industry

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Abstract The current research examines the factors that lead to the success of online stores and explores their application to online women's clothing stores. Initially, by studying the existing literature, factors were gathered and grouped together to develop a research tool. The tool was used in 90 online fashion stores in Greece and internationally, helping to assess and evaluate the success factors in a specific context. The final evaluation has ranked the factors in order of priority and importance and compare stores in national and international context. The findings highlight success factors in real markets and can help both researchers and entrepreneurs themselves to address the phenomenon.

1 Introduction

E-commerce is one of the most growing business trends. Even with limited venture capital, e-commerce is rapidly increasing its market share, with sales of $2.3 trillion in 201 and is expected to reach $4.5 trillion by 2021. In the U.S.A. only, online shopping accounts for 10% of retail sales and is expected to grow at a year-on-year rate of 15% [1]. As the e-sales process matures, competition between online stores is exacerbated, making it necessary to know the factors that can lead an online store to success. Previous surveys have examined factors such as the quality of the site and the online shopping process in relation to customer satisfaction [2], the characteristics of a pleasant e-sales experience [3] and more. However, few have considered the effectiveness of the processes and factors in a real online market and how they affect the quality of the e-shops.

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In the present study, through the study of the electronic fashion market at national and international level, we try to examine how these trends are applied and what are the key points in which online stores in this area place emphasis. The points of interest of the study are categorized as factors related to the design and site presentation, factors related to e-marketing techniques, factors related to transaction, delivery and customer support and factors related to reliability, safety and reputation [21]. The list of the most important factors and the priority order is a benchmark for stores and can be used to develop new or improve existing online stores. In the sections below, we will look at previous studies and focus on factors that affect the success of an online store. Then, we describe how we examined these factors in a sample of online stores, analyze the results that have been obtained, and conclude on relevant conclusions that can be used by academics and business executives.

2   Previous Literature

The presentation of a quality and efficient online store requires the collaboration of specific disciplines [4]. Design, visual arts and graphics, usability of content, organization in the presence of products and payment system are some of the key elements for a quality e-shop [5]. An initial step is the study of the target audience. It has been noticed that the knowledge and experience of the public contribute significantly to the results that a well-structured and quality online store can bring [6]. For example, the younger audience prefers fast and simply structured online stores that lead directly and quickly to the desired information [7]. The target audience is the basis for any entrepreneurial development activity to create meaningful and unique relationship with each client [5]. The use of social networking and search engines offers a huge amount of information to understand their preferences, while customer interaction through these media strengthens their market recognition [4, 8, 9].

An important part of success is also the creation of a sense of satisfaction for the customer either during the purchase process or while browsing the store. Up-to-date, clear and simply structured information leads the user to what he is looking for without creating a sense of fatigue [10]. Thus, the provision of qualitative services related to search, market conclusion, and after-sales services build customer satisfaction [11]. This feeling of satisfaction builds the relationship of customer trust with the store. Honesty and attention to customer wishes gradually shapes the image and reputation of the store [12]. Finally, the security of transactions, the protection of consumers' sensitive personal data and the effort for better service before/during and after the order end, contribute uniquely to the success of the online store [4, 13].

To summarize, we understand that it is difficult to fully identify the most important and necessary factors. All together or individually can contribute uniquely to the complete e-shop image that can thrive and succeed in the online competition that prevails. Starting with the organized and studied creation of the website, continuing with the identification of the target audience and leading to the creation

Table 1 Factors and the basic criteria and relevant articles

Categorization of factors	Relevant papers
Design and Presence of the Website	
Speed	[14, 15]
Easy transactions	[7, 10, 16]
Ability to communicate instantly	
Create a pleasant experience for the user	
Proper presence/placement of site information	
Easy navigation	
Security of personal data	
E-Marketing Techniques	
Organize proper strategy	[15, 17]
Visualize consumer reviews on the site	[18, 19]
Customer-centric strategy	[16]
Advertising using search engines and social networks	
Transaction, Delivery and Customer Support	
Organized pre-sale and after-sales service	[8, 15, 18]
Support multiple payment methods	
Reduction in shipping and delivery costs	
Reliability, Safety and Reputation	
Fast and prompt customer service	[10, 20]
Personal data assurance items	

of a personalized relationship with each client. The basis for realizing, success and growing sales is the reliability, safety and reputation of the store that are achieved through the proper provision of services to customers (products, transactions, content, delivery and support). The organized approach of the success factors and their evaluation through the bibliographic review gives rise to the transition to the next, research part of the study. The knowledge of the needs and the necessary procedures that the e-shops have, give the researcher the ability to evaluate the extent to which they are considered necessary in the bibliography to achieve an online store.

3 Methodology

The research was carried out using a research tool and a set of online shops. The tool used includes several categories of factors being considered for each online store. Criteria are evaluated according to the judgment and the personal experience of the researchers. For the proper and thorough conduct of the survey, the factors were divided into 6 general categories and individual criteria. Each of them is looking at the operation/presence of the shop from a different perspective see Table 1.

The aim of the research is to investigate the criteria that make up each factor. According to personal estimates from the research team each criterion was studied separately for each online store. The evaluation was completed in two stages; the

first was to check whether or not the criterion was specific to each online store if it had not been negatively marked and stopped its evaluation process. When the criterion existed in the shop, the evaluation proceeded to the second stage where, using the scale (where the minimum score was 1 and the maximum of 10 for each criterion), the individual criteria were evaluated. The evaluation for each store was made by 2 independent evaluators and the average for each store was used. Where there were significant discrepancies, evaluation was performed by a third independent evaluator. The objective of the evaluation was to draw conclusions for each category of factors as well as for the overall set of shops. The research tool is in Appendix.

3.1 Industry and Sample Selection

The fashion industry is a highly profitable part of the global economy. Eurostat survey [22] places the clothing market at the top of the list of products sold electronically, as evidence shows that seven out of ten Europeans are buying electronics. At the same time, many online stores selling clothing are observed, making it particularly easy to conduct research, making it more efficient to collect the appropriate sample of shops and benchmark them.

In the research participate 90 online stores from different countries in order to have a complete and global image. From them, 50% is Greek (45 online stores), they have been created by Greeks and are based in Greece, while many of them are also exporting. The remaining 50% is from countries all over the world (USA (15 e-stores), England (17 e-stores), Spain and Italy (7 e-stores) and Hong Kong, Sweden, Germany, Georgia, Arab Emirates (6 e-stores)). More specifically, for the targeted selection of stores, are used some basic criteria such as the recognition of stores, information that came both through research in articles, as well as through the social networking of stores and the quality, i.e. stores that have high quality reviews of the quality of clothing and services. The discovery was made through magazine articles about the best "NET-A-PORTER".

4 Results

According to the results of the survey, the general assessment of the current situation of the e-commerce of clothing is positive and promising. The provision of high-quality services is a fact, while the effort for certified security of transactions and customer's personal data continues.

More specifically, Greek online stores are not abstaining from the developments and development of other countries' stores. Businesses and online marketers around the world have realized that the first and most important step is to create a properly structured site. The following is the communication with customers where the

inadequacies of the stores are observed on issues related to their evaluation by the public and more specifically to the feedback process. At the same time, it should be stressed that online stores understand that social media are the gateway to contact the general public as all branches have accounts in them.

In terms of quality of service, all shops provide the basic customer service processes without any special features or innovations. Interestingly, the presence of a call center was a keyway of communicating and resolving questions about Greek stores, a process that is presented in a very limited number of foreign stores. Finally, some stores emphases on brand consolidation. Most provide information related to the history of the business with its vision and goals. At the same time, they are constantly striving to obtain security and loyalty seals to safeguard the systems and the complaints of their customers. Figure 1 concerns the first part of the e-shop research process. More specifically, it concerns checking whether the agents are in the stores so that the process continues in the next stage, the rating of the criteria. There is the greatest inadequacy both at home and abroad on issues related to content (mainly in the presentation of customer ratings). Figure 2 presents the average score of the main categories, factors and criteria according to which research was conducted in online stores and visualized the conclusions analyzed
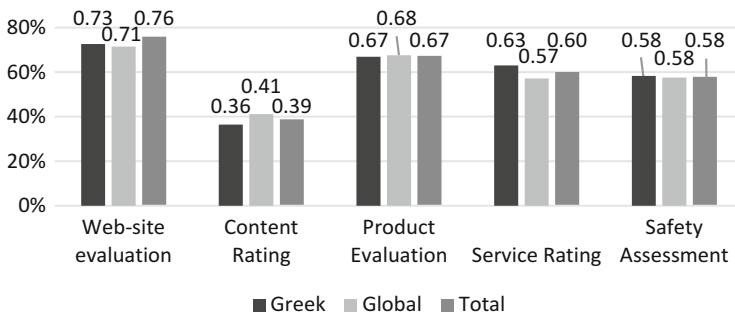
Fig. 1 Existence of evaluation criteria
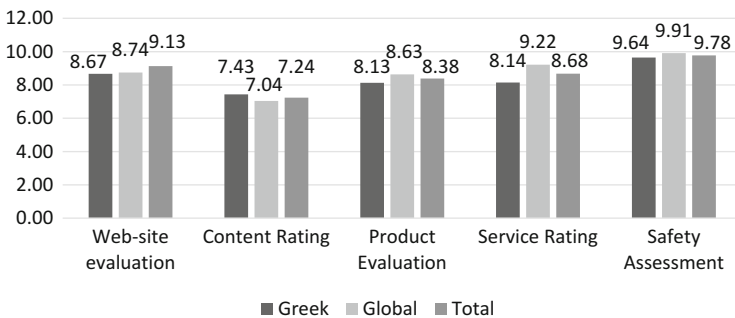
Fig. 2 Average score of the main categories

above. There is an overall positive picture as the overall average of the store rankings exceeds 7.

Regarding the inadequate factors found which can be upgraded, it is important to refer that they are related to the personalization of the pages for each customer separately so that each visit can find the ones he would like to buy. At the same time, the effort of a two-way relationship between customer and shop should be strengthened both to provide high-quality services and to constantly improve the shops. Finally, it was noted that very few stores enabled disabled people to adapt the page to their needs so that they could enjoy, without exception, online sales on an internet site that is made for everyone without exception.

4.1   Critical Success Factors

From the above results, we see that the most important category of factors is the website, as the principle of success is the right organization from the moment an idea starts to materialize. Site creation that can be easily customized to any mobile device size, fast loading and response of the page to customer choices, correct placement of the menu bar is some of the criteria for the initial creation of the site. Also, it is important to ensure high quality customer service, personalization and personal contact with the customer to meet the requirements of today's online marketplace. Together with securing personal data and customer transactions which is also the biggest inhibiting factor for online purchases by consumers. Furthermore, the right organization of the products on the site combined with the effective personalization, where it is presented to each customer what he needs to buy before the need arises. At the same time, the methodical organization and categorization leads easily and quickly to the consumer towards what he seeks without delays and unnecessary information that makes him tired. Equally important criterion is content evaluation. As mentioned, it is very important to have comments and reviews of the store, both for the benefit of consumers and for the motivation to improve the store itself.

5   Conclusions

The survey highlights how technology has led to the creation of an online clothing market that lacks nothing compared to physical stores. Rich content, detailed product information and guidance, ease of management and interaction contribute to creating a pleasant and equally satisfying experience with a physical store.

The ranking of factors based on their significance according to the conclusions of the study starts with the presence of the web site, followed by the safety and quality of services and finally the presentation of the products and the evaluation of the store. Along with its contribution to the research community, this study can be used as a guide for compliance by e-shop owners to develop a successful e-shop.

The results of the survey grouped the factors and set the criteria that every online clothing company should meet in Greece and abroad. At the same time, the display of the current market situation on a global and domestic scale enables entrepreneurs to get informed and evaluate their stores.

The limitations of the current survey include that the results only concern online stores with female clothing and a relatively small sample of stores has been included. At the same time, the analysis of the results was carried out without statistical analysis, while the results and the rating of the stores stem from personal evaluations of the researchers.

To meet the limitations, ways of developing and continuing it are proposed. Initially, a significant increase in the e-shop sample used to conduct research and results could produce more objective results that are even more closely related to reality. Also, electronic clothing sales to people with special physical needs and vision problems, a factor that proved through research that it is at an early stage of implementation. Finally, studying the presence of e-stores in social media and Instagram in particular can provide the stimulus for a new study on how much they help e-shop efficiency.

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Linking Luxury Brand Experience and Brand Attachment Through Self-Brand Connections: A Role-Theory Perspective

Eirini Koronaki, Prokopis K. Theodoridis, and George G. Panigyrakis

Abstract The importance of brand experience in the luxury context has been increasingly gaining attention recently, due to the need to provide consumer with unique moments of connection. This research builds on the growing body of literature, in an attempt to identify the brand attachment's contribution to that and how self-brand connections can be affecting the process, and also examine the influence of luxury values, national values and human personality on brand attachment. Role theory is used as an underlying theory, specifically analysing consumer's identity, role formation and role enactment. Using a questionnaire-based survey for existing luxury customers, the findings indicate that brand attachment positively impacts brand experience, through the mediating role of self-brand connections and highlight the positive influence of luxury and national values play, and the negative of human personality. The results demonstrate the importance of brand attachment as a tool to create strong experiences, and indicate managerial implications for consumers' selves' connections to luxury brands.

Keywords Cross-cultural · Luxury values · Human personality · Brand experience · Self-brand connections · Brand attachment

1 Introduction

Significant changes have been taking place in the luxury sector lately. The importance of experience has been increasingly underlined, but the way to create such moments-of-truth is still under investigation.

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The understanding of the role of attachment in affecting the experience might be of great help in that direction. However, under this scope, the individual's self will have a crucial role to play. On the one hand, self-brand connections might affect the degree of influence and on the other, the individual's identity might also affect how the experience is perceived. Since all these relationships are highly linked to the self and can be interpreted through the social psychology approach and precisely role theory.

This research aims to identify the different mechanisms through which brand experience affects brand attachment within the luxury context. We adopted the social psychology approach, which provides significant information, not only in terms of why consumers behave as they do, but also in terms of how meaning is created through interaction. Under this scope, role theory is adopted as an underlying theory to investigate how the luxury consumer's role is formed and enacted today, but also how the individual's identity within that role affects the whole process. Despite the significant information that role theory offers, it has yet to be applied in the consumer context with a holistic framework. To this end, this research aims to fill this research gap, by proposing a framework including role theory dimensions and elements from the branding literature.

Despite the performance-oriented nature of this consumption, researchers have yet to examine it from a role-perspective. This research argues that brand experience, describing any point of interaction to the brand, and brand attachment, describing the level of connection to it, offer suitable parallelization to role formation and role enactment respectively. Moreover, consumer's identity, consisting of a personal, a social and a role-specific dimension, can be parallelized with luxury values, human personality and national values. The importance of brand-self connection is also considered in the proposed framework. Hence, we specifically examine the role of luxury values, human personality and national values on brand experience and how this subsequently affects brand attachment, with the mediating role of self-brand connections.

2 Literature Review

When the individuals' needs are satisfied by providing them with subjective intangible benefits, the degree of connection to the brand becomes stronger [1]. The individual's personal characteristics and traits will affect the interaction with the brand [2].

Furthermore, the things that someone evaluates as an ideal goal in life is linked to the prevailing norms in society, which shows the connection between luxury and national values [3].

We thus argue that:

H1: luxury values positively affect brand attachment.
H2: human personality positively affects brand attachment.
H3: national values positively affect brand attachment.

Furthermore, brand attachment can interfere with the ways and levels with which consumers experience the brand. These strong points of interaction to the brand [4], will however also depend on the existing degree of connection to the brand. We thus argue that:

H4: Brand attachment positively affects brand experience, through the mediating role of self-brand connections.

3   Methodology

This study employed an online questionnaire, which was sent to luxury consumers from India, France and Greece. The countries were selected due to their different levels of economic development. The total sample of 1026, consisted of 277 Indian, 306 French and 443 Greek respondents. 61% of them had a Master's degree, 48.6% of them were in the age group of 25–34 and 51.8% were male and 38.8% were female. The Cronbach alpha reliability coefficient for each scale was of an appropriate level. The survey instrument measured a total of 4 constructs. Since the constructs of Luxury Values, National Values, Human Personality (for the dimensions of Extraversion Conscientiousness and Openness to experience), Brand attachment, Self-brand connections and Brand experience are already established in the academic marketing literature, the choice of scales was based on previously published research. The measurement of luxury values was approached as suggested from a scale developed from Shukla and Purani [5], including 11 items. National values were approached as suggested by Singelis et al. [6] and measured with 32 items. The scale for human personality was taken from the paper by Goldberg [7] and included 27 items, while the scale for brand attachment was taken from the paper by Park et al. [8] and included 4 items. Finally, the scale for self-brand connections included 7 items also taken from (Escalas and Bettman [9]) and the scale for brand experience was taken from Brakus and Schmitt [10] and 12 included items. All items were measured on a seven point Likert scale anchored by 1 = "Strongly disagree", 7 = "Strongly agree" or 1 = "Never", 7 = "All the time". To evaluate the construct validity of the scales, an exploratory factor analysis was conducted. For the luxury values scale, with a score reliability of the scale of .764, three factors emerged. The first factor, which accounted for 22% of the total variance, describes Utilitarian and Cost perceptions. The second factor, which accounted for 18.1% of the total variance, describes the Experiential/hedonic value perceptions. The third factor, which accounted for 17.8% of the total variance, describes Symbolic/expressive value perceptions. Item 4 was deleted due to high cross-loadings. For the human personality scale, with a score reliability of the scale of .675, three factors emerged. The first factor, which accounted for 20% of the total variance, describes the openness dimension in its majority. The second factor, which accounted for 14% of the total variance, is the extraversion dimension. The third factor, which accounted for 12% of the total variance, is again in its majority

linked with the conscientiousness dimension. Items 16 and 25 were deleted due to low loadings. For the national values scale, with a score reliability of the scale of .675, four factors emerged. The first factor, which accounted for 12.9% of the total variance, describes the horizontal individualism dimension in its majority. The second factor, which accounted for 12.8% of the total variance, refers to the vertical individualism dimension. The third factor, which accounted for 12.7% of the total variance, describes the vertical collectivism dimension. The forth factor, which accounted for 11.4% of the total variance, describes the horizontal collectivism dimension. Items 4, 5, 8, 12, 14, 19, 21, 23, 25, 26, 27, 31, 32 were deleted due to high cross-loadings or low loadings. For the self-brand connections scale, with a score reliability of the scale of .875, two factors emerged. The first factor, which accounted for 48% of the total variance, describes self-brand connections linked to the personal connection to the brand. The second factor, which accounted for 34% of the total variance, describes self-brand connections linked to how the brand assists the individual to represent themselves to others. For the brand attachment scale, with a score reliability of the scale of .879, one factor emerged, which accounted for 73% of the total variance.

For the brand experience scale, with a score reliability of the scale of .828, four factors emerged. The first factor, which accounted for 23% of the total variance, describes affective and behavioural dimensions and precisely whether the brand is linked with physical experiences and whether it also causes emotions. The second factor, which accounted for 20% of the total variance, describes the intellectual dimension. The third factor, which accounted for 16% of the total variance, described the sensory dimension. The forth factor, which accounted for 11% of the total variance, describes behavioural and affective dimensions and precisely whether the brand is linked with actions and causes strong emotions.

For testing hypotheses 1, 2, 3, a multiple regression was run to predict brand attachment from luxury values, human personality and national values. These variables statistically significantly predicted brand attachment, $F_{(3,811)} = 53,073$, $p < .0005$, $R2 = .164$. All three variables added statistically significantly to the prediction, $p < .05$. Moreover, unstandardized coefficients show how much brand attachment will vary with an independent variable when all other independent variables are held constant. For the independent variables, results indicated the following. For each one year increase in luxury values, there is an increase in brand attachment of 0.554. For each one year increase in human personality, there is a decrease in brand attachment of $-.228$. For each one year increase in national values, there is an increase in brand attachment of .211. H1 and H3 are thus confirmed and H2 is rejected, since human personality negatively affects brand attachment.

For the fourth hypothesis, we evaluated the accuracy of the mediation effect using SPSS macros (Model 4) for computing mediated effects. In step 1 of the mediation model, the regression of brand attachment on self-brand connections was significant, with $b = .1112$, $t_{(6, 43.768)}$, $p = .00$ (<.001). This means that according to the coefficient, a unit increase in brand attachment increases self-brand connections by .3401. In the second step, the regression of self-brand connections and brand

experience was also significant, with b = .1202, t (5.2978) 0, p = <.001. Thus, a unit increase in self-brand connections increases brand experience by .1202. We also controlled for brand attachment, which was still significant with p = 0.000, providing support for partial mediation. The final step was to test for the significance of the identified indirect effect. Since zero was not in the bootstrapping 95% confidence interval, with LLCI .0059 and ULCI .029, the indirect effect was in fact significant. H4 was thus confirmed.

4   Discussion and Conclusions

Our study examined the influence that luxury values, national values and human personality have on brand attachment. Also, we investigated the influence of brand attachment on brand experience, through the mediating role of self-brand connections. The findings indicated that luxury values positively affect brand attachment. This is in line with Loureiro and Kaufmann [11], who underlined the positive effect of luxury values on affective commitment towards a brand and also Prentice and Loureiro [12], who underlined the connection between social value and consumer engagement. National values were also positively related to brand attachment. This finding is in accordance with Hennings et al. [13] who identified the importance of culture in luxury consumption and Godey et al. [14] who identified the role of culture in perceiving luxury brand attachment. Human personality was identified to negatively influence brand attachment. This could be explained by the use of the openness, conscientiousness and extraversion dimensions of human personality and by the fact that such an individual might showcase lower levels of attachment to a brand. Furthermore, we found that brand attachment positively affects brand experience, through the mediating role of self-brand connections. This is in line with research showing connecting attachment and experience (e.g. [15]), but also how the perceived connection differs according to the perceived connection to the brand (e.g. [16–18]).

Significant managerial implications emerge from this study. First of all, through the relevance of luxury values and national values for brand attachment, it encourages brand managers to design relevant campaigns for each group. Thus, the individual's background should be taken into account for the design of effective connections, either through the use of familiar elements in their campaigns for that cultural context or through the cultivation of relevant associations. Furthermore, for the consumer to have stronger brand experiences, the degree of their attachment should be taken into account and further cultivated. This should also be tied to the fact that this relationship will be affected by the perceived degree of connection between the consumer's self and the brand.

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Revolutionizing Marketing in Tourism Industry Through Blockchain Technology

Dorin C. Coita and Olimpia Ban

Abstract The blockchain technology has already started to dramatically disrupt the tourism industry. It has the potential to create a new landscape in the tourism industry generated by increased disintermediation, to generate new markets from several cross-industry applications, to modify the systems of rating, booking, supply chain, transportation, contracts, and payments as we know them. This paper aims to identify the effects that blockchain technology will have on marketing in the tourism industry. Based on the literature review, on the analysis of the success stories and cases, on the observations on the functional models of the actors that already use the blockchain in the tourism industry, the paper highlights the development prospects in the field and builds the basis for shaping the concept of the future marketing in tourism industry.

Keywords Blockchain · Tourism · Marketing

1 The Impact of the Blockchain Technology on Tourism

1.1 Blockchain Technology (BT)

Blockchain is considered a revolutionary technology with a profound impact on the economy and society, one of the breakthroughs of the past decade. BT allows large groups of people and organizations to reach agreement on and permanently record information without a central authority. BT creates trust online, and it is expected to become "the infrastructure for a fair, inclusive, secure and democratic digital economy" [1].

Its foundations were set up by Satoshi Nakamoto who developed the concept of bitcoin—a peer to peer electronic cash system, as a system for electronic

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transactions without relying on trust and preventing the problem of double-spending [2]. Subsequently the technology made some steps ahead and promised to deal not only with money but with all sorts of values which could be stored, managed, transacted, and moved in a secure, private way. Values like money, identities, assets, stocks, frequent flyer points, securities, bonds, intellectual property, music, art, votes, scientific discoveries, and predictions were appropriate for being managed by the BT [3].

The BT promises to transform the Internet, from the stage of the Internet of Information to the stage of the Internet of Values [4] where a value transaction such as a foreign currency payment, can happen instantly [5]. The Internet of information allowed powerful intermediaries to grow and to collect information from the markets, including personal data of the users and used it as a competitive advantage. Such intermediaries are Internet companies like Google, Facebook, payment companies like PayPal, Western Union, Visa and other credit card companies, Amazon, E Bay, Alibaba, even Airbnb, and Uber. BT has the power to disintermediate e.g. to eliminate the need for trust parties involved in the transactions, and so to modify business models like of the above-mentioned companies, giving people the power to dispose to their data which is their property.

BT could transform every industry and the managerial function forcing people to redefine the way they make transactions, involve the stakeholders in their business through incentives and rewards, share ideas, and manage workflow. According to BRI—Blockchain Research Institute [6] BT is supposed to dramatically influence education, energy, resources, financial services, government, democracy, voting, laws and regulations, management, marketing, manufacturing, media and telecom, real estate, retail, technology, transportation, and tourism.

1.2   The Impact on Tourism

BT has a promising future in the tourism industry [7]. It could help hotels, restaurants, airlines, travel agencies, and other hospitality businesses to improve their service quality, guest satisfaction, and profitability [8].

Willie [9] categorized the possibilities of the BT to be used in the (1) accommodation sector (improved revenue management, inventory control, guest history and financial management), in the (2) travel agents and agencies sector (stable and secure transfer and sharing the passengers information, online reliability, transactions security, the strong mitigation of lost or stolen records and transactions) and in the (3) food service (improving food safety, customer payments and the use of the smart contracts.).

Kwok and Koh [10] synthesized the key blockchain applications to enhance tourism (1) inventory management (through capacity planning, direct distribution and supplier network), (2) reservations and ticketing (in hotels and car rental, insurance and flights), (3) identity management (traveler's identity, personalization of the offer and baggage tracking), (4) loyalty programs (discounts, incentives, rewards),

(5) digital payment (cryptocurrencies, B2B settlement, cross-border remittances), and (6) credential management (rakings and ratings, verification and authenticity review).

Pilkington [11] considers the BT could be used for decreasing poverty, by eliminating the corruption problems in countries suitable for tourism-like Moldova, and also promoting new destinations and forms of tourism with the BT [12].

Smart cities and smart destinations may adopt BT (e.g. payments with cryptocurrencies, business automation through smart contracts, sustainable and ethical sourcing that drives to significant changes of the traditional business practices) as a means of developing tourism [13, 14]. Also, the small islands that rely on the tourism industry (cases of Aruba, Barbados, Caribbean Islands, Mauritius, Malta, The Marshals Islands, Puerto Rico, and Vanuatu) made huge progress in the adoption of blockchain [10].

The booking system can be substantially improved by avoiding double bookings, facilitating payments and fair exchange rates, reducing the necessary time for tourists to find the right options, lowering the prices while eliminating the intermediaries between customers and service providers [15].

So far, intermediaries like global distribution system (GDS) have had margins between 25 and 40% and they dominate the tourism industry. The two largest GDS providers, Amadeus and Sabre still hold than 80% of all global air bookings while Expedia and Priceline control approximately 95% of the online travel agency (OTA) market in the United States [16].

BT can be used to ensure maximum capacity without overbooking, allowing the service providers to increase the prices as their service offering availability decreases; the fewer spots available the more expensive they could become [17].

A simple way to facilitate the services is by accepting cryptocurrencies as a form of payment [18]. This one little thing might be the most obvious way that blockchain will disrupt the industry [17].

BT could enable smartphones and other wearables, as well as the use of biometric data to simplify the experience of travelers. By using smart contracts the traveler's data can "seen" or "scanned" when they enter in places like airports or hotels. An algorithm contained in the smart contract might verify the validity of the traveler's documentation, security, and tickets and open the automatic doors or unblocking the engine of the rental car, eliminating the need for the traveler to line up or show any documentation [17].

BT has also the ability to build communities [18]. Online communities empower the communication process in the tourism field [19] they can be developed and strengthen by promoting user-generated content (UGC) [20]. We pay attention to how BT can build communities, how travelers will be rewarded for the UGC they will bring to network and could be used for marketing purposes.

2 Revolutionizing Marketing Through Blockchain

2.1 Literature Review

We consider BT have the potential to revolutionize the entire business landscape and hence, marketing of all companies, due to (1) the transformations regarding money, networks, agreements and smart contracts, the regime of the ownership and the traceability of assets (2) the disintermediation and the disruption of the middlemen and Trusted Third Parties, like banks, credit card companies, GDS, OTAs, Google, Facebook etc. (3) the new form of some important concepts, like trust, identity—the new approach of personal information, reputation, responsibility—because of immutability and traceability [21].

Harvey, Moorman, and Toledo argued that BT will fundamentally impact the practice of marketing by reducing the costs of transactions, shrinking the frictions regarding payments, making possible the real-time micropayments enabling verification and exchanging of the ownerships, disrupting the intermediaries and helping consumers to regain control of their personal data [22]. According to them BT allows for near-zero transaction costs which open wide the possibilities for micropayments (payments of a small fraction of a penny).

Micropayments are indeed a new concept in the economic landscape. While regular payments have usually the role of the price paid in exchange for an offer, the micropayments play different roles, like rewards or incentives for the customers, for their attention, time, effort, behavior or engagement. On the other hand, interested users will pay a small amount of money for accessing content (for example, reading an article on the company's blog). Micropayments are expected to revolutionize the way marketers will get access to customers' data [3, 22]. Companies will make micropayments directly to the customers and not to intermediaries like Google or Facebook or to advertising agents. The major implications will be (1) the removal of the intermediaries, "ending of the Google-Facebook advertising duopoly" [22, 23]; (2) the end of marketing fraud and spam. Micropayments will allow those that are interested to pay a tiny amount of money to click on a link, to access an offer or to read an article. This system of micropayments will discourage cyber-attacks with bots sending millions of requests to access a site to cause damages and hence (3) the users will have the means to prove the authenticity of their identity, and also and the incentives because they will be get paid for it. Consequently, the fake social media accounts and fake news associated with them won't be a problem anymore; (4) marketers will regain control over their marketing budget, they will know exactly where their ads were gone, to whom, they will be able to measure the impact of marketing tools down to a per-user or per-metric; (5) remonetizing media consumption by allowing copyright protection and empowering content creators to receive micropayments for every click or content usage.

Some experts in the field emphasize the importance of the security concerns for both brands and customers and state that BT will be the key solution for this problem [24, 25]. According to Enochs [24], with BT it won't be the need anymore for

cookies to know who customers are. Besides, marketers will dramatically change the way to interact with customers as BT gives brands a direct line to each customer and forces them to treat customers with greater respect. Marketers and brands must be explicit about the data they need, e.g. to ask the permission for the collection, to tell them what will be done with all the data. These requirements are explicitly stated in the GDPR but with BT companies could take additional steps, they could reward customers for disclosing data, for the time and the attention they spend within the relationship with the brand. Again, smart contracts, loyalty programs, incentives and discounts, paying users to view ads, content licensing and verification services are among the innovations that will be possible with the BT for the post-GDPR marketer [25].

2.2   Study Cases

In this section, we have analyzed the cases of the startups that are considered success stories in using blockchain for tourism [26]. We consider them BT businesses. The aim is to identify how revolutionary their marketing approaches are.

There have been seven cases of companies. For each, we analyzed the business model and the distinctive marketing approaches.

The first one, Winding Tree [27–29] develops a decentralized trip reservation platform—a public blockchain for the travel market.

The second, TripEcoSys [30] is a decentralized travel ecosystem, a platform consisting of (1) a travel blog; (2) a social travel review platform; (3) a specialized ad platform for travel service providers like hotels and restaurants, airlines, car rentals, tour guides, travel goods seller; (4) multi-signature wallets for securely storing and spending tokens; (5) decentralized public exchange for securely exchanging your desired coins and token.

The third one is ShoCard [31], an identity management system (IMS) built using the blockchain for the highest level of security and uses public/private key encryption and data hashing to safely store and exchange data. Through the ShoCard application, one's identity and personal data are stored on the person's device and he/she is the only person who determines which ID details are shared. ShoCard uses the blockchain as a public, immutable ledger that allows third parties to validate that the original data or certification has not been changed or misrepresented.

SITA [32] was created in 1949 by 11 airlines with the mission to create the world's largest data network, SITA is a travel technology provider is using the BT to provide travelers with a secure single token to travel through airports and across borders. Its vision is for seamless secure travel and uses BT to provide a new way of using biometrics for travelers across borders, and at all airports, without the passenger's details being stored by the various authorities. It developed a lab, SITA Lab, and it worked with blockchain start-up ShoCard on an early demo of these concepts.

The fifth one is Trippki [33], a hotel booking channel and customer reward system that incentivizes sharing the value transaction in the booking process between guests and hotels—the players that create value. It is a project aims to create a loyalty program using blockchain. Trippki lets customers and companies in the tourism industry get directly in contact with each other. They assign customers tokens for staying, for example, in a specific hotel and they get registered in the blockchain, never expiring and redeemable at any time.

The sixth business is Cool Cousin [34], a decentralized travel agency, a community-driven travel platform, connecting travelers and locals (called "cousins") for personalized on-demand guidance through smart contracts. The ecosystem is based on a cryptocurrency called CUZ-built on the Ethereum blockchain.

The seventh is TravelChain [35, 36], a decentralized blockchain-based platform which provides smart-data to let the business know their customers better and to help travelers experience the best customer service. TravelChain has its Blockchain (a graphene-based), which allows travel companies to integrate into the system and create their business models on top of the platform provided by TC.

3   Results and Discussion

Based on the analysis of the above cases we identified the following tendencies.

BT businesses rely on the Internet All cases use the Internet to grow their businesses. This consideration raises questions about the Internet. How available Internet is to people? To whom? Who controls it? How can it be protected and developed? These questions exceed our paper but we recall the concept of "the Internet of value" which is a blockchain premise.

BT businesses build inclusive networks Whether they call them platforms, ecosystems or markets, businesses want to include many participants in their inclusive networks. Service providers, partners, potential customers, clients, users, banks, airport, tourism operators and inventory providers, content creators and contributors, evaluators, etc. all of them are the stakeholders that BT companies tend to include in their networks. Literature showed that not only businesses form networks in the blockchain but even islands, cities and countries do the same.

Personal data is an asset While customers are increasingly aware of the value and the security issues associated with their personal information, companies are more likely to pay for it. The cases revealed some interesting mechanisms with token incentives, micropayments aimed to reward the users to disclose some of their data. This forces companies to redesign their strategies and even their business models, to be more responsible and sincere with the customers and to reward them when they engage in the relationship with a brand or with a business.

The consumers turn into prosumers They embrace new roles of co-creating value or contributing to the developing of new businesses. They are willing to explore, to observe, to communicate with the other participants, to share their experiences and by this to add value to them, to others and to the local community. These roles are not new, the good news is that BT will allow them this time to be rewarded for their contribution—which is to be validated by other stakeholders of the business.

BT businesses are preoccupied of increasing the quality of travelers' experiences They want the experiences of the customers to be personalized, authentic, simplified, secured, verbalized (or expressed in writing) and ultimately shared. Companies are willing to pay customers using micropayments to share their experience. Together with the smart contracts, those micropayments will reward the customers' engagement, whether is a subscription to a newsletter, sharing their experience with the brand, bringing other customers or just simply watching an ad.

4 Conclusions

BT will have a big impact on future tourism, at least as important as the Internet had. The BT will bring the Internet to the next stage, Internet of Values, where exchanging values will be possible in a rapid, transparent and secure manner.

BT has the power to disrupt traditional business models like the big aggregators and integrators, those brokers of information (Google, Facebook) and trust (banks, payment companies). In the tourism industry, the well-known ones are the GDS and the OTAs. BT could transform not only the model of the business itself but also the core business processes, including marketing.

Based on the amount of knowledge that we have acquired so far, we expect the BT to revolutionize marketing in the tourism industry. Marketers will be held responsible to develop inclusive networks, to involve partners and business stakeholders, to use micropayments as incentives and to link with the stakeholders using smart contracts. They will have to pay attention less to broadcast messages for interruption marketing model but more to establish solid relationships with clearly identified customers, based on fair smart contracts and also to use the possibilities brought by BT to deliver the superior value and to increase the quality of their experience as travelers and tourists.

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Consumers' Perceptions of Gender-Neutral Advertising: An Empirical Study

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Abstract Traditionally, but also nowadays, advertising employs gender representations which are widely used and recognized. At the same time, we witness a constantly growing number of advertisements and brands that attempt to challenge the prevailing images and entities of masculinity and femininity. This paper presents the outcome of research regarding perceptions towards gender-neutral advertising and stereotypes. Specifically, it explores gender differences related to gender-neutral advertising and also differences regarding stereotypes amongst members of two different generational cohorts. The targeted population consists of the Greek generation Z and generation Y cohorts. Statistical analysis was employed to examine the hypothesized differences. Discussion based on results and advertising techniques is pointed out for a brand's communications strategies.

Keywords Generation Z · Advertising · Gender-neutral marketing · Gender fluidity · Stereotypes

1 Introduction

Advertisements change over time in relation to how masculinity and femininity are perceived, following at the same time, the cultural changes of each time period [1]. Traditionally, but also nowadays, advertising employees gender representations which are widely used and recognized [1]. At the same time, we witness a constantly growing number of advertisements and brands that attempt to challenge

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the prevailing images and entities of masculinity and femininity as well as other identifying elements that are related to genders such as ability, race, and age [2, 3].

Previous research has pointed out the use of gender stereotypes in advertising in order to help increase the relationships between brands and consumers [4]. Though, in the last years, we notice an evolution in the use of genders in marketing communications as we observe at the same time a change in the society regarding relevant issues. It is therefore essential for researchers and marketers to have a deeper understanding of the communication the younger consumers' desire from the brands they prefer.

This study aims to report possible differences between women and men towards gender-neutral advertising as well as differences amongst two generational groups, namely generation Z and generation Y, as these are reflected towards gender stereotypes. The relevant perceptions of individuals aged 18–23 and 24–38 years old, namely, the Gen Z and Gen Y members in 2019 [5], are the main aim of the present study. Thus, the authors' wish to address the gaps which are acknowledged in the literature, presented as follows:

1. As previous research shows, the generation Z cohort is a topic that is not studied with adequacy.
2. Studies that focus solely on generation Z and advertising is very scarce.
3. It focuses on differences towards stereotypes amongst members of these generational cohorts.

2 Literature Review

Personal identity develops as an individual grows up and evolves. Identity can have varying aspects such as national or religious identity [6, 7]. The gender identity is considered though, not to have dimensions and is often regarded as having two opposite poles [6] and is based on an individual's relevance with other people of the same gender [7]. Researchers recognize the complexity of gender identity [6, 8]. There is a plethora of literature that examines gender identity from the perspective of man versus woman [9, 10]. Scarce research though, exists on gender-fluid identity, especially concerning its expression through advertising and marketing communications [6].

Advertising research in gender stereotypes acknowledges that females are often presented in a way that their beauty has the prominent role or they hold family roles, and fewer are presented as professionals. Males, on the contrary, present their professional role and have authority [11]. Gender stereotypes literature acknowledges the impact of social movements and historical periods such as the feminist movement and the changes in women having a role outside the home as more and more were employed. At the same time, we witnessed changes in the way males were presented.

Ratten [12] suggests that gender neutral global marketing is nowadays necessary since we now live in a more fluid and changing environment as far as the meanings of genders in modern societies. From this perspective, marketing and marketing communications need to examine further and get insights about the current mega-trends, and therefore, the dialogue on gender stereotypes should be continued and increased [12]. Therefore, in order to improve marketing effectiveness, the communications must be more inclusive in terms of gender following the societal changes.

Laughlin [13] suggests that Millennials and post Millennials are less bias towards genders and want brands to follow this trend. Read et al. [14] points out the preference of millennials for organizations and brands that stand out for social issues they care about, such as genders inclusivity [15]. Limited research showed a positive response to advertisements that include LGBT [16] but still, further research is of need in order to explain the way that modern consumers respond to advertisements that include such group members [14]. Research has also shown that women are less positive to advertisements that use stereotypes than men (e.g., Eisend et al. [17]).

Therefore, we hypothesize that:

H1. There is a statistically significant difference between men and women on their perceptions regarding the effectiveness of neutral gender advertising.
H2. There is a statistically significant difference amongst members of generation Z and members of the generation Y regarding their opinions towards stereotypes.

3 Methodology

A questionnaire that measured attitudes towards stereotypes and gender-neutral advertising was designed especially for this research based on previous studies and scales, as well in-depth interviews with individuals belonging in the Generations Y and Z. The sampling method employed consisted of a combination of methods, convenience sampling (through a Facebook account with an invitation to acquaintances of the generations Z and Y) and snowball sampling. A total of 160 valid questionnaires were collected in one month in January 2019. Data analysis involved descriptive statistics, reliability, factor, and t-test analysis.

4 Results

4.1 Sample Demographics

From the total sample, 28.7% were males and 71.3% females. Age distribution of the participants is presented in Table 1. Additionally, 90.0% were single, while 10.0% were married, divorced, or widowed. As to profession, 37.5% were employed, and 36.3% were university students. 11.9% were unemployed, and 1.2% were students.

Table 1 Age distribution of the participants

Age	Percent (%)
16–23	26.8
24–30	47.6
31–38	25.6
Total	100.0

Table 2 Results from Hypotheses testing

Hypotheses	Decision
H1. There is a statistically significant difference between men and women on the effectiveness of neutral gender advertising	Reject the hypothesis
H2. There is a statistically significant difference amongst members of the generation Z and members of the generation Y towards stereotypes	Retain the hypothesis

As to the area of residence, 80.7% resides in urban areas and 19.3% in rural. Lastly, as concerns their individual income, 50.0% has up to 4000€ per year, 15.6% has 4001–7000€, 9.4% between 7001 and 10,000€ while 13.10% earns between 10,000€ and 13,000 per year. Finally, 11.9% has more than 13,001€ per year.

4.2 Hypothesis Testing

In order to test the first hypothesis of the study which emerges from the question on whether males and females have a different opinion towards gender-neutral advertising as we previously assumed, we used the t-test statistical criterion after carrying out the necessary checks and found that the t-test was appropriate. Results showed the there is no statistical significance between women and men t (158) = 0.637; p = 0.525. Results of the hypotheses are presented in Table 2. Additionally, we tested the second hypothesis, which emerges from the question on whether there is a statistically significant difference between members of the Generation Z and members of the generation Y regarding their opinions towards stereotypes, as we previously assumed. We used the t-test statistical criterion after carrying out the necessary checks and found that the t-test was appropriate. Results showed that there is statistical significance between the members of the Generation Z and members of the generation Y t(158) = 2.300; p < 0.05.

5 Discussion—Conclusion—Limitations—Directions for Future Research

This research has a significant contribution to researchers who want to improve their understanding of advertising communication for the members of the generations Y and generation Z. First of all, it is apparent that the members of both generational

cohorts pay attention to the way brands communicate with them. As far as gender differences between individuals of the two researched generational cohorts, namely generation Z and generation Y towards neutral-gender advertising was not found.

Results made evident, though, that the members of this youngest generation differ regarding the significance they pay to gender stereotypes in advertising. The members of the generation Z respondents of the study seem to be more reluctant and opposed to gender stereotypes in advertising than older ones. These findings are aligned with Ratten [12], who suggested that gender-neutral communication is nowadays necessary in order to reflect the more fluid and changing environment [18–20].

In addition to its academic contribution, the research offers valuable information and managerial suggestions for organizations and brands in relation to their advertising and marketing communications towards generations Z and Y responding to the need for further research as suggested by Read et al. [14]. Marketers and advertisers could benefit from the findings of the current study since it provides information on how to improve the responsiveness to ads, formulate the communications strategy when addressing these generational cohorts. What is very important is that the youngest consumer generation seems to adjust more to the societal fluidity in regards to gender identity and therefore, marketers can use this information in order to better target the understudied generation Z, the youngest adult customers of today and the near future.

This research has some limitations, which derive mainly from the frame of the study as well as from time and economic limitations. First of all, the study focuses only on two generational cohorts, namely generation Z and the Generation Y members, which limits the results to these generations. Future research is needed in order to examine the results of additional generations as well. The research, due to economic limitations, used a non-probability sampling method. Without any doubt, a random sampling procedure in future research could validate the results. The size of the sample is another limitation of the current study. Future research that would employ a larger sample could validate the results of the study. Even though the current study has the abovementioned limitations, it is still considered valuable due to its practical insights into the understudied topic and especially for the better understanding of the relevant perceptions of the generation Z, which is an important cohort that is also not adequately studied.

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The Contribution of New Construction Technologies to Interactivity, Flexibility and Personalization in Hospitality Design, as Explored in Student Projects

Stavros Vergopoulos and Anna Efstathiou

Abstract Achievements in construction/fabrication techniques and technology-orientated design production influence hospitality design. New technologies affect the ways tourism information is spread, accessibility of searching, booking and reviewing, as well as spatial design that takes into account new technologies in the ways space is processed, fabricated and used, leading to a reconsideration of the hospitality accommodation. Regional and personal values, together with a significant demand for involvement of the self and a search for identity are attempting to keep balance with globalization. Tourists seek for interactivity and personalization and as a consequence designers respond. New technologies support batch production and variations, and their incorporation in the construction transforms establishments into flexible smart buildings that satisfy the changing social and individual needs. Customizable production technologies promote the extensive use of personal preferences in colour, texture, settings, arrangements and layouts. Digital simulation techniques allow the creation of virtual environments to investigate their application. The aim of this paper is to explore, through student projects, the new trends in construction that gain an increasingly important role in hospitality design. Students interpret the differentiated stimuli they get in the educational process and integrate fore-coming technologies in order to produce speculative and foretelling scenarios.

Keywords New construction technologies · Interactivity · Hospitality design

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1 Changes in Society and Technology Affect Contemporary Hospitality Design

Factors related to society, culture, environment and technology, as well as local or regional conditions dictate changes in design and as a consequence in hospitality design too. Additionally, the reason of motivating people to travelling is altered together with travellers' demands. More and more people travel for professional reasons, so, holidays, recreation, or fun are not the main motives. A lot of people travel as part of their work schedule and many people have their jobs far from their residence and often stay at ephemeral accommodation overnight. Affordable cost of transportation made travelling accessible and more frequent. "83.6% of all trips made in 2017 lasted a maximum of one week and most of the business trips had a duration of maximum 3 nights (74.4%)" [1]. Business travellers have certainly a demand for a technological support and mobile workers require a comfortable place with facilities that enable them to work online (computers, printers, Wi-Fi), and small informal places where they can organise meetings and presentations to small audiences [2, p. 275]. Although business travellers demand and are more familiar with technology, the majority of tourists are nowadays able to use technology embedded in hospitality, improving so their personalised experience [3, p. 6].

While for the working environment of travellers the necessity for technology embedded in hospitality spaces is easily understandable, the wellness and recreational hospitality environments seem also to follow. A tendency to incorporate innovative technological smart solutions to facilitate the personalization of customer experiences seems to be quite common in tourism industry and services [4]. Internet based technologies and smart mobile technology solutions are becoming nowadays a competitive advantage defining successful stories. Hyatt Regency Santa Clara have declared to have transformed guest experiences and grew its bottom line with enhanced Wi-Fi and analytics increasing revenues up to 20% per month [5].

Besides mobile and web communication technology, wearable technology is also gaining radically ground. From smartwatches to goggles and from 3d enabled mobile phones to wristband alerts, people are fascinated to wearable technology and many hospitality brands explore the possibilities. Westin Hotels has paired with tech company Lark for their "Heavenly" sleep system to allow guests to experience superior sleep using sleep tracking technology and personalized coaching tips [6]. It is widely recognised nowadays that ICT solutions aid hoteliers in the creation of memorable hotel guest experiences [7]. Categories in ICT solutions include smartphones, wearables, biometric technology, audio-visual technology, intelligent software agents and geolocation systems. However, it is crucial to maintain a balance between the imposing overload of technology and the relaxing travelling conditions. Many researchers during the last decades are concerned about the significance of 'calm' technology that recedes into the background of peoples' lives [8]. Case [9] suggested the term 'calm' design, implying technology that does not draw the user's attention unless needed and that is kept at the background. In this sense 'calm' design is not supposed to calm people physiologically, emotionally or

cognitively but to provide solutions that are better and seamlessly integrated into everyday objects and services. Furthermore, when technology is embedded in the environment as augmented artefacts, the user's focus is on the experience of the interaction and not on the tool by which it is applied [10].

Technology besides creating a completely new background for the services' sector and the spread of information and communication, significantly affect the man-made environment and the designed spaces. Contemporary design production and architectural constructions face unprecedented challenges and possibilities for innovation. Among them a tendency to incorporate new technologies and new construction and fabrication techniques to architectural production is evidently reflected in design education and student projects. This paper presents recent technological achievements and the ways these can be embedded in spatial design affecting the near future of hospitality design.

2   New Technologies, Construction/Fabrication Techniques and Digital Simulation in Student Interpretations of Contemporary Spatial Design

New technologies support not only batch production of objects, but innumerable variations and unique transformation of environments. Customizable production technologies promote the extensive use of personal preferences in colour, texture, settings, arrangements and layouts. The following student proposals on hotel spa design show colours and patterns able to change on demand and be controlled from distance (Fig. 1a). Unique patterns provide unique identity to interior spaces and lighting, shading, temperature, sound and music as well as olfactory properties can be individually controlled on demand offering personalized experiences to the customers (Fig. 1b).

The incorporation of these technologies in the construction, transforms establishments into flexible smart buildings that satisfy changing social and individual needs. The creation of custom atmospheres and virtual environments seem to fascinate young designers. Without doubt, the augmentation of the virtual properties of space can create motivating narratives. The "teleport-me" student project is an interior design scheme for a travel agency (Fig. 2). It proposes individual spaces-in-space where customers can experience a virtual visit to far destinations without moving from their enclosure. It suggests a holistic experience even from the first meeting with the travel agent. Capsule like meeting rooms float in the middle of an interior space designed as a natural environment with the water element all around the meeting rooms. Vertical gardens and paths lead from the entrance to the common spaces and the more private meeting rooms. The capsule meeting rooms are not only decorated with objects related to the cultural heritage of the country or culture to be explored before actually visited, but screens and life projections and contact with the destination is possible. A whole virtual environment is provided as a realistic
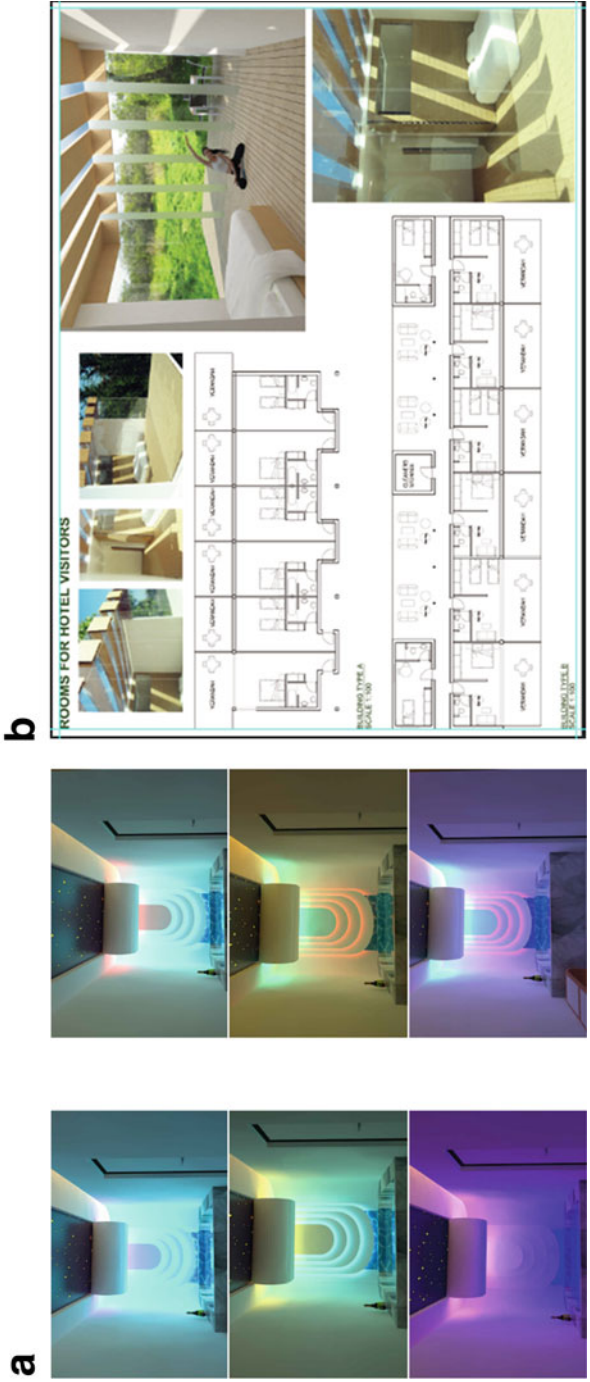
Fig. 1 (**a**) Colours and (**b**) lighting-shading patterns change on demand and from distance. UNIC (2012) students (**a**) M. Kouttoukis, (**b**) M. Kuzesnova. Supervisor A. Efstathiou

Fig. 2 "Teleport me" project: Design of enclosures for virtual visits to touristic destinations. UNIC (2013) student M. Kuzesnova. Supervisor A. Efstathiou

Fig. 3 Smart technology applied to the interior design of the "Time out" hotel. AAS-UCLAN (2006) student D. Tsakiri. Supervisor A. Efstathiou

scenography. New technologies are able to support a live contact with far placed destinations. Customers can see for example what is happening that very moment in a central square of their preferred destination, watch a local attraction or even participate in an event and talk to a local. This increases their desire to travel and facilitates their decision.

New information technologies affect not only the construction, but also the way people perceive and interact with products. Research on design is driven by the influence of new media and narratives that highlight this new dynamic field of information. There, the material world and the human experience are in a continuous interaction. An application of a mobile service to the interior design of a hotel is the concept behind a student's project (Fig. 3). The google-maps application becomes the concept behind the design of a hotel for young people familiar with the internet and technology. An interactive screen that is applied on the floor accommodates the city's map. Using this, customers can explore the city and plan their visits before they go out of the hotel. Screens on walls connected and interacting with sensors on the floor provide life projections of the city's life upon individual request. So, the multiple screens on the wall become animated images of the surrounding environment. People can watch from within the hotel events and communicate with other tourists and locals who can feedback information though mobiles and wearable technology.

The multiple ways of communication and the sharing of information is interesting, but the most important thing in this approach is the participation of the physical interior environment to the whole process.

Technology seems to provide users with innumerable opportunities of subjectively chosen services and individual control. A student-proposed hotel scenario relates ephemeral accommodation to parking methods (Fig. 4). Smart technology guides users to where and how to be accommodated and beyond this to how their ephemeral interior space will look like. The hotel is almost completely self-serviced and intended for short stays. One can book a room online, given a secure unique code number to enter the hotel and another to access the room. The whole interior construction, the common areas and room dividers is a transparent environment almost lacking of predefined identity, a blank page made of glass. This permits

Fig. 4 "Parking Hotel" project of a fully self-serviced and able to be personalised space. AAS-UCLAN (2006) student F. Spanopoulou. Supervisor A. Efstathiou

people to see around and feel safe and is also easy to be supervised. The moment the hotel customer enters the code in his room's electronic door locker, the smart glass partition walls fade from translucent to opaque in seconds and internal walls become personalized monochrome, patterned or animated screens accompanied by low sound level custom chosen music to provide an individual experience based on new technology. Aromatic diffusers can be also chosen. Control is provided to a great extent on what the customer is sensing; what he/she listens to, what he/she sees and what he/she smells. Beyond this, the hotel customer has the chance to choose between a range of personal products and bed linen with different textures and qualities for one-off use.

The development of new digital technologies in the modern "information age" has brought great changes to the representation and perception of both the build and the natural environment. These technologies affect not only the permanent citizens of cities but also their visitors. As mentioned above [1], visitors spent less time in the places that they visit than they used to do but they are much more informed and they expect to gain a better experience in shorter time. Applications that allow tourists to interact with the constituents of the place can contribute considerably to this.

A new area of design called 'experience design' emerges, that has to do with the development of applications that combine physical settlement and interaction narratives in order to enhance the experience of tourists during their trip. In these applications, in addition to the closed descriptions of places, interest is shifted to concepts that predict the future state of places and open new options, through the projection of events or instances of intervention.

The application "Cell Stories" combines a series of interaction technologies to enhance the tourists' experience during their visit to the historical centre of Athens (Fig. 5). QR codes in certain places of streets or landmarks provide access to information about them but also to personal stories that people who actually live there can tell. So, for example, when looking at a hat-maker shop, a tourist through his mobile device can see tools and techniques of hat making and listen to stories about the history of the shop and the story of the hat maker.

Fig. 5 QR codes in urban places give access to information and stories of people that permanently live there enhancing the visitor experience. NUTA project by postgraduate students Anastasia Papathoma and Aliki Iovita (2019)

Experience design departs from concepts of clear and solid logical descriptions and refers to the manifold, the abundance, the ephemeral and the speculative, in correspondence with the priorities of postmodernity. In this context, the tourist is seen as a person in constant wander, in search of new intense experiences and goods. The tourist does not have a solid and substantial identity but, through multiple and short-term identities, he/she moves into space, time, signs and symbols [11]. This continuous movement represents the movement of desire and its constant transformation. If this desire is approached as a driving force, the city can be seen as a place of information and at the same time as a place of desire in a never ending field of possibilities.

The following project explores this potentiality even though it is not directed exclusively to tourists (Fig. 6). Users have access to libraries of predesigned building components and furniture features and fittings and are able to express their wish in relation to space arrangement prior to their visit to the specific place. They can even choose atmospheric settings, color and styles. All main elements are attached to a load bearing structure which also incorporates all necessary infrastructure networks. The architects define all interconnections between the different personalized settlements and design the public space between them. New fabrication technologies, such as 3d printing and CNC manufacturing, are used to build the final result.

The focus on the interaction between tangible and virtual aspects of space highlights the necessity of studying the relationship between materiality and desire. Having both physical measurable properties and cultural framework trans-formational capabilities, the approach to the field of interaction is made through speculative processes. The physical-material background of the place and the human social factor through its continuous shifts affect behaviour and the scope
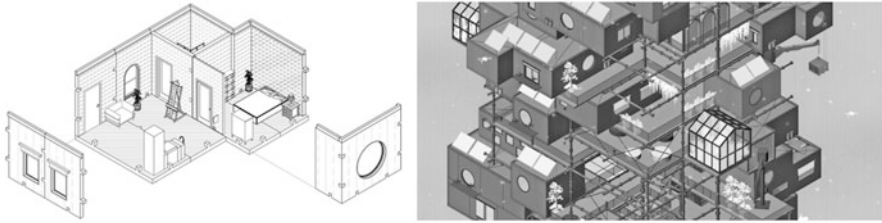
Fig. 6 User chosen settings and styles are combined to a networked settlement. AUTH project by Eleni Chasioti and Georgia Strinopoulou (2019). Supervisor S. Vergopoulos

Fig. 7 The city is re-constructed through its visitors' recollections in "Data poetics". AUTH project by Iliana Papadopoulou (2018). Supervisors S. Vergopoulos, A. Tellios

of materialisation. In an attempt to increase tourists' capabilities through the introduction of these processes, new ways of introducing non-rational properties such as desires and feelings into computational representations and structural design systems have to be explored. The aim is to create design tools that not only incorporate the new representational means but they actually have as main source of information the desires, narratives and traces of users.

'Data poetics' explores the idea of organizing urban information by creating new associations between different kinds of urban fragments (Fig. 7). It collects actual place hashtags, comments and photographs found in different social media and reorganizes them into new city maps that expose people desires. The city is re-constructed through the collective activity of its visitors. At the same time its representations reveal episodes in the city, hidden within everyday life events.

All these return to city visitors through an application that acts as an urban assistant and directs them through urban experiences in the form of a topological map. And this is constantly changing as new occurrences provide more data.

3 Conclusions

The tremendous expansion of new digital technologies in all aspects of everyday life of people and their activities has brought unforeseen possibilities in the design of cities, buildings and objects. Student projects are a significant way to explore the new trends in services and in construction. Students interpret the differentiated stimuli they get in the educational process and integrate social demands and fore coming technologies in order to produce speculative and foretelling scenarios. A presentation of student projects is attempted in this paper, focusing on such issues as new technologies and advanced fabrication and construction that will gain an increasingly important role in hospitality design in the near future.

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Exploring the Mediating Role of Interactivity Between Content Engagement and Business Performance in a Mobile-Marketing Strategy: A Quantitative Research in a Business-to-Business Context

Gerasimos Ntarlas and Despina A. Karayanni

Abstract M-commerce escalates at exponential rates, worldwide. Through a mobile device, i.e., smartphone/iPhone/android/tablet/iPad, we may buy almost everything at any time and any place. Companies may perform 360° marketing, integrating communication messages in a network context, through social media and interactive virtual stores, on a 24/7/360 basis. Network, interactive communication becomes an asset, on this one, providing add-value and new market expansion opportunities for its business users. In this paper we focus on content engagement and interactivity that, according to marketing literature, when involved properly in m-commerce strategies, may provide competitive advantage. To this end, we based upon extensive literature review and, especially, the UTAUT model of new ITs' adoption. The preliminary research resulted in the formation of a quantitative research instrument, which was disseminated through the LinkedIn, used as the research field. The convenience sample comprised 181 social media and Internet/Mobile marketing managers working at respective Greek companies, that volunteer to participate, yielding 26.3% response. Research hypotheses were tested using SEM analysis. The findings imply that interactivity may have moderating effects in the relationship between content engagement in mobile b-to-b strategy and company performance, in terms of competitiveness, profitability and market expansion. Implications, limitations and future research are also discussed.

Keywords M-commerce · Business-to-business m-marketing · UTAUT model · Interactivity · Content engagement · Profitability · Competitiveness · Market expansion · Mediated effects of interactivity

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1 Introduction

M-commerce seems to rise at exponential rates. Indeed, from practically non-existent trade before 2007, e-commerce revenue in 2010 amounted to about $693 billion in 2019 [1]. With the rapid advancement of wireless communications technology and the growing popularity of powerful mobile devices, mobile users can, not only, access information, worldwide, anywhere and, at any time, but also, use their mobile devices to make transactions easy, for example, via a digital wallet [2]. Transaction costs and infrastructure costs will be significantly reduced, making m-commerce more convenient and more cost-effective, than, stable electronic commerce and traditional physical markets [3].

The essence of M-Commerce is developing e-commerce that benefits consumers and businesses [4]. Banks, financial services, markets, tickets and travel applications have been developed to be easy and efficient and to lead companies and customers into a new entrepreneurial way of doing business.

In order to support this new way of doing business, content is created to provide consumers with the information they are looking for, thus leading to the emergence of the concept of content marketing [5]. Indeed, content marketing is committed to communicating with the community about the exchange of information, ideas and experiences that benefit others without asking for anything in return [6]. Content marketing shares product and trademark information to attract others, to engage in shopping activities that create the link between consumers and companies. At the same time, good content marketing can also lead to a good health environment for companies [6]. More recently, with the advent of social media; there has been increasing interest in the role of user-generated content in influencing brand reputations, the development of brand communities, and the co-creation of the brand [7]. In this sense, co-creation needs interaction, i.e., interactivity, among the brand communities to happen.

Delving into the Internet marketing literature, the concept of "interactivity" has emerged in the e-commerce environment and has been seen as the crucial element of successful Internet marketing in a business-to-business context [8]. For example, a few researchers suggest that the perceived interactivity of a site may affect its perceived utility, value and even, sales performance [9–11]. Along similar lines, Marzuki et al. [12] found that perceived interactivity was positively related to the perceived utility of a customer using a web site, in a business context. Consequently, we may elicit that a company's target might be to engage customers and other market actors of interest in a dialogue, and promote active and, more precisely, interactive participation in its Internet network, in order to promote its marketing objectives.

Yet, to our knowledge, marketing literature hasn't explored the relationships between content engagement, interactivity and business performance, in a mobile business-to-business context, i.e., using smart phones as the communication interface. Specifically, the issue of whether is it the content, per se, that keeps the customer engaged, or, is it the interactive dialogue that keeps the customer involved

and make him/her active information contributor to the content of a company's mobile interface, that may influence business performance.

This paper presents an exploratory research, which aims to start shedding some light upon this issue. Specifically, with this research we aim to examine the following set of hypotheses, in a business-to business context:

(a) A company's mobile marketing strategy, focused on content engagement, would be related to interactivity and,
(b) Interactivity, would moderate the relationship between content engagement and business performance.

The paper deploys as follows: First, we discuss the theoretical background, along with the hypotheses of our research. Following is the presentation of the study's methodology, together with the research sampling and measurement validation. Next, we depict the SEM analysis that supported our research hypotheses. The paper ends with discussion of the findings, implications, limitations and directions for future research.

2 Background and Hypotheses

During the Web 1.0 era, most consumers were restricted to content consumption roles, with limited content creation and distribution abilities, yet the increase in consumer power was substantial. Information-based power through production was further bolstered by Web 2.0 capabilities that lifted many of these restrictions. Consumers gained the ability to vocalize both praise and complaints through e-Word-of-Mouth and explore facets of the self, and advocate for brands and social causes [13–15].

As a matter of course, IT evolution nourished the concept of content marketing, reflecting a strategic marketing approach that focuses on creating and distributing valuable, relevant and consistent content to attract and retain a well-defined audience to drive profitable customer actions [16]. In this spirit, Kilgour et al. [17] have argued that content marketing is the active role of consumer involvement in sharing and engaging in the media sector that interests them. The same researchers suggest that a good and valuable content can help promote social media engagement, which is vital to the social media marketing campaign. For example, Chen and Dubinsky [18] argue that since much of the cognitive and physical effort of the purchase occurs prior to actual buying, e-marketers must know how to influence potential consumers in the pre-purchase stage. In this sense, content engagement marketing essentially deploys at the pre-purchase phase. The quality of content posted to a brand community is critical to the users' perceived interactivity. For example, according to interactivity theory, message quality has a positive effect on the users 'perceptions of interactivity and of a system's effectiveness. People have higher interactivity perceptions when they receive high-quality, personalized messages [19]. That is, when high-quality, personalized and, particularly, relevant User Generated Content

(UGC) is provided in brand communities on Social Network Sites (SNS), the members tend to perceive greater social media interactivity. Once the quality of knowledge becomes the key to increasing social media interactivity, the UGC is likely to become more beneficial and appealing to social media users [20]. We hypothesize:

H$_1$: A company's mobile marketing strategy focused on content engagement will be related to interactivity.

The effect of sales persons' interactive activities via the Internet and business performance has been supported long ago [8]. In the same spirit, Karayanni and Baltas [9] have found a significant relationship between a web site's interactivity and sales performance.

However, in the Internet marketing literature, it is less than profound how content engagement may affect business performance through interactivity, i.e., considering interactivity as the efficient mediator for the above relationship, between content engagement and business performance. Furthermore, we need to explore the role of Smartphone technology, reflecting mobile commerce, in the above relationships and mediations.

The interactivity of a website in M-Commerce is vital to attract a customer's attention to the online marketplace, or the online sale of the product of a business [7].

By understanding the causal relationship between perceived interactivity and purchase intentions, in a mobile marketing context, marketer's would-be better equipped to design more effective websites. By looking at differences in perceived interactivity and purchase intentions across product categories, online businesses would be able to make better business decisions regarding the inclusion of inter-activity. For example, if there would be certain product categories where perceived interactivity has no effect on purchase intention, then marketers can avoid investing a lot of money required to make the web site (i.e., in a mobile context) more interactive [21].

Also, many researchers have defined perceive interactivity between users in terms of their psychological states during interactions with specific online media or websites [19, 22, 23]. These researchers have found that the consumers' perceived interactivity has a positive effect on their attitudes toward the website [24] and on their emotional responses toward the brand community [25]. The same researchers found that social media interaction, which is measured by the quantities of various social media used, has been shown to have a positive effect on relationship quality [25].

As the website has become the most highly used interactive marketing tool, there is a tendency for both marketers and website designers to try their best to enhance the interactive capabilities of their websites [26].

Many studies have shown the influence of website interactivity on the users' thoughts, emotions and behavior [27].

That said, E-word of mouth (E-wom) can elicit greater responses and persist long beyond the impact of traditional marketing communication, suggesting that it

is a promotional "gift that keeps on giving" [28]. In the form of product, or service reviews, E-wom has been linked to firm-level effects, such as, stock return sand box-office revenues [18, 29].

Delving into the pertinent literature, we may argue that in a mobile commerce environment, interactivity would mediate the relationship between content engagement and business performance, in terms of competitiveness, profitability and market expansion.

Indeed, Smartphone technology makes it possible to identify users and their geographic location, by following the technical address of the mobile device. By using information about the identity, location, access time and user profiles, the mobile service provider can provide users with the best information, or services, related to those mentioned in the emergency point. For example, a mobile phone service provider may send the blue gin information, or coupon, to a consumer entering the department store to buy jeans. In short, interactive customer interactions will be closer and will change in real time to the mobile commerce (MC) environment. This type of interaction in the MC environment is considered as ubiquitous interactivity, or continuous, interactivity [30]. Moreover, brand owners should view brand building as an interactive process in a conversational environment and to empower customers in the co-creation of brand meaning and value [7, 30, 31]. Thus, we may elicit that interactivity is an important intermediate factor that is important for M-commerce businesses, both for the results of the business and, for interacting with the independent factors, that drive businesses to the desired results.

As a matter of course, we make the hypothesis:

H$_2$: Interactivity of a company's mobile marketing strategy will mediate the relationship between content engagement and company performance, in terms of competitiveness, profitability and market expansion.

3 Methodology and Measurement

The research involved two phases, the preliminary and the main research. In the first phase, we based on secondary data from academic literature in the realms of the Internet marketing, mobile commerce, social media and, specifically, on the UTAUT new technologies marketing model. At the same time, we selected primary and qualitative data based on personal interviews from 10 key persons operating in the mobile marketing sector of economy. This phase resulted in the construction of the quantitative research instrument of the study. As a next step, we used a convenience research sample comprising 181 respondents that volunteered to fill in this questionnaire. These were selected from the LinkedIn, which was used as the research field of our study. The data collection phase took place between 15/11/2017 and 31/07/2018. All the research measures were tapped by multi-item, 7-point Likert-scales, except for the demographics, for which we used categorical multiclass measurement. As reliability and validity of constructs ware assessed, we

preceded to testing research hypotheses, using Structural Equation Modeling (SEM) and bootstrapping control.

4   Analyses, Findings and Discussion

Specifically, in order to test the mediating capabilities of interactivity between the independent variable content-engagement and the dependent variables of the study, we developed a mediation conceptual framework, as depicted on Fig. 1.

Following the guidelines of Wang et al. [32] regarding the mediation analysis, if the relationship between the dependent and the independent variable no longer exists and their variations are controlled by some other variable, then that variable is termed as the mediator variable.

In general, the mediation model examines the relationship between the dependent variable and the independent variable, the relationship between the independent variable and the mediator variable and the relationship between the dependent variable and the mediator variable. The SEM analysis showed that the relationships between the independent variable content engagement and the dependent variable business performance was not statistically significant. Furthermore, the mediate variable interactivity linked the independent variable to the dependent variables with a statistically significant relationship at a statistical significance level $p < 0.01$, as shown on Table 1. It appears that the variable interactivity is a full mediator. However, in order to further support the aforementioned relationships' significance, we proceeded in bootstrap control. As shown on Table 1, the two-tail significance bootstrap confidence was below 0.05, which permitted us to sustain that our findings were robust.

Overall, the research findings supported our hypotheses. It appears that the concept of content engagement may be a valuable capital for business planners, as long as it is on a par with the system's interactivity capabilities. It seems that mere engagement to continuous content uploading is not directly related to business
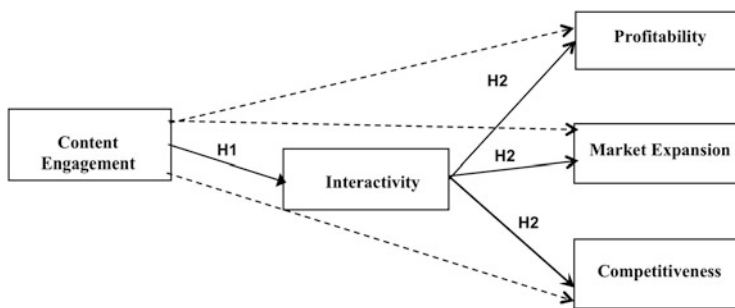
Fig. 1 Conceptual framework

Table 1 Standardized total effects with two-tail sig.—Bootstrap confidence

	Content Engagement	Interactivity
Interactivity	0.314**	
Competitiveness	0.336**	0.292**
Profitability	0.384**	0.266**
Market Expansion	0.259*	0.271**

$*p < 0.5$, $**p < 0.01$

performance, let alone that it might be considered redundant, or, even spamming. In order for accompany to be able to cater the content of its M-Commerce page to the customers' and to the m-sites visitors' needs, it is necessary to have the interactive capabilities to select personalized information, comments, feelings, and new ideas from its subjects, to keep customer databases and personalize the mobile content, according to each one visitor.

As implied from our study's measurement, the mobile commerce interface should upload friendly and familiar to the user content. Furthermore, it should provoke quick customer awareness and it should be updated frequently and promptly. Above all, the content should involve reliable information. However, according to our findings, the company should store their customers' buying behavior and be in an interactive dialogue with the customer, continuously customizing its offerings according to the customers' browsing criteria and buying behavior. Also, the content should customize offerings according to the customers' personal characteristics.

In other words, in order for co-creation to exist, the m-site/Smartphone application should be interactive, thus giving the opportunity to the target audience to express themselves and to be identifiable, so as to enable companies to cater their product/service offerings according to personalized needs, which reflects niche, or, one-to-one marketing. As our research findings imply, a company's m-commerce application that provides content that is co-created by the interplay between the company and the customers, may lead to enhanced business performance, in terms of profitability, competitiveness and market expansion.

5   Limitations and Future Research

These results should be treated with caution as this research is in its exploratory phase and we should not generalize to far from a single study. We have to repeat this research with a bigger sample and in a number of environments, in order to have acceptable levels of generalizability.

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The Strategic Use of Social Media in the Business-to-Business Context. Two Social Media Users' Clusters

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Abstract This paper presents the results of an exploratory study that focuses on Greek companies' social media use, in the context of business-to-business. Specifically, we make a set of hypotheses, regarding that: (1) social media use will be related to enhanced business performance, and, (2) services' producing companies will use the social media more intensively, than their goods' producing counterparts. In order to test our hypotheses, we addressed to a randomly selected sample of 800 companies and collected data from 210 volunteer marketing and social media managers (response rate 26.3%), using the LinkedIn as the research field. A series of statistical analyses, using the SPSS 21, provided reliability and validity of our research measures. Our hypotheses were supported by advanced statistics. Correlation analysis provided evidence for our first hypothesis. In turn, cluster analysis depicted two clusters, the 'SM Innovators' and the 'SM Skepticals', which were significantly related to the services' and the goods' producers, respectively. It appears that SM inclusion in b-to-b marketing plans is related to enhanced business performance. Also, SM Innovators reflecting the services companies are more beneficial, than their goods producing counterparts. Implications to academics and practitioners are also discussed.

Keywords Social media marketing · Business-to-business social media marketing · Goods-producers vs. services-producers' social media users

1 Introduction

Social media refer to interactions between people that create, share and exchange information and ideas in virtual communities and networks [1]. The benefits of participating in social media networking have advanced beyond simple social

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sharing, to build reputation and bring career opportunities and income. Some researchers depict that social media may have positive results, as permitted by the democratization of the Internet while also allowing people to advertise themselves and their friendships [2, 3]. However, other researchers have submitted Social Media to criticism, for not allowing the transfer of information from one to another. In the same time they have questioned the reliability of information, concentration, ownership of media content, and the importance of interactions generated by social media networking. As far as the business-to-business context, marketing research suggests that, to a large extent, there is uncertainty, about the use of social media in support of companies' brands [4, 5]. This uncertainty may justify the findings of some researchers regarding the slow spread of social media by the b-to-b companies, despite the fact that the use of social media is low cost activity [6, 7]. Yet, to our knowledge, there is a gap in marketing literature, regarding the social media use by the Greek companies, operating in the business-to-business context. This research aims to start shedding some light to this issue. Specifically, the main point of this study is twofold: (a) to investigate the relationship between the use of social media in b-to-b marketing efforts and business performance, and, (b) to compare social media marketing use and performance between the services producers' companies and their goods producers' counterparts. To this end we made a quantitative research that we present along the following. In the next session we present the marketing literature and the hypotheses of the study. Next we present the methodology together with the research sampling and the measurement validation. The paper finalizes with discussion and implications for academics and practitioners, as well as with the limitations of the study.

2 Background and Hypotheses

Social media are defined as a group of internet-based applications that are built on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of general information [3]. Additionally, social media depend on mobile and web-based technologies for building highly interactive platform through which individuals and communities, co-create, discuss, and modify general information, while, introduce substantial and pervasive changes to communication between organizations, communities, and individuals [8].

Social media differ from traditional communication means in many aspects, such as quality, frequency, usability, immediacy and permanence [9]. According to Nielsen, Internet users spend more time on social networking sites, than any other type of site. At the same time, the total time spent on social media in the U.S. in PC and mobile devices grew by 37% to 121 billion minutes in July 2012 compared to 88 billion minutes in July 2011 [10]. As elicited from marketing literature, companies adopt social media, to create direct connection with clients, rise movement to their website, find new business events, build associations, allocate substance, gather reaction from client, and to backing their label, among others [11].

Social media are especially fitted to accumulate information/feedback from clients, beginning two-way discussions and growing connections with clients, through contact and cooperation [3]. The same researchers notice that social media advice companies how to find new consumers and suppliers. Breslauer and Smith [11] pinpoint three specific advantages of social media marketing plans. First, it gives an aperture to marketers to not only present goods/services to clients but also to accept clients' complaint and proposals. Second, it attains simple for marketers to identify target groups and influencers among different organizations, in order to facilitate label establishment and label support. Third, this has nearly zero cost (as related to traditional consumer tide over programs) as most of the social networking sites are free. Social media marketing facilitates companies to achieve exhibition, raise circulation/subscribers, construct new companies' associations, increase investigations through search engine rankings, trade higher products and services and decrease long-term marketing expenses. Companies that use the social media in their marketing efforts, appear to be satisfied as they are inconsistent cooperation with their prospecting customers, in order to comprehend their wants and therefore produce commodities better. Indeed, Neti [12] resembles social media marketing as a real illustrated manner of announcing and advance may be focused only to distinct clubs that are involved in an appropriate position. In this way social media announcing and communication defer from traditional advertising. Indeed, some researchers have found that the majority of companies that use social networking sites in UK, were doing so to attract new customers (91%), to cultivate relationships with their audience (86%), to increase awareness of their brand (82%), or to communicate the brand online (73%) [6]. The same researchers found receiving feedback (46%) and interacting with suppliers (14%) to be less popular reasons for using social networking sites. Along similar lines, other researchers suggest that b-to-b small and medium enterprises using social networking sites have recognized the importance of this tool to support marketing outcomes [4]. In addition, attracting new customers and cultivating customer relationships are considered to be the most important goals for such organizations when using social networking sites. This finding highlights the important role of relationship marketing in a B2B setting, and is aligned with past evidence suggesting that the Internet and technology could because as tools to build relationships [13].

Through social networking sites, B2B firms can capitalize on pre-existing business networks to achieve word-of-mouth communication and to make their brands better known. This justifies the increased importance of awareness as a reason for using social networking sites. To achieve a stronger competitive advantage, B2B small and medium enterprises indicate that social networking sites are important tools for communicating their brands online, by capitalizing on social networking potential to reach wide audiences. In addition, the increased influence of social networks (e.g., customer reviews/feedback) might force organizations to develop more customer-centered metrics to evaluate social networking sites effectiveness [14]. This comes in agreement with the significant role of feedback, as a driver towards social media networking [15]. In this paper, we make the following

hypothesis, regarding the social media use by the Greek companies operating in a business-to-business context:

H1 The use of social media will be related to business performance, in terms of increasing sales and finding new marketing actors, i.e., clients and suppliers.

As far as the type of product is concerned, this research makes an attempt to compare social media use between services companies' producers, vs. their goods producing counterparts. Specific idiosyncratic traits of services, i.e., intangibility, co-production with clients, unanimity, heterogeneity and perish ability, characterize the evolution process of services [16]. The connection among new service growth and service delivery is accordingly bigger and heavier, than the connection among goods producing companies' R&D and output [17]. Marketing literature and practice pinpoints that research and development investments are more strongly combined with wealthy manufacturing than service modernization [18]. Contrary to manufacturing companies, most service companies are not defined by large research and development areas [19]. Along similar lines, the service companies sector affects the advancement of new process, rather, than new basis technology [20]. Similarly, Nijssenet et al., [21] found that propensity for innovation positively influences radicalness, both in a product and in a service context. However, the same researchers found R&D strength to be significantly more important for explaining radicalness in a new service than a new product environment. We make the hypothesis:

H2 Services' producing companies will use the Social media in their marketing efforts more intensively, vs. their goods' producing counterparts.

3   Methodology

In order to support our research hypotheses we developed a quantitative research instrument based on secondary data from marketing literature review and primary data selected from qualitative research, with 10 key informants operating in the social media-marketing field. The data collection yielded 210 fully responded questionnaires. We, then, divided our sample in two groups, using a binary dummy variable reflecting the product type, in order to test H2. As a next step, we performed a series of statistical analyses, using the SPSS 21, in order to support our measures' reliability and validity. Our research hypotheses were examined using advanced statistics. Overall, cluster analysis successfully classified our sample in two groups, the 'Social Media Innovators' and the 'Social Media Skepticals'. These two clusters were significantly related to the services' producers and the goods' producers, respectively.

3.1 Sampling

The constructed questionnaire was addressed to 800 business-to-business marketing and social media managers that were randomly selected using the professional membership LinkedIn SM as the research field. Totally 210 executives volunteer to respond, producing a 26.3% response rate. Specifically, the research sample comprised 72 companies that cited to produce bundle of products i.e., both goods and services, and another 138 companies citing to be in the services business, exclusively.

3.2 Reliability and Validity of Measures

All measures were scored on five-point rating scales and comprised six batches of items, namely, Experience in SM use, Intensity of SM use, Relative Importance of SM tools, Goals for SM use, Marketing Activities performed via the SM, and Results from the SM use. Specifically, the variables Experience in SM use, Relative Importance of SM tools and one variable among the results (performance) measures are single item variables, whilst for the rest multi-item variables we followed the guidelines of marketing research statistics, in order to support reliability and validity of the measures. This procedure resulted into four dimensional primary factors on the research items, concerning the Intensity of SM use, Goals for SM use, Marketing Activities performed via the SM, and Results from the SM use, respectively, and was able to explain 63% of the total variance. Alpha reliability tests ranged from 0.63 to 0.91, which depicted that all four constructs were reliable and valid.

4 Findings and Discussion

H1 was supported by Correlation analysis, which indicated some strong correlations between business performance, in terms of increase of sales and increase of new partners and the rest variables of this research. Our research findings place further support on previous surveys.

Hypothesis H2 was tested through first we performed crosstabs analysis on the two clusters that were successfully produced by cluster analysis, as discussed below. The correlation analysis encouraged us to proceed to advanced statistical analysis, thus we attempted grouping the research participants on the basis of their responses, applying Cluster analysis. This resulted in an interpretable solution, producing two clusters, which could be defined uniquely and meaningfully on the basis of all the research measures (Table 1). This analysis appears to be able to correctly classify 166 out of 210 companies (79%) of the total sample. Specifically, it classified 104 companies (62.6%) on the first cluster and 62 counterparts (37.4%) on the

Table 1 Final cluster centers, cluster membership and ANOVA statistics

	Clusters			
	SM Innovators	SM Skepticals	F	Sig.
No of cases in each cluster[a]	104	62		
Experience of Social Media (SM)				
Q8. Experience of marketing communication on the SM	3.5	3.0	42.7	0.0
Intensity of SM use				
Q6. Number of friends on Social Media (SM)	3.5	2.5	14.1	0.0
Q12.1 Facebook use	4.8	3.3	61.2	0.0
Q12.2 Twitter use	3.8	2.0	91.9	0.0
Q12.3 YouTube use	3.3	2.2	26.2	0.0
Q12.6 LinkedIn use	3.8	3.1	8.7	0.0
Marketing goals for using the SM				
F13.2 Finding new customers (6 items, a = 0.76)	4.5	4.2	16.6	0.0
F14.1 Sales persons' professional image (5 items, a = 0.78)	4.5	4.3	3.9	0.0
F14.2 Finding credible partners and providers (3 items, a = 0.89)	4.1	3.8	4.5	0.0
F14.3 Customer loyalty (3 items, a = 0.72)	4.6	3.7	51.0	0.0
Marketing activities performed via the SM				
Q7 Uploading frequency of new material: news/pictures/comments on company's SM	6.9	3.7	106.7	0.0
F15.2 Customers' participation in company's SM (3 items, a = 0.76)	3.8	2.8	30.8	0.0
F15.3 Uploading information on company's SM (4 items, a = 0.77)	3.8	3.1	23.2	0.0
F16.1 Information probing from the customers (8 items, a = 0.91)	3.9	3.3	24.8	0.0
F16.2 Customers relationship management (10 items, a = 0.90)	4.4	3.9	24.8	0.0
F16.3 Market scanning (7 items, a = 0.89)	3.0	3.0	2.8	0.1
F16.7 Searching for new products/services (2 items, a = 0.91)	4.6	4.2	14.2	0.0
Relative importance of internet marketing tools				
F17.3 Relative importance of on-line advertising (3 items, a = 0.63)	4.8	4.4	25.4	0.0

(continued)

Table 1 (continued)

	Clusters			
	SM Innovators	SM Skepticals	F	Sig.
Marketing results from using the SM				
Q11 Percentage of company's total sales attributed to SM	4.1	1.5	69.3	0.0
F27.1 Increase of new partners attributed to SM (4 items, a = 0.83)	4.2	3.9	8.3	0.0
F27.2 Increase of sales attributed to SM (5 items, a = 0.73)	4.4	4.0	23.7	0.0

[a] 166 cases were classified from total 210, representing 79% of the sample

second, respectively. The mean cluster center values for the two SM use clusters are presented on Table 1, together with the ANOVAs of the cluster means and significance levels, together with the Cronbach alphas, all of which provide support for the discriminant validity of the cluster solution.

We named the clusters on the basis of their distinctive measures, as 'Social Media (SM) Use Innovators' and 'Social Media (SM) Use Skepticals' and interpret their traits along the following.

In turn, H2 was examined by crosstabs analysis, in order to test relationship between the two aforementioned clusters and the type of business (services' producers vs. goods' producers). The chi-square statistic was significant ($p < 0.000$), and the crosstab analysis indicated a strong relationship among the cluster counterparts and the type of business. Specifically, it classified 82.9% of the services companies to the 'SM Innovators' cluster, whereas, it classified 79.3% of the goods companies to its 'SM Skepticals' counterpart.

Overall, our research findings indicated that b-to-b companies have included the use of SM as an innovative procedure in their strategic marketing plans. Moreover, it appears that the services companies have taken the lead, over their goods' producing counterparts, in respect to this interactive marketing communication tool that has invaded in every aspect of their business marketing strategy. Specifically, the 'SM-Innovators' cluster that seems to reflect mostly services producing companies, indicated to have greater experience on, as well as, higher intensity of, the SM use. As depicted on Table 1, this group reported to have started the marketing use of SM earlier than the SM-Skepticals. At the same time, they depicted more intensive use of the Facebook, Twitter, YouTube and LinkedIn SMs, as well as, they depicted to have more friends than their b-to-b SM counterparts. Furthermore, they placed higher than the SM-Skepticals, the relative importance of on-line advertising (i.e., which may be regarded as a new process development), over the alternative of-line promotion. It is well evident in the realm of innovation literature that relative importance of a new product/process over its existing/replaceable counterpart is a key success factor of the innovation's adoption [22].

Furthermore, it appears that SM-Innovators have included the SM use in their marketing plans, as they depicted to involve these interactive and network (i.e.,

word-of-mouth) communication in both their marketing goals setting, as well as, in their marketing activities. Specifically, they scored higher, than the SM-Skepticals, the use of SM in pursuing of marketing goals variables, in terms of finding new customers, building sales persons' professional image, finding credible market actors, i.e., partners and providers, and building customer loyalty. At the same time, they scored higher their marketing tactics, i.e., marketing activities in order to achieve the aforementioned strategic goals. In the SM literature, such activities reflected uploading frequency of new material: news/pictures/comments on company's SM, interactive communication with involved customers through the company's SM, uploading information on company's SM and information probing from the customers, as well as, Customers Relationship Management, market scanning, and searching for new products/services. Finally, SM-Innovators, reported to have higher rates in respect to their performance that may be attributed to the SM use, as measured in terms of increase of new partners, company's total sales rates, and, finally, increase of sales, attributed to SM use.

5   Conclusion, Limitations and Future Research

As the aforementioned strategic marketing goals and activities via the SM use are related to business performance, our findings suggest that services oriented b-to-b companies may have a strategic advantage over their goods' oriented counterparts. It appears that Social Media use may fit better with the soft interface of interpersonal communication that essentially reflects the delivery of the service to the customer.

The implication may be that goods' production oriented companies may have the opportunity to set greater steaks upon this powerful new means of network communication. Given that contemporary companies produce bundles of goods and services, the use of social media may effectively expand the service portion in the bundle, thus providing added value to the customer and competitive advantage to the company, as well. Indeed, SM seems to promise endless opportunities for innovative and cost effective use, to the benefit of customers and all the potential marketing actors, i.e., providers, partners and the society, as a whole.

As this is a preliminary study, one should not generalize too far. We need to broaden the scope of the research field to companies located to other countries, as well as, in various business contexts, i.e., b-to-b, b-to-c, c-to-be, c-to-c, government-to-c, etc.

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Examination of the Current Literature on How Robots Can Contribute on Hotel Service Quality

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Abstract Robots have an important role on the development of hotel services. Although the use of robots on hotels is still in a primitive level, there is evident that the use of robots can leverage the quality of services. Nonetheless, there is a need to move on with more research and more empirical evidence. For this reason, the author has made a research proposal for a quantitative research. This is going to be addressed with a questionnaire given on both customers and employees/managers of hotels, so to see both views' on this matter. It would be the first major research in Greece and surely a significant contribution on the existing knowledge.

1 Introduction

During the past years there has been some significant progress in terms of the research which occurs on the use of robots on organizations; especially on Hotels. A recent paper made from [1] claims that most of the papers focus on engineering methods and on technical aspects, while there seems to be a lack of empirical evidence in respect with the association of the use of robots with hotels, while most of the empirical evidence comes from countries in S.E Asia. A recent wave of research indicates that there is an association between the use of robots and service quality and that the consumers tend to have a positive stance for the use of robots [2, 3]. Nevertheless, there is lot of further research to be done so to prove if there is an association of the use of robots with service quality [4]. For this reason, the author has undertaken a further research so to unveil if this relationship exists.

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For this reason, the current paper is going to present the research methodology for a research in the field of robots and intention to use along with the impact on service quality. The following lines are going to present the proposed methodology for this research:

2 Methodology

This is a research methodology. This means that it relies on the use of the current papers and some of the basic theory. The resources have been identified from the internet and more precisely from online resources such as scholar.google and science direct. Furthermore, the author will rely on some of the traditional literature which is found on the literature regarding service quality and how it is measured.

3 Proposed Methodology

3.1 Research Hypothesis

Apart from the analysis of the relevant theory and the relevant practices described in the studies, there should be a primary survey that will show whether the market is ready to accept robots in hotels. For this reason, we will consider the intention of the respondents to use the robots in tourism and whether they can ultimately be considered useful [5]. That is why the research cases are as follows:

H1 The intent of use has a direct impact on the actual use of robots by hotels.

H2 The ease of use of robots can have a positive effect on the intention to use them from the sample.

H3 The concept of successful use of robots has a positive effect on the intention to use them from the sample.

H4 Compatibility of the use of robots has a positive effect on the intent to use them from the sample.

H5 Cost has a negative direct impact on the effect on the use of robots from the sample.

H6 Will the use of robes have a positive impact on the quality of services?

H7 All dimensions of services (assets, reliability, responsiveness, security, empowerment) will be positively affected by the use of robots in hotels.

H8 The degree of correlation between the use of advertising media for the visibility of the service provided by stakeholders and customers.

3.2   The Research Model and the Research Tool

The questionnaire will measure the intention of both consumers and employees to use robots but also the impact on quality of service [6].

The research model is based on the study by [7], which studied consumer intentions for m-commerce and SERVQUAL by [8]. In the present case, this research model has been adapted to investigate the public's intention to use services offered by robots to hotel units.

For this reason, the relevant research tool, which will be on the fifth scale Likert, will be developed based on the [7] study adapted accordingly. Regarding the linking of the relevant statements with the statements of the questionnaire for the intention to use these are the following:

- Cost (Statement 10, 19)
- Ease of use (Statements 5–9)
- Perception (Statements 11–16)
- Compatibility (Statements 17 and 18)
- Intentionality (Total Average)

In terms of data analysis, after grouping by variable, there will be factor analysis to determine the gravity of each of the four variables and how they affect the intent to use. There will also be a correlation analysis of how the respondent's demographic profile affects this relationship.

The second questionnaire is SERVQUAL.

The SERVQUAL model, which is one of the most accepted models in measuring service quality. Successful service quality management requires regular feedback on what customers expect and expect. Every company and service organization, such as a conference organizer, has to compare customers' perceptions of their service in relation to their expectations at regular intervals. Parasuraman, Zeithamal and Berry set up a model called SERVQUAL, which they intended to interpret and measure the quality of a service based on the expectations of buyers/consumers. Customer expectations are measured by the five dimensions of service quality [8].

As a model, Servqual provides us with five points—gaps that can defeat the expectations of consumers. Indeed, when we buy a product or service, we have a number of expectations, such as liking, satisfying needs, etc. The model gives us five areas that are likely to fail to meet these needs.

However, in order to understand precisely the strategic implications of the particular model, it should stand in detail in the five dimensions also depicted in the model, which essentially describe why companies are unable to offer quality services according to quality standards that customers expect them.

The SERVQUAL score is calculated by the following relationship:

Grade SERVQUAL = Degree of Perceptions − Degree of Expectations

This scale is reliable, valid and has been widely used to measure quality in service provision. The 22 statements cover the full range of data the customer assesses to determine the quality of the service provided. These pairs of 22 statements also cover the following five qualitative dimensions (as derived from the collapse of the original ten) [8]. It should be noted that only the expectations will be used in this research.

The five dimensions in relation to the statements in SERVQUAL of this survey are:

1. Particulars: it is the equipment of a business, the appearance of its facilities, the communication material and the appearance of its staff. (Statements: 20–23)
2. Reliability: refers to the ability of the business to perform its services consistently and accurately. (Statements: 24–32)
3. Response: is the willingness of the business to serve its clients in a quick and direct way (Statements: 33, 35–37)
4. Security: the ability of a business to assure confidence and create a sense of security in any transaction with the customer. (Statement: 34, 38)
5. Empathy: Understanding the business for the particular needs and characteristics of the client. (Statements: 39–41)

Data analysis will be done in SPSS using descriptive and inductive statistics. In descriptive statistics to record results by group. Next, there will be an analysis using correlations to show the impact of demographics. Then there will be an analysis using correlations to see if there is a link between the overall intent to use and the individual gaps in service quality. In this case, regressions will be made between the pooled variables to see if there is a relationship between the variables of the two questionnaires. The third part of the questions relates to the selection of the means of promotion of this hotel service by both the parties involved in the business and the clients.

3.3   Measurement Process

The questionnaires will be distributed by the researcher himself to hotel executives and employees as well as to their clients, will be previously asked to enter the management addresses by the relevant heads of directors during the summer period of 2019 so that an adequate number of questionnaires is returned. Participation in the survey is voluntary. Prior to completion, the content and research objectives will be updated and it will be clear that the data will be used purely for research-academic purposes and that anonymity will be respected. Participants will be asked to respond with absolute honesty and in the right environment. The distribution and completion of the questionnaires will take place during the working hours of the employees as well as at the end of the stay of the clients at the hotel.

3.4 Design of Research

Seven steps are necessary in such studies:

(a) preparing the preliminary translated versions of the questionnaire;
(b) evaluation of the expert versions and preparation of the experimental version,
(c) a pilot study using this publication,
(d) assessing the validity of the content of the questionnaire in the new language,
(e) Reliability analysis,
(f) an assessment of the validity of the questionnaire; and
(g) introduction of norms

For research studies with valid results, it is necessary to use research tools that have previously been tested for their validity and credibility. For this reason, each researcher, when studying an investigation, focuses on the reliability and validity of the measurement instrument of the study.

To test validity and reliability, we would initially conduct an exploratory factor analysis to find common factors between the groups of surveyed variables in the questionnaire and to confirm the scale of the questionnaire we will use. We will look at the polygranularity in order to check whether our data is suitable for factorial analysis. This statistic takes values in the interval [0,1]. If KMO > 0.6 we continue the factorial analysis. We will test the Measure of Sampling Adequacy to determine if a variable is suitable for use in the analysis. Values greater than 0.5 indicate our suitability.

Then a reliability test will be performed (Cronbach's alpha, Reliability Analysis). Used to measure reliability in measuring tools. It can be applied not only to a proposal or to a sub-scale, but also to the whole tool that measures the same concept (variable). Internal consistency is an indicator that shows whether different items measure the same concept (variable). The credibility of internal coherence in both a sub-scale and the entire scale is estimated by the Cronbach's alpha coefficient, which shows the homogeneity of a scale. To be considered acceptable, the price of Cronbach's alpha should be >0.7. The higher the value of Cronbach's alpha, the greater the credibility of internal cohesion [9].

A precondition for conducting research is the use of tools that are appropriately designed for the population under investigation. In terms of statistical analysis of the data, initial descriptive methods, such as mean value, standard deviation, histograms and percentages, will be used. In addition, Pearson correlations will be used (statistical methods), which will be performed between the scales of variables and their dimensions, to examine the relationship between the scales and the dimensional relationship of the variables. This test looks for statistically significant relationships, positive or negative, between variables. To test the effect of sample demographics and the dimensions of the variables, t-test independent test and ANOVA factor analysis will be selected. These two tests investigate the existence of statistically significant differentiation in a dependent variable based on an independent variable (demographics). The t-test has been used when the independent variable has two

response categories (gender, work relationship and work area), while ANOVA will be used for variables with more response categories—age, marital status, the level of education [10].

All analyzes will be performed with the SPSS 19.0 Statistical Package. The significance level will be set at 0.05.

3.5 Participants

Information regarding the population (related with the hotels operating in Greece and their statistical info) can derive from Hotel Dynamics of Greece (2017). Overall for Greece there are 496 five star units (hotels, villas etc.) which refer on 74,884 rooms and 153,132 beds (Source: Greek Chamber of Commerce). A detailed list of the details of the hotels under study, fully updated is found on and it will be used with the data given for the exact time when the primary research will take place [11].

The research will be in two sub-groups. The first is made of hotel employees and the second is the visitors. For the purpose of the survey, the sample will be informed of the purpose of the investigation before joining. It should be noted that their participation will be voluntary and do not have to give any personal data. The sample will be located in cooperation with major hotel groups in Greece and will be followed by the sampling of convenience.

In particular, research will be based on a convenience sample, meaning that respondents belonging to the survey population have an equal chance to participate in the survey [11]. As far as the survey itself is concerned, it will be made to customers and employees in luxury hotels and more specifically to five-star hotels. The reason is because these hotels have the potential to be able to finance the purchase and installation of robots. So, the survey will turn to those hotels that are expected to be the forerunners of the robots on the market. With regard to the sample, it will be around 250–300 people, of which 70–100 will be employees and 180–300 will be customers. The distribution of the questionnaires will be made at the reception of the hotels.

4 Conclusion

The proposed research will be done in a field where there is no other empirical data, so it will produce primary work and data that will be particularly useful to those in the field of tourism. The results will show whether the public has the intention of seeing robots in hotels, but also whether they intend to use the robots as well as the overall impact on the operation of hotels. It will also explore the intention of selecting the means of promotion of this hotel service by both business and customer users. The fact that there is little knowledge and experience on this issue means that the answers are expected to be very careful and measured. Of course, this will also be apparent during the analysis of the results of the survey.

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Teaching Critical Thinking Through Tourism Advertising

Georgia-Zozeta Miliopoulou

Abstract This paper proposes a tool for teaching advertising through case studies, enhancing critical skills, media and visual literacy. Using a three-letter acronym and relying on Observation, Research and Conclusion, O.R.C. is here applied on a print ad that promotes Greece as a tourism destination. The paper shows how O.R.C. may lead students to understand the underlying advertising strategy. The tool is considered suitable for advertisements of different product categories in different media. It can initially be used in class, with the instructor's guidance, and later in written assessments, formative and summative, since it allows for the formation of specific grading criteria that are process oriented. The tool may be of use both in marketing and media departments and relies on the premise that stimulus-based research rather than a priori research helps students discover knowledge and develop their critical thinking.

Keywords Advertising · Case studies · Critical thinking · Media literacy · Higher education · Interdisciplinary teaching

1 Introduction

Teaching advertising through case studies is a very frequent yet not frequently discussed educational approach. Choosing, developing, compiling and using case studies to achieve specific learning outcomes is a challenge for educators since there is more than one way to make use of examples [1].

Case studies may constitute part of an active learning activity, if students are asked to understand and assess rather than simply be exposed to their instructor's analysis [2]. In situations like these, the students are more likely to critically engage with the learning material thus increasing their critical skills [3].

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843

Especially when it comes to media literacy, in an era where students are overwhelmed with content, using case studies to foster critical skills is of paramount importance since they should learn to go beyond affective reactions or dismissive approaches of advertising [4], and closely explore its language, construction and means of persuasion.

This paper proposes a tool that uses advertising case studies to teach the strategic reading of ads.

2 Literature Review

2.1 Critical Thinking

Bloom [5] is credited with articulating the theory of critical thinking. Since then, critical thinking has been defined in numerous ways [2, 6–10]. This paper uses the definition by Duron, Limbach, and Waugh [11] that critical thinking is the ability to analyze and evaluate information.

Whether seen as a generic or a domain specific trait, critical thinking always involves challenges: tough questions, ill-structured problems, case studies and real-life situations [2]. Thus, an active learning environment is necessary to help students develop critical thinking skills [12], gaining more knowledge than they would, if they simply listened to a lecture. The role of questions is considered extremely significant [3, 13, 14]. Challenged through questions, students have to either defend and enforce or doubt and change their understanding [11]. Questions also indicate their degree of involvement and understanding.

Ill structured problems are the cornerstone of critical thinking, precisely because they don't have one correct answer. Such problems "cannot be described with a high degree of completeness; cannot be solved with a high degree of certainty; experts often disagree about the best solution, even when the problem can be considered solved" [15]. Coming up with a possible alternative and arguing to support it enhances critical thinking skills. Case studies can be used as ill-structured problems.

Nonetheless, there is considerable evidence that a lot of college and university graduates often lack critical thinking skills [16–20] and that teaching critical thinking is a puzzling notion for many academic instructors who need to adjust their teaching methods [11, 17, 18, 21, 22], even though critical thinking constitutes a priority goal for many academic institutions since it relates to professional success [19, 21]. Critical thinking is facilitated with the use of research and written assignments, detailed feedback, online discussion forums, in-class presentations and teamwork [16].

2.2 Critical Media Literacy

Critical media literacy [23] is about incorporating critical thinking in the processing and assessment of media content, whether textual, multimodal or multimedia. Critical media literacy begins with the following five premises: all media texts are "constructed"; they have a creative language with its own rules; they include embedded values and points of view; individuals experience them differently; the media are organized around profit and power [23]. Educating well-informed citizens is significant and challenging in the current de-regulated current media landscape, yet a lot of students reach adulthood having limited exposure to relevant tools and programs. Furthermore, resources enabling educators to use advertisements as case studies are scarce. In one rare case, Gale and Kreshler [1] explore how individual instructors write the case studies they work with, noting their many uses in teaching advertising, as case studies can be illustrative, tactical, strategic or evaluative. Though the authors offer important insight on how to choose, compile, and use case studies, they do not propose a specific way of approaching cases, as they focus on the breadth of applications rather than the process of analysis.

Both the understanding and the making of advertising texts is interdisciplinary. Advertising is taught either as part of marketing communications' programs or as part of media studies' programs [24]. The former emphasize the strategic, objectives-based making of advertisements while the later emphasize the socio-cultural implications of advertising. Both approaches are of equal importance, yet both are mostly treated as domain specific, which is usually attributed to the traditional academic structures. There is evidence that after attending classes in advertising, students acquire different attitudes, both positive and negative: the cognitive dimension affects the affective dimension [4].

2.3 Teaching Models and Approaches

Quite a few models have been proposed to foster critical thinking in non-discipline specific areas, starting by Bloom [5]. A lot of models have appeared ever since [9–11, 25, 26]. These models present a lot of common traits and elements: they include identifying, analyzing, synthesizing, and evaluating information to yield actionable knowledge leading to effective decisions [16, 20, 27]; they claim to be non-domain specific; they rely on a process; they usually begin with a problem-definition or objective and end up with a desired outcome; they require purposeful academic research; they include assessment to prove critical thinking is achieved.

The author argues that if a model is too broad and general, then applying it in context is too challenging for the instructor, even in domain specific assignments. If the model is too specific, then it is not always applicable in all situations or it appears to be counter-intuitive even when proven to yield positive outcomes. Furthermore, these models are less suitable for multimedia and multimodal texts like advertising.

3 Analysis

Orcs are fiction creatures known to students through Tolkin [28]. In this study, O.R.C. is an acronym conceived to facilitate a specific method that enables the critical reading of print advertisements. Each initial is a step of a sequential process that includes: Observation, Research and Conclusion.

Observation requires students to list all the elements on the advertisement, to address the issue that students, when first exposed to a campaign, tend to first react emotionally stating that they (dis)like it and tend to focus on executional elements. To help students carefully observe, one way to begin is by dividing sensorial stimuli. If a video or audio (i.e. radio commercial) advertisement is discussed, it usually helps to begin with what can be heard. The students should isolate and carefully note the following: (a) music (b) voice on and voice over (c) sound effects. If needed, the students should listen to the audio without watching the video.

Then comes the visual part, where the students can classify their observations using the following categories: (a) what can be read: headlines, superimposed text, signs, etc. (b) what can be seen: photography or illustrations; color or black and white? Are the colors saturated? blurred? Is there evidence of color coding? (c) what can be designed: students should look at sizes and proportions. Are there any exaggerated elements? Any camera angles that lead the eye? Both the presence and absence of such elements may be significant for the students to decode and deconstruct the ad.

Making the students observe is not always easy. At first, they tend to omit aspects, or consider them menial and trivial, believing that their initial viewing suffices. Their observation skills also largely vary. Thus, it is important to first have them observe individually and take notes, and then share their observations. Thus, weaker students see what they may have missed and improve.

Research comes next, including all the important questions: why the use of the specific elements? why were they placed that way? What is missing? What may we infer or suspect or deduce? The students now need to start hypothesizing about campaign strategy and they need to find sources to interpret their observations. Other than academic sources, media sources can also help: where there any articles written in news media, or comments made in the social media?

Conclusion is the last step. Students must recombine elements of the ad; identify the 'raison d'être' for specific ad components; organize their findings to provide specific answers to the questions raised during the previous stages combining their observations with research findings in a way that enables them to re-construct the advertisement. Thus, they may justify, modify or even reject their initial 'reading'.

The students' contribution and critical thinking lies in the choice and combination of these elements as well as in the conclusions they draw. Every ill-structured problem may have different answers. As long as students combine observation with relevant readings, their approach is usually plausible. The process allows for specific assessment criteria evaluating both the process and the conclusions. Specifically, the students can be assessed: (a) on the accuracy of observation (b) on the adequacy and

suitability of the chosen sources and (c) on the combinations between a and b and the conclusions they reach. This enables for concrete, objective grading that does not only rely on the agreement in the readings between students and instructors.

4   Application

In the case study below, O.R.C. is applied to help define the advertising strategy behind a tourism advertisement. Before engaging with such an analysis, the students should be familiar with the basic theories underlying advertising campaign planning. The advertisement chosen is deliberately simple and single-minded. This is an example suitable for students that are not experienced with the O.R.C. tool. After establishing a basic understanding, the students may attempt more complex executions. This is an example suitable for study in class, where time is limited. In such cases the instructor should provide sources to help students with the research required in the second stage.

Before demonstrating the advertisement, the instructor should explain the process, the acronym and its purpose. After demonstrating the ad, the instructor should insist that students first express their reactions spontaneously. After sharing these reactions, the students should be instructed to leave them aside and proceed with O.R.C. The print advertisement used in this case study may be traced here: http://saatchi.com/en-us/news/adel_saatchi__saatchi_rooting_for_greece

4.1   Observation

The key observations for include the following elements:

(a) what can be read: a huge headline "GREEK SEA. NOT IN CRISIS". At the bottom-left corner, a phrase that reads "Greece, feel it." Right below, a text that reads: "Myrtos Beach, Aerial view, Cephalonia island". ADEL SAATCHI & SAATCHI".
(b) what can be seen: a large aerial photograph of the beach, sunny weather, daylight; the beach is partly equipped with facilities shown at the bottom left but not dominating the landscape; few people sharing these facilities but none swimming or playing on the sand, none disturbing the landscape.
(c) what can be designed: the photograph covering almost the entire page, leaving a white frame that is larger at the bottom to allow for the campaign signature; the headline in big, white, capitalized fonts almost covering the image; the end line in two shades of blue; the caption that does not appear under the photo, but under the signature; the advertising agency's discrete logotype.

Greece, feel it.
Myrtos Beach, Aerial View, Cephalonia Island.

ADEL
SAATCHI & SAATCHI

4.2 Research

After observation, questions start emerging. The instructor should accept and note each, and add questions that may finally be separated addressing the need of information; reasoning; and preference [13]:

(a) information: when and where the campaign aired; what about Myrtos; what is ADEL SAATCHI & SAATCHI
(b) strategy: what may be the objective of the campaign? Who is targeted? How may we segment the potential readers of the advertisement to understand who is part of the target group? What can we learn about their demographic and psycho-graphic characteristic as well as about their lifestyle? Which media were chosen? Do they help define the target group? What is the message this campaign tries to convey?
(c) relating to the execution: Why the word crisis? Why the verb feel? Why this beach? What is the main promise? Who may be affected?

To facilitate the process the instructor may provide research sources from course material, from advertising strategy textbooks (indicatively: [28, 29]) as well as from corporate and media websites, like: https://bit.ly/2H1j11L. More sources may include the publicity of the crisis in Greece, in 2012 and the potential impact to tourism, as well as information on Myrtos and information on the profile of the tourists choosing the Ionian islands.

4.3 Conclusion or Combination: The Last Stage in the O.R.C. Model

The students could reach to the following conclusions:

(a) the objective of the ad was to reverse the negative publicity and promise a great summer experience. This comes from the use of the word crisis that is deliberately emphasized; from the choice of Myrtos, one of the most famous and awarded Greek beaches; from information on the crisis and its potential impact on tourism.
(b) the target group mainly includes EU adults who can afford a vacation to Greece; they read the news and need to feel reassured. The Ionian islands are more easily accessible from Central & Western Europe.
(c) The advertisement appeared on EU magazines that target affluent readers over 35 years of age, covering issues around the economy, politics and EU matters.
(d) the main message is an emotional appeal that reminds of the traditional Greek summer values, inviting the visitor to feel and experience, not just read the news about the crisis. The tourist will not be affected. The image shows that nothing disturbs the beauty of the landscape. The text reassures that the Greek sea is not in crisis.

5   Discussion

The O.R.C. tool appears to be specific enough to guide an advertising focused analysis and broad enough to accommodate different media texts. One of its advantages is that it includes and fosters elements of visual literacy. The second is that the model promotes stimulus-based research. This research stems from curiosity that emerges after the initial emotional impact—positive or negative. O.R.C. rewards students who improve and justify their initial emotional reactions and appears to be suitable for the interdisciplinary analysis of advertisements, for different purposes and in different academic contexts.

This paper attempted to contribute to the teaching of advertising focusing on tourism and destination campaigns, by presenting O.R.C., a tool that enables the instructor to guide the students towards the discovery of the advertising elements and the information they may provide regarding the underlying strategy, thus helping students engage in active learning via discovery and enhance their critical skills.

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Analysis Based on the Hotel Industry, the Lodging Market in Mexico: The Posadas Case

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Abstract The objective of this brief general market analysis is to determine with the VRIO framework how the "Grupo Posadas" (Posadas Group) has managed to maintain itself in the Mexican lodging market. The aim is to understand the current panorama of tourism and the main challenges of the Grupo Posadas. The main question that fueled this analysis was: Is Grupo Posadas the current leader in the hospitality sector in Mexico? The hypothesis states that the strategies implemented by Grupo Posadas have allowed it to remain in the lodging sector, however its current elements are not strong enough for it to be the market leader. Therefore, combining the analysis elements of the market and the VRIO, results were obtained that indicated that the Grupo Posadas shares the leadership with IHG Hotels, beginning to generate a more marked oligopolistic competition in the field of tourism.

Keywords Tourism · Hospitality · Industry

1 Introduction

According to the history of the Posadas Group [1], the hotel company was born in 1967, when Mr. Gastón Azcárraga founded the "Promotora Mexicana de Hoteles, S.A". This organization had the purpose of participating in the lodging sector with the construction and operation of a hotel in the Federal District called Fiesta Palace, now known as Fiesta Americana Reforma. Two years later, it formed a strategic

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alliance and partnership with American Hotels, thus forming the "Operadora Mexicana de Hoteles" (Mexican Hotel Operator). It is important to mention that the most emblematic franchise of Posadas is Fiesta Americana franchise, the first hotel opening in 1979 in Puerto Vallarta. From then on, a new facet began in 1982, when Promotora Mexicana de Hoteles, S.A. and Gastón Azcárraga Tamayo bought 50% of the capital stock of Posadas de México.

The birth of the Posadas Group as such occurs in 1969 when the Pratt Hotel Corporation (originating in the US) begins operating and managing the Holiday Inn franchises in Mexico. In 1990, the Promotora Mexicana de Hoteles takes the initiative to buy 50% of the shares of Posadas which allowed the emergence of the largest and oldest company in Mexico in modern times, operating a total of 13 hotels. One of the main advantages of this acquisition was the management of the Holiday Inn hotels and the operation of the Fiesta Americana hotels.

The final transformation of the company occurred in 1992 when the Promotora Mexicana de Hoteles changed its name to the current Grupo Posadas. That same year, the company began trading on the Mexican Stock Exchange (BMV). From then on Posadas began to attack the different segments of the tourism market, starting in 1993 with business tourism and the opening of the first Fiesta Inn hotel. In 1998, the company began its international expansion with the acquisition of the Caesar Park chain along with the rights to use the brand in Latin America. Because of this purchase, the first Caesar Business was inaugurated in Sao Paulo, Brazil in 2001.

In the 1980s, Grupo Posadas came to the conclusion that managing third-party hotels produced more reservations than it obtained. In those years, this was a common situation, as the industry was going through a period of saturation in the tourism sector. Posadas decided then to focus on the development of its own brands while continuing with the operation of the Holiday Inn franchise in its busiest destinations.

In 1992, the Company changed its name from Promotora Mexicana de Hoteles, S.A. of C.V. to the current Grupo Posadas, S.A. of C.V. In March of that same year, the Company was listed on the Mexican Stock Exchange. The following year, it began to attack the business traveler segment with the opening of the first Fiesta Inn in popular city destinations. In 1998, the Company began its expansion in South America through the acquisition of the Caesar Park chain, together with the rights to the brand in Latin America. In 2001, the Company opened its first Caesar Business hotel in Sao Paulo, Brazil. Now, the Posadas Group has a positioning of 176 hotels and 27,573 rooms nationwide [1].

2   Background and Global Panorama

The hotel sector had a boom and a strong development after the First World War as a product of the economic and technological elements that have occurred in the history of mankind since that period. With the consequences of this phenomenon

in the course of the second half of the twentieth century, a constant increase in international tourist flows skyrocketed. Therefore, there were more determining factors that motivated the increase in hotel demand worldwide and, as a result, increased the development of the lodging industry.

As an economic activity, the so-called "industry without chimneys" maintains a strong link with hospitality in its different modalities; be it family, individual, business and in different ranges of services that can be considered as "additional". Tourism is often referred to as the "industry without chimneys", because it does not pollute. Although this statement is questionable, there is a great debate about the pollution of tourism that has a direct or indirect impact on the construction of the tourist infrastructure or the tourist destination.

The phenomenon ceased to be a privilege of a few rich families in the seventeenth and eighteenth centuries, to give way to mass tourism from the boom of the fifties in the twentieth century. With the development of new technologies in connectivity and logistics (media of transport) tourism and hospitality have become one of the world's most present industries. It is expected that there will be an increased accessibility in the following years for the hosting areas, with which the traveling and tourism phenomenon will have an exponential growth. Mexico, for example, is among the top 15 in terms of foreign exchange earnings and in the top 10 of the most visited destinations in the world. Therefore, Mexico can be considered as a stable country in terms of tourism up to its most recent published global statistics [2].

The "OMT Panorama of International Tourism 2017" document, the most up-to-date document on tourism ranking, indicates that Mexico is in sixth place in its tourists' arrivals, with 39.3 million foreign tourists. These results published by the World Tourism Organization (WTO) show a "favorable outlook" as some country members who have faced security challenges in recent years have been sustained by the existing demand for travel.

The entry of foreign currency, i.e. the amount of money spent in the country visited, must not be disregarded. Mexico, for example, descended from 14th to 15th place between 2016 and 2015. This indicates that, although the country is of the most visited at the international level, it does not have enough attractions to generate a greater demand in consumption for the tourist.

Some elements already confirmed for the international tourism panorama in 2018 indicate that there will be an assured decrease of some countries; Turkey had an 18% increase in its tourist attraction therefore will have downgraded Mexico to the seventh position, for example. According to the head of the Ministry of Tourism [2], Miguel Torruco, the figures from the United Kingdom and Germany have not yet been taken into account due to the lack of consolidation, which could cause Mexico to drop another two places [3].

3   National Panorama

Currently, the tourism landscape is at constant levels since 2015 with a trend in an occupancy rate of 59.6–60.9 in 2018. The expectation for 2019 is to break the historical record of 2017, a year in which it had the highest percentage of national occupation [2]. However, as the data for 2018 shows, the results were not as expected; the security alerts to tourists from the United States government, environmental elements such as sargazo (an algae that has invaded many beaches in the Caribbean) and the uncertainty of the monetary value of the peso braked tourist arrivals. As mentioned beforehand, this affected the rankings, and this does not take into account the missing data from other countries.

According to Datatur [4], the low tourist activity of 2019 (of 64.5) in comparison with the previous year (65.7 for 2018) can be linked to the lack of diffusion in the tourism market as well as the competitive market that exists in other countries of Latin America. In an interview with the director of the conglomerate Apple Leisure Group, Apple Vacations and the AMResorts chain, Aristegui Alejandro Zozaya states that one of the strongest economic allies is the tourism sector in Mexico. He also notes that the most important market within tourism is the North American high-end, with investments such as high-level weddings and honeymoons, representing 62% of tourism to Mexico by the group.

In the interview it is mentioned that what is happening with tourism in Mexico is not the result of a fall of the international market but rather personal decisions made by the tourist to go to other destinations [5]. Therefore, there lies the importance of good promoting. Aristegui explained in the interview that the tourist traveling for pleasure bases his destination decision on advertising, and it is the main conduit that generates taste or preference [5].

Taking this into account, and analyzing hotel occupancy data at the state level, it can be noted that the hotel market is a more accurate panorama compare and analyze the competition between Mexico's most popular states. It is important for this to be specified in order to understand why a percentage of occupation directly affects the competitiveness of a destination, and its importance as an indicator for future investors in these destinations as well as a possible trend of the expected percentage of occupation. Quintana Roo, Jalisco, Ciudad de Mexico, Nayarit, Baja California Sur, Tamaulipas, Aguascalientes, Yucatan, Sinaloa, and Nuevo Leon in that order are the top 10 destinations are the highest in hotel occupancy; Quintana Roo with 78.96 percent on top of the list and Nuevo Leon at the bottom with 58.16 percent taking into account this data comes only from DATATUR database, which only considers hotels of three stars and up [4].

Therefore, the main Mexican hotel chains also position their establishments in these sectors. Herein lies the purpose of generating an analysis of the Posadas group and its commercial strategy, as well as its competitors. The percentages of occupation is more representative than tourist arrivals of the capacity of the destination, and the "profitable" that it can be to invest in a hotel matter in the state/area or type of destination. This is dependent on the variables used, as can be

seen in past graphs of the destinations. They can also be cataloged in various ways, depending on the specialization or type of study objective in hotels accounted for.

4   Current Lodging Situation and Market Structure

There are 13 face-to-face chains in the lodging market in Mexico, the higher-quality chains being: Posadas, IHG, Marriot, Hilton, Wyndham. Each one has varying categories of hotels with different rooms and with different themes. This is indicative of the proposition value of each of the hotels and to which market segment they are related to at a national level. Posadas' firm includes 176 hotels, 27,573 rooms being on top of the list. it can be concluded that the Posadas Group maintains the leadership in terms of hotels and rooms, which gives it the highest percentage of the market. Moving forward, it might be assumed that the lodging sector in Mexico is a competition of monopoly. However, this could also be rebutted. To understand the market in more depth, it is necessary to corroborate and verify this information.

   For the first analysis in the concentration index, the measure taken was the sum of the four companies. The methodology used to obtain this concentration index was taken by the four strongest companies in the market in the field of hotels, them being: Posadas, IHG, Marriot and Hilton. The concentration coefficient of the four companies is the percentage share of the four largest companies in the industry under study. A value of 0% denotes an industry with perfect competition, however, a value of 100% indicates a case of monopoly [6].

Number of hotels of the four largest companies $= 446$
Number of hotels of the rest of the companies $= 226$
Total Hotels $= 672$

$$Hotels = \frac{4\ largest\ companies}{Total\ in\ the\ hotel\ industry}(100) = \frac{446}{226}(100) = 66.36\%$$

   The existing rank of concentration has a scale from 0 to 100 where 0 represents the case of perfect competition and 100 represents a monopolistic concentration. This is the main measure used to evaluate the structure of the market. The concentration coefficient is the sum of the 4 largest companies, and the total sum gives a result of 66.36%. According to a study by Parkin, over 60% indicates a very concentrated market dominated by few companies in an oligopoly [6].

   In order to corroborate the market concentration for the analysis of this sector, the Herfindahl-Hirschman index (HHI) is used. The IHH is calculated by adding the squares of the individual market participants for all the participants. Based on Parkin [6], between lower value, the calculation of IHH will be talking about a more competitive market, if a market has an HHI greater than 1800, we can conclude that

we are talking about a non-competitive market [6].

$$IHH = \sum_{i=1}^{n} S_i^2$$

$IHH = 26.19^2 + 20.68^2 + 11.30^2 + 8.18^2 + 7.44^2 + 6.10^2 + 5.50^2 + 3.72^2 + 2.52^2 + 2.38^2 + 2.38^2 + 1.78^2 + 1.78^2$

$$IHH = \mathbf{1469.54}$$

This index indicates that the lower the number, the more perfect the competition and the larger the market the more concentrated, which results in it to behave in a monopolistic manner. In the case of hospitality, the index has a value of 1470, which, according to the theory, puts it in a "moderately competitive" area since the interval for this definition is between 1000 and 1800 [6].

Therefore, it can be concluded with this calculation of indexes that there is an oligopoly. An oligopoly in which the participants are few and the market price changes at the same time as its competitors. The profit of the participating companies is not only a function of their level of production, but also according to the production of the product. In this sector particularly, it is a differentiated oligopoly, that is, competitors having the same product, but with differing characteristics. This differentiation makes the oligopoly have characteristics similar to monopolistic competition, however with differing assumptions.

5 Market Differentiation

The Posadas Group stands out for its different elements in the value proposals in each of its hotel franchises. The Posadas Group has 7 hotel franchises with different market segments for each of them, these can be seen on their website. (1) Live Aqua: The Live Aqua hotels are for a segment of clients looking for an "informal" stay, yet with luxury elements. The establishments are simple yet very elegant and have the very best kitchen, spa, lounge services. These are "highest" hotels Posadas have in its range of segmentation. (2) Fiesta Americana: The Fiesta Americana hotels are the most emblematic of the chain. They are five stars hotels, with standard luxury services. (3) Fiesta Americana Grand: The Grand Hotels are a derivative of Fiesta Americana, and offer a sense of "exclusivity" and "business". They are considered the VIP versions of the Fiesta Americana hotels. They hotels have more percentage of entry, with the loyalty program called "Awards" [7]. (4) D. Fiesta Inn: Fiesta Inn enters the "business" segment of Posadas and focuses on short stays and business trips; the rooms are suitable to work comfortably, and the hotels have a series of services aimed at facilitating office work. (5) One Hotels: One Hotels are the second-best brand positioned in the Posadas group market. There are 49 One Hotels

Table 1 VRIO analysis comparison

VRIO analysis	Posadas	IHG	Marriot	Key questions
Value	No	No	No	Is it valuable?
Rarity	No	No	No	Is it hard to find?
Inimitability	No	No	No	Is it difficult to copy?
Organization	Yes	Yes	Yes	Is there an organization to exploit the resource?

Source: Own elaboration

nationwide, compared to the 75 Fiesta Inn hotels. Short stays for work reasons at a low are their specialty and main market sector. These establishments follow the Fiesta Inn parameters, but at a lower cost. (6) The Explorean: The Explorean offers luxurious and top-quality stays in natural and cultural sites for guests to relax and disconnect.

The value proposition of each of the brands competes in the market against similar elements, substituting goods and services that satisfy the need to a satisfactory utility for the agent and the price is determinant to the client's election [7]. Taking into account the VRIO matrix, these are the main elements of the Posadas group in their value proposition (Table 1).

The hotel sector is undoubtedly an intangible service. It must be noted that it is a perfect substitute, unless the "rewards" program of the different competences has already marked a preference or an alliance chosen by the factor price and service and not so much for the intangible elements that are considered as a "plus". That is why Posadas' positioning analysis focuses more on the number of rooms and hotels that it has nationally than its VRIO. According to the Posadas group report of December 31, 2018, Posadas is the leading hotel operator in Mexico with 1751 hotels. It owns, leases, franchises and manages 27,491 rooms in the most important cities and beach destinations in Mexico, with 84% of the rooms located in city destinations and 16% in beach destinations [7].

6 Conclusions

Taking this into account, the hypothesis that Posadas is the leader of the Mexican market is accurate. This is due to its history, purchases, and hotel sector strategies at the time. Therefore, it remains the market leader with the largest number of rooms and the largest number of hotels, since lodging services are substitute goods. The price factor is what often determines the consumer's choice before the substitute goods.

Taking these developments into account, it is necessary to find strategies for future hosting times, as there is not enough government support for tourism promotion. However, it is true that these elements can be considered unfair. The government accords more diffusion to the already positioned touristic pillars of the country, leaving other destinations at a disadvantage. These destinations are not

so favored by the field of tourism but also not explored at all to generate tourism potential. Much reflection remains if the occupation percentage is sufficiently determining for the tourist's consumption in the tourist site.

Innovating lodging elements also threaten the occupancy percentages of a tourist site with traditional hotels such as Airbnb. It is important to take into account that the figures for a percentage of occupancy are those registered in conventional hotels and not in digital platforms, which generates a bias of the true level of saturation of the destination. Posadas, for its part, is still working on the positioning of its hotels and its themes depending on the preferences and opportunities it has in terms of convenience, whether by location or area, always with the consumer in mind.

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The Implementation of Internal Marketing in Public Sector Organizations: The Case of Job Satisfaction at Chios Police Department

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Abstract Nowadays, private and public organizations are trying to improve the level of employee satisfaction and perceived value in a more holistic view of marketing practices. Satisfying employee's needs through an internal marketing orientation, will result in higher levels of customer perceived quality and satisfaction, particularly in service organizations. Although many studies have been made concerning employee job satisfaction in the private industry, empirical research on job satisfaction in nonprofit public sector such as police organizations has been limited. The current study focuses on the importance of the implementation of internal marketing practices in nonprofit public sector organizations, by investigating the case of job satisfaction in 218 police officers at Police Department of Chios. Engaged police officers will have a strong impact on the quality of police services, which in turn will affect public safety and citizen satisfaction, considering the dangers of their profession. Indeed, the results, using multivariate data analysis revealed that police personnel's satisfaction level was affected by a total of nine factors, namely "relationship with immediate supervisor", "relationship with co-workers", "perceptions of pride", "relationship with senior management", "financial and non-financial benefits" "working hours", "employee's workload", "promotional process", and "recognition for achievement".

Keywords Internal marketing practices · Police job satisfaction · Police personnel officers · Hellenic police · Police Department of Chios

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1 Introduction

It is well known that internal marketing has been viewed as a managerial approach, where customer satisfaction could be attained through motivated employees, the first internal "customers". In this frame, job satisfaction is not only important for the employee but also for the organization. Indeed, "absence of job satisfaction may result in low organizational commitment, poor job performance, absenteeism, and high employee turnover" [1: 126]. At the same time, many reviews and meta-analyses on job satisfaction have linked "low employee job satisfaction and high employee turnover and absenteeism, low productivity and low organizational commitment" [2: 158].

Concerning police officers' job satisfaction, it "is associated with a sense of pride that their profession contributes to the betterment of society and directly serving the needs of people in their community" [3: 712]. Thus, "poor performance can impact on police-community relations by adversely affecting public attitudes toward the police" (Buzawa et al. 1994, qtd. in: [4: 98]). That's why many job satisfaction theories have been applied in a police organization context, considering "the nature of problems personnel face—long hours, unpredictable nature of work, and physical dangers" (Crank 1998; Manning 1977, qtd. in: [1: 126]).

According to Bennett, job satisfaction is a "neglected but important and timely topic in police studies" (1997, qtd. in: [4: 98]). Indeed, most studies have not conducted multidimensional analyses of police officers' job satisfaction. On the contrary, most studies emphasize on three distinct dimensions: "relationship between workers' personal demographic characteristics and job satisfaction level", "importance of the employee's work environment characteristics", and "the characteristics of the organization that employs the worker" [2: 159]. In other words, although empirical studies on job satisfaction in a police environment are limited, it is well known that it is a multidimensional construct, which is highly related to personnel's higher levels of productivity and lower levels of job stress. Indeed, "police officers have been found to be more satisfied with their job when they get support from their immediate supervisor and less satisfied with their pay and access to in-service training" (Dantzker and Surrette 1996, qtd. in: [5: 16]).

In conclusion, there is a common agreement among researchers that further investigation concerning police officers' job satisfaction is needed. That's why over the last decades there has been an increase in empirical research on police personnel job satisfaction, including studies across different regions. The aim of this study is to better understand the implementation of internal marketing practices in a non-profit organization, by investigating the level of job satisfaction for police personnel. For the purpose of the study, an empirical survey was carried out at Police Department of Chios on a sample of 218 police officers between January and March 2018.

This research is organized as follows. Following the introduction, a general overview of internal marketing practices along with an analysis of job satisfaction in general and job satisfaction in police personnel in particular, are presented in the literature review section. The research methodology which was used in this study is

then discussed, using quantitative data research. Data analysis is outlined in the Sect. 4, using univariate and multivariate data analysis. Finally, contributions for police managers, limitations of the study and directions for further research are considered in the final section.

2 Literature Review

2.1 From Internal Marketing to Job Satisfaction

Since the original suggestion of internal marketing "to describe the company's effort to understand employees' needs and increase their job satisfaction, so that customers could receive a better service", or "a managerial approach to ensure customer satisfaction through the fulfillment of first-line employees' needs" (Berry et al. 1976; Berry 1981, qtd. in: [6: 68–69]), many studies have been developed. In recent years, companies are trying to differentiate themselves through developing and sustaining a competitive advantage in a fast-changing environment. In this sense, they implement marketing strategies to provide superior service quality, which in turn will lead to greater customer satisfaction. This excellence in marketing is a basic goal not only for private but also for non-profit or private organizations. Internal marketing, along with external and interactive marketing—the "service marketing triangle"—is one of the three broad areas in which marketing excellence is required, which "describes training and motivating employees to serve customers well" [7: 365].

More specifically, internal marketing requires that every member of the organization has a clear perception of implementing a holistic marketing strategy and delivering value to their customers. In other words, "Only when all employees realize their job is to create, serve, and satisfy customers does the company become an effective marketer" [7: 623]. It is, therefore, imperative for many studies to investigate the effect on internal marketing to job satisfaction and service quality. As Bellaouaied and Gam [8: 5] claimed, "internal marketing results by satisfying the needs of employees, it is a holistic approach, it results in job satisfaction". This could explain why it is so crucial for every organization to foster high levels of job satisfaction among its employees. Gounaris [6] concluded that job satisfaction is positively associated with the implementation of internal marketing, while an internal marketing orientation could be viewed as a key variable in understanding employee job satisfaction. In a similar way, Gounaris, Vassilikopoulou and Chatzipanagiotou, investigated the joint effect on marketing orientation and internal-marketing orientation on customer satisfaction, regarding the need to "sustain a balance between the company's external and internal focus" [9: 1667].

Since Locke defined job satisfaction as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" [10: 1304], many

researchers have investigated the concept of job satisfaction. Hopkins (1983, qtd. in: [2: 158]) defined job satisfaction as "the fulfillment or gratification of certain needs that are associated with one's work", while Robbins (2003: 7, qtd. in: [5: 56]) as "an individual's general attitude toward his or her job". At the same time, the effect on many factors on job satisfaction has been investigated, both personal and environmental, with many researchers focusing on main job satisfaction dimensions, and others on investigating ratings of overall job satisfactions. Spector (1997, qtd. in: [5: 56]) recognized many facets of job satisfaction, such as "appreciation, communication, co-workers, benefits, job conditions, nature of work itself, organization itself, organization policies and procedures, pay, personal growth, promotional opportunities, recognition, security and supervision".

In this sense, many job satisfaction scales have been used, such as Job Descriptive Index (JDI), Job Satisfaction Scale (JSS), Minnesota Satisfaction Questionnaire (MSQ), Job Diagnostic Survey (JDS), or Job in General Scale (JIG) and Michigan Organizational Assessment Questionnaire satisfaction subscale (MOAQ) [5]. More specifically, "pay, promotion, coworkers, work and supervision" are subscales included in JDI (Smith et al. 1969, qtd in: [11: 15]), while JSS included subscales such as "salary, promotion, supervision, fringe benefits, contingent, rewards, operating procedures, co-workers, work and communication" (Spector 1985, qtd. in: [12: 194]).

2.2 Police Job Satisfaction

As mentioned above, research on police job satisfaction "is still relatively sparse when compared to the study of employee job satisfaction in the private sector" [3: 711]. In recent decades, research on police personnel job satisfaction has increased to investigate both the total level of satisfaction or dissatisfaction with their work, or specific dimensions of job satisfaction. Studies on police job satisfaction have typically focused on demographic variables, i.e. gender, age, race, education, years of service etc. and physiological variables, i.e. supervisor fairness and support, sense of comradery with fellow officers etc. [3]. Ercikti et al. [4] found that the major determinants of job satisfaction among police managers where years of service, feedback on the job, and involvement in educational programs. In other words, "there continues to be a lack of research on police officer job satisfaction beyond the effects of demographic attributes or simple work characteristics" [2: 158].

In this frame, Johnson [2] outlined the need for multidimensional assessment of police officers' job satisfaction by analyzing the impact on three different dimensions: officers' demographic characteristics, job task characteristics, and organizational environment characteristics of patrol officers. Kumar [1], examined the impact on multidimensional factors such as demographic factors, organizational, and job characteristics on job satisfaction in police organizations. According to the findings, only "rank" as a demographic factor had an impact on "gender" and "education" not having any impact on job satisfaction. "Supervisor's support" had a

significant impact on job satisfaction, with "keeping with existing research Welfare-oriented housing and health facilities extended by the department, as well as Citizen support" having a positive impact on job satisfaction. Finally, the "absence of sufficient personnel in the police station affecting the ability of individual officers and the police as a team to carry out their tasks" had an impact on job satisfaction, while "job strain caused by role conflict" had a negatively impact on job satisfaction.

Hakan et al. [3], developed a new measure to identify specific dimensions of job satisfaction in patrol officers. More specifically, they produced a 14-item Patrol Officer Job Satisfaction Scale (POJSS) with three dimensions: supervisor fairness, peer comradery and occupational pride, which "would help police departments assess their strengths and weaknesses in providing for the job satisfaction experienced by their first responders so they may make relevant improvements where necessary" [3: 712]. The advantage of such measures is that they "may be more effective than overall measures for guiding work supervisors to design the most relevant interventions for their employees" [3: 711].

3   Methodology

For the purpose of this study an empirical survey was designed. Data were collected from the police officers at Police Department of Chios, using a structured questionnaire. The questionnaire design has been the result of extended bibliographical research on police officers job satisfaction, based on the abovementioned literature and scales of similar surveys conducted by NZ Police [13], Marietta Police Department [14], Scottish Police Force [15] and Calgary Police Commission [16]. The survey was conducted between 1/1/2018 and 31/3/2018, using convenience sampling. The questionnaire was distributed, after prior authorization by the Directorate of Communication of the Hellenic Police Headquarters, both on paper and on-line via the Google Docs application, to the 365 police officers serving in Police Directorate of Chios. In addition, supplementary instructions were given before completing the questionnaires and all measures were taken to ensure anonymity and confidentiality. Finally, the valid questionnaires were 218 with a response rate of 59.7%, which is considered satisfactory. The questionnaire was divided into two parts: the first one included nine questions about the demographic profile of the respondents (gender, age, education, personal income, length of service, marital status, police rank, form of service, job position), while the second one included 53 questions about the influencing parameters of police officers satisfaction, such as vision and purpose, working environment, current base pay, security, learning and development, supervision, co-workers, senior management, and recognition (e.g. "Does your immediate supervisor encourages teamwork", or "Do citizens appreciate the value of your work" etc.), with the use of a five-point Likert scale, ranging from 1—"strongly disagree" to 5—"strongly agree" [17].

4 Data Analysis

4.1 Demographic Profile of the Respondents

Data were processed by IBM SPSS Statistics Version 23. Firstly, descriptive statistics were used to identify the profile of the respondents. According to the results, 89.91% of the respondents were men, 50.46% were between 31 and 40 years old and 57.8% had 11–20 years of service. In addition, 55.05% have graduated from Police Academy (for Police Officers), 19.73% were placed at one of the three Police Stations of Chios Island, 91.28% had a monthly income from 1001 to 1500 €, 53.21% were married, 44.95% had the rank of Police Sergeant and 85.78% were in Patrol Service (Table 1).

4.2 Multivariate Data Analysis

Following, factor analysis was conducted to investigate the factors of police job satisfaction. Principal Components and Varimax were the extraction and the rotation methods used respectively. The criterion used for determining the factors was the Kaizer criterion indicating factors having eigenvalue higher than one. In addition, a reliability analysis, by using Cronbach's alpha, was carried out to check the consistency level. Some of the questions affecting the reliability were removed. Reliability using Cronbach's alpha of this questionnaire ranged from 0.631 to 0.912. Considering that values >0.70 are acceptable in social sciences, with 0.6 the minimum acceptable level [18], we may conclude that the reliability is adequate for the entire construct. According to the findings, nine factors were obtained, explaining an overall of 64.810 of the total variance. In addition, KMO, which measures the sampling adequacy, is 0.856 indicating a satisfactory factor analysis to proceed. Finally, a total of nine major factors have been identified:

- Relationship with immediate supervisor (Cronbach's $\alpha = 0.912$)
- Relationship with co-workers (Cronbach's $\alpha = 0.845$)
- Perceptions of pride working in Hellenic Police (Cronbach's $\alpha = 0.757$)
- Relationship with senior management (Cronbach's $\alpha = 0.846$)
- Financial and non-financial benefits (Cronbach's $\alpha = 0.774$)
- Working hours (Cronbach's $\alpha = 0.673$)
- Employees' workload (Cronbach's $\alpha = 0.814$)
- Promotional process (Cronbach's $\alpha = 0.631$)
- Recognition for achievement (Cronbach's $\alpha = 0.688$).

Table 1 Demographic profile of the respondents

Demographics (n = 218)	% of respondents	Demographics (n = 218)	% of respondents
Gender: Male	89.91	Marital status: Single	43.56
Female	10.09	Married	53.21
Age (years): 18–30	22.94	Cohabitation agreement	0.92
31–40	50.46	Divorced	0.92
41–50	22.94	Separated	1.37
51+	3.67	Length of service: 0–10	19.72
Personal income: 0–1000 €	4.59	11–20	57.80
1001–1500 €	91.28	21–30	21.20
1501 €+	4.13	30+ years	1.38
Education: Secondary education	23.85	Rank: Special guard	1.83
Vocational training institute	4.13	Police officer	18.81
Technological educational institute	9.17	Police second sergeant	13.30
University	4.59	Police sergeant	44.95
Police academy (police officers)	55.05	Police warrant officer	14.23
Police academy (for lieutenants)	2.75	Police second lieutenant	3.21
Master's degree	0.46	Police lieutenant	2.75
Job position: Police station	19.73	Police captain	0.46
Traffic police	7.34	Police lieutenant colonel	0.46
Security service	16.51	Form of service: Office service	14.22
Migration service	13.30	Patrol service	85.78
Cadre (staff)	13.30		
R.I.C. VIAL	13.76		
Riot team/cyclists	16.06		

5   Discussion

The above factors are bibliographically verified in the literature review presented in the previous sections. Indeed, "work environment factors include achievement, recognition for achievement, the work itself, responsibility, and growth and advancement", while "work environment factors that lead to job dissatisfaction include company policy, supervision, relationship with supervisor, and work conditions" (Herzberg 1969, qtd. in: [14: 10]). At the same time, "Police work tends to be a difficult job when compared to other professions. Police officers have to work in all conditions, in various situations and, in many cases, with limited recourses" [14: 9]. Nevertheless, the perceptions of pride and the recognition for achievement for police officers may counterbalance this difficulty. Furthermore, other factors such as working hours, workload, or financial and no-financial benefits will affect their satisfaction. More specifically, pay levels within an organization are based among others on the employees' contribution to organizational success, their competences and skills and their potential [19]. Finally, "time rates, which also are known as day work, rates, hourly rates or flat rate provide employees with a predetermined frame for the total hours which they work" [19: 446].

6   Conclusion, Limitations and Future Research

In recent years, internal marketing practices have been investigated in service organizations, as the company's employees can generate greater customer value. Consequently, employees' satisfaction, which in turn will encourage better performance, is an important issue not only for private organizations, but also for public or non-profit organizations, such as police departments. As the current studies on police job satisfaction remains still relatively sparse, there is "a need to undertake job satisfaction research on a larger continual basis for updating and optimizing the available human resources in the police organization" [5: 56]. The purpose of this study was to investigate the major determinants of job satisfaction among police personnel at Police Directorate of Chios. The results indicated that police officers were generally satisfied with their jobs, although both the risk and the volume of their work increased significantly due to the refugee crisis. Also, they are proud of their role as officers working at Hellenic Police. However, they would like better technical equipment to work more effectively. Nevertheless, there is a productive environment concerning working relations with their colleagues, their supervisors and the administration. Furthermore, the results indicated that police officer job satisfaction is multidimensional, as it was affected by a total of nine factors, namely "relationship with the immediate supervisor", "relationship with co-workers", "perceptions of pride", "relationship with senior management", "financial and non-financial benefits" "working hours", "employee's workload", "promotional process", and "recognition for achievement".

This preliminary study is not without limitations. As the sample of this study is a first limitation, future research can extend it to a larger sample from police departments in other regions of Greece, or even international locations, to compare the different level of job satisfaction among police officers. In addition, the immigration issue, which has affected police officers' workload should be further investigated, especially for island regions, which are mainly affected by refugee crisis.

At the same time, the findings in this study have important implications for both police chiefs or city managers, as incorporating these results about police management to their decisions could benefit all the stakeholders engaged in public safety and citizens' satisfaction. For police departments, research among police officers on a regular basis could prevent poor job satisfaction and performance, which in turn will lead to increased problems such as conflict and losses of good officers. "This information is necessary so that policing scholars and police executives can better understand the impact on the total police work environment on officer job satisfaction" [2: 158]. By identifying any weak areas, police executives could provide targeted improvements and make the appropriate interventions. Considering the dangers of their profession and the fact that they must work in all conditions with limited resources, one may understand why engaged employees has become a strategic priority for a police department' success. In conclusion "Further, better job satisfaction would reduce stress level, foster fewer absenteeism, decrease burnout, and diminish employee turnover—all of which can contribute towards optimizing the available human resources in the police organization" [5: 61].

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Tourists' Perceptions and Intended Behavior Thanks to Celebrity Endorsement: Antetokounmpo Invites You to Santorini with Aegean Airlines

Maria Salamoura, Antonios Giannopoulos, and Foteini Moumouri

Abstract The increasing use of social media has led to the expanding adoption of ICT applications in hospitality and tourism. To communicate their image, destinations and service providers undertake various initiatives exerting vast impact on their target audiences. To further stimulate travel, tourism providers foster collaborations with celebrities, the role of which has yet to be examined regarding the way tourism destinations perceptions are formulated. The aim of the study is to test the relationship between celebrity endorsement and destination perceptions. Contributing to the current research stream, the research extends previous findings incorporating celebrity endorser's characteristics, destination image and intention to visit the destination. A quantitative research was conducted, using a celebrity spot shared on the YouTube channel of Aegean Airlines. Respondents were asked to express their perceptions about Santorini, as promoted by Giannis Antetokounmpo, the reputable basketball player worldwide. Empirical evidence validates previous findings and contributes to the body of knowledge about the role of social media and the influence of celebrities on tourists' perceptions behavioral intentions. Celebrity endorser's characteristics were found to positively affect destination familiarity, destination image and visitation intentions. Findings are extracted, and conclusions are provided for both the tourism professionals and the academic community.

Keywords Social media · Destination image · Celebrity endorsement · Visitation intentions · Quantitative research

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871

1 Introduction

The ever-increasing use of platforms (Facebook, YouTube, Twitter etc.) and their accessibility from mobile phones, revolutionized the way people use the internet before, during and after the trip. Visitors use social media as a tool to share their experiences or collect information. Thus, social media marketing is a dynamic tool that enables both companies to "speak" directly with their clients, and customers talk to each other [1]. To this end, brand relationship is enhanced with multiple destination-visitor interactions. Destination brands strive to become particularly notable and strongly position themselves in the market against others [2]. Thus, destination branding that consists of storytelling and destination personality traits may provide a positive impact on brand relationship quality and word of mouth communication [3]. Indeed, destination perceived quality can positively affect both the level of tourists' satisfaction and their future behavior [4].

This study extends previous findings to examine the influence of tourism behavior through the use of social media. Applied to the social media context, it tests the relationship between celebrity endorser's characteristics and destination perceptions; it is adapted from previous frameworks [5], extending the findings to a different setting by incorporating celebrity endorser's characteristics, destination image and intention to visit the destination. For the purpose of the empirical research, a celebrity spot shared on the YouTube channel of Aegean Airlines is used to ask 158 respondents for their perceptions about Santorini, as presented by Giannis Antetokounmpo, the reputable basketball player.

Following the introduction of the paper, Sect. 2 examines the extant literature on celebrity endorsement, destination image and destination familiarity. Section 3 discusses the methodological approach; Sect. 4 refers to the main findings extracted from the data analysis. Finally, in Sect. 5 the conclusions along with limitations of the study and directions for further research are considered.

2 Literature Review

2.1 Celebrity Endorsement

In the highly competitive environment, celebrity endorsement is usually adopted to offer high recognition and strong perception of the products [6], defined as "an individual who enjoys public recognition and who uses this recognition on behalf of a consumer good, by appearing with it in an advertisement" [7: 310]. Glovers [8] demonstrated that the use of an appropriate celebrity fosters positive customer attitudes. In the tourism context, the involvement of celebrity fans has been captured through leisure involvement [5], which refers to an unobservable state of motivation, stimulation or interest for a leisure activity or related product [9]. Reputable personas evoke a powerful sense of pleasure towards several celebrity fans. People

tend to devote much time on following celebrity activities, leading to the raise of pleasure in these activities [10]. Considering celebrity endorser's characteristics, when customers perceive the symbolic meanings related to a celebrity, they convey this concept to products and services approved by the celebrity [6]. Ohanian [11] developed a three-dimensional scale that measures celebrity endorser's characteristics, namely, trustworthiness, attractiveness and expertise; this research showed that visiting a celebrity-related destination is thus an act of adopting the desired qualities the celebrity represents. It is then assumed that:

H1 Celebrity endorser's characteristics are positively related to intention to visit the destination.

2.2   Destination Image

The notion of image is related to the mental representation of individuals by the knowledge, emotions and overall impression on an object or a destination [12]. The role of destination image—cognitive and affective [13]—is very important when considering tourists' purchasing behavior. According to Gartner [14], cognitive assessments imply beliefs or knowledge about the destination characteristics, while the affective evaluation refers to feelings. The cognitive and affective dimension of destination image mediate the relationship between celebrity involvement and place attachment [15]. It is then argued that visitor's attitudes push them to develop a positive image for destinations represented by their beloved idols and pay tribute to them. Consequently, it is hypothesized that positively assessed celebrity endorser's characteristics are linked to more positive destination image (i.e. the destination celebrities endorse). Considering that both cognitive image characteristics and affective image evaluations develop a comprehensive image overall [16], the authors assume that:

H2a Celebrity endorser's characteristics are positively associated with cognitive destination image.

H2b Celebrity endorser's characteristics are positively associated with affective destination image.

H3 Cognitive and affective destination image are positively correlated.

Studying the relationship between destination image and visiting intentions [17], it is suggested that perceptions of potential tourists of a destination image play a crucial role in travel decision making. Baloglu [12] underpinned that cognitive image has a significant influence on affective image and visit intention; moreover, the positive attitude towards a destination may lead to a higher intention to visit it [18]. Hence:

H4a The more positive the cognitive image of a destination, the higher the intention to visit that destination.

H4b The more positive the affective image of a destination, the higher the intention to visit that destination.

2.3 Destination Familiarity

Additionally, the level of familiarity may affect the image of the destination as well as the decision-making process [19]. Alba and Hutchinson [20: 411] defined familiarity as "the number of experiences accumulated by consumers and associated with products". Therefore, familiarity is cultivated through the number of previous visits at the destination and the past experience [21], not the actual one [22]. Previous literature [23] suggested three types of destination familiarity, namely, the informative, the experiential and the self-assessment. Destination familiarity provides, among others, a feeling of comfort and lowers the uncertainty of the tourism experience [24]. For this particular reason, many tourists become familiar with the destination by collecting information and contacting others, already familiar with it. It is then assumed that:

H5 There is a positive linkage between celebrity endorser's characteristics and destination familiarity.

Accordingly, familiarity is associated with the information search and the time spent on information processing [25]. An information evaluation process takes place combined with previous travel experience [26] to assess destination image [27]. From a cognitive standpoint, tourists are likely to gather knowledge about a destination; through this process, they may become more familiar with it. The increasing knowledge provides a sense of security and comfort, raising the level of confidence upon the selection of a destination; increased familiarity tends to raise the level of affection towards the favorite destination [28]. Previous studies have also shown that positive destination familiarity affects the destination image and the travel intention [8]. Hence:

H6a The level of destination familiarity is positively related to affective destination image.

H6b The level of destination familiarity is positively related to cognitive destination image.

H7 The level of destination familiarity is positively related to visitation intention.

3 Methodology

An online survey was used as the methodological approach, where the main research instrument was a structure questionnaire. The questionnaire was developed in digital format and disseminated through Facebook. The short period of data collection (less

than a week in June 2018) empirically confirms of the rapid diffusion of the social media content. In total, 158 valid questionnaires were collected; respondents were drawn from the population based on their convenient accessibility and proximity to the researcher team. The self-administered questionnaire consisted of six sections. First, respondents were asked to fill out the questionnaire only after watching the relevant video on the YouTube platform. Adapting the model developed by Lee et al. [8], the notion of celebrity endorsement is captured in the specific research context through celebrity endorser's characteristics [11] i.e. trustworthiness, expertise and attractiveness. The scale of Baloglu and McClearly was used for the assessment of the cognitive and affective destination image [12]. Tourism destination familiarity was based on Prentice and Andersen's scale [29], analyzed into three dimensions: cognitive, experiential and self-expression. All these questions were assessed against a 5-point Likert scale. The last section included the demographic questions to describe the profile of the respondents such as gender, age, level of education, professional status and monthly income [30].

4 Data Analysis and Discussion

The data were analyzed using IBM SPSS Statistics 23. The socio-demographic characteristics are presented in Table 1 and correlation statistics appear in Table 2 (crosstabulations).

Cronbach's alpha coefficients displayed high level of reliability (>0.70) for the scales used in the model (Table 3).

The results extend the findings of previous studies by combining various theoretical constructs [8, 11] in a different setting. The present analysis and findings lead to the acceptance of all hypotheses of the conceptual framework, apart from H2a and H6b. The results indicate that the celebrity endorser's characteristics are positively associated with destination familiarity and visitation intention. In addition, destination image and destination familiarity are positively correlated with the visit intention, while there is a positive correlation between affective image and cognitive image. As such, the level of familiarity and interest in visiting a destination can be enhanced through a symbolic participation of celebrity.

In more detail, H1 is accepted unveiling the positive relationship between celebrity endorser's characteristics and intention to visit the destination. Although H2a is not statistically significant (celebrity endorser's characteristics—cognitive destination image), still the celebrity endorser's characteristics are positively related to the affective image of the tourism destination (H2b). To this end, there is a positive linkage between the affective and the cognitive image of the destination (H3). Moreover, respondents who adopt a positive destination image (both cognitive and affective) are more likely to visit the destination as well (H4). In line with previous findings, H5 is also confirmed showing that the more positively viewed the celebrity endorser's characteristics, the greater the familiarity with the tourism destination. Consistent with the results above, the correlation between destination

Table 1 Socio-demographic profile of the respondents

Demographics (n = 158)	% of respondents	Demographics (n = 158)	% of respondents
Gender: Male	37.1	Occupation: Unemployed	6.3
Female	62.9	Housewife	3.8
Age (years): Less than 20	1.27	Student	3.2
21–30	32.28	Government sector	21.5
31–40	42.41	Business owner/self-employed	13.30
41–50	16.46	Company employee	50
51–60	6.96	Retired	1.9
60 and above	0.63	Personal monthly income:	
Education: High school	28.48	Less than 500 €	28
University	53.16	501–1000 €	43
Master	16.46	1001–1500 €	18
Doctorate	1.90	1501–3000 €	7
		3000 € and above	4
Trip frequency (years): <1	8.86	Have you ever visited Santorini?	
1	29.11	Yes	59.5
2–4	51.27	No	40.5
>5	10.76		

Table 2 Crosstabs and chi squares

Crosstabs	Pearson chi-square	Df[a]	AS[b]	Phi coefficient
Gender with trip frequency	2.96	3	0.39	0.14*
Trip frequency with monthly outcome	12.24	12	0.42	0.28*
Gender with celebrity endorser's characteristics	1.30	4	0.86	0.09*
Gender with intention to fly with Aegean airlines	0.60	1	0.79	0.02*
Gender with intention to visit Santorini	4.84	6	0.56	0.17*

*$p > 0.05$
[a]*Df* Degrees of freedom
[b]*AS* Asymptotic significance

Table 3 The Cronbach's alpha values of variables

Variables	Cronbach's alpha
Celebrity endorser's characteristics	0.79
Cognitive image	0.91
Affective image	0.81
Familiarity image	0.84
Destination image	0.90

familiarity and affective destination image is statistically significant (H6a), whereas the link between destination familiarity and cognitive image is practically non-existent (H6b). Finally, H7 is accepted demonstrating a positive strong relationship between destination familiarity and intention to visit the destination.

5 Conclusion, Limitations and Future Research

In line with previous studies [5], celebrities may act as an effective marketing tool that facilitates the interaction process of familiarization and persuasion. These results are also similar to Glovers' research findings [8], that concluded in three areas, critical for understanding the role of celebrities: the connections between showing celebrities in various media, the adjustment of the relationship between the tourism destination related to the celebrity personality and the visitor, and the impact of celebrities in tourist purchasing decisions.

In the case of Santorini, the involvement of Antetokounmpo as endorser in Aegean Airlines' YouTube spot may also affect all those who intend to visit the island. The effect may be either direct or indirect through the improvement of destination image and the higher level of familiarity with the destination, thanks to Antetokounmpo's presence in the relevant spot. This finding offers great practical insight for DMO practitioners, which should definitely capitalize on this social media campaign to attract the respective target audience. Engaging celebrities in ads and other promotional and collateral material (i.e. content for destination websites

and social media as well as photos, videos and other uploads on the social media of the respective celebrity), DMOs might strengthen the image of the destination.

Of course, this study is not without limitations. The limited sample size does not permit the generalization of the findings without restrictions, as results may differ in a different case. Moreover, the study is limited to a single celebrity; altering the subject celebrity may lead to varied outcomes. Also, the fact that respondents can follow celebrities according to their own preferences may play a positive or negative role; hence, it would be interesting to compare the results of this research against a study on another tourism destination endorsed by the same celebrity. Likewise, future research should focus on the propensity to revisit the same destination, as a result of the celebrity's exposure to this destination.

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National Heritage as a Resource for Tourism Marketing

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Abstract Mexico is the sixth country worldwide with more wealth assets with 35 recognized ones as world heritage which wakes up the interest of the world to know the national culture, this serves as motivation for the industry of the tourism marketing and the adoption of the national wealth as a resource for this one. In Mexico the touristic industry has begun to develop this type of marketing, without granting the due importance to the national wealth, besides the fact of which in December, 2018 the government report the disappearance of the Council of Tourist Promotion of Mexico (CPTM), institution that one was entrusting of the diffusion of the country as tourist destination worldwide, the department of marketing of the Council had as mission develop new tourist options in Mexico to increase both national and international demand. For previous, this research investigates in the relation among the national heritage and the tourist marketing and like this one it is possible to transform in a resource for the above-mentioned industry; in order to generate a suitable offer for the utilization of the heritage, the study arises from the question: what requirements do exist in order that the national wealth could turn into a resource for the tourist marketing? Equally there takes form the aim of the present investigation, later, one presents the frame of reference defining to the heritage and their classifications, beside conceptualizing the marketing and the marketing elements. In the paragraph relating to the methodology, it is found that the design of investigation of this work is of Investigation-action, due to the search of the improvement of the processes and actions, as well as the direct involvement of the investigators and the raising of information that was carried out by means of semi-structured interviews. Later to the obtained results, an offer is generated on what shares they must be carried out in order that the national wealth is a resource for tourism marketing.

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1 Introduction

In 1972 the Convention arises for the Protection of the Cultural and Natural World heritage due to the need to identify the goods invaluable of the world, after of this the international community begins to speak about sustainable development, due to the fact that the conservation of the heritage already is Natural or Cultural, is an important contribution to the development of the site and its environment.

On having spoken about world heritage its three divisions must be understood, culturally, naturally and mixed.

These wealth assets have been adopted in different countries as resources for the tourism marketing, principally for the development of brands country, in Mexico one has begun to develop this type of marketing, without grants the due importance to the national wealth, besides the fact of which in December 2018 the government I report of the disappearance of the Council of Tourist Promotion of Mexico (CPTM), institution that one was entrusting of the diffusion of the country as tourist destination worldwide, the department of marketing of the Council tape-worm as mission to develop new tourist options in Mexico to increase the both national and international demand.

For the previous thing, it is important to develop new opportunities for tourist marketing from national wealth.

2 Objective

The aim of this paper is to define and contribute to the understanding of the term as a resource for marketing, that is, after receiving a nomination as a global heritage element, which actions must be carried out for the national patrimony to be used as a resource for the tourism market-endowment.

3 Reference Framework

3.1 Heritage

According to de RAE, heritage is the set of the goods and proper rights acquired by any degree, a set of goods belonging to a natural or juridical person, or affections on purpose [1].

In 2004 Gonzalez said that the role of the cultural heritage in the establishment of the cultural identity of the States is a fundamental topic. The cultural heritage is the product of different cultural and historical traditions; the cultural diversity enriches the world vision, allows to value better the reality; it provides goods of artistic and symbolic value; it allows to rescue and to promote the adaptative capacities of every society, facilitating the identification of the people with its past and with a future shared project. Nevertheless, cultural heritage is constantly threatened. Present must have that given the singularity of every cultural development its loss is irreparable [2].

The heritage is a system of representation that is based also on this cultural externality, the metonymies, the relics that constitute it are objects, places or manifestations proceeding from the virgin, or indomitable nature of the past, or of the genius (normally creative, but also destructive, as expression of exceptionality, of the overcoming, in some sense, of the limits of the condition humanizes culturally established) [3].

World Heritage The World heritage is the set of cultural and natural goods that have been inherited from the forbears and that allow to understand and to know the history, the customs and it forms them of life up to the current moment, is the base on which humanity constructs their collective memory and its identity, is what it makes identity with a culture, with a language, with a way of living concrete, is the legacy that is received of the past, which lives in the present and which is transmitted to the future generations [4].

There exists a List of the World Heritage of the UNESCO, with the set of monuments and sites with wide natural and cultural wealth, these sites are symbols of the States and of the peoples, being emblems of their collective property, as well as of their culture, beliefs, customs, knowledge and of the transmission of this heritage to the future generations.

For these motives and on having been places of sustainable development, the UNESCO, across the Convention for the Protection of the Cultural and Natural World heritage, it controls and takes actions for the safeguard and protection of these.

For UNESCO three types of World heritage exist:

(A) Cultural Heritage
(B) Natural Heritage
(C) Mixed Goods

For 2019 the List of World heritage relies on 1092 inscribed sites, which divide into 845 cultural goods, 209 natural goods, and 38 mixed goods distributed in 167 member States.

Cultural Heritage The cultural heritage is classified in two forms, material and intangible, the material cultural patrimony refers to monuments, be they buildings, sculptures, cave paintings, architectural goods, cities, urban and rural landscapes.

Intangible cultural heritage consists of cultural manifestations, traditions transmitted from generation to generation, as well as languages, stories, music, dance, martial arts, parties, culinary arts, and crafts.

Natural Heritage It refers to physical and biological formations, the habitat of animal and vegetation species, coral reefs, tropical forests and wetlands as well as the strictly defined natural zones and cultural landscapes that are defined as landscapes representative of the harmonious fusion of nature and man [4].

Mixed Assets They are places that have exceptional value for combining natural heritage and cultural heritage.

3.2 Resources

Those tangible and intangible assets that are almost permanently linked to the company, examples of resources are branding, employing qualified personnel, machinery, capital, etc. They have also been defined as all the assets, capacities, organizational processes, attributes, information, knowledge, controlled by the organization and allowing it to be more efficient [5].

Resources are broken down into factors or assets: assets imply something that the company owns, while factors include ownership and/or control, some author prefers to choose factors as the elements that make up a resource [6].

4 Marketing

Marketing is the activity or group of entities and procedures to create, communicate, deliver and exchange offers that have value for consumers, customers, partners and society in general [7].

A set of principles and practices that seek to increase trade, especially demand [8].

4.1 Resources for the Tourism Marketing

The marketing resources are defined as the elements through which marketing achieves its objective, in the specific case of tourism marketing, these elements can be the development of a country brand or city brand, development of new tourism products, Co-branding, brand equity, and brand building.

5 Methodology

5.1 Research Design

The design of the present investigation is of a qualitative type with a design of investigation-action, across the emancipating vision since the aim of the research beyond the resolution of a problem, one tries to generate a change.

The investigation-action has as purpose solve immediate problems, as well as the improvement of the concrete practices, fundamentally its aim is to contribute with information that guides the capture of decisions for processes and structural reforms [9].

A design of investigation-action was chosen, due to the fact that the investigator interferes intimately with the research and the offer derived from this one, also by means of the analysis of information this investigation relies on a process of informed and awkward action, finally the resultant offer of the present investigation(research) seeks to realize more wide changes across the generated offer.

This investigation is of type exploratory descriptive, in the exploratory phase, there is studied a problem of which little information exists since it is the process of appointment of cultural wealth assets and like these, they can transform in resources for the tourism marketing.

Descriptive due to the analysis and conceptualization that is done on the units of analysis, besides penetrating the concepts of national wealth and tourism marketing.

On having spoken about investigation(research)-action, it is found that the method for the compilation of information is across interviews semi-structured.

The previous thing in order to define and to detect as the national wealth across certain actions can transform in resources for the tourism marketing, as well as the impact that this generates, also know that effect has so much for the heritage and its conservation, since for the marketing to level country.

5.2 Procedure for Carrying out the Investigation

To execute the present investigation, the following steps are followed:

1. Determine the research problem and how it relates to the current situation of tourism marketing, for the foundation of the topic.
2. Determination of the qualitative methodology of action research as the most appropriate for the development of research.
3. Analysis of the state of the art (previous studies on the units of analysis).
4. Drafting the justification of the investigation, as well as the relevance of it.
5. The approach of the general and specific objectives.
6. Determination of the object of study.
7. Identification, definition, and operationalization of the analysis units.

8. Description of the contribution to tourism when developing research.
9. Characterization of the units.
10. Elaboration of the referential framework.
11. Development of research instruments, based on the existing relationship between the units of analysis.
12. Pilot Test.
13. Determination of validity and reliability.
14. The final choice of the instruments.
15. Application of the instrument through fieldwork with the semi-structured interview to the social actors involved in the development.
16. After the data collection is carried out the correlation, analysis, and interpretation of these.
17. Once the analysis of the obtained information has been carried out, the proposal is made; and the conclusions and recommendations are generated.

5.3 Dimensions and Indicators for Instrument Design

The above table indicates the units of analysis, as well as the indicators of these units, the third column establishes the dimensioning from the indicators, and finally, the questions arising from the dimensioning are formulated, these questions serve as a guide for the application of semi structured interviews.

5.4 Description of the Analysis to Be Carried Out

Due to the nature and objective of the research, it is not necessary to perform a statistical analysis of the information obtained through the data collection instrument, however, a percentage analysis is made of the information obtained from each institution to subsequently carry out a comparative analysis between institutions of the sizing expressed in Table 1, taking into account that the results obtained will demonstrate the activities carried out to take advantage of the appointment and will be vital information for the development of the proposal.

6 Results and Implications

As a result of the collection and analysis of the obtained data, it was obtained that the patrimony at the national level has been wasted for the marketing of the country and the generation of a country brand or city brand.

Table 1 Dimensions and indicators for instrument design

Unit	Indicators	Dimensions	Items
National heritage	Patrimonial elements, whether cultural, natural and/or mixed, as well as their classification	Know the types of marriage and its classification Know the status of each patrimonial element Development of programs for the dissemination of national heritage Classification of national patrimony Inventory of Mexico's heritage offer	Which types of assets exist and what is their classification? With how many patrimonial elements does the nation count? What is the state of the patrimonial elements that the nation has? Have programs been developed for the dissemination of national heritage? Do you have any classification of national heritage? Is there an inventory of the heritage offer of Mexico?
Resource for the tourism market-technology	Elements that complement the exercise of marketing in the tourism industry	Inventory of resources for tourism marketing Promotion of Mexico as a destination for heritage tourism Development of tourism products based on heritage elements	Is there an inventory of resources for the country's tourism market? Is promotion given to the country as a destination for heritage tourism? What are the products that have been developed from patrimonial elements? What products can be developed from the patrimonial elements currently named? With what characteristics should the patrimonial elements count so that they can be considered a resource for tourism marketing?

Likewise, it is concluded that it is necessary to create a department or institution that oversees what is related to the patrimony of the country and its use as a marketing resource.

The participation of both the government and the population is fundamental for the market exploitation of the country's heritage, since Mexico has great diversity, from material and immaterial, natural and mixed cultural elements.

The city that has shown the greatest use of the heritage it has as a marketing resource is Mexico City, which organizes different cultural events related to the

country's culture and traditions, this strategy should be implemented and replicated in the areas of the country that have with patrimonial elements.

It is important to examine these implications because the appointment can be abolished, in addition to the loss of traditions, UNESCO grants resources to the States parties with patrimonial, not only economic, elements, also gives support to experts on the subject.

7 Conclusions

The Mexican institutions have given little importance to the national patrimony, few actions for its conservation, therefore, this research shows how the use of the national patrimony as a product for the marketing opens a door for the awareness of the loss of the patrimony at national level, the fact that the patrimony is perceived as a commercial product contributes to that the institutions involved in lending, promoting and international-promoting its importance.

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Strategic Management and Art Museums: The Case Study of the Historical Museum of the University of Athens

Evangelos Papoulias and Theoklis-Petros Zounis

Abstract Strategic management is that set of managerial decisions and actions that determines the continuing and future performance of an organization. Especially, the strategic planning is determining the optimal future for an organization, and the changes required to achieve it. Museums as any other cultural institution generally conduct strategic plans for any or all of the following reasons (performance, funding, accreditation, staff motivation, expansion, etc.). There are some key parts (organization analysis, formulated strategy, developed goals, developed objectives, developed action plans, evaluation) of a strategic plan during a strategic planning process. In this paper, it is presented and analyzed three case studies, the Milwaukee Art Museum, the Nelson-Atkins Museum of Art and the Historical Museum of the University of Athens, as applications of strategic planning and targeting in the specific area of art museums.

Keywords Strategic plan · Strategic targeting · Art museums

1 Introduction

In any organization, there are different levels of management. Especially, organizations have operational, managerial and strategic level of management [1].

The strategic level of management watches the overall operation of the organization with an eye toward constantly adjusting and adapting to the changing environments that affect the future of the organization while staying true to the mission. The goals and objectives are assessed in a three to 5-year time frame. In addition, strategic managers are responsible for looking as far ahead as 10 years in an effort to chart a path for the organization. The artistic director, general manager, general director, managing director, marketing director, or other similar senior-level

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person is associated with this role. Strategic managers typically present these long-range plans to a board of directors or to a board of trustees. The board ultimately oversees the organization's mission and purpose.

Strategic management is that set of managerial decisions and actions that determines the long-run performance of a corporation [2]. It includes environmental scanning (both external and internal), strategy formulation (strategic or long-range planning), strategy implementation, and evaluation and control [2].

This paper examines the role of strategic planning in museums and especially analyzes two art museums, the Milwaukee Art Museum, the Nelson-Atkins Museum of Art and the Historical Museum of the University of Athens, as specific case studies.

2   The Role of Strategic Planning in Museums

Strategic planning is a set of comprehensive plans designed to marshal all resources available to the organization to meet the defined goals and objectives derived from the mission statement [3]. The strategic planning is determining the optimal future for an organization, and the changes required to achieve it [4].

According to Kaiser [5], the strategic planning process can be a powerful force in identifying institutional priorities and engaging organization stakeholders and influencers.

According to Byrnes [3], the planning process includes five steps:

1. Define your objectives.
2. Assess the current situation in relation to your objectives.
3. Formulate your options regarding future outcomes.
4. Identify and choose among the options.
5. Implement your decision and evaluate the outcome.

According to Lord and Markert [6], cultural institutions generally conduct strategic plans for any or all of the following reasons:

- To improve performance.
- To qualify for funding because government, foundation, and private donors increasingly require evidence of a current plan.
- To achieve accreditation from a recognized authority.
- To prepare the groundwork for a major expansion or new initiatives.
- To motivate staff and board.
- To replace or update the previous strategic plan that has run its course.
- To address the forces of change in the museum environment, both internal and external.

According to Byrnes [1], the basic parts of a strategic plan of a cultural organization during the strategic planning process are:

- Organization analysis: mission analysis, situation analysis—SWOT analysis (strengths, weaknesses, opportunities, threats), resources analysis (people, financial and physical, technology, adequate support systems).
- Formulate strategy: stability strategy, growth strategy, retrenchment strategy, and combination strategy.
- Develop goals (desired outcome).
- Develop objectives (methods to achieve goals).
- Develop action plans (specific tasks with assigned resources and deadlines).
- Evaluate (assessment tools).

3 Case Studies of Art Museum Strategic Planning

In this part of the paper, we will present and analyze two interest case studies, the Milwaukee Art Museum and the Nelson-Atkins Museum of Art, from the area of art museums, which applies two different methods of strategic targeting through their strategic planning process and the strategic planning of the historical museum of the University of Athens.

3.1 The Milwaukee Art Museum

The Milwaukee Art Museum is situated in the city of Milwaukee, the biggest city of the State of Wisconsin in USA. The museum is founded in 1980.

The latest strategic plan of the museum covers a period of 5 years, starting with the fiscal year 2006/2007.

The strategic plan of the museum has the following structure [7]:

- The plain in brief.
- The mission and the values of the museum.
- Analysis of the strategic environment of the museum.
- Benchmarking analysis.
- Setting strategic goals and objectives of the museum for the period 2006–2011.
- Financial assessment.

The mission of the museum is the following [7]: "The Milwaukee Art Museum collects and preserves art, presenting it to the community as a vital source of inspiration and education."

Some of the key values of this museum are [7]:

- The art.
- High professional standards in museum and collection management.
- Showing respect, grace, and gratitude to visitors, donors, supporters, volunteers, and staff.
- Responding to the changing needs of the community they serve.
- Fiscal prudence, transparency, and a balanced budget.
- Boldness, with measured decision making and high standards of implementation.

The basic goals of the museum for the period 2006–2011 are to [7]:

- Sharpen the museum's artistic focus to build our profile among our peers, nationally and internationally.
- Develop the museum's role as a premier educational resource and a gathering place for the community to experience the arts.
- Strengthen management systems and organizational capacity.
- Strengthen the museum's financial base by achieving a healthy and balanced mix of funding sources.
- Enhance the use of the physical space available to the museum to maximize the potential of buildings, facilities, and outdoor spaces for the museum and its audiences.

The Milwaukee Art Museum through its strategic plan presenting the following method of targeting:

1. The museum for the period 2006–2011 has five key goals.
2. Each goal is divided in objectives. A project manager is responsible for each objective.
3. Each objective is referred in specific actions for implementation.
4. Each action has a timetable for a determined period.

This method is presenting in the following shape [6] (Fig. 1):

The strategic plan of the Milwaukee Art Museum sets out to solidify the foundations and infrastructure in curatorial, education, marketing, development, and finance while planning for the future.

Goal	⇒	Objectives	⇒	Actions	⇒	Timetable
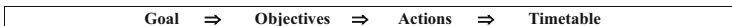
Fig. 1 Method adopted by Dexter and Markert [6]

3.2   The Nelson-Atkins Museum of Art

The Nelson-Atkins Museum of Art is situated in the city of Kansas, a city of the State of Missouri in USA. The museum is founded in 1933.

The latest strategic plan of the museum covers a period of 11 years, 1999–2010. The strategic plan of the museum has the following structure [8]:

- The mission statement and the guiding principles of the museum.
- Museum Director's foreword.
- Setting goals, priorities and strategies for the period 1999–2010.

The mission of the museum is the following [8]: "The Nelson-Atkins Museum of Art is dedicated to the enjoyment and understanding of the visual arts and the varied cultures they represent. It is committed through its collections and programs to being a vital partner in the educational and cultural life of Kansas City and a preeminent institution both nationally and internationally. It strives to achieve this goal by adherence to the highest professional standards in the collection, preservation, exhibition, and interpretation of works of art."

The guiding principles of this museum are [8]:

- Priority: The experience of original works of art is invaluable and the key to understanding the past, present, and future of the museum.
- Community: The Nelson-Atkins Museum is dedicating to connecting its collections, special exhibitions, and programs to its entire community, local, national, and international, and to promoting actively dialogue and collaboration.
- Quality: The highest standards of excellence must inform all they do.
- Integrity: Integrity and responsibility are essential to the fulfillment of the mission of the museum.
- Diversity: Diversity strengthens creativity. The museum is committed to diversity in all areas.

The basic functional areas of the museum for strategic targeting for the period 1999–2010 are to [8]:

- The collection preservation, management, and development.
- The presentation and interpretation of the collection.
- The special exhibitions.
- The education initiatives and research services.
- The image and visitors' experience.
- The audience development and marketing.
- The fiscal stability and the fund development.
- The human resources and professional development.
- The governance and volunteer support.

| Goal | ⇒ | Priorities | ⇒ | Strategies |
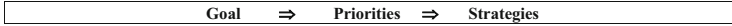
Fig. 2 Method adopted by Nelson-Atkins Museum of Art [8]

The Nelson-Atkins Museum of Art through its strategic plan presenting the following method of targeting:

1. For each functional area of the museum there are specific goals.
2. Each goal has some priorities.
3. Each priority has specific strategies, strategic steps of implementation.

This method is presenting in the following shape [8] (Fig. 2):

The strategic plan of the Nelson-Atkins Museum of Art is concentrated in all functional areas of the museum. Much of this plan deals with ways to enhance and ensure a rewarding experience for the museum visitor through improved installation of the art, interpretive strategies, strong educational programming, a congenial, welcoming environment, and a commitment to advancing knowledge.

3.3 The Strategic Planning of the Historical Museum of the University of Athens for the Period 2016–2020

The following six axes analyze the Historical Museum of the University of Athens strategy for the period 2016–2020 [3].

A. The main mission of the History Museum of the University of Athens is:

- The protection, conservation, management and development of the permanent collection of the Museum.
- The visibility of the history of the foundation and the work of the founders of science and research in modern Greece.
- Collaborations and co-ordination with other museums of the National and Kapodistrian University of Athens (NTUA).
- The organization of scientific and cultural events related to the history of university education and research in the country.

B. The vision of the Museum of History of the University of Athens is:

- Be the starting point for knowledge and critical thinking in a friendly environment for different audiences.
- Strengthen the links between society and the University of Athens.
- To collaborate with other museums in Greece and abroad and with the museums of the University of Athens, in order to highlight the collections, through the interdisciplinary approach.
- Enrich the collection with donations and, as far as possible, purchases of rare exhibits.

C. Development Strategy of the History Museum of the University of Athens through:

- Increase traffic and broaden the reach of audiences through targeted actions.
- Creating collaborations at international level with foreign academic institutions.
- Establishment of a network of University Museums coordinated by the Museum of History, based on the organizational chart of 1998 (Presidential Decree 338/1998).
- Re-exhibition of the Museum Collections with a new museological and museographic approach. In June 2015 the re-exhibition of rare scientific instruments from the Museum's collection with the exhibition "Rare scientific instruments: tools of research and education" was completed, while the exhibition on the history and architecture of the building was prepared.
- Organizing periodical exhibitions on museum exhibits such as the periodic exhibition "sanatorioproject", (2012) where 18 artists were inspired by the exhibits of the Museum and created new works specifically for this.
- A thematic exhibition is planned with reference to the University of Athens banner, crafted by Nicholas Gyzis, located at the main entrance of the Museum, as part of the anniversary events for the 180th anniversary of the foundation of the University of Athens.
- Development of educational activities in partnership with the public of the Museum. During the school year 2015–2016, the first student contest "On the Footsteps of the History of Natural Sciences" was successfully held within the framework of the "Exhibits of the Museum through the eyes of the students".
- View and enhance educational interactive programs for children from pre-school to tertiary education.
- Thematic presentations of the collection, through periodic reports.

D. Strengthening communication policy through:

- Social Media Networks: facebook, twitter, instagram.
- Updating the list of recipients for the Museum's activities.
- Network of collaborations with the other museums of the University of Athens.
- Institutional institutions of the interior and abroad where the Museum is actively involved.
- A digital touring application in the form of storytelling where the visitor visits the Museum's premises and is transported in his first years of operation. The application will become operational in the autumn of 2016.

E. Increase in financial resources through:

- Enrichment of products at the Museum's shop.
- Rental of museum rooms for scientific events (conferences, workshops, etc.) or artistic events.

- Inauguration of an entrance ticket for the Museum and, in respect of school groups and other interested parties, payment of a symbolic fee for attendance of guided tours and educational programs.
- Upgrading of the external space and creation of a courtyard in the exterior courtyard with the aim of better service to the public, as well as the maximum utilization of its premises and facilities.
- Conclusion of program contracts with foreign bodies in the framework of the implementation of European programs.
- Accepting donations.

F. Strengthening of events through:

Strengthening the events by promoting and highlighting the rooms in the ground floor. Throughout the year, the Museum can host lectures, congresses, music and theatrical events, periodical exhibitions, symposiums, book presentations at a cash prize. The space consists of two multipurpose rooms with a total area of 140 m^2 which communicate with each other with a small opening.

4   Conclusion

Strategic planning is a crucial point of the organizational development. The role of strategic planning is a useful management tool for an organization in order: (a) to develop a mission for it, (b) to analyze the external and internal factors that affect the achievement of the mission, and (c) to formulate the basic directions of the organization.

As the environment in which museums have been operating has become more challenging, the museums that will survive must plan their future and their actions with a long time perspective. The key for the success of an art organization is how to plan its activities by setting the appropriate and real goals for the needs of its organization. The analyzed cases, the Milwaukee Art Museum, the Nelson-Atkins Museum of Art and Historical Museum of the University of Athens, are good examples of art strategic targeting and planning by exploiting their experience and their infrastructure.

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The Importance of the Training of Professionals Related to Tourism with Full Knowledge of the Heritage of Mexico: Case Study of the Higher School of Tourism of the National Polytechnic Institute

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Abstract The tourist activity is an important source of income for a country; This statement is based on the communication 90 of the Ministry of Tourism published on September 18, 2018, which announces that the entry of foreign currency to Mexico by international visitors showed a growth of 3.3% in the first half of 2018, reaching 13,527 million dollars, compared to 13,096 million registered in the same period of the previous year. Priority needs to be given on human resources and extensive knowledge of the national tourism heritage; it is because the students who study in this branch of knowledge will be those who in the future will be dedicated to this activity, contributing their skills and experiences in the field of work, since they will have the necessary skills to strengthen this sector of tourism services and generate more resources to the country. In this sense, in Mexico there are public and private institutions that train their students in the tourism sector; the National Polytechnic Institute is a public school that offers a degree in Tourism at the Higher School of Tourism (HST), which provides education to train promoters of tourism resources that the nation has. Thus, this work presents if the graduates are properly trained in knowledge about the national heritage, determining the relevance of the academic program, which will allow a successful insertion in the labor field to have the skills required by the Employers. Therefore, it was decided to carry out a cross-sectional investigation, applying the instruments only once in time; Likewise, it is descriptive with a mixed research approach that included surveys of a sample of

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the main employers, which allowed the quantitative and qualitative analysis through interviews.

1 Introduction

The heritage of a nation is shaped by its culture, its natural attractions and its traditions. The latter is defined as intangible cultural heritage, that is, it includes the set of elements that comprise natural environments such as landscapes, historical sites, built environments, present and past traditions; the knowledge and experiences of its population.

For the United Nations Educational, Scientific and Cultural Organization (UNESCO), the conservation of the world's cultural and natural assets is a priority, since they represent an important support for the development of the place where they are and their environment. The loss of any of them would be an invaluable harm to humanity.

In this way, UNESCO in its document "Heritage" [1]—which refers to the indicators of culture for development established by this body—proposes some definitions for the different types of assets, which should be reviewed and valued by each nation. In this sense, cultural heritage is understood as:

(a) The monuments: monumental architectural, sculpture or painting works;
(b) Elements or structures of an archaeological nature, inscriptions, caves and groups of elements, which have an exceptional universal value from the historical, artistic or scientific point of view;
(c) The groups: groups of buildings, isolated or assembled, whose architecture, unity and integration in the landscape, give them an exceptional universal value from the point of view of historical, artistic or scientific view;
(d) The places: works of man or joint works of man and nature, as well as the areas, including the archaeological sites, that have an exceptional universal value from the historical, aesthetic, ethnological or anthropological point of view.

It is considered natural heritage to:

(a) The natural monuments constituted by physical and biological formations or by groups of these formations that have an exceptional universal value from the aesthetic or scientific point of view;
(b) The geological and physiographic formations and the strictly delimited zones, which constitute the habitat of threatened animal and plant species, that have an exceptional universal value from the point of view of science or conservation;
(c) Natural sites or strictly delimited natural areas, which have an exceptional universal value from the point of view of science, conservation or natural beauty.

The concept of intangible cultural heritage refers to the uses, representations, expressions, knowledge and techniques that the inhabitants of the communities recognize as an integral part of their cultural heritage, which may be:

(a) Oral traditions and expressions, including language as a vehicle of intangible cultural heritage;
(b) Arts of the show;
(c) Social uses, rituals and festive acts;
(d) Knowledge and uses related to nature and the universe;
(e) Traditional craft techniques.

In another classification cultural assets are located, which correspond to those that the national authorities specifically designate as important for archeology, history, literature, art or science, regardless of their origin and owner, whether for reasons religious or profane; They can assume any of the following categories:

(a) Collections and rare specimens of zoology, botany, mineralogy, anatomy, and objects of paleontological interest;
(b) Property related to history, including the history of science and technology, military history and social history, as well as the life of national leaders, thinkers, scholars and artists and the events of national importance;
(c) Excavations (both authorized and clandestine) or archaeological discoveries;
(d) The elements coming from the dismemberment of artistic or historical monuments and places of archaeological interest;
(e) Antiques that are more than 100 years old, such as inscriptions, coins and stamps;
(f) Ethnological material;
(g) Goods of artistic interest, such as: (i) paintings, paintings and drawings made entirely by hand on any support and in any material (excluding industrial drawings and manufactured articles decorated by hand); (ii) original productions of statuary art and sculpture in any material; (iii) original engravings, prints and lithographs; (iv) original artistic assemblies and assemblies in any material;
(h) Rare and incunabula manuscripts, books, documents and old publications of special interest (historical, artistic, scientific, literary, etc.) loose or in collections;
(i) Postage stamps, fiscal stamps and the like, detached or in collections;
(j) Files of any kind, including phonographic, photographic and cinematographic;
(k) Objects of furniture that are more than 100 years old and old music instruments.

Within this framework, Mexico has 33 world heritage sites, 27 of which are cultural, 10 heritage cities, 187 archaeological zones open to the public, 111 Magical Towns, 174 religious shrines, 1121 museums and a diverse gastronomy internationally recognized. It is important to note that, the country ranks sixth in terms of the number of World Heritage Sites of Humanity, only after Italy, China, Spain, Germany and France [2].

As can be seen, this country has a wide range of goods at the national level that through rational, planned and controlled usufruct will allow its tourist use that will

benefit the population of the areas where they are located and the country as a whole. This statement is confirmed with the information published in the communiqué 90 of the Ministry of Tourism, on September 18, 2018, which announces that the entrance of foreign currency to Mexico by international visitors showed a growth of 3.3% in the first half of 2018, reaching 13,527 million dollars, compared to 13,096 registered in the same period of the previous year [3].

That is why the training of human resources in the tourism field should include subjects that strengthen the knowledge acquired from students, with special emphasis on knowledge of the assets that are the heritage of our country, in addition to raising awareness about care and respect for its preservation, use and sustainable enjoyment.

This document establishes the importance of universities forming professionals in tourism with full knowledge of the nation's natural and cultural wealth, as well as being promoters of their care—particularly when they are part of a tourism product—which will allow them to be used in an organized and rational way to preserve its use and enjoyment for the next generations.

An important aspect to be noted is the safeguarding of the uses and customs, especially of the original peoples of the different regions of the country, since they must be preserved to favor harmonious coexistence and the development of the population and the nation.

2 National Polytechnic Institute

2.1 Generalities

As established in article 2 of its Organic Law [4], the National Polytechnic Institute (NPI) is a deconcentrated body of the Ministry of Public Education. Its purpose is to contribute through the educational process to the transformation of society in a democratic sense and of social progress. In this way, the NPI has contributed to the development of our country through the professional and specialized training of thousands of citizens who have acquired competitive knowledge and who have participated in scientific research, technological development and innovation.

2.2 Higher School of Tourism

It was created on August 27, 1974 by the General Consultative Council of the National Polytechnic Institute [5]. Thus was created an academic place which provides students, at a professional level, with training that gives them the appropriate knowledge in the areas that make up the tourism industry, so that they are able to join immediately and with a wide possibility of development to the experiences of a growing demand for the expansion of tourism in Mexico.

The mission of Higher School of Tourism (HST) consists of forming leaders in higher education and postgraduate studies for the tourism sector, which contribute to the development and promotion of sustainable tourism in the country, with responsibility, ethics and social commitment.

Regarding the educational offer of the EST, one of its specialties is related to the operation of a travel agency, which includes the advisory service and accompaniment to clients for the contracting of their trip, the integration of quotations and hiring of varied tourist services, as well as the management of globalizing systems for effective reservations of flights, hotels, cars, cruises, among others. So it is essential that service providers have staff with extensive knowledge of the country's tourism heritage.

2.3 Academic Program of the Degree in Tourism

The academic program has 40 subjects, of which only four are related to the study of national heritage, object of study of this document. One of the subjects of the second. Semester refers to the "Operation and Challenges of Tourism Companies", which addresses topics such as planning, organization, management and evaluation of operations carried out in tourism companies and that allow designing tourist circuits in the that one or more natural, cultural and intangible assets are included [5].

In the third and fourth semesters the subjects of "Destinations and Tourism Products of Mexico I and II" are taught, in which the students will learn the physical-geographical, cultural and historical characteristics of the regions in which Mexico is divided—northeast and gulf-southeast, south, center-west and central region—highlighting their differences, their tourist vocation, as well as the main destinations and tourism products that are offered in them. Finally, in the sixth semester the subject of "Marketing of tourism products" is taught.

As it can be seen, students lack skills that allow them to know in a precise and absolute way the heritage with which the country has, which limits their knowledge and the possibility of integrating them as part of the products. Tourist attractions that are offered to visitors, both domestic and foreign.

3 Methodology

3.1 Design of the Investigation

The research from which this document is derived has a cross-sectional design, because the information of the given sample of the elements of the population was obtained only once, and the instruments were applied only once in time [6].

Likewise, it was of a descriptive type, due to the fact that the characteristics of the selected sample were analyzed and detailed.

3.2   Research Focus

The focus of the research is mixed, since it included surveys of a sample of employers of travel agencies in Mexico City (CDMX), which require that their workers have sufficient knowledge about Mexico's tourism heritage, which allowed the quantitative analysis and through interviews the qualitative analysis was carried out.

3.3   Universe, Population and Sample

The universe of study was made up of the total travel agencies of the CDMX [7]. On the other hand "The sample is, in essence, a subgroup of the population. It is a subset of elements that belong to that subset defined in its characteristics called population" [8]. Through a sampling method, a group of the considered population is selected, which makes it possible to consider that it actually has characteristics of the entire universe. Therefore, the answers received from the representative sample of travel agencies of the CDMX are fundamental for this work.

To obtain the sample, taking into account the margin of error, which is assumed as the percentage that describes how close the response that the sample was to the "real value" in the population; The smaller the margin of error, the closer you are to having the correct answer given a certain level of confidence.

To determine the sample a margin of 5% was taken and the formula was applied to the totality of each group under study, in addition the population in general aspects fits a Gaussian curve.

The level of statistic confidence is a measure of the assurance that the sample accurately reflects the population, within its margin of error; taking into account that there was a large number of participations, the 99% level of trust was assumed.

The calculation of the sample size is through the free use statistical software called "R" [9] for a confidence level of 99% and a margin of error of 5%. The results obtained are shown in Table 1.

3.4   Measuring Instruments

In order to obtain information from travel agencies as employers and thus know the training requirements of tourism students on national heritage, a questionnaire was designed consisting of 10 questions. Also to complement the information, a

Table 1 Population and sample

City hall	Population	Sample
Álvaro Obregón	15	6
Azcapotzalco	9	4
Benito Juárez	105	45
Coyoacán	32	14
Cuajimalpa de Morelos	2	1
Cuauhtémoc	180	78
Gustavo A. Madero	20	9
Iztacalco	6	3
Iztapalapa	18	8
La Magdalena Contreras	3	1
Miguel Hidalgo	70	30
Milpa Alta	2	1
Tláhuac	2	1
Tlalpan	29	13
Venustiano Carranza	7	3
Xochimilco	8	3
Total ciudad de México	**508**	219

The bold value is only the sum of all México City halls

Source: Prepared by the authors with information from INEGI [7]

format was developed to conduct an interview with employers, and demonstrate the importance of graduates of the degree in tourism have extensive knowledge of national heritage. Both measurement instruments were applied to the sample as a whole, during 10 working days, in the period between October 15 and 26, 2018. The information obtained from both instruments was concentrated in an Excel format, which allowed for the corresponding analysis and obtaining the results.

3.5   Results

Based on the results obtained from the surveys applied and the interviews conducted with the service providers of the travel agencies of the CDMX, it is determined that:

Ninety-five percent of the sample surveyed and interviewed provides tourist guide services, as well as design and sale of both national and international tour packages and national tourist circuits; 5% responded that it also provides other types of services, such as administrative procedures. In all cases, respondents and interviewees indicated that it is essential to know the national heritage. Eighty percent answered that during the last semester they have not hired graduates in tourism from the Higher School of Tourism of the IPN; the remaining 20% did so and indicated that one of the criteria for hiring them was that they had knowledge about the national heritage, which responds to the needs of the

company since it allows them to elaborate products and provide more complete and high-quality services and value added. Thirty percent of the respondents said that they know the academic program of the Higher School of Tourism and considers that not only is it necessary, but indispensable, that more subjects be incorporated on national heritage, which could generate more employment opportunities for their graduates. Regarding the interview, 80% of the consulted employers indicated that the incorporation of the national patrimony in the services it provides is of utmost importance; 20% declared not being sure about this importance.

4 Conclusions

As a result of the application of the surveys and interviews carried out with the service providers of the selected travel agencies, it is concluded that it is necessary to have trained personnel with extensive knowledge of the national heritage, so that the graduates of the Higher School of Tourism must know in depth the heritage with which the nation has, which will allow them to take advantage of it in a sustainable and efficient way by integrating tourism products that can be offered to national and foreign visitors and thereby increase the economic flow that this sector generates for the country.

In the present essay it was observed that the academic program that is taught in the Higher School of Tourism, only has 10% of subjects that consider some aspects related to the knowledge of the national heritage, so it is assumed that they are not provided to the students all the tools to know what and how many are the types of resources that integrate this heritage.

Also, there is a need to generate more resources derived from tourism and one option is to integrate tourism packages that incorporate one or more of the natural, cultural and intangible assets that the country has. To achieve this, professionals in tourism should be knowledgeable experts of the existing resources in the nation and develop products that are used and enjoyed in a responsible manner.

Mexico has people capable of transforming tourism services that are currently offered, relying on a more complete training that incorporates real knowledge on the aspects related to the various types of assets that are counted.

The formation of human capital in the Higher School of Tourism can be strengthened by incorporating new subjects related to national heritage, which will necessarily lead to a redesign of the academic program, in addition to developing interactive workshops with the aim of students to investigate, present and socialize the various assets from the country. School practices are another option for students to know the assets that make up this heritage, as well as all those activities that promote student learning in terms of knowledge of the country's heritage, to be able to develop circuits and tour packages for our visitors.

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Nautical Tradition and the "Aquaman" Case: The "Hidden" Source of Inspiration from the Greek Cultural Heritage of the Sea

Olga Tsakirides

Abstract The purpose of this paper is to bring to the surface of the scientific discussion a significant part of Greece's cultural heritage: the cultural heritage associated with the sea surroundings of the country, so that it can become a distinct axis of planning special, qualitatively upgraded and innovative cultural routes and itineraries both on land, as well as at sea, interconnecting the islands with each other, and the islands with the rest of the country, which is anyway a large peninsula surrounded by sea. Wealth related to the sea has often inspired Hollywood—recently was "Aquaman", Marvel's big production by DC Comics and Warner's Bros. With a methodology based on a collection of empirical and secondary data, the content of the "naval heritage" and/or "sea culture" is described and an attempt is made to outline cultural routes and itineraries, using the island of Chios as an example.

Keywords Nautical tradition · Maritime museums · Cultural nautical routes · Blue economy

1 Introduction

Greece has an area of 131,957 sq. km., 13.676 km of coastline and 525 ports [1]. The Greek territory with sea at west, east and south, with thousands of islands and rocky islets (more than 6000 referred to on the internet), is surrounded by the blue of its three main seas, the Aegea, the Ionian and the Cretan. This blue—the blue of the land and the blue of the sea depicted in the Greek flag—is part of the Greek people soul. It is the blue of the sky and the sea; it is the Blue Country, the country of the sun and the olive tree. Thus, Sea and its culture is a basic element of the Greek identity.

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According to internationally recognized sources, Greece possesses the first place in the world's fleet rankings, while Japan ranks second, China third, USA fourth and Norway fifth [2]. This is not coincidental at all as in Greece there is a long naval tradition. The Greeks, due to the geomorphology of their country, have always turned to the wealth hidden in the seas. That is why the Greek tradition has thousands of cultural elements directly related to the sea and seamanship: stories, costumes, ships and building architecture, narratives, myths, a whole cultural treasure.

Since prehistoric times, the thousands of islands have worked as a bridge for the development of trade and shipping. Thanks to the navigation tools developed by ancient sailors, ships traveling on high seas were built probably for the first time in the Greek islands.

Since prehistoric times, the Greeks have learned to turn to the sea, to travel, to migrate, to find their food and to trade. Therefore, in most parts of Greece located near the sea, there is a strong nautical tradition.

The most well-known and common occupations in the islands are those of the fisherman, sponge diver, sailor, captain. Ship building is also a quite widespread, economic activity with a strong tradition, which is still practiced in traditional and modern shipyards.

Greece, as a naval force, has a modern fleet and several Greek captains are active in the field of ship ownership. Most of them carry a tradition of many generations [3].

The aim of this article is to distinguish and highlight—from the whole of the folk culture-seamanship, namely the naval culture and tradition, which can become an axis for the planning and application of cultural itineraries in the context of cultural tourism, experiential development and "blue" economy.

2 Methodology

This paper is based on previous research and primary data collection from the Greek islands, which is presented here in a brief way as regard to Chios island. In particular, field observations have been made on the islands of Mytilene, Chios, Samos and Rhodes, as well as in Skiathos and Skopelos. This article focuses on the island of Chios, in the Eastern Aegean, an island with a strong naval tradition and a special cultural identity of which seamanship is a basic feature but also a comparative advantage. The research was based on secondary and primary data, i.e. scientific sources, several personal observations, experiential application of the proposed cultural routes and the internet with regard to most valid touristic information. Then, based on the cultural map of the island, indicative cultural itineraries are set up based on the naval tradition of Chios. The basic principle of setting up these routes is to enhance the cultural heritage, the creations of the past, as well as the contemporary production of art and even new products based on

tradition and culture. Moreover, particular emphasis is placed on the "living cultural heritage", that is, on the people who are the bearers of this particular culture.

3 Hollywood and Greek Mythology: The Case of "Aquaman"

With premiere on December 2018 for Greece, the Hollywood production "Aquaman", based on Marvel's earlier comic book series by DC Comics and distributed by Warner Bros. Pictures, released in cinemas with great success [4].

In addition to the interesting casting, carefully chosen, the director's intelligent approach, the impressive underwater scenes, the digital processing, the narrative with contemporary references and reflections, the movie was based on the ancient Greek mythology and in particular on an ancient mythological city and people with sophisticated culture: the Atlantians. From time to time, the question of finding the ancient Atlantis keeps on resurfacing, as it is one of the mysteries of antiquity. The first reference to these people as well as a description of their superior civilization can be found in Plato's works Timaeus and Critias. Due to unknown reasons, this civilization disappeared, while over the centuries several archaeologists and scientists have tried to find its remnants. One theory identifies the ancient Atlantis with the ancient civilization of Santorini that was destroyed due to the island's immersion in the sea during the eruption of its active volcano. Several scientists claim that the identification is really strong and perhaps—according to the predominant idea—ancient Atlantis is actually on the seabed of the Santorini Sea in the Aegean Sea [5]. In 2019, for the above-mentioned reasons,on the island of Santorini, a museum on the experience of research and engagement with the Atlantean culture was opened under the title "Lost Atlantis Experience Museum" [6]. The Atlanteans was a sea people with advanced technology. Does the Antikythera Mechanism relate to their ancient tradition, with the oldest shipping traditions still preserved among those working at sea? Anyway, there is robust evidence that Greeks, since prehistoric times, have systematically and professionally dealt with the sea so that they are entitled to be included among the "seapeoples". The only thing that was obviously missing from the film was true sceneries from Greece. Of course, this is not the first time that a Hollywood production is based on the ancient Greek mythology and its naval tradition. But surely these productions will be more interesting if they highlight the real landscape of Greek culture.

4 The Content of Naval Culture and Nautical Tradition

Analysing the naval culture, in other terms the nautical tradition, as a part of cultural heritage according to the analysis of the elements of the folk culture made by the sociologists [7], Professor of the National and Kapodistrian University of Athens

and President of the Hellenic Society of Folklore Mr. Michalis Meraklis [8], the following sub-sections are distinguished:

- Residential and built environment
- Customs
- Traditions, proverbs, fairy tales, narrations
- Works of art and tradition
- People of the sea and their experiences

According to the above, the naval tradition and culture, as a distinct part of cultural heritage, in separably connected with the culture in general and the inland culture, includes:

- Settlements of islands and seaside areas
- Navigation tools, nautical maps, ship registers and logbooks
- Traditional vessels, as well as organized areas for their construction and repair, such as traditional shipyards
- Sea tales, traditions, customs, dances and folk fairy tales, seafarers' clothes, as well as references to the sea in popular costumes including shoemaking and jewellery
- Traditional food, flavours and ways of making them
- Nautical museums, collections and archives related to life at sea and sea professions
- Modern innovative products based on the tradition of the sea.

5   Towards a Model for Marine Cultural Tourism Content of Naval Culture and Nautical Tradition

All the above cultural elements in order to be enhanced need specialized planners working in the fields:

- of knowledge
- of know-how
- of imagination

Specialized knowledge, creativity, research and collaboration are needed, as the planning of a high-quality route requires teamwork and specialized organization. Cultural management definitely can play a key role here but cultural marketing is also important, since, after the product has been completed, it has to be communicated and promoted to the market through modern means globally.

The production stages are:

- The conception of the idea
- The design of the product
- Its pilot application

- Its improvement
- The configuration of the finished product

The project requires both organization and creativity parts which should be combined in harmony and interaction. A useful model in order to complete such a work is the model of Dynamic Perception of Cultural Activities which guides cultural producers on how they should organize their production, since both management and operations tools, as well as creativity are required for achieving the final goal [9].

In order to succeed high quality in every itinerary, a comparative advantage is needed, which will be innovative, unique and original.

Below is a schematic description of cultural itineraries and routes based on sea culture and naval tradition.

6 Application of the Model for Chios: Amphitrite (Goddess of the Sea According to Greek Mythology)

Planning Axes

(a) Seeking Homer and Ionic Dodecapolis
(b) Great voyages in the world
(c) Living as a captain
(d) The magic of the sea, fairies, mermaids and myths
(e) Living on an island with naval tradition

First Trek

- Chios, Chora, Koraes library
- Visit to archaeological sites
- Visit to the neighbouring islands and to the coasts of Asia Minor where Greek culture flourished in antiquity. Focus on poetry (poetry nights), art, music, theatre.

Second Trek

- Was Christopher Columbus a Greek from Chios?
- Mastic and its sea roads. Trade routes.
- Visit to Mastic Museums and Mastic Villages

Third Trek

- Visit to captains' houses
- Visit to nautical museums
- Contemporary ship-owners: exhibitions
- Captain narratives, acquaintance with uniforms, lifestyle, and seafood tastes (local recipes)

Fourth Trek

- Tour to villages in Chios
- Visits to folklore museums
- Flavours, festivals, fairy tales and reviving of fairy tales and customs
- Visits to shipyards, traditional vessels
- Acquaintance with marine wealth (underwater gardens)

Fifth Trek
- Visit to villages in the inland of Chios
- The inhabitants speak (story-telling activities)
- Photos, dance, flavours [10, 11].

7 Comments and Topics for Further Discussion

During the process of planning cultural treks on the islands, we must turn to the enhancement of the sea culture, sea tradition, seamanship and the cultural heritage associated with the sea. We must turn to the enhancement of the sea Greek tradition, of the products of the islands and coastal areas of the country, as well as of the long-term engagement of the Greeks with the blue economy, to the enhancement of the sea people and their professions, to the interconnection of the islands through local air and ship lines. Hollywood could plan more productions in Greece, eventually the sequel to "Aquaman" (?)

8 Conclusions

Through the specialized planning of cultural treks on islands and coastal areas, as well as planning sea treks, the long-lasting association of the country's cultural heritage with the sea and the sea professions can be revealed. This interconnection with the sea and the interaction of the island populations with it has created over the years a special culture, distinct for each island. Chios stands out for its maritime activity and has contributed greatly to the economy of the country through shipping. The island still retains traditional shipyards, traditional vessels and cultural elements of naval tradition the preservation, registering, and use of which will be very useful. Restoration of old captains' houses, modernization of naval museums, modernization and maintenance of the traditional sea professions will inspire the new generation giving a new meaning and dimension to entrepreneurship. Thus, Chios acquires a strong competitive advantage in planning high-quality innovative cultural tourism maritime treks and can become a European Centre of Marine Tourism and Sea Treks, primarily with a view to Preserving and Enhancing the Cultural Heritage of the Sea.

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Determinants That Influenced Mexican Cocoa Beans Exports During 1996–2016

Rubén Molina Martínez and María Fernanda Ramos Martínez

Abstract Cocoa is one of the most traded goods around the world. México produced the first cocoa beans for more than two thousand years ago and it is one of the biggest cocoa beans producer and exporter in the world. This paper addresses the context of Mexican cocoa in international trade; which aims to identify the determinants of cocoa exports during 1996–2016 and evaluate how they influenced through the development of an econometric model to which various tests were applied in order to obtain the correlation coefficient between the variables and the significance of the model. This research contemplates the variables: production, production costs and international price, where production and production cost had a positive impact while international price had a negative impact. This paper also arises a brief explanation of why they may have influenced and how this impact can be handled in the future.

Keywords Mexican Cocoa · International Prices · Production · Exports · Production Costs · International Trade

1 Introduction

Cocoa represents for Mexico an important generator of export revenue, employment and well-being in rural zones and its production is developed by the efforts of small producers. Mexico is among the top ten countries that produce and export cocoa beans. However, the production, and therefore the export of this agricultural good presented a inconstancy for the last 20 years [1]. Among the problems that producers have exposed about the cocoa trade for many years, are the production obtained per year, intermediaries in the distribution channel, high production costs which in turn reduce their utility due to the international price, the advanced age of plantations,

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the lack of worker training and the lack of support from the government in programs to encourage the cocoa international trade [2].

These leads to the hypothesis of this paper: Production, production costs and international prices had a negative impact on exports of cocoa beans from Mexico during the 1996–2016 period.

2 Literature Review

At the end of the eighties, Robinson [3] (1990) used an econometric model to study international cocoa market from the perspective of the Central American countries, in which, based on the results obtained, he concluded that considering the international price of cocoa in the countries belonging to the region, can trade in the international cocoa market a greater volume of the product without reaching to affect its price. Muhammad [4], found that fertilizer price, export taxes, export price, production growth and exchange rate were strongly determinants of Indonesian cocoa exports, and that they had a substantial negative impacts by decreasing them. Rifin [5], analyzed the effect of the export tax and the supply chain as determinants of Sulawesi cocoa exports, the results concluded that after the export tax was imposed, the export price will increase and margins will decrease on the exporter's side while farmers maintained the same marketing channel. Sevilla [6], analyzed the influence of variables: Peruvian cocoa production, the price of cocoa and the exchange rate in exports through the econometric analysis carried out in its investigation, he observed that if the price of cocoa increases by 1%, exports decrease by 2.54%. If cocoa production increases by 1%, exports increase by 4.93% and if the exchange rate increases by 1%, exports increase by 31.16%. Yudyanto and Faisal [7], found that export tax does not significantly affect the cocoa exports volume, but international price and production does.

2.1 *Econometric Model*

Econometrics is the application of mathematical statistics to economic data to give empirical support to models constructed by mathematical economics and obtain numerical results. The specification of an econometric model is formed from an equation that suggests a relationship between the dependent and independent variables. The base form for the specification is shown in Eq. (1) [8]:

$$Y = ß1 + ß2\,X + u \tag{1}$$

Where: Y = dependent variable, ß1 – ß2 = intercept and slope coefficients, X= independent variable, u = disturbance or error term (factors that affect the dependent variable but are not explicitly considered in the model). Equation (1) represents a

linear regression model or econometric model, which explains that variable Y and X are linearly related, but not exactly because they are subject to individual variations [8].

The aim of this research is to find out the main determinants that influenced the Mexican cocoa beans exports during 1996–2016, as well as the extent to which these were related through an econometric model design using E-views software.

3   Methodology

An econometric model was developed to test the hypothesis using a lineal regression analysis by ordinary least squares method. Considering the database from National Institute of Statistics and Geography (INEGI by its Spanish initials), the cocoa production and exports began to decrease in 1995, otherwise the last year of available information for all the variables was 2016, so the data for the estimation will be taken from the 1996–2016 period. The econometric model is represented by the following single-equation:

$$Y_{exp} = \beta_1 + \beta_2\ A + \beta_3\ B + \beta_4\ C \tag{2}$$

Where: Y_{exp} = Exports of cocoa beans, A = Production, B = Production costs, C = International prices

The used data were net exports of cocoa beans from Mexico using incoterm "free on board" dollar value, for production was used the amount of harvested tons, for production costs was used the average calculated for each year in dollars per ton, for international prices it was used the last price established by the International Cocoa Organization at the end of each year.

Equation (2) presented showed no significance in the model tests because the adjusted R-squared value was 38%, which means that the model were not significant to explain the dependent variable or they did not present a significant variable relationship, so the model needed to be restructured and it ended as shown in the following equation.

$$Y_{exp\ (-1)} = \beta_1 + \beta_2\ A + \beta_3\ B + \beta_4\ C_{(-1)} \tag{3}$$

In Eq. (3), it was added a lag in the exports variable in response to the time it took to adjust the quantity of cocoa exported due to the production obtained in previous years, because the cocoa harvest is carried out once a year. Likewise, a lag is being used in the international price variable with the purpose of adjusting the time it took to make the price effect in each exported ton due to the variations of the exchange rate. The price also can be modified due to the existence of intermediaries to which commissions should be granted for each ton exported and in some cases, the price established producers only receive between 65 and 75% [9].

4 Results

The values obtained for the variables once the econometric model was tested using Eq. (3) in E-Views software are shown in Table 1. It can be concluded that production, production costs and international prices explain the cocoa beans exports during 1996–2016 in a 54.21%, according to the value of adjusted R-squared. The coefficient represents the extent to which the variables are related, it can be concluded that for each increase of one dollar in the price, exports will be reduced by 0.435908 tons; for each increase of one dollar in production costs, exports will increase by 2.460857 tons and an increase of one ton in production, exports will increase 0.081862. The probabilistic value shows the reliability of each variable in the model by subtracting the result from 1, as it is shown the international price determine the exports of cocoa in an 80% while production cost and production determine cocoa exports in 91% and 98% respectively.

According these results, the most significant variable is production. So by increasing production there will be a greater cocoa supply available to sell in the foreign market. To achieve this, it can be useful to give a better use of the sown land, improving the cultivation practices and the fertilizers used during the sowing, training the workers and consider the renovation of the cacao trees.

Also the production costs had a positive sign, this is due to the investment in some phase of the production process, there could have been a greater expenditure in salaries to produce more, some additive or fertilizer to improve the yield of the land. On the other hand, producing a greater amount of a good in order to create scale economies can reduce production costs and this can increase producer's profits [10]. Moreover, the high production cost end up discouraging the continuity of production and reducing exports [11].

Table 1 Results of the econometric model

Dependent Variable: EXPORTSTON(–1)				
Method: Least Squares				
Date: 01/14/19, Time: 01:41				
Sample (adjusted): 1997 2016				
Included observations: 20 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
PRICE(–1)	−0.435908	0.332821	−1.309736	0.2088
COST	2.460857	1.322385	1.860922	0.0812
PROD	0.081862	0.029733	2.753223	0.0141
C	−2035.674	1905.562	−1.068280	0.3012
R-squared	0.614441			
Adjusted R-squared	0.542149			
Durbin-Watson stat	1.900861			

Source: Own elaboration based on results of the econometric model using E-views software

International prices influenced negatively, since countries that demand cocoa choose not to buy while the price is high, but it will be the best opportunity for Mexico to export. In some cases, the international price is only used as a guide while the negotiation on the export price. But sometimes producers have been in disadvantage because the customer tends to bargain for the price until it reaches the price of its convenience. Nevertheless, it also depends on the quality and type of the cocoa that is being exported. In addition, when there is a tendency to lower prices, cocoa producers are not encouraged and prefer to dedicate to another crop.

Other tests were applied to the model, such as the stability and residual tests, in which results must be greater than the 0.05 probabilistic value to consider the model as a predictive function of the dependent variable, otherwise the necessary corrections must be made or the variables has to be modified.

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The first was the normality test, were the kurtosis (that shows the degree of data concentration) has to be around the value of 3 and the Jarque-Bera test needs to be around 1.5–2.5. The results of the test indicate whether reject or not the null hypothesis that the data come from a normally distributed population [8]. Figure 1 shows the results for normality test, where it is concluded that according to the values of kurtosis, Jarque-Bera and probabilistic value, the data from this model are distributed normally.

The autocorrelation test is used to prove the relationship between the values separated from each other by a given time interval of the same variable. The statistical test that is used is Durbin-Watson, this result must be equal or greater than 1.5 other statistical test is the Breusch-Godfrey. This test contemplates que F probabilistic value and the Chi-Square probabilistic value, both need to be over 0.05 value [12]. Table 2 shows the results for the autocorrelation test, from which can be concluded there is not statistical evidence that terms are auto correlated. Therefore, exports, production, production costs and international prices are not influencing themselves.

A linear regression model presents heteroscedasticity when the variance of the errors is not constant in all the observations made, if this happens the test T and test F values are not valid and coefficients are estimated wrongly. To prove this, it

| Series: Residuals |
| Sample 1997 2016 |
| Observations 20 |

Mean	-6.03e-13
Median	57.08077
Maximum	1622.693
Minimum	-995.6334
Std. Dev.	630.1583
Skewness	0.532269
Kurtosis	3.380645
Jarque-Bera	1.065110
Probability	0.587103
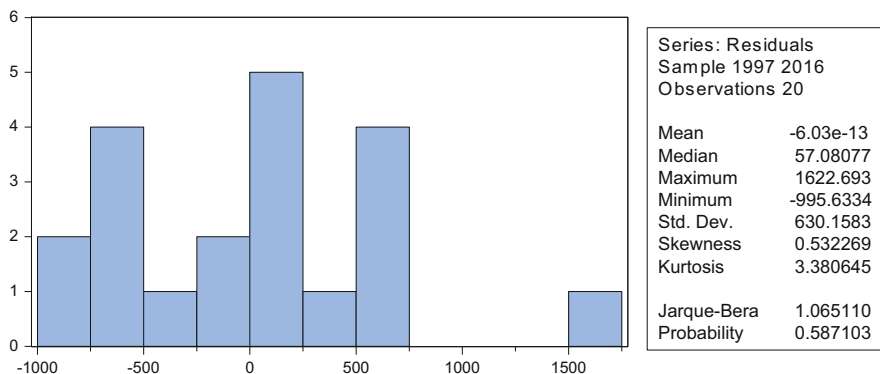
Fig. 1 Normality test. Source: Own elaboration based on results of the econometric model using E-views software

Table 2 Autocorrelation test

Breusch-Godfrey Serial Correlation LM Test			
F-statistic	0.902614	Prob. F(2,14)	0.4278
Obs*R-squared	2.284343	Prob. Chi-Square(2)	0.3191
Durbin-Watson stat	1.900858		

Source: Own elaboration based on results of the econometric model using E-views software

Table 3 Heteroscedasticity test

Heteroskedasticity Test: White			
F-statistic	0.983893	Prob. F(9,10)	0.5051
Obs*R-squared	9.392753	Prob. Chi-Square(9)	0.4018
Scaled explained SS	7.155459	Prob. Chi-Square(9)	0.6209

Source: Own elaboration based on results of the econometric model using E-views software

is used the White statistic which contemplates the F probabilistic value and Chi-Square probabilistic value, both should be greater than 0.05 value, so then it is said that the term of disturbance is homoscedastic [8]. Table 3 shows the result for this test, concluding that the variance of the error is constant in all observations so the coefficient value for this model is valid.

The specification test allows to know if the correct independent variables were chosen and allows to explain the dependent variable, and therefore, allow to pose the correct model if not, there is an omission of relevant variables that can explain better the dependent variable. To prove this, the Ramsey test was used were the t-statistic and F-statistic probabilistic value should be over 0.05 value, if this condition is met, the independent variables chosen for the model are the correct ones [8]. Table 4 shows the result for the Ramsey test, it can be concluded that the variables: international price, production cost and production are suitable to explain the exports of cocoa beans during 1996–2016.

Table 4 Specification test

Ramsey RESET Test			
Equation: ECUACION1			
Specification: EXPORTSTON(–1) PRICE(–1) COST PROD C			
Omitted Variables: Squares of fitted values			
	Value	df	Probability
t-statistic	0.223998	15	0.8258
F-statistic	0.050175	(1, 15)	0.8258
Likelihood ratio	0.066788	1	0.7961

Source: Own elaboration based on results of the econometric model using E-views software

Table 5 Breakpoint test

Chow Breakpoint Test: 2008			
Null Hypothesis: No breaks at specified breakpoints			
Varying regressors: All equation variables			
Equation Sample: 1997 2016			
F-statistic	1.293253	Prob. F(4,12)	0.3268
Log likelihood ratio	7.168647	Prob. Chi-Square(4)	0.1272
Wald Statistic	5.173011	Prob. Chi-Square(4)	0.2700

Source: Own elaboration based on results of the econometric model using E-views software

Breakpoint test is used to demonstrate if a structural change occurred in one or more years, had an influence on the data of the model. The F-statistic and Chi-Square probabilistic value must be over 0.05, in order to show that the breakpoint did not have an influence [8].

The breakpoint test was carried out for the year 2008 due to the fact that during the year 2007 there was a loss of more than 45% of the cocoa production, reason why it had a negative impact on the exports of the following year. However, according to Table 5 the value obtained in the test, the structural change seems not to have been significant.

5   Discussion

The results obtained from the model show similarities with Muhammad [4], where the growth of production was shown as a determinant of cocoa exports, while following Sevilla [6] and Yudyanto and Faisal [7], production and International prices act as strong determinants of cocoa exports, the same relationship that was concluded according to the proposed model. Without leaving aside that there are other variables that serve as determinants of the export of this good.

6 Conclusion

The applied model allows to conclude that the factors that determined the cocoa exports during 1996–2016 are the production, the international prices and production costs. Nonetheless, not all the independent variables are correlated in the same way, which allows reject the hypothesis of this paper. Production and production costs had a positive effect on exports of cocoa beans from Mexico, which indicates that when these variables increase by one unit, cocoa exports will increase. So, in the future, it is convenient to obtain a greater amount of tons annually so cocoa exports can increase. On the other hand, an increase in production costs can benefit the exported amount because producers could have invested in machinery and technology that facilitate the collection and speed up the process by which the cocoa must pass before being exported. The international price variable had a negative impact on exports, however, it is better for the producer to export a larger quantity of cocoa when the international price rises so that it can receive more profit and compensate its production costs. Nevertheless, the established price by the International Cocoa Organization may vary depending on the country of origin and quality of production. In the same way, negotiations between the country of origin and destination of the export may had influenced.

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MIT Start-Ups Ecosystem and Greek Start Ups Reality: An Ecosystem Comparison

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Abstract The study examines and compares the Entrepreneurship and Start-Ups ecosystems of MIT and Greece. Despite the major differences in size and maturity, the studies identify key difference between MIT and Ecosystems, especially in terms of a deeper understanding of entrepreneurial education and its value in identifying and successfully pursue business opportunities. Other key differences between MIT and Greek Start Up Ecosystem approach include early finance opportunities, the number of founders and serial entrepreneurship; start-uppers who continue in establishing new ventures, fully exploiting their network, knowledge and experiences. These differences can have significant impact in the future survival and success of the start-up companies. Furthermore, the basic economic foundations are also very different: MIT excels in Entrepreneurship educations and is one of the most effective ecosystems for innovation and start-up companies worldwide. Greece, on the other hand is an economy and society struggling to survive from a decade of economic decline. The Greek start up ecosystem evolved during the last 10 years, however both the economy as a whole and Start-Up ecosystem, as well as start-up companies have a lot to learn from a comparison with MIT Innovation and Start-Ups ecosystems.

Keywords Innovation management · Start-ups · Entrepreneurship

1 Introduction

MIT (Massachusetts Institute of Technology) Start-Up Ecosystem appears to be an example for excellence in promoting innovation through its Start-Up Ecosystem. A 2003 study by Professor Edward Roberts explored the entrepreneurial activities of MIT alumni. The findings indicated that MIT alumni were significantly engaged in

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new enterprise formation. In 2014 the survey updated "to explore the continuing contribution of MIT alumni to innovation and entrepreneurship in the United States and worldwide. On the other hand, entrepreneurship concurrently became a potentially more appealing career choice due both to structural and perceptual changes in traditional employment and occupations, as well as to an apparent groundswell in young people's interests in entrepreneurial endeavors. For instance, the proportion of MIT undergraduates selecting employment in venture capital–backed start-ups upon graduation increased from less than 2% in 2006 to 15% in 2014" [1]. The MIT alumni–founded companies represented in our survey results exhibit superior performance in terms of survival relative to new U.S. firms as a whole. The survival rate for the MIT-alumni companies is higher at every stage of the company life cycle. This is consistent with the follow-up telephone survey, which found that 72% of all companies founded are still active [1]. "In fact, as of 2006, over 25.000 existed, and 900 new ones are created each year. These companies employ over three million people with aggregate revenues of approximately USD 2 trillion. To put that in perspective, the total annual revenue from MIT alumni founded companies taken together would make them the 11th largest economy in the world" [2].

2 Methodology

The research was based on both primary and secondary data. Primary data include data collection from 130 founders of Greek Start Ups, with a special focus on IT business, collected the period, between Sept. 2018 and March 2019, as discussed on recent study [3], which examines the Greek start-up ecosystem, with a special focus on companies engaged in Digital solutions (I.T. sector). The data were encoded and analyzed advanced statistical analysis software (SPSS) was used in order analyze the correlation between variables, using the Spearman Correlation Coefficient. Regarding the primary data, and more specifically the Age of the Start-Up Company (in terms of years), 21% of the responders were not registered officially yet. 6% of the responders registered between 2006 and 2012, 12% of the responders had their companies registered in 2013 or 2014, 9% of the responders started operations and register their company in 2015, 16% of the responders in 2016, 22% of the responders in 2017 and 19% of the responders registered their company in 2018. In total, 57% of the Start-Up companies were registered for less than 3 years (considering the fact that data collection period was from Sept. 2018 to March 2019). This demonstrates that the majority of the IT start-ups are new, and furthermore, the companies that have not yet formed officially face several issues in terms of transactions, sales and ability to evaluate actual value of their products. Secondary data include publically available information and reports from organizations engaged in MIT and Greek start-up and innovation ecosystems, and relevant academic studies.

3 Literature Review & Discussion

A number of key differences identified between the MIT and Greek Start-Up ecosystems are identified and discussed on this stage, along with relevant academic literature.

3.1 Entrepreneurial Education

A primary critical difference between the MIT and Greek ecosystems is actually the Entrepreneurial Education and the belief that "entrepreneurship can be taught" [2]. This, by itself, is a key difference, since this affects a number of parameters that have significant impact on future venture success. Previous studies [2, 4–10] highlight that, entrepreneurial success starts with (or requires) a promising product; but business success starts with entrepreneurial education. Importance of entrepreneurial education has to start before the product—it has to do with identifying opportunities, either with the creation of new products or markets, or with a new approach to solve an existing problem. MIT focused on providing state-of-art entrepreneurial education and today excels in providing entrepreneurial education to students of all levels and potential entrepreneurs; in Greece, entrepreneurial education only recently (during the last decade) became part of business studies at university degrees or available though business ecosystems, such as special seminar or business boot camps or incubators.

3.2 Founder's Teams

Academic studies highlight the role and importance of founder's team. "MIT research on entrepreneurship determined years ago that solo entrepreneurs were considerably less likely to build successful companies than were teams, thus forming the basis for our second educational principle. A team-based approach to student learning and activities has therefore been adopted throughout most of our curriculum design" [1]. Further studies [11, 12], highlight the role of Gender, Culture, and collaboration with higher education (universities), as factors that affect entrepreneurship. In the sample of Greek Start Up founders examined, regarding the Teams of Founders 33% responded there was a single founder, 31% responded that there were two founding members, 25% responded that their founding team had three members and just 11% responded that there were four founding members. Correlation analysis revealed no correlation significance between number of founders and perception of success, or education levels.

3.3 Serial Entrepreneurs

A key finding reveals a difference in terms of serial entrepreneurs. "Roughly 40% of MIT alumni entrepreneurs in our current survey (and 49% of telephone survey respondents) have already launched two or more companies during their careers. In reality, the overall proportion of serial entrepreneurs is necessarily higher due to the "right-hand censoring effect"; i.e., alumni who graduated more recently and those who are first-time entrepreneurs are observed here as one-time founders though they may go on to found more businesses in the future. [1].

Regarding Greek Start-Uppers, and their previous experience as entrepreneurs, recent research findings [3] highlight the fact that 63% of the responders examined had not launched any entrepreneurial ventures in the past, while 29% of the responders had previous entrepreneurial experience. However, there is also a noticeable percentage of serial entrepreneurs among the responders: 8% of the responders had launched three or more entrepreneurial ventures in the past. Furthermore, 18% of the responders have one venture in the past that is still surviving today, 4% of the responders had more than one previous entrepreneurial venture still surviving.

Further statistical analysis [3] of the Greek IT Start-Up founders highlights that Founders with previous experience feel that it is easier for them to secure access to finance; however it can also mean that financing decision makers feel more comfortable to finance a start-upper with successful history (it is not clear whether the reason can be attributed to business skills associated with previous success or from the income that the operating company creates for the start-up founder, something the finance decisions makers may take into account), since there is significant correlation between "Previous Surviving Start-Ups" and "Funding 100 k". Surprising, it appears to be that Serial Entrepreneurs avoid to provide a solution that addresses a primary need and offers major value to the end customer. Furthermore, it appears that start-uppers may be unwilling to compete directly with established companies, focusing their solutions primarily on issues that are not of major importance to the final customers; the main characteristics of the Greek market, in terms of fragmented market and market size can be a reason for this strategic decision. Furthermore, recent research [3] concludes that the most experienced Greek IT Start-Uppers tend to develop a new, innovative product with unique or advanced features. On the other hand, serial start-uppers (founders with at least one previous venture) focus on the creation of new markets.

Surprisingly, recent research [3] highlights the fact that regarding Greek Serial start-uppers, it seems that there is a far complex business reality and a far more complex ecosystem; Serial Start-uppers, even successful ones with previous ventures surviving, appear to still face severe challenges; lack of correlation evidence shows that there is no relationship between launching a previous project, even if this is a successful one, in terms of survival, and secure sales of over 100 k or funding of 100 k.

3.4 Age Factor

Research findings from MIT highlights the declining age of new entrepreneurs. "The declining age of MIT alumni founders, is another notable trend in MIT entrepreneurship. The median age of first-time founders has decreased over the last eight decades. While the median age during the 1940s was 39 years old, ... the median age for first-time founders who graduated during the 2010s is even lower at 27, the accuracy of this particular snapshot is unclear since this figure is downward biased due to right censoring." [1]. On the other hand, the age of the Greek Start-up founders examined [3], a total of 32% were between 18 to 28 years of age; 32% from 28 to 35; 28% from 36–45, and 8% were over 45 years old. Regarding Education, 4% of the respondents were High School Graduates, 40% hold a bachelor Degree, 38% of the responders hold a Master's Degree and 18% hold a Ph.D. Degree.

Recent research [3] indicates that for Greek Start Up founders, "Age" factor correlates with several variables; "Age" correlates with "Get Funding as a Challenge" (positive), "Funding 100 k" (positive), and "Previous Start-Ups" (positive). This can be interpreted that older founders realize the importance to secure funding; furthermore it appears that founders of older age find it easier to secure financing from investors. They are also more likely to have previously launched a start-up.

3.5 Funding

A profile analysis of the ten most funded Greek Start-Ups in 2018 reveals that they had their first funding after 5 years, and have a mean of 6.67 years of operations, and 2.9 Funding Rounds. Five of the ten have a branch in USA, with offices in three countries. They employ between 51 and 100 people and the mean number of investors is 5.52 [10]. A key challenge for Greek Start-Ups is therefore the struggle to secure funding at early stages; lack of funding at early stages can kill a promising start-up, depriving resources from product development, market research and investments.

4 Implications, Conclusions & Limitations

There are huge differences between MIT and Greek start-ups ecosystems, as well as between USA and Greek economy. However, a closer comparison of the two ecosystems reveals several critical factors that enable MIT ecosystem to excel, and can be used as a guide for countries and economies wishing to evolve their start-up ecosystems. First of all, the role of entrepreneurial education is critical for future success and for early identification of opportunities. Funding at early states is also a critical factor. Great teams—in act a team where members provide a combination of

skills—is also critical for success. Ability to start entrepreneurial efforts early in life is also critical, especially since it enables the development of serial entrepreneurs.

It has to be noted that the Greek Start-Ups ecosystem evolves after a 10 year recession period for the Greek economy; to this respect future research is recommended to examine evolution of start-up ecosystems in stable economies.

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Analysis of Factors for the Increase Foreign Tourism to Michoacán, México

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Rubén Molina Martínez and Amparo Guadalupe Chávez Chávez

Abstract This paper presents the advance of an in-progress research which is in the first phase of field research. It addresses the problem of the lack of increase in foreign tourism in the state of Michoacán. For decades, tourism in the world has experienced a continuous growth and a deep diversification, until becoming one of the economic sectors that grow fastest in the world. However, tourism in Mexico has been below the global growth in the economy, and one of the territories of the México that show this stagnation in its growth is Michoacán. It has been studied that the factors such as the lack of investment in tourism infrastructure, the shallow diversification of the tourist offer and the low tourist competitiveness have stopped the growth of foreigners tourist influx. This advance consists of the fundamentals of research where the problem was detected, the theoretical framework, and the first phase of the field research.

Keywords International tourism · Tourist affluence · Tourism sector · Tourist competitiveness · Tourism infrastructure · Tourist offer

1 Introduction

Throughout recent years, tourism in the world had has a close relationship with development and has become a key driver of socioeconomic progress. In other words, tourism has become one of the main players in international trade and at the same time represents one of the main sources of income for many developing countries. This growth goes hand in hand with the ability to diversify and compete among destinations around the world.

In Mexico, tourism is a highly dynamic economic activity, capable of maintaining a favorable growth rate despite adverse conditions in the national or international

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environment. The tourist activity has an advantage in the tertiary sector, since it generates a more accelerated economic impact in comparison with other productive branches. Mexico can take better advantage of its tourism potential. The country has comparative advantages associated with its geographical location, connectivity potential, its extensive tourist inventory and the ability to generate quality tourism products. However, participation in the global market has been lost [1].

One of the states of the Mexican territory that has lost a significant participation in the global competition within the tourism sector, is Michoacán, which has been affected by a considerable number of problems and has significantly slowed the growth in the tourist influx, especially of tourists who come from abroad.

2 Literature Review

The World Tourism Organization [2] defines tourism as the activities carried out by people during their trips and stays in places other than their usual environment, for a consecutive period of less than 1 year, for leisure purposes, and others reasons not related to the exercise of a paid activity in the place visited. It also states that a tourist is defined as that visitor who sleeps in a means of collective or private accommodation in the place visited one night at least.

Next, we present the main models that give theoretical sustenance to this research.

The first model to analyze is the one proposed by Leiper [3], which proposed a model of a tourism system composed of five elements, which comprise three geographic elements: the region of origin of the traveler (the origin or usual atmosphere of the traveler's conscience), a transit region that interconnects the origin with the destination, and the region of the tourist destination. The other two elements are the tourist and the tourism and travel industry. According to Leiper [3], the interaction of these five elements is influenced by external factors and, in turn, this same system impacts on different environments, such as human, sociocultural, economic, technological, physical, political and legal, and that's influences as travelers to pass through the transit region [4].

In 1999, UNWTO provided planning models for municipal and local areas, in which it deepens the process of strategic planning applied to tourism in its aspects of territorial ordering, of tourist modalities (urban tourism, ecotourism), of creation and management of tourist products. Although this orientation has been aimed at organizing publicly responsible for tourism planning in developing countries, the proposal made by experts and academics from other instances and private and social institutions is not from the general methodological elements raised by said organization [5].

Also, it is important to consider the integrated model of competitiveness of a tourist destination proposed by Dwyer and Kim [6], which integrates elements such as; the resources created such as tourist infrastructure, recreation activities, and trade; inheritance and natural resources such as historical and social heritage; and

resources and factors such as general infrastructure, quality of services, accessibility and hospitality. In turn, this model considers the environment which it encompasses; conditions for development such as the geographical situation, the competitive environment, the macroeconomic environment, security and price competitiveness; the politics and management as management of organizations, advertising and marketing, development of Human Resources; and the conditions of demand such as tourist preferences and their pursuit of the tourist destination. Finally, the interaction of these elements results in tourism competitiveness.

In addition, as a theoretical basis, the theory of systemic competitiveness developed by a group of researchers from the German Development Institute has been taken as a theoretical basis. Systemic competitiveness has as its premise social integration, proposes not only economic reforms, but also a project for the transformation of society [7].

3   Methodology

3.1   Problem Statement

Tourism in the World   Tourism is closely related to the development of communities, which has become a key driver of economic progress. Despite the economic crises in the United States, Europe and emerging countries, tourism has registered an uninterrupted growth in the last 5 years. Currently, tourism contributes 10% of world GDP. Revenues from international tourism amounted to 1.3 trillion dollars at the end of 2014, an annual real growth of 3.7% compared to 2013 [8]. Tourism is also one of the main sources of employment worldwide. According to the World Tourism Organization (UNWTO), one in every 11 jobs in the world is related to tourism. The UNWTO estimates that each year of work will be generated in the tourism sector that will create about 1.5 additional or indirect jobs [8].

Tourism in Mexico   The tourism sector in the Mexican economy represents one of the main incomes for its growth. The Gross Domestic Product (GDP) in Mexico is composed of primary activities that relate to 1.60%, secondary activities that represent 34.87% and tertiary activities among which are related to tourism that generate 63.53% [9]. During 2015 INEGI registered that 78% of tourist depends on domestic tourism, while 14% is due to receptive and 8% to tourist. Likewise, the INEGI registered the internal tourist for reasons of travel, the main reason for traveling are holidays with 64.9% of the income by the receptive tourism.

Tourism in Michoacán   Michoacán stands out as one of the states with the greatest biodiversity in the country, which in its territory are diverse climates, heights and landscapes that enrich its economic potential. Its location in the center of the country, close to the most important markets, and its proximity to other highly dynamic entities in important industrial branches (Guanajuato, Querétaro, State of Mexico and Jalisco), as well as its wide network of universities, technological

institutes and research centers, place in an advantageous situation to propitiate developments of high technological content and impact [10].

The tourist wealth of Michoacán is clear and extensive, however, there are common factors that weaken the tourism competitiveness of all the tourist regions of Michoacán.

The first common factor has to do with a negative perception of insecurity, understood as a relevant issue and as a precondition for attracting tourists. Through the National Survey of Victimization and Perception of Public Safety of INEGI [11], a registry was conducted in which the perception of the insecurity of the inhabitants over 18 years of age in the state of Michoacán was calculated as a percentage. Survey is carried out from the year 2011 to the present year between the months of March and April. Figure 1 shows that the perception of insecurity increased to 81.9% in 2018 and in previous years the percentage has remained at high and constant levels, which means that the majority of Michoacán citizens perceive a high degree of insecurity.

The second factor has to do with the scarcity of financial resources in the economy of the entity, which weakens public and private investment in tourism infrastructure. Tourism is a natural detonator of infrastructure and generates a unique synergy between public investment and private investment. By investing in tourism infrastructure, the government generates a virtuous circle in which it promotes private investment and its economic profitability and, in turn, private investment maximizes the social benefit sought by public investment. The Tourism Secretariat in 2014 included projects for a total of 181 thousand 242 million pesos
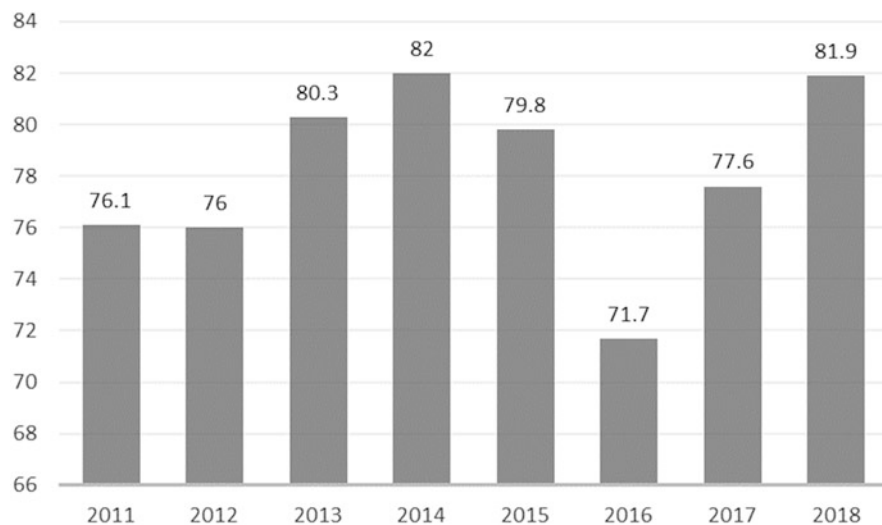
Fig. 1 Perception of Insecurity of the population aged 18 and over in the state of Michoacán (in percentage). Source: Own elaboration based on INEGI 2018

that combine both public investment and private investment, in all regions and entities of the country. The tourism infrastructure proposed in the projects sought to consolidate or detonate competitive tourist destinations, with quality connectivity, innovative accommodation and leisure offer, adequate public services, clean and accessible energies, and decent housing for the population [12].

A third factor has to do with the endowment of communications and transport infrastructure that has been limited to the locations and destinations with the highest population concentration and that does not have good connectivity within the state. Several destinations are fragmented without adequate transportation systems and logistics infrastructure that favors the mobility of tourists. The Ministry of Communications and Transportation of Michoacán made a record of the works to be carried out in 2018 for the improvement of roads, bridges and roads, a report was carried out in June of the same year to know the progress of the works planned, however, many of the works do not present any physical progress but they have represented a financial expense.

The fourth factor has to do with a change in the consumption profile of tourists. It is necessary that the tourist offer adapts to the constant change of the current demand of the new generations. The buying patterns at present are very different from those of previous generations, also influenced by the technological advances that have changed our way of consuming. The generation of millennials, most of them look for more gourmet flavors and experiences related to the local culture, but with a high level of quality. They want authentic experiences from a local perspective, classic advertising and audience ratings and prime time spaces are not good channels to reach them and they consult more than ten online sites before buying. It is important to consider Millennials because they are the pioneer travelers who discover and fashion new destinations and can help a lot in the international positioning of a destination [13].

It has been made a diagnosis of the problematic situation of the tourism sector in Michoacán, it was detected that the lack of investment in tourist infrastructure, the shollew diversification of the tourist offer and the low tourist competitiveness have stopped growth of affluence of foreign tourists. It is important to note that the influx of tourists in the state remains constant not exceeding 2 million tourists per year, in the year that had the most influx of tourists was in 2010 reaching a total of 2.85 million tourists in 2014 the influx decreased to 2457 million tourists, this being the year where there were fewer tourists in the entity, for the year 2016 the influx of tourists only amounted to 2512 million (Fig. 2) [14].

To better understand the problem of lack of growth in the number of tourists from Michoacán, a comparison was made considering the same years with the influx of tourists in the state of Oaxaca (Fig. 3), since both states have similarities in terms of territorial characteristics and resembles in the number of inhabitants. We can see that the influx in Oaxaca from the year 2013 onwards exceeds Michoacán reaching more than 3 million tourists. It should be noted that the majority of tourists in Michoacán is made up of national tourism (Fig. 4), and we can distinguish that the international tourist influx is in smaller proportion. For the year 2016, the state of Michoacán
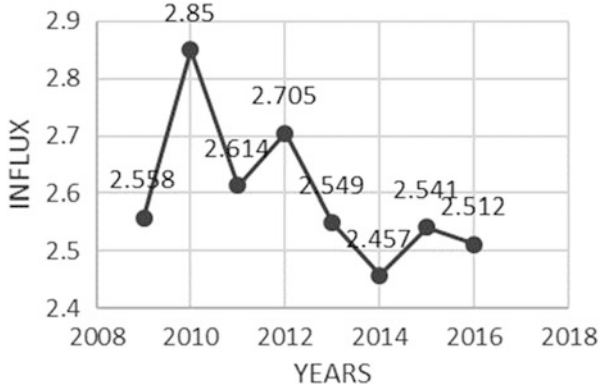
Fig. 2 Influx of tourists in Michoacán (millions of people). Source: Own elaboration based on SECTUR 2017
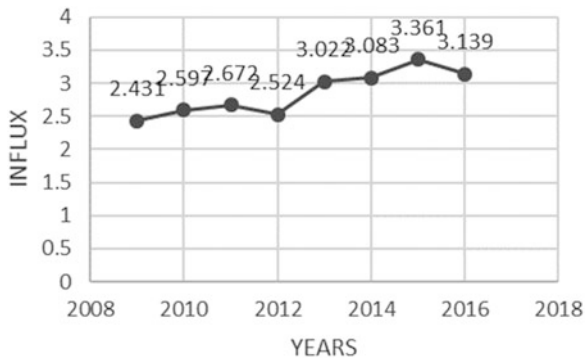
Fig. 3 Influx of tourists in Oaxaca (millions of people). Source: Own elaboration based on SECTUR 2017
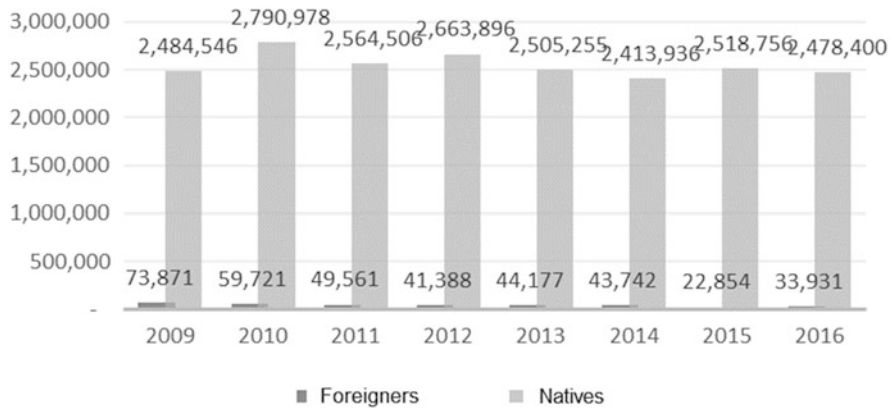
Fig. 4 Arrival of tourists to Michoacán by type of tourism (millions of people). Source: Own elaboration based on SECTUR 2017

received a total of 2,521,331 of tourists in total of which 2,478,400 of people are national tourists and only 33,931 of people are international tourists [14].

3.2 Field Research Advance

The hypothesis in this research is: The influx of foreign tourists to Michoacán can be increased by improving tourism competitiveness, increasing investment in tourism infrastructure and diversifying tourism.

The first phase of the field research consists in the definition of the universe and the sample. The universe for this research is 33, 931 foreign tourists and the sample is taken considering the size of the population, the level of confidence and the margin of error, applying the following formula, cited by Vivanco [15]:

$$n = \frac{Z_\alpha^2 N p q}{e^2 (N - 1) + Z_\alpha^2 N p q} \tag{1}$$

Where:

N = Universe
n = sample size
Z = level of confidence
e = Error
p = proportion of the sample
q = proportion of the sample

To make this calculation, N equals 33,931 foreign tourists, Z equals 1.96 which represents 95% confidence level, with an error of 0.5% and p takes the value of 50%. The calculation of the sample is as follows:

$$n = \frac{(33931)(1.96)^2(0.5)(0.5)}{(0.05)^2 (33931 - 1) + (1.96)^2(0.5)(0.5)} = 380 \tag{2}$$

The sample is calculated with the previously indicated formula, based on a normal distribution, as a result of which the sample size is 380 people.

This sample is obtained with the purpose of carrying out a study in the current research and knowing with certainty the factors that affect the lack of growth in the influx of foreign tourists.

4 Conclusion

Tourism in the world has become a key driver for progress and economic growth, it is increasingly diversified in all countries. Mexico is not the exception, the tourism sector in the Mexican economy represents one of its main income and contributes a high percentage in the gross domestic product.

Tourism in Michoacán represents a source of socioeconomic development, however, it increasingly has greater challenges with other tourist destinations that have competitive advantages, besides the state, currently presents problems that have stopped their growth in the tourist influx.

This article contains the advance of an in-progress investigation, which consists of the fundamentals of the research, the theoretical framework and the first phase of the field research. Michoacán has suffered over the years a series of problems of low tourist competitiveness, insufficient public and private investment and lack of diversification in the tourist offer and this has influenced that the influence of tourists is in a state of stagnation and there is no constant growth.

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Research Methods on the Contribution of Robots in the Service Quality of Hotels

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Abstract Robotics has many different applications in production—for example automation of production lines—and in services. A particular point of view is whether robots can replace people in the provision of services, in the case of tourism services. At present, the application of robotics to tourism is very limited, while at the academic level there has begun to have a relative interest. The current chapter has made an attempt to analyse the current research on the relationship between the use of robotics and service quality on hotels. The outcome is that there is a limited research which indicates that there is a positive relationship, though there are some reservations such as that the customers need to interact with humans. For this reason, the chapter makes a recommendation for future research.

Keywords Robots · Service quality · Hotels · Customer · Satisfaction

1 Introduction

In today's society, most of the developing economies have turned their interest in services. This sector has gained the leading role in the economic sphere, as evidenced by the increase in the contribution of Gross Domestic Product (GDP) and the increase in the employment of a large percentage of the labor force. The natural consequence is the intense competition between businesses and between regions, where they are forced to find ways to increase their clientele and maintain it, thus gaining a better reputation. In order to do this and achieve business, their goal should primarily be to gain customer satisfaction and thus better service quality. Barsky and Labagh [1] argued that the most important challenge is to provide businesses with high quality services and thereby improve their satisfaction. Quality of service

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and customer satisfaction are those features that make businesses stand out from competitors.

The service sector is indissolubly linked to the concept of quality and customer satisfaction, and this is also the case in the hospitality industry. The quality of services is the basis for a successful and reliable tourism development and synonymous with the satisfaction of the visitor. In modern societies, there is increased activity in the tourism sector, leisure activities and growth forecasts for this sector. Over the past 20 years, tourism has clearly demonstrated that it has the potential to create wealth and economic prosperity for the areas where it is employed and can function properly [2]. The hospitality industry has the potential to offer jobs and develop prosperity for the inhabitants. It is one of the largest industries in the world, according to the World Travel and Tourism Council. In 2005, Greece was the eighth country in the turnout of tourists across Europe and the 15th in the world. The years that followed were very important until the beginning of the global economic crisis. And what happened afterwards as this phenomenon created intense insecurity, resulting in more demanding customers. Choosing a destination and consequently a hotel or a guesthouse is under conditions, enough thought and many alternatives. Knowing the customer's expectations and ultimately satisfying it by the services gives a significant lead to those hotels that operate under this thinking. But since tourism is made up of many factors and not just the place of residence, the effort to better serve the customer must be comprehensive. Any insignificant mistakes now cost a lot, and the possibility of losing a dissatisfied customer will cost the business much more than finding a new [3]. Companies today are doing whatever they can so to enhance their services quality by any possible mean, so to become more competitive. According to [4] there are plenty of opportunities to explore through the use of robots for serving the hotel customers, while there is plenty of space for academic research in a field that has been rarely investigated. For this reason, the current chapter will examine the possible impact of the use of robots on service quality of hotels, while it will pave the way for a future research.

2 Methodology

This is a literature review, which means that the author will rely only on the existing research and other similar material. In this case the author will go through the basic theory and literature which concerns the case of service quality on hotels and how it is defined before moving on with the presentation of the existing theory. The material used for this chapter has been revealed through a thorough research on the existing databases such as Google Scholar and Emerald. The author has used a number of filters such as to use recent papers and the use of keywords such as robots and service quality on hotels.

3 The Concept of Service Quality

3.1 The Role of Service Quality on Hotel Performance

In today's modern society built both domestically and internationally, the only sector of tourism industry services faces an increased competitive environment. This is mainly due to the increase in the number of destinations, products and services offered, the easy movement of passengers with modern and faster means of transport and the elimination of linguistic barriers. Consumer travelers have become more sensitive to quality issues, which is changing their attitudes, and fresh data on past standards has emerged. Customers become more demanding, selective, cynical as to what they are demanding, and these characteristics reduce the confidence they would feel if they still lived in the closed environment of ignorance [5]. As this environment grows and consequently creates new requirements, both the desire for new strategic directions becomes the headache of many hoteliers but also as far as tourism is concerned [6].

A strategy to tackle business difficulties that leads to success is the introduction of high quality standards, especially at a time of intense distrust [7]. The quality of service is now an element of interest, wh7ch is becoming more and more important every day. PES POIOS EINAI As [7] report, service quality has now become one of the largest chapters in business strategies, the measurement of which is now imperative in connection with research on customer satisfaction. Akbaba [8], also endorsed this, adding that increased satisfaction would lead to a repetitive market—a recurring visit—resulting in profit. Keeping customers satisfied and satisfied, then the business will have gained an important part in the hospitality industry and tourism industry [9]. Many researchers believe that the Sun, Sea and Sex model has now been replaced with a requirement to provide high quality services [10]. Apart from the repeated visit, its oral-to-mouth communication technique will also be positive, thus increasing the international movement of people [7]. There is no automated increase in tourism. There are still areas where this trend is negative. This may be due to the difficulty of marketing and promoting that service as the cost is very large, especially when businesses require new customers to attract. Advertising techniques may not bear much because of the cost and this leads to the strong concern of those responsible. This view leads to the view of [7], of the importance of word of mouth communication, as customers were satisfied and the services responded to their demands. Surveys have shown that the positive experience the client has gained from previous vacations, as well as the recommendations of friends, acquaintances and members of his family, are the elements that will influence him in the holiday decision. This means that the relationship of the existing customer with the business and, above all, with the business person becomes increasingly important by restricting the strategy of advertising and other methods. Consequently, the quality manager is for her business the biggest heritage [11]. Given the specificity of services regarding the features they possess, that is, luminosity, fragmentation, variability and perishability, there are

other variables that are equally important for the understanding of the environment, in the tourism and hospitality industry. Unclear rules and demand fluctuations have been identified and complicate the work of determining the delivery of the expected quality. For example, a tourism industry has set up rules, techniques and procedures to stabilize the provision of good service, but these rules may not respond to what the customer is asking for. Friendliness, courtesy, and help are typically more important to the client with whom they can win their fidelity and positive image, thus defining the quality of service [7]. Moreover, surveys show that the quality of services is influenced by the customer as he is the end user. Hotels need to understand more precisely than what's possible what the customer wants, this is done in the friction and experience of the services. For the enterprise that aims to meet the expectations of the customer there will be a reduction in resource waste in the future. To do this, however, a considerable amount of time and an equally important effort is needed by the managers and the staff, due to the heterogeneity of the customers. The perception of quality is not purely a cognitive process but also involves an emotional aspect. This is the emotional satisfaction of the client combined with the quality of services that will positively affect his intentions. Emotional satisfaction comes from assessing the quality of services, so hospitality organizations should, in addition to cognitive satisfaction, also pay attention to the emotional. Due to the fact that the client is involved in this process his perceptions are increased. The emphasis on the role of the people leads to the non-standardization of the product as they are composed of different expectations which arise based on their personality and the staff that surrounds them and which is an important element for the clients since their relationships influence and on both sides [12]. A major issue in a tourist business is the behavior and appearance of employees, which enhances customers' perception of the quality of service [7]. Staff is one of the dimensions of measurement of service quality and the most important one is based on a large part of customer satisfaction since the relationships between these two parties intersect. Leaders also have an important role to play in the hospitality industry. These are people who need to understand customer needs and expectations to provide them with the service they are looking for. Studies have shown that among what leadership believes as customer expectations and their real expectations there is a gap. Leadership usually overrides customer expectations, resulting in much of their strategy being lost.

Despite the many theories and models that have been designed to show the quality of services in the hospitality industry by providing detailed procedures for approaching, a great deal of weight has to be given to the relationships of confirming and rebutting expectations through surveys to show the level their satisfaction.

3.2 Customer Satisfaction on Hotels

Initially, a definition of customer satisfaction will be given. Although there is no commonly accepted definition, there will be some who have given scholars to

date. Westbrook and Oliver [13], define the customer's satisfaction as the overall attitude he formulates for a product he used after acquiring it. That is, for a valuation judgment after the choice and experience of eating it. Albayrak et al. [14], propose a framework for developing specific definitions of consumer satisfaction as appropriate, concluding that satisfaction is a total emotional response of varying intensity. The precise type of emotional reaction and the level of tension experienced by the consumer must be precisely defined by the investigator, depending on the case he is interested in analyzing [14]. Finally, [15], analyzes the concept of customer satisfaction as the feelings of pleasure or dissatisfaction of a person resulting from the subjective comparison of the product's (or consumption) experience with its expectations. Whether or not the buyer is satisfied after the purchase depends on the performance of the product in relation to its initial expectations. As can be seen from the definition, satisfaction is a function of subjective performance and expectations. If performance is lower than expectations, the customer is unhappy. If the performance coincides with the expectations, the customer is satisfied. If performance exceeds expectations, the customer is very satisfied or excited. Fournier and Mick [16], accepted Kotler's view that satisfaction is the feelings of pleasure or disappointment as a result of the product's value-added in combination with its expectations, emphasize the importance for an organization to display an image that is as much is getting closer to reality so that the customer is not disappointed by the denial of his expectations.

Satisfaction with the hospitality industry may have some basic elements of marketing, but to a large extent what affects the satisfaction of consumers is elements such as the atmosphere, the behavior of the staff as well as housekeeping elements such as the cleanliness of the rooms [17]. Also in recent years the operation of new units such as the so-called boutique hotels, where the emphasis is on the general atmosphere and the sense of existence but also more generally the admission of new hotels based on sustainability and the offer of unique services not easily found on the market spa etc. In any case, the satisfaction of consumers in the hospitality industry is a special situation and surely tourism marketing should focus on the experience the visitor has.

4   Robots and Service Quality on Hotels

Robots, as well as everything new, have their negatives and positives. The positive ones are:

Applying the achievements of robotics to the production process has beneficial effects, especially in terms of increasing labor productivity and improving the quality of the products produced. The development of advanced robot technology is expected to help significantly in solving problems and completing work in areas that are hardly accessible to humans. There are a number of tasks, which are by nature dangerous or otherwise difficult for people to do for a variety of reasons. For example, the work of pyrotechnics and people called upon to neutralize explosive

devices is particularly risky and can cause serious accidents or even death. Robots in this case are useful and carry out neutralization without to have any human life in danger. Robots also manage due to size, reaching places that man cannot reach. For example, tight ducts, engine rooms, etc. And in this case, their usefulness is unique. On the other hand, there are some negative ones, which are quite numerous and have brought about changes mainly in the workplace. Robots have been used in industry for a number of years and have replaced people, since they do not need any salary or insurance, and of course they do not get tired and have no requirements. This has led to an alarm in the working classes and in the various unions, which see jobs shrinking and are now quite few when, in earlier times, the same factories and industries used a significant portion of people [18, 19].

A key issue is the role of robots on the hotels and how they affect the services quality on hotels. A key issue is that there is a limited research. Belias and Varelas [19] have noticed that there are some hotels which are using it but still there is a need to develop the proper background which will include software and innovations related with the use of robots on hotels. Belias [20], regards that robots will have a positive effect on services quality on two ways. The first way is to reduce the workload of the front office employees, where simple and routine tasks will be made from robots. This may include to serve a drink to the hotel's bar up to use robots for the cleaning of rooms. On the other hand, robots can operate in a smooth and effective way some important services without mistakes since the robots are not affected from factors such as the mood of the employee or how the customer will behave towards the employee.

Further research made PES TOYS from [21, 22], refer on the fact that surely there can be an improvement on the service quality while the customers are hesitant towards the use of robots. Most of the customers have a positive stance, however they need a proof of the usefulness of the robots. More recent reveals that customers tend to develop a positive stance for the use of robots [23], while [24], refers that the use of robots will allow the hotel management to make a better use of the existing resources and hence to improve the customer experience. Nonetheless, it is [25], who refer on the fact that it is essential to keep "a human touch" on the services since the customers are positive with the use of robots, but still they seek to interact with some employees as well. Therefore, there is some limited evidence that robots actually have a positive role on service quality and customer satisfaction on hotels, though there are some reservations.

5 Conclusions

In conclusion, robots are good to exist, so they can substitute man for very important and dangerous tasks. Anything that comes as new technology and is being tested successfully is welcome, since of course it is the good of humanity and people in particular [5, 20]. Robotics, if used correctly and wisely, can revolutionize different spaces and make our lives easier, but also safer through constant improvements [6,

19]. On the hotel sector, surely the robots can have a positive role and to leverage the service quality. However, this conclusion derives from a limited amount of research. For this reason, there is a need move forward and produce more research on the topic of the relationship between the use of robots on hotels and service quality. This can be made with a quantitative survey among the guests on hotels which are using robots, so to measure the service quality and its impact on customer satisfaction.

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The Contribution of Wine Tourism in the Development of Rural Areas in North Greece

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Abstract The winery in Greece has an ascendant course and the development and modernization of the wine-growing units and vineyards helps to attract wine tourists who want to taste and wander in the vineyards and in the Greek nature. The promotion and development of wine tourism and the wider acquaintance of tourists and consumers with traditional Greek and not only wines, contribute to the recognition of Greek wines and Greece as a destination. Our aim should be to meet the different needs and wishes of the broader market to attract tourists and visitors all year round with varied and alternative activities in a dynamically changing environment. Functional axis of prospects, for Central Macedonia, is the offer of upgraded quality of aesthetics and recreation services, as well as similar unique wine tourism experiences. The chapter has examined the case of wine tourism in Central Macedonia and it concludes there is a need to strengthen its presence with the development of new wine roads.

Keywords Wine tourism · Central Macedonia · Wine production · Wine roads

1 Introduction

The subject of the study concerns the development and promotion of wine tourism in the region of Central Macedonia. By setting these bases, we will look at the issues of alternative forms of tourism in general and the importance, importance and development of wine tourism in particular. One of the alternative forms of tourism is wine tourism, which includes elements from culture, natural landscape, history of the region and tradition. At the same time, it includes economic and social activities with the ultimate goal of growing, sustainable and achievable development action. Central Macedonia is a destination where wine tourism is of interest and it is

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947

feasible to make use of its resources for the development of the local economy and the widening of the tourist season. The survey was conducted in the wider region of Central Macedonia, aiming at exploring wine tourism as a special form of tourism. In Central Macedonia there are well-established wine producers, producing special varieties of wine, its image is not suitable for the promotion of its products, with the result that wine tourism in the region is not in the position it should be. Some of the actions that need to be taken to promote wine tourism in the area are better, easier and more frequent cooperation with other regions, the advertising campaign in other countries and in Greece, as well as the conditions of strategic alliances with distinguished tourist agencies. Also with appropriate investment and modernization of facilities and machinery, it is possible to have an edge in wine tourism.

Having in mind the fact that there is a lack of similar research on this field but also the emerging of wine tourism in Greece, there is a need to make a critical analysis of the wine tourist industry in North Greece. More precisely, the chapter will focus on the contribution of wine tourism in the development of the region of Central Macedonia but also the prospects of the wine roads in this region.

2 Methodology

This is a chapter which relies on secondary data and on a research of the existing literature. For this reason, the authors have made a thorough research on the existing literature regarding wine tourism in general but also more precisely about wine tourism in the region that the chapter has focused. The material has been revealed from the internet but also from databases such as EBSCO, Emerald and Science Direct. The author has focused on identifying the basic literature but also the latest papers by using the relevant filters.

3 Literature Review

3.1 Definition of Wine Tourism

Wine tourism or wine tourism is a multidimensional economic activity that is constantly evolving and innovating and is the result of the synergy of agriculture with the cultivation of the vine, the production and vilification of the grape in wine and the services of customer service and satisfaction. An important stimulus and component of wine tourism are visits to vineyards, wineries, festivals and wine tastings, as a key incentive for visitors to wine tasting and the exploration of the wider wine region. This, of course, does not mean that any visit to a winery is considered as a wine tourism activity. The difference lies in the existence or not of

the desire to taste a wine or a dish of a region, which is also an incentive for the journey. Basically, this need must also be the primary incentive to travel [1].

Wine tourism, which is a subcategory of agrotourism, has grown rapidly in recent years in many wine-producing regions of the world and is part of the special forms of tourism. It is a dynamically developing form of tourism of special interest, an important component of regional development because it promotes local development through diversification of agriculture but at the same time respects natural and cultural resources. It is considered to be a tourism of special interest and is included in the niche markets. Sustainable growth is part of the niche markets. The large number of migrant tourists still exists, but by moving a large number of tourists to special and alternative forms of travel. It has been a turning point in recent years and visitors want in addition to the visit to have the elements of exploration, experience, participation and knowledge as well as participation in the everyday life of the region. The niche marketing strategy deals with identifying and updating around the target market target, namely consumers who will eagerly consume a large portion of their disposable income to taste the wines and products they please. Innovation is also necessary to ensure the highest possible quality of products and services for consumers [2]. Given the specificity of niche tourism products, different approaches are distinguished [3]:

- Geographic and demographic approach—place and local population play an important role in the composition and consumption of the tourist product. The area may be close to the sea, mountain, lake or city, but it varies according to the activities in the area.
- Approach to the Product—whatever is offered in the area (activities, services, food) is formulated for the needs, requirements and desires of visitors. These constitute the basis of the niche market of the tourist destination.
- Customer approach—Visitor requirements, desires and expectations are important and taken seriously.
- Depending on the demand, the offered product is also satisfied the desires and activities that tourists seek to experience positive and enjoyable experiences.

Experiential tourism is determined by the active participation and the satisfaction of the visitor from the place, the natural and built environment, the locals, the local tradition. It targets people who want to experience new experiences and find themselves close to the nature and everyday life of an area. This profile shares the profile of the wine tourists and therefore wine tourism is in line with the philosophy of experiential tourism. According to Alembaki [4], wine tourism belongs to the forms of tourism of special interest, related to the visit and touring of wineries, vineyards, wine exhibitions, wine festivals and other related events, wine tasting, the purchase of wines and other wine- products at their place of production. But it is important to design and provide hospitality and recreation, training and culture-centric experiences with wine. Wineries are a provider of wine tourism services. Considering the above, the complexity of the nature of wine tourism, which is not just a part of agro tourism, is obvious, but it is a tourism sector targeting a specific audience with different motivation to visit, an audience seeking new experiences,

contacting the local society, local tradition and history, contact with nature and the pursuit of activities. The European Wine Town Network—Recevin, defines wine tourism as the development of leisure activities devoted to the discovery and familiarization with the cultural background, the wine and the region that produces it [5].

The wine tourism system consists of the following subsystems [5]:

- Soil—broader production area
- Tourism—tourist activities
- Wine and Culture

Wine tourism, as can be seen in the table below, is a form of additional tourist interest and is part of recreational tourism. When tourists travel to a wine-growing region to visit vineyards, wineries and wine festivals, they are made to experience a range of different activities, including tasting, educational informational tours and cultural activities, as well as its beauty wine region, then we define it as wine tourism [6].

3.2 The Development of Wine Tourism in Central Macedonia

Central Macedonia is in the northern part of Greece with a long history and tradition. Agriculture, and in particular wine-growing, is greatly favored by climatic and soil conditions. High sunshine and frequent rainfall combined with rich soil and high moisture content help grow and mature grapes. Central Macedonia is one of the 13 regions of Greece and one of the regions of Macedonia. It includes the prefectures of Thessaloniki, Halkidiki, Imathia, Kilkis, Pella, Pieria and Serres. History tells ancient cities such as Pella, Sindos and Pydna that were known for their wines. Archaeological finds, such as the Macedonian Crater (340 BC), which inspired the design of the wine bottle, testify to the long tradition of viticulture in the region [7]. In Central Macedonia there is a plethora of wineries with great history that have been included in the "Wine Routes of Northern Greece" program, which is visited by a significant number of visitors every year. The motivation of these visitors varies and differentiates according to their social characteristics, perceptions and interests. Thus they are classified into four categories [8].

- (a) Wine enthusiasts with a high level of education,
- (b) Newly-educated, usually low-income students,
- (c) Occasional visitors who are most interested in the region's gastronomy,
- (d) Tourists visiting wineries and vineyards as tourist attractions.

The above four categories of visitors can be of great help in the development of wine tourism with wine lovers and the newly-educated to support significantly the wine-making enterprises. Wine tourism encourages the development of the local economy and the enhancement and enhancement of the cultural identity and the special qualities that make up the image of a region. Wine-growers take advantage

of the natural characteristics of their region, such as the location of the winery, the surrounding environment, vineyards, rural local products and gastronomy with traditional local recipes. In the general network of the local economy the winegrower and adapts ways and actions for the development and support of its income and actions to tackle tough competition. In order to advertise and promote their products, visiting wineries organize various activities with the ultimate goal of attracting and attracting visitors. These activities can be cultural events and wine festivals such as the Wine Festival, the Open Doors at the initiative of the European Wine Town Network, tasting, activities in nature as well as visits and guided tours to vineyards [8].

3.3   The Contribution of Wine Tourism to the Tourist Development of Central Macedonia

According to Igoumenakis [9], the most important benefits of tourism are generally in common with those of wine tourism, such as:

- Foreign exchange inflow.
- Creation of jobs and employment.
- Increasing the regional and local economy.
- Increase and increase of the income of the inhabitants of the wine-growing region.
- Strengthening the region with funds for infrastructure and superstructure projects.

Wine tourism can benefit the entire region from many angles and promote growth and prosperity. Wine tourism positively affects the entire socio-economic structure of a rural area, giving it value, job opportunities and increasing human capital. As reported by Alebaki et al. [10], the benefits of wine tourism in Central Macedonia are:

- It can stimulate tourism to a tourist destination.
- It can attract the interest of visitors who are interested in wine and create a new demand for a country or region.
- It can improve the image of a destination when food and wine are part of this image.
- It can transfer tourist flows geographically away from the already known tourist centers, relieving them from the pressure and providing some means of transportation for strengthening and acquaintance with the most remote areas.
- Helps in the image and prestige of wines.
- Helps to improve the perception of wine.
- Strengthens direct sales and other distribution channels

- It gives value to the natural beauty of a region, to food and to local culture.
- Helps to strengthen and develop rural degraded areas that need economic impetus.

The existence of wine tourism is essential for the development of many tourist areas, although it is debatable whether the wine industry or the tourism industry is the main driving force. It certainly varies from region to region and is a function of many factors such as the history and nature of the wine industry and the tourism industry [11].

3.4   The "Wine Roads"

The Wine Roads were formulated by Bruwer, Gatti and Incerti as "a tourist route linking several vineyards and wineries of a particular region. This route is characterized by natural attractions (mountains and other scenery), material lures (such as wineries and estates), vineyards, as well as roads and signs that direct the tourist to the Wine Road businesses. Wine Roads are "a marked route through a limited area (region, province) whose purpose is to explore wine products in the area and to engage in activities associated with them. This exploration takes place directly on holdings (allowing the traveler to meet the producer) or in places specially organized around the wine produced (wine tasting centers or wine museums) [11].

The wine-making tradition is rich in history that begins in ancient Greece. Wine is directly related to religion, folk tradition and culture. The preservation and promotion of these characteristics was undertaken by Agro tourism, establishing the "Wine Roads", a special form of tourism, proposing a selected route that passes through the most picturesque parts of a wine-growing region, with visits to selected wine-producing units, tasting local wines combined with traditional local recipes and tours of traditional settlements, archaeological sites etc. It is a new form of tourism, perfectly organized, harmonizing with the natural environment. Rivallon and goal is getting to know each place through the tradition of viticulture and winemaking. All the way is offered quality hospitality from restaurants, taverns, ouzeries and hotels [11].

Thus, acquaintance with Greece and its culture is completed. Wine has crafted its own geography, as it had years ago created silk. The wine roads in Greece travel through the most important wine and winemaking areas. The traveler tastes six mellow wines, small production, organic farming, with awards from internationally acclaimed competitions, where they are produced. Contact with the world of wine can be considered as a profound mystical experience, with which man most appreciates this divine product. Wine Roads are organized by public bodies related to tourism, trade groups, associations of producers, professionals and others. Collectiveness between the organizers for the creation of a wine road is a precondition for its implementation and unfortunately unanimity is often absent [12].

4   Discussion: "The Wine Roads" of Northern Greece

In Greece, wine tourism was organized in 1993, when 15 winemakers were set up in a common scheme in the form of a non-profit-making urban society, called "Union of Wine Producers of the Vineyard of Macedonia", with the aim of supporting the wine-growing tradition and giving the possibility for Greeks and foreigners to discover the Macedonian vineyard. In 2002, the annexation of Epirus and the extension of the member wineries to Thrace led to the renaming of "Union of Wine Producers of the Vineyard of Northern Greece", under the distinctive title "Wine Roads of Northern Greece" [13].

The members' search is to find solutions tailored to rural areas, with the active involvement of local governments, cultural associations, institutions and businesses of the local population. All of them collaborated, formed themselves in a common structure, devised and undertook development actions that are specific to these areas and have a lasting effect. Such actions include the establishment of vineyard trails, their marking, the conversion of wineries into open spaces, the establishment of folklore museums, the publication of books, the organization of cultural events, etc. [14]. In Macedonia, the wine roads include Kavala, Drama, Serres, Halkidiki, Thessaloniki, Kilkis, Pella, Florina, Kastoria, Grevena, Kozani, Imathia and Pieria. In Central Macedonia the wine roads include Serres, Halkidiki, Thessaloniki, Kilkis, Pella, Imathia and Pieria. Wine tourism has a primary role in direct contact with nature in conjunction with cultivation practices [13]. The decisions of the wine-producing members were important, creating a pioneering collective work shaping and anticipating the developments of Greek wine products. Their collaboration is based on the personal touch of each wine producer in the wine he produces and the constant effort for improvement and development by setting common goals and responding to the challenges of the world wine market.

The company policy is designed to Hazard et al. [15]; Belias et al. [12]:

- The promotion of the branded standard Greek wine produced by its members.
- Continuous education and briefing of wine professionals and consumers with events and seminars, aiming at instilling sound wine concepts.
- The protection and promotion of the regions and denominations of origin and the native varieties of the vineyard of Northern Greece.
- Supporting the Greek cultural heritage and local activities with a central axis of vine and wine.
- Contribute to the creation and implementation of an effective institutional and legal framework for the wine sector.
- To promote strategic and business planning for Greek wine.
- Participation and cooperation with international companies and organizations.

In the last decade two strong and established institutions are born with the initiative and exclusive support of the company's members:

(a) The Wine Roads of Northern Greece, which is an integrated wine-growing and
(b) The Thessaloniki International Wine Competition, which is the presentation to the Greek public of the wealth of world wine production on an annual basis.

The "Wines of Northern Greece" company holds wine tasting and distillation events each year in Athens, Thessaloniki and other cities, titled "The Vorini" (www.wineroads.gr). Tourists crossing a Wine Route enjoy a variety of experiences starting with by visiting vineyards, tasting and buying wine, learning the tradition of wine and the history of the region from the local museums created for this purpose. They often live in agrotourism accommodation. Apart from that, tourists have the opportunity to get in touch with the special gastronomy of the region, to buy the products that characterize it and to enjoy the scenery. Printing leaflets with a map of the route of the wine road and its stages helps to motivate and attract visitors [16, 17].

The wine road is now regarded as a tourist product that proves that it has all the beauties of the region or regions to attract tourists, to help develop it and of course to increase the consumption and production of wine. The Wine Roads of Macedonia, the later Wine Roads of Northern Greece, an innovative idea to motivate the tourist to discover the rich wine-growing regions and their wineries, get to know local customs and wine-related events and be part of the cultural identity of the Greek. The Wines of Northern Greece created a network where partners, restaurants, hostels, alternative tourism companies, wine cellars, consultancy companies participated. The aim of the network is to jointly promote products and services as well as to impose conditions for the proper construction of wine tourism and Northwest cuisine [12].

5 Conclusions

Many factors affect the development of wine tourism in Central Macedonia as it competes for a share of the growing wine tourism market. In a previous chapter various aspects were examined in order to evaluate the wine tourism activity. The study was exploratory in nature as there were not many surveys evaluating wine tourism in the area.

The main conclusion is the importance of Wine Roads and the coordination and organization of wine routes in the wider region of Central Macedonia. Some essential aspects of the organization—for example, membership in a national context have already been planned. However, there are several limitations that have influenced the development and development of wine tourism. These constraints (stiffness of the state mechanism, incomplete information, etc.) have prevented the producer-members from achieving their original goals, and the wine product has remained low in satisfaction. It is important to remark that for a future research

there is a need to make a primary research in a sample of wind producers of this region so to examine their views and experiences.

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Assessing the Competitiveness of Greek Coastal Destinations

Spyros Niavis and Dimitrios Tsiotas

Abstract This chapter assesses the competitiveness of the Greek coastal destinations, in a comparative context. To do so, it develops various indicators which help destinations to conceptualize both their dynamics and their structural advantages. To better depict the competitiveness of destinations, the indicators are formulated by using the user-generated data being available at the TripAdvisor website. Under this data-mining process, the benchmarking can highlight critical features of the tourism industry, which cannot be revealed when analysis is based on the typical official data. The results signify a gap of competitiveness between the insular and non-insular destinations but also they reveal some critical features of the tourism-supply, which can facilitate the sustainable development of all Greek destinations.

Keywords Destinations' benchmarking · Indicators · Data-mining · TripAdvisor

1 Introduction

Greek coastal destinations have mostly benefited from two key-elements characterizing the whole coastal Mediterranean area. The first concerns their favorable weather and geographical conditions, as they are illustrated both by the mild climate and extensive annual sunshine hours and by their rich coastal resources and the existence of plenty of sandy beaches. The second regards their rich cultural and archeological heritage consolidated on the evolution of many different civilizations over the centuries [1, 2]. Although these comparative advantages can lead to a sustainable and all-year-round tourism development, the Greek tourism sector still suffers from lack of competitiveness against its Western Mediterranean counterparts, in both efficiency and effectiveness terms [3].

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To improve their competitive position, Greek destinations, among others, should diversify their product following -in that way- many Western Mediterranean destinations which have managed to enrich their tourism-supply with diverse services and added value products [4]. In this context, the temporal increases of tourism-flows, which have been recorded during the recent years, can help the country to secure a viable development of the sector. To this end, it is very helpful for destination managers and policy makers to understand the strengths and weaknesses of destinations to drive policy interventions. This process can be based on the benchmarking method, which has been extensively used by many scholars for the evaluation of the various destinations' competitiveness [5, 6]. In order to be substantially useful in revealing the structural characteristics of destinations, the benchmarking process should not only be based on simple statistics of tourism volume or growth, but it also has to incorporate the perception of end-users about the evaluated destinations. That is, it should take into account the quality of the offered services, as the quality factor lies at the heart of diversification [7]. Towards this direction, the user-generated data hosted in the TripAdvisor website can be proved very useful.

Within this context, this chapter provides a benchmarking framework for assessing the competitiveness of Greek coastal destinations. The framework exploits data of the TripAdvisor website to formulate a range of indicators depicting the structural characteristics of the tourism sector for the destinations being under consideration. The added value of the chapter regards complementing the existing studies of destination benchmarking by incorporating some novel indicators into the assessment procedure. At the policy side, this chapter comes up with several policy implications, as it depicts the competitive position of each destination in a range of tourism attributes shaping the destinations' potential for a more sustainable development.

2   Materials and Methods

The benchmarking framework incorporates both qualitative and quantitative indicators. The scale-factor has been removed form all the measures, since the analysis aims at revealing qualitative aspects of the tourism sector. The n, in number, destinations are assessed on the basis of s indicators. Each destination acquires a score for each indicator which is determined by its respective ranking r. The score-formula is $n - r + 1$. Therefore, for the first destination, the rank-score is estimated at n destinations, whereas for the last destination at 1. The total score for each destination is the ratio of the sum-of-scores (computed under all indicators) to the total potential score.

The indicators selected for conducting the benchmarking are described as follows:

- *Length of Stay (LoS)*. It is the ratio of the total annual nights spent to the total annual arrivals at each destination. Destinations at which tourist-stay is longer are benefited by their easier filling-up of their capacity and by the larger tourists' expenditures [8].
- *Growth (G)*. It quantifies the total growth of tourist-flows between 2014 and 2017. Destinations with higher growth rates appear more effective in exploiting the general positive trends of the Greek tourism sector and thus they pose a competitive advantage over their counterparts.
- *Diversification Index (DI)*. The diversification process leads to the enrichment of the basic offered product of a destination with new elements. For coastal destinations, diversification is successful when new added-value services are offered together with the basic ones of the beach-tourism [4]. To extract a measure of diversification, the ratio of total activities to the total beaches of each destination (as they are presented in TripAdvisor website) is used. Higher values are associated with destinations that have managed to shift from the traditional beach tourism to a more diversified one that could better facilitate income and jobs generation.
- *Concentration Index*. This spatial measure captures the concentration of a tourism-activity, in a destination. The indicator is estimated by the ratio of total user reviews, for a particular sub-destination, to the total reviews of the destination. Highest values of the ratio denote that tourism in a destination is more concentrated and has less spatial diversification.
- *Museums Capacity (MC)*. This index measures the ability of a destination to promote its cultural and natural heritage. The museums' operation does not only generates more value for the locals but it also familiarizes tourists with the destination and thus it turns them into ambassadors that can facilitate future visits, especially when the word-of-mouth suggests one of the most effective means of marketing. To eliminate the scale factor, the total museums are divided by the total hotels of each destination.
- *Services Balance (SB)*. This indicator measures the balance among lodging services, food and drinks services, and other activities. A more balanced set of leisure options may help destination to extract more benefits by the tourism activities. To quantify the indicator, the total user reviews in TripAdvisor (for these three categories) is extracted and the normalized Theil entropy-index is used [9] to acquire a balance measurement. The entropy index values range between 0 and 1 with higher values corresponding to a more balanced type of tourism offer.
- *Services Quality (SQ)*. Service quality is a critical aspect of destinations' competitiveness because it describes their ability to meet their customers' needs [7]. This variable is configured based on user reviews on the TripAdvisor website, by computing the ratio of hotels received over a four-star user rating to the total available hotels of each destination.

3   Results and Discussion

A total number of 57 Greek destinations were included in the sample, which they correspond to the latest NUTS-III regions of the country. The condition for a destination to be included in the sample is to have sea-borders and at least three beaches included in the TripAdvisor platform. The data used for constructing the indicators are extracted from the TripAdvisor website on 1/1/2018 [10], whilst the data for the LoS and G indicators are extracted by the website of the Hellenic Statistical Authority [11].

The results of the benchmarking exercise are presented in Table 1. Upper rows show the score of each destination according to its ranking, whereas lowest provide essential descriptives of the indicators. The best three performers for all indicators are shown in a line motif, destinations with lowest scores are shown in a grid motif, whereas insular destinations are shown in bold-font. In terms of statistics, the largest variability (expressed by the CV scores) is observed for indicators DI, Gr, and MC. This signifies that there are huge gaps among the Greek destinations, both in terms of dynamics (Gr) and on their diversification efforts (DI and MC). On the other hand, the service balance and quality show less fluctuations, signifying that the mix of services is almost equal among destinations, but also that the different destinations follow the same quality standards in their services.

In terms of destinations scores, the insular destinations Kefallonia, Rhodes, and Irakleio have the largest total ranking scores. In addition, the worst performers Evros, Larissa, and Xanthi are all located in the mainland. In general, insular destinations have higher competitiveness than non-insular. This is because the group of the ten worst performers includes only three islands (Tinos, Syros, Karpathos-Kasos), whereas the group of the ten best-performers includes eight islands and two mainland destinations (Argolida and Anatoliki Attiki), placed in the ninth and tenth position, respectively. The better ranking of the islands is also verified by the statistically significant (<0.01) results of the Mann-Whitney's test z-statistic, which was performed to check the equity of distributions between mainland and insular destinations [12].

Despite this general tendency, the analysis of individual indicators shows that many mainland destinations outweigh the records of the insular ones. This is the case for the diversification-level, the museums' capacity, and the services' balance, as in all these cases the three best performers are not insular destinations. On the other hand, there are islands ranked as the worst performers in several indicators. For example, Lesvos and Milos present the lowest growth rates amongst all Greek destinations, whereas Tinos has the lowest diversification level. This indicates, first, some structural characteristics of the mainland destinations which can help them attracting more tourists, and, secondly, that there are avenues for further improvement of insular cases, which can assist to the offered services and length of tourism season upgrade.

Table 1 Scores of Greek destinations after the benchmarking process

Destinations	Scores							Total Score
	LoS	Gr	DI	CI	MC	SB	SQ	
Evros	17	13	3	6	52	2	4	26%
Xanthi	4	45	4	7	51	36	3	40%
Rodopi	18	42	2	1	53	1	2	31%
Kavala	11	27	8	8	49	26	1	34%
Thasos	43	22	15	37	24	28	23	51%
Thessaloniki	8	32	53	4	48	12	16	46%
Pieria	38	26	45	30	3	11	12	44%
Chalkidiki	45	15	34	53	1	19	22	50%
Thesprotia	22	3	20	9	9	25	41	34%
Preveza	31	41	18	5	7	14	27	38%
Larissa	6	8	16	2	50	3	18	27%
Magnisia	12	34	33	17	11	7	28	38%
Sporades	44	7	21	32	5	33	29	45%
Zakynthos	49	36	40	49	4	45	30	67%
Kerkira	42	37	39	50	13	39	25	65%
Lefkada	39	35	36	35	2	41	32	58%
Kefallonia	46	39	32	51	6	43	48	70%
Ithaki	29	52	23	21	23	4	54	54%
Aitoloakarnania	19	30	46	23	45	17	17	52%
Achaia	16	23	52	18	31	31	9	48%
Ileia	32	33	30	12	46	53	19	60%
Evvoia	9	20	12	52	32	16	13	41%
Fthiotida	1	6	38	27	37	34	14	42%
Fokida	2	44	31	10	38	54	26	54%
Argolida	21	38	35	13	36	49	44	62%
Arkadia	3	5	27	39	33	18	42	44%
Korinthia	15	28	49	22	40	52	10	57%
Lakonia	10	46	9	38	34	35	46	58%
Messinia	25	48	28	40	19	21	33	57%
Anatoliki Attiki	14	49	50	43	47	22	5	61%
Kentriki Attiki	7	16	54	3	54	51	7	51%
Attica Islands	20	21	22	44	21	13	37	47%
Chios	23	12	10	29	44	47	11	47%
Lesvos	36	1	41	48	42	20	34	59%
Limnos	40	54	19	24	43	27	21	60%
Samos	50	9	11	25	15	23	20	40%
Ikaria	37	14	26	54	10	29	51	58%
Andros	26	51	6	19	39	15	50	54%
Milos	30	2	24	41	22	38	39	52%
Thira	27	11	48	45	27	48	47	67%
Kea-Kithnos	5	53	5	47	26	5	53	51%
Mikonos	24	50	47	15	12	40	35	59%
Naxos	33	43	17	20	29	30	45	57%
Syros	28	47	7	16	25	9	8	37%
Tinos	13	4	1	42	41	8	15	33%
Paros	35	17	29	28	8	24	49	50%
Kalimnos	34	10	14	34	35	10	52	50%
Karpathos-Kasos	54	40	13	14	16	6	6	39%
Kos	53	19	44	33	30	32	40	66%
Rhodes	51	31	42	36	18	50	31	69%
Irakleio	48	29	51	46	14	42	24	67%
Lasithi	41	18	25	31	20	46	38	58%
Rethymni	47	24	37	11	28	44	36	60%
Chania	52	25	43	26	17	37	43	64%
Statistics								
Mean	3.83	0.24	3.39	0.40	0.04	0.90	0.62	
St.Dev.	1.62	0.27	5.10	0.24	0.05	0.05	0.15	
Coefficient of variation (CV)	0.42	1.15	1.50	0.60	1.06	0.05	0.24	
Min	1.78	-0.08	1.07	0.04	0.00	0.77	0.21	
Max	7.23	1.48	36.75	0.95	0.22	0.99	1.00	

4 Conclusions

This chapter configured a framework for benchmarking the Greek destinations' competitiveness, by using some novel user-based indicators. Although a thorough examination of the strengths and weakenessess of the Greek destinations was not possible due to limitations of space, scores in Table 1 can be proven a useful guide for steering future policy interventions. These results validate a competitiveness gap between insular and non-insular destinations, but they also highlight some key-characteristics, on which both types of destinations can elaborate to improve their supply and ensure a more sustainable tourism development. The analysis is expected to motivate for further research complemented with more sophisticated benchmarking methods such as the Data Envelopment analysis or the Multicriteria Decision Making Analysis.

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Internal Marketing on the Tourism Sector: Examination of How the Staff Can Develop on Greek Hotels

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Abstract The hotel market operates in a particular competitive environment. In this context it is necessary for the tourism enterprises through the Human Resources Department to identify and use the appropriate staff to achieve their goals. The Human Resources management of the hotels has as its main functions the staffing, education, evaluation, motivation, as well as the remuneration policies of the company's personnel. Businesses confirm the conclusion that the human factor plays a leading role in achieving their goals, but this requires human resources management to use the right people in the right place. In this context, the effectiveness of the Human Resources Department helps to satisfy the employees, which is of major importance as it ultimately affects customer satisfaction. In this literature review, the authors have made a number of suggestions on how the HRM can intervene so to improve the internal marketing operations by investing into the human capital of the Greek hotels. Of course, there is plenty of space for future research on this field.

Keywords Internal marketing · HRM · Hotels · Greece · Tourism

1 Introduction

Tourism is a sector that directly affects the national economy, with hotels being one of its major components and small and medium-sized hotel businesses occupying a significant part of the Greek hotel market. The changes brought about by technological developments, the global crisis in the economy, diversified social and cultural standards have a direct impact on the level of competition between hotel businesses. No hotel business can be left uninfluenced and unaffected by these global changes and direct effects on it. Ensuring high-quality hotel services is a critical parameter for gaining a strong competitive advantage, creating shopping

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loyalty and creating positive references between existing and potential customers [1].

Having in mind the fact that Greek tourism has managed to emerged during the past years but also the turn into quality, this chapter will focus on internal marketing on Greek hotels. However, it is important to mention that there is a lack of such research in Greece. For this reason, this chapter comes to fill in this gap by aiming on examining on how the internal marketing, with the appropriate planning, can benefit the employees so to leverage their skills and performance.

2 Methodology

This is a chapter which deals with a literature review on the case of internal marketing. The chapter will combine the use of traditional academic resources and the basic theory, such as from Kotler and Armstrong [2], but also from the latest developments in the Greek hotel industry as they have published on accepted resources such as papers and other similar published works. The authors have used keywords such as "internal marketing" and "HR in Greek hotels" so they selected the published work they used. They also tried to use mostly papers published from well-accepted journals but also the most recent publications. The databases used were taken from schoolar.google.com from where the authors have taken papers from science direct and EBSCO. The research was not exhaustive but it covers the necessary background to fill in the aims of this chapter.

3 Literature Review

3.1 Internal Marketing

The roots her concept of internal marketing, starting in the 1970s, and over the next decade grew and eventually established itself as one of the specific aspects of marketing science, so much so that now it is argued that successful businesses are those that focus on employee satisfaction with the same focus that focuses on customer satisfaction. It is a "business process that aims to orient the employees of the service provider towards providing services and excellent customer service" [3].

Internal marketing aims to turn the attention of all employees to a conscious effort to serve customers and ensure that all employees are adequately prepared to function in this way [3]. To achieve these goals, we need the functions of human resources (personnel selection, training, stimulation, etc.) and marketing operations be coordinated within the framework of a comprehensive strategy to bring the desired results. Internal marketing requires all employees of the company to embrace the concepts and marketing objectives as they are undoubtedly engaged in

choosing, providing and communicating value for the customer [4]. Due to the fact that business sales departments were unable to perform important functions such as market research, new product development, advertising, sales promotion, and customer service, businesses started to create marketing departments. Nevertheless, the achievement of the goal of a business, which is the satisfied customers, depends on all the departments that surround it and how they treat customers. In order to be effective in marketing every business, all its staff need to create customers, serve them and have them happy [5].

In order to achieve this, however, it should have the skills required and the corresponding skills, so the company that wants to succeed should not only focus on its customers but also on its workforce. Undoubtedly, the enterprises that consider their most important capital as the employees are the ones that ultimately prevail in the market [6]. The philosophy and the process followed in foreign marketing can be followed internally in the business. The classic marketing mix, which consists of four P's (product, price, placement, promotion), is directly linked to the company's management strategies. Continued employees' efforts to achieve customer satisfaction, respectively, to reduce complaints and dissatisfaction, provide high-quality services, and ensure a significant competitive advantage are essential, since the human factor is undoubtedly a success factor [7].

Internal Marketing basically considers and treats the company's employees as a customer. These internal customers, i.e. employees, want to meet their needs. In this context, the company achieving the satisfaction of its internal customers can effectively satisfy its external customers by offering high quality services [8]. When employees have met their needs, then they are stimulated and the turnover is reduced, resulting in high satisfaction of external customers and their confidence in the business [9].

3.2   Internal Marketing Mix

The Marketing Mixture is made up of tools that are used to help businesses achieve their goals. These tools are 4P (product, price, promotion, place), product, price, placement, promotion. Service Marketing enriches these tools with the human factor, the material elements of services and the process (people, physical evidence, process). In this context, the Internal Marketing Mixture consists of [10, 11]:

- Product (product). In the internal marketing the product refers to the work as well as to the duties of each employee in the company.
- Price (price). The price is employee pay, working conditions, good working climate, career development and employee training.
- View/promotion. It refers to internal communication between the departments of the company. Communication is through meetings, via e-mail, through a corporate newspaper.

- Position (place). Mounting refers to product distribution channels. It's the way the product will be placed inside the business.
- People. They are all those who have a role in the production process and indirectly or directly influence the customer for the product and service, that is, the employees of all departments and the Administration.
- Materials service elements (physical evidence). It refers to all descriptions of work to employees through manuals or notes.
- Procedures. It is all the activities and functions with which a service coexists with the people involved in it. It is also the means to achieve the goal of the business

3.3 Internal Marketing Goals

In order for the internal marketing of a business to function effectively and have the expected results, it is essential for the company to set its targets that are directly oriented to the specific purpose and then seek to achieve them. The goals that can be set for example are: Employees to acquire an "identity" and character, with a direct orientation towards the clients of the company. Customer satisfaction of the particular business to be used as a measure of employee appraisal and to be applied as a way of attracting new skilled workers [12].

The goals of internal marketing, apart from focusing on shaping an internal "identity" and philosophy, which renders service and pleasure to the client as the primary objective of the business, they also focus on the case when the company applies new services and new marketing tactics to the services it already offers. In this case, employees should be knowledgeable and fully informed so that they can do their utmost to achieve the business objectives [13]. Internal marketing is represented by incitement of employees, so that they operate in accordance with the objectives of the business. It is the effort made by each business to adopt and implement a philosophy that is customer-oriented. In this context, all ways of incitement of workers should be implemented so that they in turn represent this philosophy deservedly. Internal marketing is also represented by communication and the information that employees should receive in order to effectively serve the internal and external customers of the business [14].

The information should refer to the work practices, characteristics and particularities of the services provided by the company. Employees are required to communicate for their needs and for their views on the services offered [15]. In order to achieve the objectives of internal marketing, the internal marketing program should be within the framework of an integrated management strategy. Also, the organization of the business is in line with its objectives. Finally, it is necessary to have direct support and encouragement from the company's management [16].

Chiefs should help helping staff solve customer service problems instead of just highlighting the business operating rules and procedures. Because executives and managers do not Borouna direct control whether the customer service is done

correctly, you need to acquire indirect control. To achieve this, the necessary climate and working practices that will promote customer service [3].

3.4 Internal Marketing Program

In order for an internal marketing program to be considered successful, it should be considered within the framework of an integrated corporate governance strategy that the organizational structure of the company should be in line with its objectives so as to facilitate its achievement and support for Top Managing [3]. A successful internal marketing program should be initiated by senior management and extended to the lower hierarchical ranks. Therefore, a successful internal marketing program should address:

- In the senior management of the business
- Mid-level executives
- Contact staff
- Employees who offer support services

The core actions that include an internal marketing program are [1, 17]:

1. Education. Employee training is a key activity of the internal marketing program. Training should focus on developing a comprehensive view of what business is required to enable a business to deliver a specific customer service strategy, to support a specific client service strategy, and how it can contribute to the development of the employees' skills for communication between colleagues.
2. Support for Executive Staff. In the context of an internal marketing program, it is necessary to have continuous support to the executive staff. In order to achieve this, there must be coordination of the company's daily practices in the context of educational programs, support for employees to implement what has been taught, encouragement of employees in the decision-making process, encouraging the communication of survivors to superiors, cultivating an encouraging climate to facilitate communication between departments, addresses and hierarchical ranks.
3. Support for Mass Internal Communication. In the context of an internal marketing program, it is necessary to have systematic communication with employees through alternative media. This communication aims to keep all employees informed of developments in the business, new services to be offered, changes in marketing strategy, customer service strategy, etc.
4. Human Resources Management. A basic pursuit of internal marketing is to attract skilled workers and keep them in business. In order to achieve this goal, there should be good and attractive job specifications, specific procedures as well as recruitment criteria, career and development plans, appropriate remuneration and incentive schemes.

4 Discussion: The Case of Internal Marketing on Greek Hotels and the Characteristics of Employment in Greek Hotels

The work in hotels is distinguished by the following features [10, 18]:

- Seasonality. A large percentage of lodgings are seasonal in nature, resulting in fluctuations in demand for labor and emphasis in the summer months.
- Human communication. The existence of human communication is the basic prerequisite for the operation of a hotel. Its quality directly affects customer satisfaction. In this context, management requires employees to serve as much customers as possible. At this point, however, it is necessary to state that both employees should be treated as internal customers.
- Hetero-employment. The workforce of the hotels has a different level of education, so a communication channel for all should be found by the administration.
- High number of unskilled employees. This phenomenon is the result of the large percentage of mass tourism in many areas, with the result that many non-tourism workers find jobs in tourism.
- Switch staff. Switching staff to hotels is a strong phenomenon and is due to low employee earnings, poor working conditions, limited opportunities for development, and occasional employment.
- In the hotel industry, businesses avoid investing in employee training due to the intense mobility and exchange of staff that distinguishes them as well as prefer to recruit unskilled staff for economic reasons. Low wages to employees.
- The 24-h term of operation of hotels, which for this reason must employ personnel for all shifts for 24 h.
- Hotel employees work on weekends, holidays, holidays. This situation can affect the employee's psychology.

5 Proposals to Improve Employee Satisfaction Through Internal Marketing in Greek Hotels

Based on bibliographic data, improving internal marketing practices in Greek hotels with the aim of satisfying employees can be based on the following practices:

1. It would be good to freedom giving employees can have their own initiatives and propose new ideas in order to improve the hotel's performance. In this way, the satisfaction of the staff also increases and a good and cooperative climate is created among the employees [19].
2. The heads of departments may delegate specific tasks to the officials. This way they will not feel pressured and will be able to perform their work with greater pleasure [20].

3. Management should give priority to staff training, as it contributes directly to increasing staff productivity, capacity building and thus contributes to business development. Systematic staff training is considered to be very important to enable human resources to adapt to new requirements [21].
4. It is essential that there is no discrimination between workers while being respected [22].
5. Meetings between employees and supervisors could take place so that they are informed about various problems and cooperate in making decisions [23].
6. More incentives should be given to workers in order to increase them their job satisfaction. Motives could be bonuses, extra licenses etc. [24].
7. There should be objectivity in the evaluations and immediate informing of the workers about the evaluation and its criteria. Based on the above and in combination with the results of the survey, it is clear that the success of a hotel business and the achievement of its objectives is directly dependent on its human resources [25].

6 Conclusions

Hotel units should focus on proper and equal treatment of staff their education and training. In this context, it is important to mention how the state should also take care of the immediate payment of wages to workers and the affixing of stamps. Finally, violations of labor rights (e.g. five-day work and compensation for overtime work) should be stopped. This study could be carried out in a larger number of hotels in order to obtain more valid results. Respectively, separating each hotel from the incentives it uses could give safe results as to which incentive system employees get better performance. Several of these elements could be the subject of dialogue between the social partners. However, there is a need to examine what is going in the real practice. For this reason there is a need for a future research which will use a questionnaire distributed among employees on major Greek hotels and a qualitative research with interviews given on executives and managers of the same hotels.

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Exploratory Study of the Impact of Significant Ecotourism Experience on Voluntary Carbon-Offset Behaviour of Young Travellers in Their Long-Haul Air Travel Choices

Alan Lee and Tay Koo

Abstract The aim of this research is to explore whether there is a discernible impact of significant ecotourism experience on the extent to which travellers are willing to voluntarily carbon-offset (VCO). Placed in the context of VCO schemes for long-haul air travel (between Australia and Europe), a choice experiment has been designed with key attributes such as quantity and cost of the offset, the type of offset program and whether or not the program is certified. Two studies have been conducted involving 50 and 48 individuals, respectively. Findings suggest that attributes such as total cost of VCO, offset program certification and project type influence young travellers' VCO choice behaviour. The preliminary results show evidence not inconsistent with the hypothesis that the variation in the relative importance of these attributes is associated with the respondent's participation in significant ecotourism. In most cases, travellers were not willing to forego the option of not travelling, despite acknowledging the contribution the flight has on emissions. Results raise a case for the development of strategic marketing for VCO in aviation especially on routes to/from ecotourism destinations.

Keywords Voluntary carbon offset · Sustainable tourism education · Field excursion · Air travel behaviour · Choice experiment

1 Introduction

Long haul air travel is identified as the major source of CO_2 emissions in the aviation and tourism sector. Interestingly, previous research suggests that there appears to be an element of paradox in the developed world where those with the highest level

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of environmental commitment in the household setting had a greater contribution to emissions caused by increased air travel for leisure and tourism. While policy makers are considering technological innovation and market based mechanisms to address this impact, changes to tourists' behaviour are recognised as our most valuable and likely option [1, 2]. These behavioural changes include less frequent air travel, shorter trips and distance travelled, extended duration of stays and choosing more sustainable forms of transportation [3].

Voluntary carbon offsetting from airlines invites individual air travellers to "neutralise" their emissions caused from their flight by purchasing carbon credits that in turn finances a project to achieve reductions elsewhere [4, 11]. Consumer involvement rates have been relatively low in the Australian market which was approximately 2.5% in 2010 [5]. Reasons for low VCO purchasing rates can be explained, inter alia, by a lack of consumer awareness of carbon sequestration and denial over the responsibility of the air traveller to offset and not the airline [6, 7].

Against this background, this research aims to examine the factors influencing voluntary carbon offset (VCO) behaviour with special focus on the potential impact of sustainable tourism education on the voluntary carbon-offset behaviour of young travellers. The key educational intervention is a capstone-level sustainable tourism course with a major experiential learning component through a field-trip to an advanced-level certified ecotourism destination in the Great Barrier Reef, Australia.

The focus is on young travellers (18–25) because, as they progress through the generation, it is their behaviour and underlying values related to sustainability of air travel that will determine the characteristics of demand for air travel in the future. It is also a population segment where, arguably, their views and values can be shaped by education.

2 Methodology

To achieve this the research conducted two studies. Study 1 compares VCO choice behaviours of those who have undertaken significant ecotourism experience (through the field trip) versus those who have not undertaken the course or any other equivalent field trip. Study 2 compares VCO choice behaviours of those pre-experience (before the field-trip) versus post-experience (after the field-trip). Both studies implement choice experiments and multinomial logit choice model to examine the VCO behaviour. The model is well-known therefore its description is not replicated here.

2.1 Ecotourism Education

Otherwise known as the 'intervention', the ecotourism education experience—strong education focus is embedded in 'hard' or 'dark green' form of ecotourism

experience [8], was undertaken as part of a capstone (level 3) course on sustainable tourism, which involves a 5-day field excursion at an ecotourism resort, Lady Eliott Island, in February 2016. During the excursion students are involved in learning activities organised by the university and eco-resort staff. This includes learning in areas such as waste management, desalination plant management, basic knowledge about marine science, as well as sustainable tourism principles. In addition to site visits, students undertake a number of assignments and scientific readings on related topics, including those addressing the issue of aviation and climate change.

2.2   Study 1: Ecotourism vs. No-Ecotourism Education

Placed in the context of voluntary carbon offset (VCO) schemes for long-haul air travel (between Australia and Europe), the choice experiment has been designed with key attributes such as price and quantity of the offset, the type of offset program and whether or not the program is certified. These attributes and attribute labels have been identified in the literature review. The experimental design composed of three variables: two variables with four levels and one variable with two levels. The experimental design is a generic design (unlabelled). A main effects only orthogonal design was generated consisting 11 scenarios grouped into two orthogonal blocks. Each respondent was assigned block one (five scenarios) or two (six scenarios). Respondents were required to repeat the scenarios under a case where the total carbon emission of the flight was 1 ton and a case where the total carbon emission was 4 tons. Thus, each respondent completed between 10 and 12 scenarios. The attributes are summarised in Table 1 and the sample choice scenario is shown in Fig. 1.

This study uses a mix of stated choice experiment and verbal protocol analysis. The latter enables the researcher to elicit additional information about how the respondents justify their choices by asking respondents to 'talk-out-aloud' their

Table 1 Attributes and levels

Attributes	Levels
Carbon offset price (amount of carbon offset)	$25 (25% offset)
	$50 (50% offset)
	$75 (75% offset)
	$100 (100% offset)
Type of project	Biodiversity conservation
	Renewable energy
	Fuel efficient cookstoves in third world countries
	Methane capture at landfill sites
Project certification	Australian government certified
	None

Stated Choice Survey

Imagine you are planning to book a long-haul flight for yourself e.g. from Sydney to London, New York or Frankfurt. The airfare costs you AUD 2,200 incl. tax (economy class/return). While booking, you are given information that your return flight causes
1 tonne of CO2 emissions per passenger.

You are given three choices to choose out of four, three and two available options to offset the CO_2 emissions from your trip. Please tick your preferred option in the boxes provided below

2	Flight 1	Flight 2	No Offset	I would choose not to fly
CO₂ Emissions from return flight per passenger	1 tonne of CO2 emissions (1 year of household lighting)	1 tonne of CO2 emissions (1 year of household lighting)	1 tonne of CO2 emissions (1 year of household lighting)	
Carbon Offset Price (Amount of Carbon Offset)	AU$50 (50% offset)	$25 (25% Offset)	I would choose **not** to buy the offset based on the characteristics of Flight 1 and Flight 2	I would choose **not** to fly based on the characteristics of Flight 1 and Flight 2
Type of Project	Renewable Energy	Fuel efficient cook stoves in third world countries		
Project Certification	None	Australian Government Certified		
Choice 1				
Choice 2				
Choice 3				

Fig. 1 Example choice scenario

thoughts while making the decision. This is particularly useful because the latter can be often difficult to capture in quantitative terms.

In addition to the choice between one carbon offset option over another, the experiment includes a 'choose not to carbon offset' as well as 'choose not to fly' options. Thus, the experiment embeds the capacity to also assess the extent to which travellers are willing to forgo air travel. A traveller's willingness to stop air travel altogether due to the negative effect on the climate will be a telling 'test' of the current world's environmental ethic [9]. All data collection were undertaken in 2016 after the field-trip.

2.3 Study 2: Pre-ecotourism vs. Post-ecotourism Ecotourism Education

Although study 1 provided a cross-section of travellers with and without a significant ecotourism experience, one of the key limitations was the possibility that the administration of the data collection may have influenced the outcome. While data collection was conducted by the first author of this study (therefore at arm's length from the sustainable tourism course authority—second author), the students were fully aware of the purpose of the voluntary survey. Appropriate ethics approval was obtained from the human research ethics committee of the university prior to this study. That is, they were aware of the fact that the experiment was to gauge their pro-environmental behaviour as manifested through hypothetical VCO choices. Consequently, bias towards greater 'stated' pro-environmental choices have been raised as a concern. More importantly, the extent of this bias could not be tested with the current sample. Therefore, to obtain further cross-cutting evidence, additional data were collected in Study 2 where students enrolled in the course were given the same choice scenarios as Study 1 prior to the field-trip in 2018 while in the following year (2019) the students were given the scenarios immediately after the field-trip. Due to time and resource constraint, face-to-face interviews could not be conducted for Study 2. Related to this reason, and unlike Study 1, the respondents could not complete both the 1 ton and 4 tons contexts. Rather, they were randomly assigned to one of the two contexts.

3 Results

3.1 Results Study 1

Fifty individuals from the University of New South Wales (UNSW) completed a face-to-face choice experiment with a "talk-out-loud" method. Nine respondents were in the ecotourism group whereas the remaining 41 respondents were not involved in any comparative level of ecotourism education. In total, this amounted to 550 completed observations. Each observation was associated with an interview transcript outlining the justification the respondents have provided in making the choice. The mean age of the participants was 21.6 (SD = 2.16; range 18–29 years of age (56% female). The profile of respondents reflects young people with education at a university level and generally with low personal income but not necessarily low socio-economic status when parents' total annual income is considered.

We find that the attributes of VCOs do have a significant impact on young travellers' VCO choice behaviour. Thus, it is not only the carbon offset price which is important to young travellers but whether or not the program is certified by the government and where their contribution is going to. Regardless of the size of the emission (1 ton or 4 tons), travellers emphasised the importance of certification. If

the program was not certified, they were more likely to choose not-to-offset. The key difference is that in the 4 tons scenario, travellers pay more attention to the type of offset project, favouring renewable energy and fuel efficient devices in developing countries.

Importantly, in 39/50 samples, travellers were not willing to forego the option of not travelling, despite acknowledging the contribution the flight has on emissions. The respondents justified this decision based on the viewpoint that because they fly very little, they do not feel there is a strong tension between their flying behaviour and concern for climate change. The results (Table 2), are consistent with the findings in the literature that shows the dissonance between environmental awareness and flying behaviour is often successfully integrated, and the younger generation tend to appeal less to indulgence and fatalism when justifying their choices.

Certification is the most important attribute determining the choice of VCO in both the non-ecotourism group as well as the ecotourism group. The major differences between the two groups are twofold: (1) the non-ecotourism group prefers to offset less than more (as the cost increases linearly with greater offset) whereas the ecotourism group prefers to offset as much as possible; (2) the former prefers projects related to renewable energy whereas the latter prefers project concerning biodiversity conservation (Table 3).

3.2 Results Study 2

Forty-eight Individuals from the same university as Study 1 completed a non-face-to-face choice experiment (with 5–6 scenarios each = total observations of 153 in 2019—"post-ecotourism group"—and 93 in 2018—"pre-ecotourism group"). Partly

Table 2 1 Ton vs. 4 tons

	1 ton		4 tons	
Attribute	Coefficient	Stand. error	Coefficient	Stand. error
Price	−0.17∗	0.09	0.11	0.08
Type of project				
Biodiversity conservation	Reference	Reference	Reference	Reference
Renewable energy	0.32	0.28	0.85∗∗∗	0.28
Fuel efficient cookstoves	0.24	0.29	0.58∗∗	0.28
Methane capture	−0.15	0.28	0.13	0.27
Certification	1.14∗∗∗	0.19	1.12∗∗∗	0.19
No offset	0.58∗	0.3	0.81∗∗∗	0.31
Number of observations	275		275	
Log likelihood	−280.5		−280.48	
AIC/N	2.084		2.083	

Significance levels (∗∗∗1%, ∗∗5%, ∗10%)

Table 3 Non-ecotourism vs. ecotourism

Attribute	Non-ecotourism		Ecotourism	
	Coefficient	Stand. error	Coefficient	Stand. error
Price	−0.12∗	0.07	0.34∗∗	0.13
Type of project				
Biodiversity conservation	Reference	Reference	Reference	Reference
Renewable energy	0.85∗∗∗	0.23	−0.04	0.42
Fuel efficient cookstoves	0.40∗	0.23	0.61	0.44
Methane capture	0.3	0.23	−0.89∗∗	0.41
Certification	1.18∗∗∗	0.16	1.18∗∗∗	0.31
No offset	0.89∗∗∗	0.25	0.27	0.47
Number of observations	430		120	
Log likelihood	−437.55		−111.28	
AIC/N	2.063		1.955	

Significance levels (∗∗∗1%, ∗∗5%, ∗10%)

due to the non-face-to-face nature, there were four missing observations. The mean age was 21 years old (SD = 1.3; range 18–29 years of age (60% female).

Due to limited sample sizes, we analyse and report the combined 1 ton and 4 tons results. The pre-ecotourism group is sensitive to certification, but other than this, the pre-group was indifferent between offsetting or not, or between offset programs. The post-group is sensitive to the offset cost. That is, on average they offset less because offsetting more costs more. The post-ecotourism group tends to favour projects with renewable energy, fuel efficiency or/and biodiversity conservation. There is modest statistical evidence on the effect of certification (10% level).

3.3   Discussion and Comparisons Between Studies

The comparison of interest is between Study 1's ecotourism group and Study 2's post-ecotourism group in order to explore any consistency in evidence. The main similarities in the findings are the importance of certification and the offset project type. The key difference is in Study 1's ecotourism group reacting positively to offset amount (because it means offsetting more), whereas Study 2's post-trip group is reacting negatively to offset amount (because offsetting more is more costly). Study 2's findings are consistent with the view that the initial findings of Study 1 may be too strong a pro-environmental behaviour one expects. In summary, as shown in Table 4, it is likely that certification is important in all cases, ecotourism experience may influence the type of offset project of interest, and that greater offset is less likely because it costs more to offset more.

Table 4 Pre-ecotourism vs. post-ecotourism

Attribute	Pre-ecotourism		Post-ecotourism	
	Coefficient	Stand. error	Coefficient	Stand. error
Price	−0.06	0.11	−0.50∗∗∗	0.17
Type of project				
Biodiversity conservation	Reference	Reference	Reference	Reference
Renewable energy	0.36	0.36	−0.18	0.5
Fuel efficient cookstoves	0.19	0.37	0.06	0.52
Methane capture	0.01	0.35	−1.67∗∗	0.67
Certification	0.50∗∗	0.25	0.62∗	0.35
No offset	0.13	0.39	−0.46	0.52
Number of observations	153		93	
Log likelihood	−162.93		−86.6	
AIC/N	2.238		2.035	

4   Conclusion

This research set out to empirically explore the VCO behaviour of young travellers in the context of long-haul air travel choices. In doing so, a stated choice experiment was implemented to understand this behavioural propensity. The two studies aimed examine evidence of ecotourism impact on pro-environmental behaviour—VCO in air travel. Although narrow range of samples were used, some preliminary conclusion can be drawn. First, ecotourism or not, certification is a very important determinant of VCO choice. It appears the ecotourism intervention may influence the type of offset project chosen. The findings are consistent with the view that a significant ecotourism experience, at least within a few months after the trip, is associated with the tendency for students to seek more information about VCO. A contradictory evidence was found between Study 1's ecotourism group, which chose to offset carbon as much as possible, and Study 2's post-ecotourism group, which tended to choose VCO but preferred to only partially offset because offsetting more is more costly.

Future research should focus on employing panel longitudinal methods with formal econometric identification (with improved sample sizes), and qualitative techniques that is capable of eliciting deeper insights into the decision making process. Initial glimpse of such qualitative data were obtained in Study 1 using verbal protocol analysis where it was found that those who chose not to offset justified their decisions by suggesting they fly very little. Trade-offs or compensatory decision making behaviour assumed in the discrete choice analysis, may not necessarily be the correct behavioural assumption for VCO where there is imperfect information. For VCO marketing, one obvious implication is that more information needs to be made available on where the offset purchase revenue goes. Further, signals of quality and integrity such as through government certification are necessary. Results raise the question whether there should be an age-segment driven carbon offsetting

strategies in aviation. Finally, a potential strategy worth considering is whether ecotourism destinations can partner with airlines to sell the greenhouse gas offset programs to travelers on their return journey home. Communities can be created among visitors to reinforce such strategies as is the case in other areas [10, 12].

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Greek Embassies on Twitter and the Quest for a Strategy

Georgia-Zozeta Miliopoulou and Eftychia Papaioannou

Abstract This chapter explores existing practices regarding the Hellenic Embassies' use of Twitter, paving the way toward their optimization. Twitter diplomacy offers significant advantages yet use in the Greek public sector appears to be sparse and anemic, depriving opportunities that would benefit the country. The authors studied a sample of five Twitter accounts in five different countries for 7 days, conducting quantitative and thematic analysis. Thus, they collected evidence on the frequency and periodical nature of the tweets; on the interactivity between the users and the account owners; on the existence of content strategy and content pillars; on the selected language; and, finally, on the extroversion of these accounts and the overall assessment of the communication strategy followed. The Greek Communication Officers appear to be using Twitter hesitantly, responding to occurrences rather than building opportunities, divided between the imperative for a tightly controlled central communication policy and the need for agile, real time, localized, interactive approaches with specific target groups in each country. Significant variations emerge from one Twitter account to another, thus indicating a lack of diffusion in terms of know-how and a lack of adequate alignment between the Greek central administration and the Communication Officers in Greek embassies.

Keywords National communication policy · Twitter diplomacy · Digital diplomacy · Social media · Greek embassies

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1 Introduction

The aim of this research is to offer insight on the current use of Twitter on traditional Greek Public Diplomacy and propose best practices. Within the context of Web 2.0 diplomacy, the use of social media for foreign policy purposes has been established in most countries, yet constraints like budget and personnel cuts may obstruct their strategic, effective use [1]. Furthermore, the conditions in each host country must be considered, as foreign audiences assess messages according to their own values [2].

In Greece, according to articles 22ff. L. 4339/2015, as amended by L. 4563/2018: "the aim of a national communications policy is to coordinate and effectively manage communication between Government and domestic and global audiences, increase the country's visibility abroad, and serve the public's right to free and all-round information. National communications policies are set by the Government and the governmental bodies responsible, and are implemented by the General Secretariat for Information and Communications (G.S.I.C.)" A national communications policy includes, among others, communications diplomacy, through which: "(a) the country's visibility abroad (is increased) via use of innovative and specialized techniques of political communication and (b) mutual understanding between Greeks and people from other countries (is reached) regarding social, economic and political issues of common interest". According to articles 24ff, the organisational units responsible for communications diplomacy are the Press and Communications Offices abroad. There is, however, a peculiar dualism at play here. There are 25 operating such Offices in Greek Embassies, where the Press Counsellors and Officers are in charge of the social media accounts, while in all others, either there are no such accounts, or they are handled by the diplomatic authorities, under L.3566/2007, as amended by L.4505/2017. Furthermore, according to article 24ff, L. 4339/2015, the organisational unit responsible for G.S.I.C. draws up a strategic communication plan every 3 years [3].

However, in the absence of any such plan at present, all those charged with social media management have only received general guidelines from their departments and rely on personal initiative and the existing conditions in the host country.

2 Literature Review

Public Diplomacy entails the use of strategic narratives by political players, particularly states, to positively influence foreign public opinion [2]. Theoretically grounded by Joseph Nye in the 1980s as "Soft Power" it is the ability of a state to utilise its "attractiveness", as opposed to Hard Power, using military or economic coercion. Soft Power tools include culture, history, values, educational programmes, products and tourism [4]. Should public diplomacy appear misleading, the state risks loss of trust, regaining which, demands time and financial resources [5]. Reputation can be reflected in the views held by foreign audiences [6]. Holmstrom

suggests that Public Diplomacy relies on the creation of narratives as a "plotline providing a framework for the information conveyed" [7]. The basic distinction between traditional and Public Diplomacy is that the latter targets the citizens without replacing official communication pathways [8]. Cultural diplomacy is also a type of public diplomacy mainly focusing on the arts, languages and ideas [9]. Public Diplomacy is more functional in a network environment [10, 11] and can positively influence public opinion, yet this takes years and is highly contingent upon political and diplomatic circumstances [12].

First the web and then the social media allowed the public to sidestep government monopoly on the dissemination of information, favouring Public Diplomacy, creating an active, empowered audience and providing equal opportunities for states [2]. The social media offer a low-cost, direct, dialogue-based communications channel [1], reaching even the underrepresented segments of the population [13]. However, there is still uncertainty as to their effective use and its assessment, while citizens have high expectations of the governments' use of social media [1].

Public diplomacy emphasises two-way communication yet, for security reasons, embassies opt for more closely controlled, one-way communication, adopting a top-down approach than the recommended bottom-up treatment [11]. Social media allow for debate, participation and the fostering of virtual relationships between the public and public diplomacy makers who are now perceived as "someone like me" [14, 15]. Research into the true extent of the role social media play in the attainment of diplomatic objectives is scarce, with studies mostly limited to U.S./Western countries, and evidence suggests that Web 2.0 public diplomacy depends greatly on the ability of diplomats to manage the available resources and technologies [16].

Several government bodies have official Twitter accounts [17]. Most public administrations are said to largely fail exploiting social media capabilities, mainly because of staff unfamiliarity, difficulty in implementing horizontal reforms, personnel shortages, administrative/bureaucratic bottlenecks, lack of resources, and hierarchy/bureaucracy limitations [18]. Governments' tweets tend to mostly provide services and information, treating citizens as passive rather than active recipients [19].

Heine and Turcotte [20] highlight three levels of Twitter use in foreign policy: (a) the basic level favoured by most Foreign Ministries, whereby Embassies post official information/links/Press Releases, (b) an intermediate, more personalised level, whereby diplomats function as "media-guides", posting articles of interest and (c) an advanced level, whereby diplomats converse with the foreign public, even on sensitive issues. The third level is preferable as it promotes democratisation of debate between the diplomatic elites and the public, without traditional media limitations [2].

A survey on Embassy Twitter accounts by Central-Eastern European and Western countries revealed that Western country Embassies focus on national foreign policy advocacy while Central-Eastern ones on cultural diplomacy. Neither practises listening. All Embassies use facilitative messages and consider social listening a strategic and tactical skill. Tactical (two-way, asymmetrical) communication aims at achieving a truer form of communication, but yields limited outcomes; strategic

(two-way, symmetrical) communication is favoured, particularly to co-formulate policy [21].

Best practices for Embassies' blogging or microblogging include the following: The core message must concern policy, society, cultural exchange, bilateral relations, and the country's values, while connecting to the host country's citizens. The sources used should be reliable, proficient in the language and culture of the two nations they liaise, and they should target opinion makers, public figures and the youth. Highlighting the ambassadors' integrity, reliability and human face is significant. Also, it is important to connect posts with events in their pre- and post-stage, as well as by live broadcasting and cross-posting using links [15].

Such meaningful relationships also entail promoting cultural values familiar to foreign publics as well as using the host country's language when posting, along with English if necessary. Knowledge of the host country's domestic political climate and legal system is also essential [22]. Regular and frequent updates are required, covering a variety of issues, featuring prominent individuals from sports, the arts and politics, using hyperlinks, hashtags, and multimedia. If an Embassy is to attract comments, likes, shares, retweets and views, aiming at best possible reach and public engagement, it should cultivate long term relationships with the most active followers, replying directly and seeking meaningful interaction while aiming at new followers by profoundly studying demographic and geographic information [16]. Best practices also include following, retweeting and sharing content from a multitude of users; posts daily; replies within 24 hours; polling and leading discussions; personalizing the official Twitter account ensuring transparency and accountability [17]. Based on the above, this chapter will provide research evidence on the use of Twitter on behalf of Greek Embassies, describing the current situation and proposing best practices.

3 Research Scope, Method and Analysis

To gain further insight on the use of Twitter by Greek Embassies, this exploratory research addressed the following research questions: (a) How frequent and regular are the posts? Is there evidence of content planning, or randomness, due to circumstance? (b) What are the content sources? Does content reflect national policy or local diplomats' initiative? (c) What are the themes? Are there similarities between embassies? Is there a connection with off-line events? (d) Which languages are used? (e) Is interactivity sought after or does one-way, informative communication prevail? (f) How extroverted are these accounts? Are they interacting with user-generated content?

Five Embassies were selected, aiming at a broad geographical range and a regular, consistent presence. Their content was monitored during November 1–6, 2018. Quantitative content analysis [23] was used to measure the most frequent topics, tags and hashtags, thus providing a measurable overview. Thematic analysis

[24, 25] was used to shed light on the topics and the underlying agenda. The selected Twitter accounts are listed and described below:

The Twitter account in Ethiopia is at https://twitter.com/GreeceinET?lang=el, @GreeceinET, username:GreeceinEthiopia. The Greek and Ethiopian flags are on the header, with the phrase "Ethiopia-Greece Centennial, 100 years of friendship". The G.E. in Ethiopia is the profile picture. Created in July 2013, it was following 180 accounts, had 337 tweets, 350 followers, 75 page likes, and 74 photos/videos posted.

The account in Korea is at https://twitter.com/GreeceinSeoul, @GreeceinSeoul, username: GreeceinKorea. The header features a Korean building and the profile picture is the national Greek emblem. Created in August 2016, it was following 359 accounts, had 1100 tweets, 454 followers, 931 pages liked, and 133 photos/videos.

The account in Cyprus is at https://twitter.com/GREmbassyCY, @GREmbassyCY, username: GreekEmbassyCyprus. Its headers are the Greek/Cypriot flags, its profile picture the national Greek emblem. Created in May 2012, it was following 16 accounts, had 914 tweets, 216 followers, 14 pages liked, and 5 photos/videos posted.

The USA account is at https://twitter.com/GreeceInUSA, @GreeceInUSA, username: EmbassyofGreece. The header is a Greek seascape, its profile picture the logo "Embassy of Greece in USA, Washington". Created in October 2010, it was following 2227 accounts, had 5604 tweets, 14,600 followers, 1769 pages liked, and 553 photos/videos posted.

The UK account is at https://twitter.com/GreeceinUK, @GreeceinUK, username: GreekEmbassyUK. The Greek flag and Big Ben are on the header. The profile picture combines the Greek and English flags. Created in September 2010, it was following 3081 accounts, had 4889 tweets, 9892 followers, 825 pages liked, and 378 photos/videos posted.

This selection is broad rather than deep and the sample is neither representative nor weighed. However, the accounts chosen were among the most active in their respective context, meaning that the Greek Embassy in Korea has one of the most active accounts in Asia and the one in Ethiopia is among the most active in Africa. Though they may lack in comparison to some EU-situated Twitter accounts, they most certainly outrank many more.

Regarding the frequency during the timeframe selected (1–6/11/2018), 13 tweets were posted by the G.E. in Ethiopia, 3 by the Embassy in Korea, 11 in Cyprus, 5 in the USA and 9 in the UK, a total of 41 tweets. Regarding regularity, the highest tweet average belongs to the G.E. in Ethiopia while the lowest to the G.E. in Korea. The G.E. in Ethiopia tweeted every day; the Embassy in Cyprus tweeted 5 out of 6 days; the one in UK 4 out of 6 days; the ones in Korea and the USA tweeted only 2 out of 6 days. All the tweets were either in Greek or in English.

Regarding user reaction, multimedia use, and account extroversion (retweets/ mentions/hashtags/hyperlink references), the following can be said: The G.E. in Ethiopia, out of 13 tweets, received 15 replies, 271 retweets, 705 liked, 12 mentions, 21 hashtags, 20 photos/videos and 5 hyperlink references. Of the 13 tweets, 9 were retweets (69.23%). The followers themselves retweeted 76.92% (10/13) tweets,

liked 100% and commented on 38.46% (5/13) of the tweets. In Cyprus, out of 11 tweets, there were 157 replies, 2418 retweets, 2959 liked, 12 mentions, 12 hashtags, 20 photos/videos, and 2 hyperlink references. All 11 tweets were retweets (100%). The followers retweeted, liked and commented on all. Of the 9 tweets in total in the UK, there was 1 reply, 45 retweets, 89 liked, 17 mentions, 18 hashtags, 15 photos/videos and 5 hyperlinks. Only one was a retweet (11.11%). The followers retweeted and liked all the tweets and commented on one. In the USA, out of 5 tweets, there were 0 replies, 41 retweets, 50 liked, 3 mentions, 9 hashtags, 4 photos/videos and 4 hyperlinks. Two of the 5 tweets were retweets (40%), with followers retweeting 100% of the tweets (5/5), liking 80% (4/5) and commenting on none. Out of 3 tweets, the Embassy in Korea received 11 replies, 197 retweets, 349 liked, 5 mentions, 7 hashtags, 3 photos/videos and 2 hyperlink references. Two of the three tweets were retweet. The followers retweeted and liked all three (100%) tweets, and commented on two. Overall, an extensive use of multimedia is noted, as 30/41 tweets are accompanied by photographs (73.17%), and 3 by videos (7.31%). Although users frequently react to G.E. tweets with replies, likes and retweets, none of the followers' comments have been replied to by the respective Embassies.

A thematic analysis provided the following key findings: The register of the tweets is mainly formal, but the use of hashtags/mentions and special characters makes for a more appealing experience; the language varies depending on the host country. A combination of Greek and English is used by the G.E.s in Ethiopia, Cyprus and Korea, while only English tweets are posted on the USA/UK Embassy accounts. All retweets and mentions on the Embassies' part are to official government body accounts, and never to user-generated content. Hashtags are used more frequently and refer mainly to countries and activities. Photos and videos mainly concern official meetings, conferences and summits, interviews with government body officials and diplomats, dignitaries, events, Greek locations and sights, and promotional videos of Greek destinations. Most of the content had to do with events and activities taking place in Greece. Then come official meetings in the host country. The third and fourth more frequent content areas are government announcements and MFA announcements. A few tweets promoted distinguished Greeks and Greek tourism.

4   Recommendations

Expanding existing topic categories and further publicising Greek activity in the host country by creating convincing, long-term narratives should be a midterm objective. In accordance with the literature, a mixture of communications policy must combine, posts based on directives issued by a central agency with the embassy's local initiatives. Such a plan should also address the Greeks in the host country.

Most of the tweets convey messages about politics and bilateral relations. Hadn't it been for the Petrounia's victory in Doha that week, only sparse examples of

social and cultural topics would appear. Since the Greek values dominate, future posts should seek to focus on the host country values as well. Furthermore, the only mention to the host country comes from Greek-related events there. Twitter accounts should cover different, more engaging topics that will also be of interest to the citizens in the host country.

Cultivating two-way communication is of prime importance. The administrators should reply timely, directly and in person. They should also ask questions, interact, and encourage discussions that will lead to more engagement and social listening. A personalised hashtag, such as #GreekEmbassyfeedback, could be introduced to track replies more easily. To obtain wider reach, public engagement and feedback, the embassies must follow multiple accounts as is the case with the USA/UK G.E.s. They should also focus more on people than on institutions and use the host language, along with English if need be. Greek tweets only target Greek minorities in the host country.

Finally, a content plan is recommended, comprising a mixture of "appealing" posts attracting reactions from the public, and sine qua non posts that promote government achievements even if they do not attract user engagement. Such a plan should be rich and meticulously designed beforehand, while going through real-time optimization based on measurements. Popular topics should emerge from a close demographic study of the host country. During periods of relative inactivity, so-called "deep-freeze" posts concerning culture/tourism/history can be of use, as they invariably generate positive interaction and promote dialogue.

5 Discussion and Conclusion

Posting only a few times a week and only circumstantially on the same day, these Twitter accounts are not particularly active. There is no regularity and no content plan. The administrators grab sparse opportunities to spread the Greek news and agenda rather than foster connections in the host country. Since there is no official communication strategy, they conservatively do the minimum and they promote the Greek authorities rather than the country. Most Embassies tweeted about similar topics like the gymnast Eleftherios Petrounias's gold medal in Doha, the Film Festival in Thessaloniki, the Marathon in Athens, and the Alternate Foreign Minister's official visit to Shanghai. Few were the efforts to create connections with the host country, mainly around tourism. In sharp contrast, user engagement was higher in tweets that promote tourism and lower in tweets about Greek events and official meetings.

It is concluded that liaising with the local publics is not an objective: no responses to followers' comments; no reaction to the followed accounts' posts; lack of interaction; and focus on one-way communication, are the dominant trends. Any retweets, mentions, and hashtags only relate to Greek media and official bodies. There is no interaction with the host country other than very few hashtags.

As proposed above, aligning with best practices suggested in the literature would be of great importance. Studying the host country, interacting with specified

audiences, fostering local initiatives, and going beyond the dualism observed in this chapter, is necessary to harvest the social media benefits in the context of Web 2.0 diplomacy.

Future research could provide more insight on the overall Twitter activity the Greek Embassies engage in, tracing and diffusing any existing exemplary practices. Comparisons to countries of similar size and geopolitical importance may also enhance our understanding of the potential of Twitter in the global political landscape.

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Knowledge Management on Hotels: The Case of Greek Hotels

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Abstract The scope of this chapter is to examine the case of knowledge management on the hotel business. The search for quality is directly related to the conversion of personal knowledge into a collective asset. In order to explore the processes leading to effective knowledge management, concepts such as this one are studied learning organizations, practice communities, in-house training, and it clarifies that a "thinking workforce" integrates learning into work processes by utilizing it to continually improve its services. In particular, reference was made to ways in which employees can integrate knowledge and channel it into the organization through Knowledge Management. Having in mind the important role of knowledge management on hotels, the chapter has focused on how to empower those intellectual skills so to leverage the performance of hotels.

Keywords Hotels · Knowledge management · Skills · Learning · Tourism

1 Introduction

Developments in the current era in the fields of society, economy and culture is rapid. Tourist services are a particular form of service, the recipient of which is expecting much more than it expects to use other services [1]. The organization and management of these organizations presents a number of peculiarities due to the complex process of producing services and the specificity that tourist product is associated with free time, leisure and other benefits which contribute into the

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consumers' well-being [2]. High expectations and user requirements to improve tourist services are now a universal demand and have been established as the necessary operating conditions for tourist organizations, such as hotels. The search for quality in these services, which is not only about tourist management work, but about all tourist services and care is today recognized need around the world [3], while there is a limited evidence on what is going on in Greece [4].

Furthermore, the quality of services as provided is a vital issue for tourist professionals, the state and society itself, which has led to the rapid development of organizations active in the field of tourism. This means that it is essential to have a good knowledge of the intellectual assets that a tourist organization has, including its employees' ideas and creativity. For this reason, it is essential for the tourist businesses to focus on how to capitalize their intellectual assets through a knowledge management system. Knowledge management on Greek hotels is a concept which has not been widely examined, therefore there is going to be an extensive literature review on the value of knowledge management and how it be extended through the training and development of the personnel on hotels.

2 Methodology

This is a literature review, which means that the chapter relies on the material taken from similar and past researches. The authors have used keywords such as "knowledge management" and "knowledge management hotels" so to identify similar papers and researches. Then they tried to combine the well-known theories and authors along with recent papers so to have both the basic theory along with any recent material. The material used was retrieve from online databases such as Emerald, Science Direct and Scopus. The authors have also used Google scholar for the purpose of this chapter.

3 Literature Review

3.1 Organizations in the Knowledge Society

Historically societies that invest more than others in human capital, lead the world development race. In the 1970s, people were "mistrusting" to work, meaning they were doing a job and were looking for work. In the 1980s they began with learn during the work with instruments of programs continuing training and actions related to lifelong learning. In the 1990s they learn through work in order to be able to m initially confer on this new information, and then customized to construct the knowledge and work skills. From 2000 onwards, there is the view that "learning is a job", and a key component is the cultivation of social and cognitive skills. At the

dawn of the twenty-first century, we are entering an era where the traditional pillars of economic power, such as capital and raw materials, there are key success factors for a company [4].

The development of the sciences, the globalization of the economy and the transformation of the productive process, diversify the professional framework of action of each worker, giving new dynamics to the social structures. The view of [5], that employees are valuable assets of the Organization, leading to the assumption that the key components of efforts by organizations (including those of tourist services) should be the development of their human resources with resources from the design education and training programs [1].

The voluntary and fragmentary nature of professional development has given way to a lifelong effort by organizations that include a variety of programs, adult education and a culture of self-learning. The systematic efforts of organizations to adapt to the needs and specificities of learners and lasts throughout the working life (lifelong learning). The term "lifelong learning" has been formulated in the official position of the European Union in 1996 and is described as follows: "lifelong learning" is more approach, focusing on the learning opportunities and processes of the individual, recognizing that these opportunities and processes are fueled by many social institutions, including not only formal education and training systems but also the family of business and the media [6]. In conclusion, the development of the staff of an organization, as a Party to continuing education and life longs learning seen as an investment in human capital as the knowledge has been described as the driving force of economies and is with a major challenge both for individuals and for organizations.

Within the framework of the new work organization, it is necessary to develop the skills that will enable the traditional worker to transform into a knowledge worker and at the same time equip him with the necessary skills to respond effectively to the new working environment. The challenge therefore is a modern enterprise, is to develop systematic and routing mechanisms for the management and development of business knowledge, which will deal with the modern administrative practice of knowledge management (knowledge management). The long-term goal of each venture, according to Senge [7], is the management of knowledge, which allows it to continually discover better ways of producing products and delivering services capable of meeting the needs of its customers [1].

3.2 Knowledge Management in Organizations

Organizations have always sought ways of providing administrative and technological support to their operations in order to maintain and increase their levels of efficiency and quality of service. This route was there many proposals for organizational improvement that emerged through necessities with more recent knowledge management. "Knowledge management" is a new management practice (management discipline) on the systematic and collective creation, diffusion and use

of business knowledge, with a view to radically improving organizational efficiency, improving entrepreneurial competitiveness and the development of innovation [8]. Now more and more organizations, among them the sanitary tend to its adoption, in order to benefit from its advantages, the main of which is the creation of a m socio-technical infrastructure that will favor innovation, change and constant adaptability to the demands of modern times [9].

"Knowledge" has become the most-cited concept of the knowledge management study. It is therefore necessary to clarify the concept of knowledge in order to separate the concept of knowledge management rather than information. Knowledge is defined as a mixture experiences, values and information as well as the person's ability to integrate them [10].

According to Mantas [1], the most valuable resource of a business is business knowledge, and its success depends on its ability to exploit it. At a time charac-terized by rapid changes, the skillful and effective control of knowledge and new technological tools will be critical of importance to the extent that the future of each enterprise-organization will depend on its ability to manage it in the most effective way. The skills and experience of the company's executives, the potential for innovation and creativity, the knowledge that has accumulated in the company, is the only sustainable comparative advantage in a highly competitive environment. According to [11, 12], knowledge management is a branch of management science, which concerns the systematic and collective creation, dissemination and use of business knowledge to radically improve organizational efficiency, improve business competitiveness and develop innovation [13]. It includes according to his own detection, analysis of existing knowledge, identify the required knowledge gaps, and finally design all necessary for the development of cognitive resources to achieve the organization's goals [11] Searching for and locating knowledge or lack of it is a complex process that requires insight and vision. In particular, the knowledge management process is a perpetual process that could be grouped into two categories [14]:

(a) the production of knowledge, including the formulation of the required knowl-edge, the acquisition of information, the assessment of the required knowledge and the organizational knowledge, and
(b) incorporation, which includes M transmitting knowledge, the search/retrieval knowledge, education and distributed organizational knowledge base.

As has been pointed out above, knowledge management is an integral part of the strategic planning of each business in order to increase the value of knowledge and transform into valuable organizational resource, giving the organization a sustainable and competitive edge. Within the framework of this methodological approach with an organization aimed at disseminating knowledge within meters of training orienting strategic planning so to transform a of an average organization into a "learning organisation", which means that it is an orgasation who "knows how to learn" [11]. The knowledge as mentioned m can be produced and integrated with instruments of formal (education) and atypical forms of learning (learning society).

It is also important to consider that knowledge management on hotels can rely on information which derives from the customers. Indeed, a hotel's management must be able to capitalize the experience of the guests and turn it into knowledge [15]. This means that if a hotel learns and understands the experiences of its clients, then it will have make a great gain so to develop a competitive advantage which will rely on the information taken from the customers [16, 17].

3.3 Knowledge Management on Greek Hotels and How the Employees Can Capitalize It in Organizations

Tourism businesses that are aware of the strategic value of learning and are concerned about the loss of valuable knowledge seek ways to transform employee knowledge (human capital) into corporate capital. Learning functions focus on learning, with emphasis on training and employee development and on managing and coordinating learning. The exchange of knowledge and the contribution of the intellectual capital of the company is going to become more common as social networking technology makes it simpler to materialize [18].

Most groups of employees will use social media tools to share learning content with each other, engage in discussions, collaborate, and create learning content. For example, in order to improve productivity in a tourism business specializing in tourism, workers are asked to indicate who employees communicate with each other and ask for help. This information is used to create a "link map". The map may indicate the communication gaps that exist, what information they do not attribute and which employees are not connected to their colleagues [19]. The increasing use of new technologies to provide education, knowledge storage and communication means that trainers should have the specific knowledge in the field of technology. That is, it is necessary to understand the strengths and weaknesses of new technologies.

Companies can also create new jobs such as a knowledge manager or an information manager whose job is to identify credible knowledge and ensure that it is useful to employees. Businesses are gradually moving away from the classical approach of education (classroom lessons, etc.) and instead go towards supporting work performance in real-world conditions. Learning is about training that takes place at work at any time. The Future of Education and Development contains the possibility of collaboration and is integrated with knowledge management. Learning may be overwhelming in the near future as businesses will not have the luxury of sending their employees to the classroom or offering them countless hours of online learning that is often not directly related to the requirements of the current position their work. Formal learning programs will not go away but will focus more on developing skills that will benefit the employee and the enterprise over the long term. Learning, in turn, will focus on providing the necessary skills for the worker to cope with key issues/tasks. The product of the latter is provided in real time and relates to specific tasks on the job, as a type of simulation that is accessible during

that time. In addition, it promotes real-time employee collaboration. The recent and rapid adoption of wireless technologies brings employees into direct contact with business processes [20]. Education is a business process that is an integral part of many other processes within the business. Employees can take advantage of the real-time (real time) support that is achieved through communication with coaching. One could envisage a future where workers will have access to some short courses (episodes), they will be informed when to take them, they will be directly associated with their special advisers, and they will also enjoy some kind of guidance in the form of simulation. Thus, each employee will receive a dynamic representation of the company, personalized in its role and cognitive "background", which will refer to its specific competences. Through it, he/she can work with colleagues, search for information, or engage in solving business problems. Another prospect that opens is the use of an information sharing and education content center through a PC whenever any employee needs it. This is achieved through the use of emails, instant messaging (chat clients, virtual offices with 3D graphics, video calls and teleconferencing [21, 22]. Fourth are the functional levels and applications under which workers and the system work together in an effort to produce products and services. The four levels are resource management, collaboration management, product management, and process management. With regard to the first one, it includes applications designed to generate resources such as human resources, machinery, etc. The second one refers to processes and experiences that characterize a task and includes the exchange of information and knowledge. Product management describes the interface between employees, products, partners and customers. The e-learning in g can be used to combine the above four "components" [3].

There is evidence from [1], that Hotels in Greece have available technologies can be used so to achieve this collaboration are asynchronous education platforms and virtual classes. Through this kind of collaboration, software can be used to produce knowledge and specialized systems that are available to every employee. For example, a tourist business can use such a collaboration software along with its employee training management system. In this way, employees can search, subscribe and pay for paid courses through the internet [19]. In the virtual classroom created, they have the opportunity to get in touch with their trainers and, with this end, to practice their newly acquired knowledge in the virtual workshops offered by the software. Finally, process management analyzes the workflow, as well as the human resources and the individual systems involved in this flow [22]. Despite of the acceptance of the value of knowledge management for Greek hotels, there is a need for further research and more practices which will match with the way that Greek hotels operate [4].

4   Discussion and Conclusions

In a tourist organization, the primary concern of the administration should be to create a knowledge management policy in the context of learning activities aimed at improving the quality of the services provided. From the examination of the litera-

ture review there is evidence that tourist organisations, especially the hotels, rely a lot on the data and information collected from clients and from others [3, 20], while the proper collection and analysis of this information so to turn it into a knowledge can bring a competitive advantage for a hotel [1]. Of course, in order to do this, there is a need to transform the employees in agents who can create new knowledge; hence there is a need to help them to develop the necessary skills [21]. At this point, it is important to mention that the hotels must be able to capitalize the information which derives from the clients experience and turn it into a knowledge [22].

The cognitive and professional development of an organization's human potential is promoted through active experimentation, the formation of creative ideas and the correlation with the theoretical framework, the acquisition of experience and reflection in work-related work [23]. Knowledge management as already mentioned is a new management practice and philosophy that examines the new elements of the knowledge economy and introduces them to existing and well-established or completely new tools, through the design of training programs [24]. In the design of training programs, account must be taken of the particular characteristics of adult learners, because employees are adults as the identification of the training needs of the staff.

Staff training and development should not be fragmentary but must be a continuing effort involving various training programs [25]. The effectiveness of the training programs in the context of an in-house training depends on the content, the implementation process, the implementation environment and the process of reflection, feedback and developmental assessment. Educational programs not only contribute to the success of an organization's strategic goals add value to the work of the people employed in it [26]. In fact, it seems that knowledge management has started becoming the focus of tourism management while the hotel management has started empowering their staff so to capitalize their knowledge. Nonetheless, it is necessary to move on with a further research which will focus on how the management of the hotels regards knowledge management and what is doing so to promote it and capitalize it.

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What Can the TripAdvisor Tell Us About the Complaints Management Strategies? The Case of the Greek Hotels

Dimitrios Tsiotas, Spyros Niavis, Dimitrios Belias, and Labros Sdrolias

Abstract This chapter aims to extract information about the complaints management strategies of the Greek hotels and to measure their interaction with the TripAdvisor users. The research builds on the comments and complaints being available at this website and performs a statistical analysis to detect differences between different hotel-classes (1-star up to 5-star). The results show a limited overall existence of responses, which is unevenly distributed over the high-class and against the lower-class hotels, illustrating a conventional pattern of complaints management "quality" in the tourism sector in Greece. Overall, this chapter highlights the importance of the information being available in travel and tourism social-media websites and it motivates for further research and the hotel companies to get involved with such applications.

Keywords Complaint response · Hotel rating · Hotel customers' satisfaction

1 Introduction

Complaints management (CM) in the tourism sector is a composite and important task. Hart et al. [1] define CM as "*the strategies companies use to resolve problems and learn through them so that they can establish their credibility in the eyes of customers*". Vos and Huitema [2], observe that the consumers' complaints behavior regards all reactions of consumers who have gone through a negative experience. Fisher et al. [3], note that all companies receive diverse dissatisfaction by their customers. In general, consumers mainly express their complaints either

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by exiting, or by addressing (direct) complaints to the company's representative, or by discrediting [2]. However, according to Kim et al. [4], most of the unsatisfied consumers prefer to express indirect rather than direct complaints to the company. Dolinsky [5], reports that CM is important because it is more costly for a company to attract new customers than to maintain the existing ones. Complaints provide feedback and thus they help to understand deficiencies, to get improved, to be constantly alerted, to optimize products and services, and to measure performance in terms of quality and competitiveness [6]. However, Bosch and Enriquez [7] note that CM does not evolve proportionally to the growth of the service-sector. Zairi [6] observes that most companies with SM problems do not recognize the importance of complaints and they lack of the appropriate framework to manage and resolve them. In practice, when CM is proper, many of the unsatisfied customers intent to repeat the consumer behavior and to send positive feedback to their friends and relatives about the company [3]. In contrast, unsatisfied customers can directly communicate their negative experience to about nine other people which causes (~10–15%) lost sales for a company [4]. Today, a significant activity of addressing complaints in the travel and tourism industry is held through social networks sites (SNS) [8]. In particular, applications such as the tripadvisor.com [9], the facebook.com [10, 11], and the booking.com [12] become major receptors of customers' dissatisfaction because they host customers' comments advising others about services-quality offered by hotels or other tourism companies. It is very impressive that such platforms are also used by unfamiliar with the internet customers [13]. Despite the importance of SNS in the CM, relevant research currently appears pretty limited [14], at an extent to ask for more research on how tourist companies deal with complains on the tripadvisor.com.

Within this context, this chapter builds on data extracted from a sample of 1-star up to 5-star Greek hotels, being available at the TripAdvisor website, in order to extract information about the complaints management strategies of the hotel companies. The further purpose of this chapter is to measure the level in which the hotels interact with the TripAdvisor users and generally to estimate the level in which the hotels take this website into account in their marketing strategies. The added value of this chapter is that it applies, for the first time, an empirical research on data extracted from a travel and restaurant website (tripadvisor.com) in order to study the complaints management in the hotel industry. This approach highlights the importance of the information being available in the travel and tourism social media websites and motivates the hotel companies to get involved with such applications.

2   Materials and Methods

The data (complaints and responses) were extracted from the TripAdvisor website at the period Dec 17–Jan 18. The collected sample included 125 hotels in Greece, ranging from 1-star up to 5-star. Due to unavailability of the lower hotel-class, only five cases of 1-star hotels were included in the sample, whereas each of

all other hotel-classes (2-star up to 5-star) included a sample of 30 cases. A "TripAdvisor-dependent" systematic sampling (with no repetition) was used for the data collection, according to which the criteria entered in the TripAdvisor platform were "Greece" for the destination (not a specific region or a single destination was chosen), and the next (to the sampling) day for the check-in and the very next day for and check-out. By applying these searching criteria, the first 30 hotels for each class were included in the sample provided that they had registered comments in their comment area (cases not satisfying this criterion were ignored). This sampling approach is considered as "TripAdvisor-dependent" because the ordering to which the searching results are shown depends on the TripAdvisor. However, due to the existence of plenty cases (30) to apply statistical inference based on normal distribution [15, 16], that dependence did not suggest a concern. For the case of 1-star hotels, statistical inference was made in reference to the Student's distribution [15, 16]. Within this context, the information collected for the analysis was the distinctive title of the hotel, the date of data entry, the average hotel rating by the visitors (ranged 0–5), the detailed (%) hotel rating (distributed along the ordinal classes excellent, very good, moderate, deficient, very bad), the hotel-staying rates (€), and the number of comments. The number of complaints was registered one-by-one for each hotel, in a data collection sheet created in MS Excel, where additional info was kept about the position of a complaint in the rank of the total comments (e.g. if the first complaint appeared after five comments it was given a ranking of 6, etc.), the number of comments intermediating two successive complaints (named distance to next complaint), the existence of response for each comment (binary variable, where $0 =$ no response) and the type of response, which was classified into four categories:

- Diplomatic: This type describes responses which mainly aim to avoid answering to the essence of the complaint by giving a typical response of the form ". . . thank you very much for your comment and we are sorry for this inconvenience . . . we wish to assure you that our hotel gives its best to offer high quality services to its customers and we would be happy to guest you in the future and to hear that you are satisfied from our services . . . ".
- Polite: This type describes responses where the (complaints) manager tries politely to answer to (the essence of) the customers complaints aiming to defend the hotel and at the same time not to offend the customers. In this type of responses the managers tries perhaps to inform the customers that actions were made to solve a problem, to solve a misunderstanding, etc.
- Aggressive: This type describes responses that are impolite, but not offensive to the customers. Some characteristic responses of this type are of the form ". . . you should not have visited our hotel if you believed that it is expensive . . . " or ". . . you should visit other hotels to see in what level the quality of services is . . . ".

- Ironic: This type describes responses that are both impolite and offensive to the customers. In this type, the manager unleashes personal attacks to the customers, insulting the customers' education, their ability to appreciate quality-services and to judge, even their honesty.

3   Results and Discussion

The major results of the analysis are shown in Fig. 1, where the two first bar-charts show the frequencies of comments, complaint, responses, and response types, and the other four diagrams show 95% confidence-interval error-bars of the relevant frequencies of these features (in reference to their wider sets) as well as the distribution of the average number of comments intermediating two successive complains (average distance to next complaint, ADNC).

According to Fig. 1a, the percentage of the customers' complaints existing for the Greek hotels in the TripAdvisor platform averages within the (95% confidence) interval 14.19–20.89%. Additionally, the percentage of the hotel-responses to these complaints (Fig. 1b) averages within the interval 36.87–54.53%. This implies that, in maximum, the half and, usually, less than the half complaints written by the customers in the TripAdvisor are being answered by the hotel managers. According to Fig. 1c, we can observe that the majority of responses include polite (64.15–85.93%, on average) and diplomatic (42.51–67.02%, on average) responses but a considerable amount of aggressive responses that may reach the 20% (2.77–19.90%, on average) can be found and a minor amount of 1.81% on average (0–4.21) of ironic responses. Such non-polite approaches may suggest a result of the family (micro) level of the hotel property in Greece, which usually are small up to medium size companies operating in family level, which makes communication with customers more personal than professional. However, a detailed consideration of this issue along with the evaluation of whether there is sufficient complaints management education in the Greek tourism sector suggests avenues of further research. Next, according to Fig. 1d, the 5-star hotels appear to receive fewer complaints than the other categories, but their number of complaints statistically differs only with the 2-star case. According to Fig. 1e, the 5-star hotels respond to the TripAdvisor complaints on average 24.63–51.31%, which statistically differs with the 2-star and 3-star cases and is almost three times higher than these. Finally, Fig. 1f shows that average distance to next complaint statistically differs for the 2-star and the (4-star, 5-star) cases showing a pattern that is inversely related to this of Fig. 1d and positively to this of Fig. 1e. Analysis about whether a response can set ADNC higher is pending by the authors of this chapter and is also suggested as an avenue of further research.
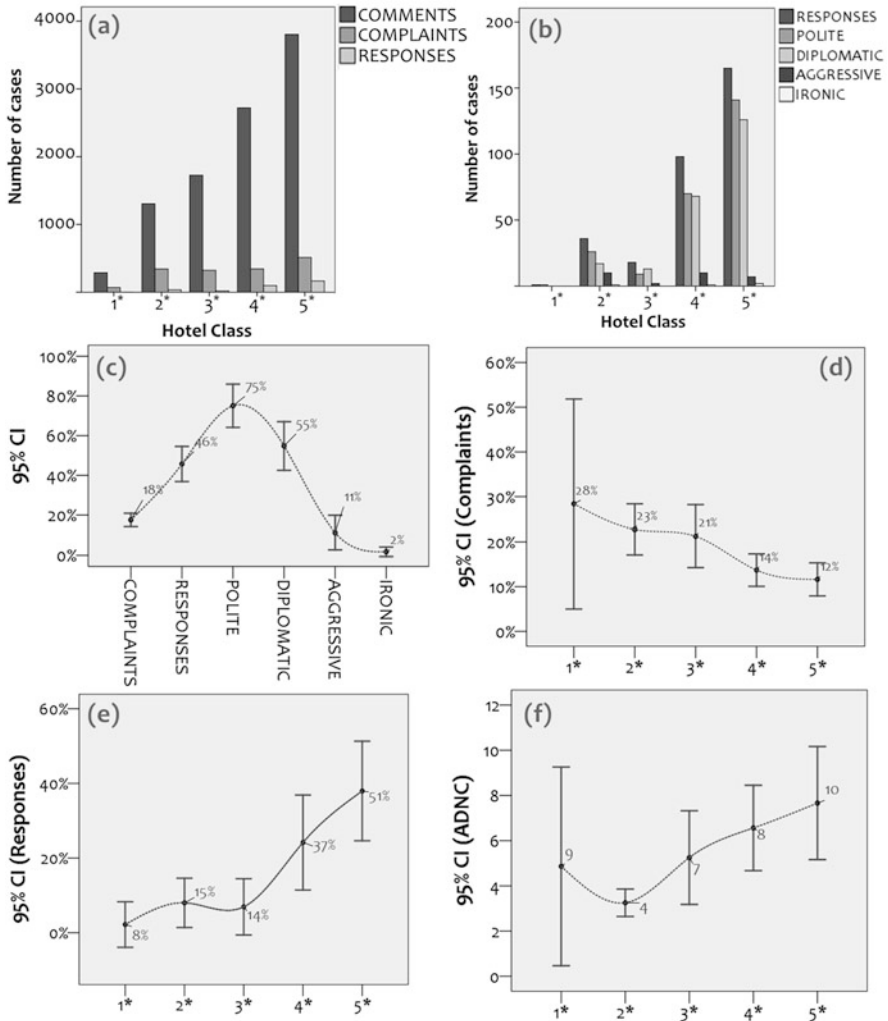
Fig. 1 (**a**) Clustered bar-chart showing the number of (TripAdvisor) comments, complaints, and responses, per hotel-class (1-star up to 5-star). (**b**) Clustered bar-chart showing the number of responses and response types (polite, diplomatic, aggressive, and ironic), per hotel-class. (**c**) 95% CIs of relative complaints (percentage of the number of comments), responses (percentage of the number of complaints), and response types (percentage of the number of responses). (**d**) Distribution of the relative complaints (percentage of the number of comments), per hotel class. (**e**) Distribution of the relative responses (percentage of the number of complaints), per hotel class. (**f**) Distribution of the ADNC (average distance from next complaint), per hotel class

4   Conclusions

Aiming to extract information about the complaints management strategies of the hotel companies in Greece, this chapter measured how hotels interact with the TripAdvisor users, based on the comments and complaints being available in this website. The results showed that, currently, the complaints management strategies suggest a concern mainly for the 5-star hotels, and conditionally for the 4-star hotels, which show a tendency to respond systematically to the complaints the TripAdvisor users. However, the intensity to which this is done by the high-class hotels in Greece is not yet at a satisfactory level, implying that the tourism sector has not yet reached the desired level of maturity to integrate the complaints management strategies to the field of the social-media interaction. Overall, Greek hotels do not seem take into account the TripAdvisor platform with the proper maturity and much work needs to be done towards this direction.

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Towards an Understanding of Temporary Exhibitions Through Visitor Research

Katerina Koukouvaou and Kali Tzortzi

Abstract Over the last four decades, the practice of temporary exhibitions has been growing rapidly. However, the effort and expense involved have led to a debate about their future and a critical view of their contribution to the museum's sustainability. With this background, understanding the market for temporary exhibitions and audiences' attitudes towards them is fundamental to strategic and effective planning. Though museums have substantially developed the field of audience research, there is no systematic knowledge of visitors' perspectives and behaviour when it comes to temporary exhibitions. This paper seeks to address this lack of knowledge by studying the latest temporary archaeological exhibition of an established museum, known for its engaging shows. In order to arrive at a better understanding of visitors' approach, it looks, through a research questionnaire, at the relation of temporary exhibitions' audiences to the regular visitors, what visitors consider as the distinctive features of the Museum's shows, and how they explore the exhibition. The research findings are analyzed as insights in themselves, and interpreted in the context of existing knowledge. A deeper understanding of how exhibitions work for audiences can lead, it is argued, to more informed choices both from a curatorial and a marketing point of view.

Keywords Visitor research · Temporary museum exhibitions · Types of visitor · Exhibition experience

1 Introduction

Over the last four decades, the practice of temporary exhibitions has been growing rapidly, since they are thought of as being strategic devices that can contribute to museum's sustainability. However, it has been argued that ephemeral displays

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might increase visitor numbers but, in the long run, put at risk museum's viability [1]. Within this framework visitor studies were conducted in order to understand how to create "successful" temporary exhibitions, mainly aiming at attracting large numbers of visitors [2]. The limited span for corrections due to the ephemeral character of temporary exhibitions renders visitor research imperative so that findings could be used as recommendations for developing future projects that meet audiences' needs and attract potential visitors [3]. However, few exhibitions have been sufficiently evaluated at the scale of a single institution, and studies that contribute to a more comprehensive understanding of the phenomenon on a national level are rare. Recently, in UK, the collaboration between a research consultancy and a group of 18 key cultural institutions raised awareness of this paid-for cultural activity.

This paper seeks to address this lack of knowledge by studying the case of the Museum of Cycladic Art, an established private archaeological museum known for its engaging shows and temporary exhibitions of modern art, which in the past was considered as a controversial practice for archaeological museums [4]. In particular it looks at its latest temporary archaeological exhibition "Crete. Emerging cities: Aptera–Eleutherna–Knossos: Three ancient cities revived" (December 2018–April 2019). In collaboration with the Museum, a research questionnaire was designed for the exhibition, aiming at three issues: (a) the relation of temporary exhibition audiences to the regular visitors of the Museum, (b) what these audiences consider as the distinctive features of the Museum's shows, and (c) how visitors explore the exhibition. Unlike studies that apply a preconceived segmentation system of museum audience, this research investigates the patterns of the participants' responses so as to identify key types of visitor. A deeper understanding of how exhibitions work for audiences can lead, it is argued at the end of the paper, to more informed choices both from a curatorial and a marketing point of view.

2 Visitor Research in Greek Archaeological Museums

Looking specifically at archaeological museums, it could be argued that evaluation studies are more popular than audience research [5]. Although Greek archaeological museums are often described as conservative and centralized cultural organizations [6], over the last decades, the production of temporary exhibitions in public and private museums has grown and become widespread in terms of attracting audiences, publicity and finance [7]. Among the milestones in the theoretical development of audience research in archaeological museums, we can distinguish: (a) the publication of a dedicated issue in 1999 of the journal 'Archaeology and Arts' [8]; and, a decade later, in 2009, of the Journal 'Tetradia Mouseiologias' [9], which drew attention to theorizing and presenting empirical data deriving from individual Greek case studies of museum exhibitions; (b) the unpublished doctoral thesis "The Archaeological Museums of Athens and their communication with the public", by Doxanaki (2011) [3], the key findings of which were published 2 years

later (2013) [10]. The thesis [3], focuses on the study of the archaeological museums of Athens through quantitative research of 437 visitors and non-visitors and deals with visitor studies as a complex phenomenon, with institutional, cultural and scientific dimensions in order to identify the reasons why certain groups consider archaeological museums non attractive and (c) the Audience Research in the context of the temporary exhibition "Domenikos Theotokopoulos before El Greco" in the Byzantine and Christian Museum in Athens by Stamatelou (2015) [11] which was published online on the exhibition microsite.

From an institutional point of view, the museums which are active in pursuing audience research include the Acropolis Museum (2011) [12], which conducted systematic audience research in order to evaluate its services 2 years after its inauguration; the Archaeological Museum of Thessaloniki within the framework of updating its communication strategy; [4] and recently, in 2018, the National Archaeological Museum in Athens [13]. Finally, particular reference should be made to EuNaMus 'Voices from the Museum: Survey Research' a comparative project seeking to investigate audiences' ideas about European National Museums [14].

3 Researching Temporary Exhibitions Audiences in the Museum of Cycladic Art

The exit survey conducted in the 'Crete' exhibition included a research sample made up of 55 questionnaires, filled in by visitors who were approached at random at the exit of the show over a period of 5 h on 2 consecutive days (30th–31st March 2019). It consisted of ten closed ended questions and two open questions. The questionnaire was designed after a dialogue with the MCA. Respondents were categorized in two broad groups: local audiences (71%), that is visitors born or living in Greece, and foreign visitors (29%).

The key aspects of visitors' profiles (Table 1) indicate that the exhibition overall had a particular appeal to women (67%), living in Greece, (68%), aged over 55 (43%), with a high educational background (62% had completed postgraduate studies), who rated themselves with the top values 4 and 5 in terms of museum experience (62%) and visited the exhibition by curiosity as well as general interest (32%) (corresponding to the type of visitors described as 'explorers' by Falk 2009) [15]. The audience included also a highly educated (72% had completed postgraduate studies) but less experienced (44% values 4–5) male audience 36%, aged over 55 years (55%). Overall, the age group that was least represented in the sample (9%), was that of 18–24 years old. These findings are in line with the profile of the visitors of the Museum in other studies, as the one carried out in the context of the temporary exhibition 'Money' during 2018: the respondents were 64% women, 38% aged 55+, 86% had a degree and above, 50% had completed postgraduate studies, and 64% had particularly high museum experience (values 5

Table 1 Visitor profile in the 'Crete' exhibition

Visitor profiles	Foreign visitors	Local visitors	Total
Male vs. Female	25% vs. 75%	36% vs. 64%	33% vs. 67%
Aged under 55 vs. Aged over 55	62% vs. 38%	51% vs. 49%	54% vs. 46%
Graduate vs. Postgraduate	25% vs. 75%	38% vs. 59%	34% vs. 64%
First time vs. Repeat visitors	56% vs. 44%	13% vs. 87%	25% vs. 75%
Intentional vs. Incidental visits	37% vs. 63%	77% vs. 23%	65% vs. 35%
Museum experience 5	38%	33%	35%

and 4) [16]. But comparing the two sets of data, we find that in the case of the 'Money' exhibition, the percentage of young people (below 25 years old) was higher (19% vs 9%).

Breaking the data down further, 56% of foreign audiences visited the MCA for the first time, as opposed to 13% of the Greek respondents. About half (50%) of first-time foreign visitors visited the exhibition in the context of the visit to the permanent collections, as opposed to a limited 10% of local visitors. The particularly high percentage of 77% of local audiences visiting intentionally suggests a wide domestic catchment area, in accordance with findings in 'Money' [16]. It could be argued that the majority of visitors (65%) came to the museum intentionally to explore the temporary exhibition, as opposed to a 35% of incidental visits, aiming at viewing the permanent collections (22%) or for other reasons (13%), such as visiting the restaurant or gift shop, attending an event, or accompanying their children to educational programmes.

Discussing audiences' motivations, about half of first-time (44%) and regular (57%) overseas audience were attracted to the show by 'curiosity and a general interest', while 33% were motivated by their expertise in the theme (Falk's 'professional/hobbyists' type of visitor) [16] and 20% visited the exhibition following 'word of mouth' (Falk's 'experience seekers') [15]. These percentages seem more or less equal when it comes to the local respondents, where findings indicate that the most common underlying motive (30%) was 'curiosity and general interest'. Percentages were more or less evenly spread in terms of local visitors wishing 'to gain a new experience' (23%), seeking to explore the display 'with family and friends' (21%) (Falk's 'facilitators') [15] and being motivated by their 'expertise in the particular theme'(18%). Interestingly, the proposition that attracted the lowest percentage (4%), both in terms of first-time and regular visitors, was that the respondents' motive was to 'engage into something different and relaxing in their daily routine (Falk's 'rechargers') [15]. This perhaps suggests that visiting the specific exhibition was not acknowledged as a 'relaxing' activity, either for local or for foreigner audiences, but rather as an intellectually demanding activity [17].

Overall, the findings indicate that the majority (54%) of the audiences acknowledged themselves as experienced museum visitors, able to navigate and read a temporary exhibition effortlessly: (34% value 5, and 20% value 4). This percentage when juxtaposed to the 47% of the sample responding that they had visited more than three temporary exhibitions during the last 12 months, and to the 40% who had

visited 1–3 temporary exhibitions, could be thought of as indicating a consistent trend in the temporary exhibition audience in the Greek market. A similar finding has been suggested in the context of relevant UK market research [18].

Turning attention to the second research question, what the audiences considered as the distinctive features of the Museum's temporary exhibitions, 44% of visitors, and in particular 81% of regular visitors, selected the exhibition design as the feature that they liked most, suggesting that this might be a critical element in repeat visits. The display of 'rare exhibits coming from abroad' was the second most popular response among the sample. Overall, 31% of visitors (38% of first-time visitors and 62% of regular visitors) highlighted the importance of being able to explore 'authentic findings', 'unpublished archaeological artifacts', 'particularly impressive ancient objects', 'mystifying relics'. These responses are actually consistent with the idea that museum exhibits have a significant impact on audiences and that visitors are attracted by original, rare objects and new findings [17]. A significantly lower percentage (20%)—14% first-time visitors and 12% regular visitors—considered the juxtaposition of modern and contemporary art and ancient Greek art as the most distinctive feature of the Museum. For the majority of the respondents (75%), and specifically for 71% of first-time visitors and 82% of regular visitors, the 'thematic content' is seen as the key difference between 'temporary exhibitions' and 'permanent collections', a finding that is in accordance with the literature and relative surveys indicating that the themes of the exhibitions are important to visitors, who sometimes remember the titles of interesting shows [7, 14]. Also a 13% identified their ephemeral character as the most prominent feature.

On the third research question of the survey, how visitors explored the exhibition, the findings indicate that overall, 67% of visitors—30% first time and 70% regular visitors—started the navigation by reading the introductory text first and then looked at the exhibits. Asked to talk about how they continued the navigation of the exhibition it is interesting that the findings indicate that how visitors started the exploration tends to reflect how they continued: 67% of the visitors in overall continued navigating the show by reading the texts first, while a 17% continued by exploring the exhibits, indicating a slight divergence. Looking at the profile of respondents who preferred to navigate the exhibition by looking at exhibits first, 11% were first time visitors and 89% regular visitors. As the 'Money' exhibition also showed, looking at exhibits first seems to be the feature of a distinct type of visitor personality, described as 'the experiential visitor' [16]. This type of visitor prefers to create meaning in a more unstructured way, following his/her individual experience. It can be contrasted to the dominant type of visitor in both the 'Money' and 'Crete' exhibitions, the 'informational', which is the type of visitor who seeks information and intellectual comprehension rather than experience. In the case of the two exhibitions, this type of visitor starts by reading the texts, and systematically, throughout the visit, reads texts before looking at the exhibits, so appreciates and follows the structured guidance offered by the museum on the reading of the exhibition.

With reference to what visitors found most interesting in the exhibition, in response to the relevant open-ended question, 22% referred to the texts as 'inter-

esting' 'well documented', 'illuminating', suggesting that they seemed to have a key role to play in the narrative of the show. Video walls, aerial photographs of archaeological sites on the floors and music background also attracted visitors' attention and were noted as having a positive impact on the visiting experience, in accordance with literature and other surveys [11, 19]. When asked what they would like to change in the show, 29% referred to practical things, such as 'not being allowed to take photos', and the absence of sitting places, and 9% referred to key dimensions of the exhibition, such as the exhibition environment ('dark lighting', 'limited space'), the number of exhibits ('more exhibits') and the informative texts ('difficult to follow the numbering on the texts'). Interestingly, those who were critical to the numbering of the exhibits were all experienced museum visitors (value 4 and 5).

4   Discussion and Concluding Remarks

Discussing the demographic profile of the visitors, it could be suggested that, in general, the findings are consistent with those of a previous visitor study in the Museum (see above), and of other Greek [3, 11, 14] and international studies [15, 18]. They all tend to reflect the fact that the middle-aged well-educated female visitors is the most representative group of the audience, engaging into museum visiting as part of an entertaining and learning experience. However, in contrast to other relevant studies [3, 11, 14], the research showed a strong representation of visitors over 65 which made up the second largest audience group of the exhibition. This might indicate that senior citizens form a dynamic group that should also attract the focus of museum experts, in terms of considering their needs and ways to facilitate their visiting experience, such as resting places within the exhibition and easy to read texts [20]. Interestingly, the percentage of visitors who explored the display with family and friends ('facilitators' by Falk) [15] made up 18% of the sample, and was almost equal to that of 'professional/hobbyists' (20%) and of 'experience seekers' (20%), indicating the presence of three key types of visitors. These percentages are in line with studies outlining the social dimension of museum visits [3, 14], but perhaps they could also account for the wide-reaching subject matter covered by the exhibition.

It is also notable that in both exhibitions 'Money' and 'Crete' we find a high proportion of Greek regular visitors, which might indicate a continuing trend in local sustained attenders [18]. Looking comparatively at the temporary exhibitions organized by the MCA during the last 10 years, it could be suggested that the ephemeral shows organized between November and May, a period of fewer overseas visits, have been primarily of archaeological character, with a particular focus on Greek prehistoric and historic periods, as it is also the case with the exhibition 'Crete'. It seems that the Museum's strategic planning is targeting, during this period, the current and potential domestic market of visitors (and schools), tailoring the experience to their interests, by presenting a wide range of anthropocentric

thematic narratives related to archaeological findings from Greece and the Mediterranean. On the contrary, during the period from June to October, the Museum organizes temporary exhibitions of contemporary and modern art, mainly presenting internationally well-known artists in the art market, whose work is usually inspired by Greek antiquity or mythology or more specifically by the Museum's permanent collection of Cycladic figurines. As shown in relevant surveys [21], contemporary art shows in archaeological museums seem to have an appeal to the younger generation of visitors, who are not normally visiting paid-for exhibitions. In terms of the Museum's marketing strategy, it is of particular interest that the last section of the 'Crete' exhibition juxtaposed a Minoan and a Picasso clay figurine, both placed in a prominent location, at the end of a key visual axis. This display device was used to 'announce' the forthcoming temporary exhibition 'Picasso and Antiquity— Line and Clay' (from June to October 2019). For some visitors, in particular for young people (18–24 years old) who describe themselves as non-frequent visitors, this was the main takeaway from the exhibition. From this point of view, through the practice of temporary exhibitions, the MCA establishes a strong brand name among other archaeological museums in Athens, which is crucial to attracting and retaining audiences [3, 18].

Not less importantly, visitors' responses to the open-ended questions raised issues related to the construction of meaning and to how the audiences reflect on the past through the museum. For 13% of local visitors, a key feature of the exhibition was "the continuity of urbanization in Crete", which was thought of as being linked to the continuity of Greek culture. Or, in visitors' terms: 'the continuity of our history as indicated by the excavations in Aptera, Eleftherna and Knossos', 'the exhibiting of cultural continuity in Crete through findings from prehistoric to modern times', 'the exhibiting of the continuity of prehistoric cities to modern Grete'. The idea of cultural continuity between ancient and modern Greece has been a great concern in the collective memory of modern Greeks, dating back to nineteenth century [6]. Perhaps it is within this ideological framework that visitors' interpretative approach should be set. It is no coincidence that the idea of continuity is raised by only one foreign visitor, and in fact not linked to Greek civilization but to urbanization as a social phenomenon, that is, 'the development of Minoan cities over time'. It is also notable that two non-specialists local visitors commented on two ancient cities not included in the exhibition's narrative as 'our ancient Gortina' and 'Phaistos'. The strong relationship between the past, the Greek educational policy and museums [14] was also raised by a local respondent, who noted: 'the excavation findings suggest that school history books should be updated', a comment which is linked to the issue of the authoritative role of the museum as a source of knowledge, and the relationship of trust between museums and audiences, often discussed in the literature [14].

To conclude, our research shows that audience research can offer meaningful insights into the temporary exhibitions' market, and in particular can bring to light distinctive features of the Greek audience compared to the international. The analysis in this case study supports the argument, that there are sub groups within the so called 'public' of temporary exhibitions [3], but challenges the established

idea that there are fundamental differences between tourists and local audiences [22]. This can perhaps been seen as indicating that preconceived models of types of visitors should be challenged by new approaches of decoding how exhibitions work for audiences.

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The Touristic Upgrade Through Preservation and Respect of Environmental and Cultural Heritage: The Ayasi Project

Emily Papapetrou and Ioanna Chatzistamatiou

Abstract This chapter aims to address the duty of maintaining and honoring our natural and cultural inheritance in the field of tourism. On this attempt we have created a project to represent this idea of ameliorating cultural and touristic services. It is about the alternation of an old traditional private residence in Paros island into agrotouristic guest houses with ecologically friendly solutions. Agrotourism is an original type of tourism where costumers are not only offered accommodation but instead they are given the chance to get involved with close to nature and culture activities. This project stands as a fine example of how tourism instead of aiming in low quality and short term profit could be inviting costumers to get closer to nature and tradition and support cultural education and local economy.

1 Introduction

Our debt as Architects is to step in and make a difference, suggesting new ideas on how our precious environmental and cultural heritage should be preserved and how tourism through hospitality should be approached. As opposed to current practices of mass tourism which value short-term profit, we instead ought to propose holistic solutions that respect the local landscape, culture and architecture.

More specifically, this study case focuses on the alteration of an abandoned traditional residence in Paros island in Cyclades, built around 1850, into summer houses with opportunities for original activities that would allow guests to get familiar with the local culture, traditions and their simple way of living.

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This precious place's most significant asset is its rich landscape, and that's mainly the reason why the new function would serve the purposes of agrotourism. During their stay, visitors through inspiring activities will be exploring the island's authentic products, recipes and handheld technics. What costumers would experience is a unique time isolated from the world's busy rhythm in a place where they will have only what they truly need; nature, good food and peace.

Our study basically involves the evolution of this idea, which begins from comprehending the island's history and architecture, in order to acknowledge and bold those elements in the final project and therefore fulfill our primary goal. Secondarily, there will be given emphasis on the preservation and restoration of the houses which will be maintaining the traditional architectural elements while new additions will be made in order to bring a fresh aesthetic and provide everything a holiday residence needs. Along with the housing and the hospitality there will be also created a brand to frame and promote the local products that would be produced in this area, in order to share them with the world and invite more people. Lastly, through the branding we aim on establishing a closer cooperation with the village's business network to help and support its overall development.

In a nutshell, this work's goal is to stand as a fine example of how cultural heritage can be revived through respectful and clever solutions which highlight their strengths and at the same time fulfill today's costumers' needs.

2 Agrotourism

By definition, agrotourism is an alternative form of tourism that takes place in non-urban areas and involves hosting while offering the guests a chance for activities that involve farming, animal care, cooking and more. The aim is to give the visitors a taste of how the living is close to nature, teaching them traditional methods and techniques. Besides the cultural education it provides, agrotourism could boost the local economy and promote local products [1, 2].

More specifically costumers are invited to stay in farmhouses or traditional spaces where they have the chance to participate in a wide variety of outdoor leisure activities related to either agricultural production, local gastronomy with local agricultural products and culture, or to outdoor activities such as hiking, mountain biking, etc.

Rural tourism is a relatively new and underdeveloped form of tourism in Greece. Although our country is rich in vast expanses of natural beauty and fertile land where countless goods are produced, agrotourism is not yet developed. Through it, of course, could give tourists a chance to get to know the Greek beauty in the local cuisine, its pure ingredients and its natural wealth.

Far from overcrowded tourist centers, agrotourism can offer the visitor the opportunity to become part of an authentic local community, in a pure and direct contact with nature.

3 Methodological Considerations and Case Study Description

3.1 The Project

It is a 10-acre farmhouse with mild topography and small-scale constructions that is estimated to have been built around 1850 and inhabited by its first users from then to 1975. The purpose and use of the site, beyond the family housing was the complete care of their survival. In addition to the main house there were auxiliary areas for animal farming, fermenters, textile manufacturing, wine making and more. These were surrounded by natural vegetation and cultivation of mainly vineyards and other fruit trees and shrubs. Within an autonomous piece of land, the family was therefore fully occupied, fed and housed.

Today the house remains unoccupied and has been preserved. It is a fine example of traditional Cycladic architecture and a valuable element of our cultural heritage. For us personally, the emotional value is double as it is part of one's family heritage. It is the place where the grandparents of one of us lived and grew up. Our personal connection to the place made us even more interested in discovering it and getting closer to our roots.

The aim was to revitalize the place by serving today's needs, reviving the values of the old lifestyle, promoting agrotourism and local products. We reassembled a new architectural proposal, to transform this old farmhouse into guest houses with activities to get close to nature and the local culture. To complete our goals, we created our own range of products to take full advantage of the rich natural vegetation.

We want to open a dialogue between the past and the future with the central aim of preserving and evolving this traditional typology, and at the same time adding a style of contemporary aesthetics adapted to the needs of today's touristic reality. The house was built stone-by-stone and evolved over the years since 1850, along with their needs, by its first inhabitants. The main building stands on the highest point on the edge of the plot and the other auxiliary spaces surround it. To the left of the house there are animal shelters, the dairy and textile making spaces. To the right there is the traditional kneading machine (aryalios), the oven and the cellar. As we walk down the plot, we come across vineyards with traditional winepress, threshing floors and a garden with the tern where clothes were washed.

3.2 House Description

The house was built stone-by-stone and evolved over the years since 1850, along with their needs, by its first inhabitants. The main building stands on the highest point on the edge of the plot and the other auxiliary spaces surround it. To the left of the house there are animal shelters, the dairy and textile making spaces. To the right

there is the traditional kneading machine(aryalios), the oven and the cellar. As we walk down the plot, we come across vineyards with traditional winepress, threshing floors and a garden with the tern where clothes were washed.

3.3 The Goals of the Project

- Regeneration of the area
- Create a new identity with respect to the old
- Highlight the history of the place and the old way of living
- Support Greek agrotourism
- Create a brand to promote local products and invite more people
- Creation of a new aesthetic which combines traditional and new materials
- Collaboration and support of local businesses

Learning and understanding the values, lifestyles and stories told in the place, we would like to connect these stories to the present and invite people to come closer to their land, smell, touch, taste its goodies and let a dialogue begin between the present and the past, between man and nature.

Therefore, using morphological elements from traditional Parian architecture in a new way, we made an attempt to reconstruct an architectural proposal that does not offend the landscape and tradition. On the contrary, it is intended to create a continuity that defies and honors the original character of the forms built for other eras. At the same time, however, the historical continuity is interspersed with elements of a modern aesthetic that highlight and serve the needs of the new use of the space.

We aim at revitalizing the region, always respecting the identity and history of the place. Reviving the daily life of another era, we want to bring the world closer to nature and contribute to the development of Greek agrotourism and the promotion of local products. And last but not least we want to revitalize the sense of community in the village by fostering cooperative relationships between local businesses.

So we end up reviving the traditional home into a full-fledged agrotouristic unit, which will include three autonomous guesthouses, two of which will be in older buildings and the third in a newer construction.

We plan to restore some of the existing functions, such as the cellar, the kneading machine, the oven, the presses, and create some new spaces, such as lounge spots, a shop, a cellar, a laundry room and an outdoor kitchen. Finally, we design the outdoor space, enriching the crops to produce products and creating paths, lounge spots and a pool area.

Our main idea is to not just provide a summer vacation accommodation, but an experience of serenity and acquaintance with the natural beauty, flavors and cultural richness of the island.

Visitors will have the opportunity to get familiar with the local tradition through agrotouristic activities, such as picking and pressing grapes, wine tasting, harvesting

the land and immediately consuming its products. Also, they will be able to enjoy the beauty of the nature through promenades, as well as moments of relaxation and meditation.

Lastly, to complete our goals we created a brand to promote not only our lodge and services but also the local products that will be produced and will be available to the costumers. The brand name is "Ayasi" which is the unofficial name of the village.

4   Discussion

4.1   Aiming at Which Target Group?

Our goal is to reach out to an alternative audience, people who are looking for more than the average touristic services. Approaching agrotourism, automatically a more specific group of users starts to form, with different requirements, different beliefs and more aware of what it is looking for. By targeting them, our accommodation will be chosen by both Greeks and foreigners. Among them, most will be couples, families and especially friends, because this holiday experience, offers apartments close to each other and shared dining and relaxation areas that would be ideal for this type of travelers.

4.2   New Interventions

We mean to create long lasting ecological conscious interventions. The use of the most appropriate materials in the building is the key to achieve this goal throughout its time. In this process, participation, awareness and knowledge can only positively contribute to the protection of the environment, and maintain a creation that respects and integrates into the ecosystem, which will not cease to meet its users' needs [3–5].

Initially, we will give priority to respecting the identity of the site in the light of its designation as preserved. As the interventions are limited, we will highlight the existing elements of local traditional architecture such as shapes, colors, materials, while enriching the interiors of the spaces with clever solutions for a better organization.

With regard to rural tourism sites and activities, we need to ensure that farm crops are multiplied and that more products will be produced. Also, it will be necessary to design passages and routes along the plot in order to facilitate the work but also the accessibility and easy movement of visitors within the area.

The design was adapted to the pre-existing spaces, with the aim of preserving and highlighting the history of the building, together with the creation of a modern

and functional accommodation. Many elements of the existing building have been preserved and reused, while at the same time redesigning new natural materials in the area in order to create a sense of timelessness and authenticity. The shells of the old buildings were preserved, while some of the roofs and floors were remodeled, following the typology of the existing building, such as small openings, plaster recesses, small heights, wall thicknesses, stone gutters and natural gutters.

The entire unit is internally and externally coated with traditional pressed white cement mortar that is combined with the traditional whitewashed roofs. Also very characteristic are the stone roofs which were preserved in some places and refer to another era giving another feel to the space. These elements compose the harmonized coexistence of the old and the new, while respecting the rules and logic of the reconstruction.

Aiming at the most eco-friendly operation of the space, we are installing to the new roofs sustainable energy production systems: Tesla energy tiles [6].

The solar roof complements the architecture of the houses while converting sunlight into electricity. With a built-in Powerwall battery, the energy collected during the day is stored and disposed at any time, effectively turning the home into a personal utility. We can adjust the amount of electricity produced by the Solar Roof to suit our energy needs. This feature is made possible by the use of solar glass tiles.

The Tesla home battery integrates with solar energy to make the most of the sun's power and reduce dependence on fossil fuels. Excess energy can be stored during the day and can be used at night to provide electricity the home. This will increase energy control and operational efficiency.

5   Conclusion

Greek reality and its islands are becoming more and more famous and attractive worldwide. This has an obvious impact on the image of the islands and especially in their crowded and bustling centers, mostly during the summer months.

Supporting island tourism and the preservation and revival of traditional landscapes, in addition to cultural debt, looks like the ideal opportunity to expand the quantity, quality and types of touristic options, to decouple the centers and to attract even more visitors. It is a sound proposition against the risk of lowering the quality of services provided on the altar of short-term profit, which always resides in such a touristic area as the Cyclades.

The most important lesson we learned, however, was the value of love and respect for nature and its history. Nature has generously given us the most important goods and this is something that in today's over-consuming society that is dominated by screens and devices, has been forgotten.

Perhaps returning to the simplicity and tranquility of nature, away from the city's loud rhythm, may show us that what we are really seeking has been already in our hands.

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Visual Communication, the Evolution of Greek Tourism Development as Represented by GNTO Posters

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Abstract Every artistic creation is a product of the main aesthetics principles of its time and represents the social and political culture of a certain era. The GNTO, ever since it became the national body for the promotion of tourism in Greece, has launched numerous campaigns, slogans and posters in an attempt to attract more tourists to the country. A beautiful image is the first read of all posters aiming at attracting visitors, but there is significant information to be discovered in a more detailed analysis of the visual product presented. The main developmental goals for tourism are included in the picture and the subtle changes in the way central government views tourism can also be traced in the fine lines. Accordingly, information relating to social structure, the place of women in the society, religion, politics, the role of the environment, cultural heritage and finally technology can also be identified according to the time period of a certain artistic creation and in this situation the GNTO posters. For the purpose of this analysis a set of indicators relating to advancements in technology, main political scene, environmental and cultural sensitivity and more, has been created in an attempt to analyze the main developmental goals for tourism in Greece as they come across by examining the relevant GNTO posters. The overall aim is to identify the role of an image not merely for its aesthetics, but as a cultural product that can promote a very complex message supporting the overall development of tourism and can act as a development tool.

Keywords GNTO posters · Tourism branding · Greek tourism branding

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1   Introduction

Tourism is a constantly changing phenomenon subject to changing fashions, ideas and politics, creating a volatile demand for destinations that can be explained due to both endogenous and exogenous changes [1]. It is of particular importance for destinations, to be able to express and successfully promote an image that represents their current thought trend, while at the same time attracting their desired target tourism. Greece has a long and successful history in tourism and hospitality following a steadily increasing trend [2]. The Greek National Tourism Organization (GNTO) has been the main governmental body responsible national tourism policy and the promotion of Greece as a destination. GNTO was first founded in 1929 from the Ministry of Economics and it was later re-organised and re-founded under the Ministry of Central Government [3]. The existence of a specific National Organization responsible for tourism, allows for an intertemporal evaluation of the ideas and social structures that led to certain promotion strategies.

This chapter aims to examine the posters created by the GNTO starting from the 1930s until 2009 and create social, political, cultural, technological and marketing correlations with the evolution of the corresponding tourism demand of each decade.

2   The Concept of Place Branding

The idea of branding is closely related to image and identity and has been well established as a marketing technique [4]. In tourism it became an integral part of marketing when the concept of a destination replaced the geopolitical reference of place and a distinct identity including different elements and experiences was viewed as the tourism destination product [5]. The entity that was defined as a destination could be a city, region, or an entire country and city branding, regional branding or national branding were developed accordingly. As is expected as the geographic coverage of a destination becomes wider (in the case of a country for example), there are elements and attractions (natural, cultural, etc) and the process of choosing a distinct identity becomes more complex [6]. Sentimental choosing of an identity image is one of the most common practices in destination branding and refers to the choice of an image that the locals feel more attached or proud of. It is the image and the message that locals want to portray for themselves. A more business or marketing approach to branding refers to the popular image or preconception that non-locals have for the destination and is more recognizable abroad [7]. Place branding is closely related to issues of civic pride and social acceptance of tourism but it is also a market driven business promotion technique, thus only the combination of the two aforementioned approaches can provide the optimum results [8]. Building on the self-identity and civic pride of locals, yet portraying a popular recognizable image abroad is the desired effect. Nation branding is defined as the

unique, multidimensional mixture of elements which offers a fundamental cultural differentiation by reaching all target markets [9].

Identifying a national brand is a very complex process since the very concept of a nation—country includes a diverse amalgam of political, social, economic, natural and cultural elements [5]. Architecture, folk tales, historic sites and memories, language, literature, sports, popular culture, music and more, are all fundamental characteristics of a national identity, but even these are not uniform throughout a nation. Countries have the ability to renegotiate their culture and their characteristics according to current events and evolution [10], thus the analysis of a unique image in time which captures the national identity and branding becomes a very interesting challenge. Furthermore, the influence of festivals and special events greatly changes the cultural scenery of a country both for local and tourists alike [11].

3 Methodology

Aiming at presenting the influence of external environment factors on GNTO's promotion strategy, a vast amount of data was collected and analysed. The focus of this chapter is mainly on posters including not only promotional posters for the country but also the posters created for the Athens-Epidaurus which were produced from the 1930s till the 2000s. The posters were organized and analysed on a decade basis. As this is an attempt at external environment analysis, a variation of PESTEL analysis including elements of culture, was used in order to analyze the visual data and the results were compared with tourism demand statistics. This method provides a framework for analyzing qualitative and differentiated data such as posters in this case and offers a systemic approach to an otherwise qualitative evaluation, allowing for cross-data comparative and analytical comments.

4 The Posters

As identified in numerous studies, Greece first started building its brand as a cultural tourism destination due to its antiquities ancient history [12]. This idea is evident from the very first poster ever to be created, featuring a photograph of the Parthenon as seen in the afternoon light by the Propylaia, by famous photographer Nelly's. The poster was created in 1929 immediately after the first foundation of the Greek Tourist Organization during the political leadership of Eleftherios Venizelos. At the same time the concept of tourism as a consumer need of every individual and not just the privileged few, was only beginning in Europe [13]. The message was Doric as the aesthetics of the temple, that Greece is the everlasting cradle of modern civilization.

4.1 1930–1939

Works of art presented as tourism posters are exclusively created during this decade and many talented and famous artists of the time are recruited for this project [13]. Mythological elements are combined with architectural monuments and the Parthenon still acts as a symbol for the country. Representations of scenic and natural elements are included in a painting composition, advertising the cosmopolitan wellness resorts of the time (Aidipsos, Loutraki). During this decade the overseas arrivals overcome the barrier of 150,000 tourists and Greek wellness resorts become competitive at a European level [12].

4.2 1940–1949

Works of art are still used in poster compositions and the main production of posters is concentrated in the years following the end of WW2. The artist that were entrusted with the challenging task of creating these posters, tried to create a barrier between tourism and the war. They chose bright colors and images from the everyday life and activities in attempt to convey an image of prosperity and Greece as the ideal tourism destination [14]. Antiquities and ancient monuments are also included in the posters of this decade but there is the head of Hniochos as a symbol of Delphoi and image of Knossos in Crete, thus widening the geographic coverage of the promoted areas. This is only made possible by the recent additions to the road network and regular boat connection. The element of the sea establishes its presence and is included in most posters of this era onward. Internationally tourism is starting to grow and coastal areas are gaining popularity [15]. This trend is evident in the promotional choices of GNTO [16].

4.3 1950–1959

During this decade Greece faced a bulk migration from the rural areas to Athens and abroad (Germany, Belgium). At the same time the infrastructures (communications and road network) are greatly expanding and the movies become an important recreational activity [17]. The emphasis on infrastructure is further underlined by the Xenia Hotels Project which marked the two decades of the Greek State's post-war reconstruction in the 1950s and 1960s, as a Civil war followed the world war till 1949. It was a unique State program by which different types of buildings and infrastructures, based on modernism, were constructed all over the country, setting the standards for Greek tourist accommodation [18]. The 1950s marked a decade of great increase in tourism and the first organized attempt in measuring and

documenting the phenomenon [19]. The main goal is to attract foreign visitors and promote Greece as the birthplace of all modern western civilization.

The Parthenon has a leading role a landmark for the entire country but for the first time non resort destinations (Thessaloniki) are also included in the promotion package. The main island destinations of Rhodes and Hydra are included with references to traditional architecture and folk art. The compositions become more complex and landmarks are included as part of their landscape in an attempt to convey the message that Greece is not isolated monuments but an active society and environment that surrounds them as well. It is worth mentioning that for the first time cruises and road trips are included in the posters marking the begging of what is identified today as the tourism experience.

From a modern marketing perspective, the message is not clear and coherent [16], but the famous artists that have participated in the creation of the posters and the composition of most of them create an artistic product that is unique.

4.4   1960–1969

This was a decade of great social and political turmoil in the country leading to the dictatorship of the generals in 1967. The economy of the country is growing rapidly and there is a distinct influence from the western culture in music, fashion etc. The movie Zorbas the Greek in 1964 makes the traditional carefree Greek lifestyle known worldwide and international arrivals face a spike increase. It is the first decade that the small scenic islands of Mykonos and Santorini attract a significant number of foreign arrivals. The team of Katzourakis–Karabott lead the poster creation for GNTO with innovative and award winning ideas. Tourism is entering a golden era until 1967 when the dictatorship numbs the artistic community of the country.

In this critical era the K-K team presents the more modern view of Greece staying true to artistic values but enhancing them with marketing principles. Photographic rather than artistic representations characterize the posters of this decade and compositions focusing on the message [20]. White and Blue become the colors of the country. The Parthenon remains the main landmark of the country but it is complemented by posters of windmills and traditional architecture of the Cyclades. A wider geographical coverage of the posters makes Greece a destination with many choices and different experiences.

4.5   1970–1979

In 1974 Democracy was reinstated and the country entered a phase of political stability that led to the EC. The new archaeological findings of M Andronikos in

Vergina related to Alexander the Great added yet another important archaeological site to the country and attract the attention of cultural tourists [11].

The posters of this decade are influenced by the archaeological findings in Vergina reigniting the interest for cultural tourism. Cultural and archaeological sites, sculptures, and for the first time Byzantine monuments are included in the posters. The emphasis is on specific objects and findings, and less on sites, buildings and monuments in their environment.

At the same time the widespread of mass tourism and western standards, lead to posters with couples enjoying the sea, sun and sand. The Xenia Hotel Part of the Xenia Hotel Project is also included in one of the posters in an attempt to emphasize modern and luxurious accommodation and way of life [17].

One of the important features of this decade is that there is the first graphically enhanced picture and posters are more related to graphic design and processing [19]. Overlaying images and messages create a composition that is more closely connected to marketing and advertising with a specific target audience.

4.6   1980–1989

Tourism is continuing to grow rapidly during this decade with the development law and Mediterranean programs greatly shifting the economy towards the service sector. The number of tourism accommodation increases exponentially and for the first time areas in Greece are characterized as overcrowded and as having exceeded their carrying capacity [12]. The Social Tourism Program for some civil servants is introduced emphasizing the already well established notion that tourism is for everyone. Mass tourism creates a gap between tourist arrivals and income with some rural areas becoming overcrowded while others remain unseen and isolated.

This decade does not present a strong artistic interest. Ancient monuments, sculptures and archaeological findings are included in the posters. The Parthenon remains the symbol of the country but contrary to previous decades it is portrayed isolated from its environment. This indicated a sense of uncertainty regarding the appeal of the destination. In previous decades when tourism was prospering and growing, artists felt free to include more information in the image. With mass tourism becoming the prevailing trend in this decade, the artist feels the need to return to its routes, thus creates a strong image with culture as the only symbol.

People are almost totally excluded from the posters of this time compared with the previous decade, and the images selected are all following the white blue color scheme that was introduced in the past. Traditional island architecture is promoted and more islands are included in the promotional mixture. Following the Sea, Sun, Sand model, long beaches and the clean sparkling waters are a major part of the promotional images.

4.7   1990–1999

For the first time tourism is viewed as an integral part of the economy of the country and the political recognition of tourism through the first Ministry of Tourism in 1989 marks the first strategic approach toward tourism [12]. Issues of spatial allocation of tourism and regional development issues lead to the legislative recognition of Areas of Organized Tourism Development as part of the centralized spatial plan.

In 1990 visitor numbers reach 9 million for the first time in the Greek tourism history, with some tourists inspired by the movie Shirley Valentine, released the previous year and Cephalonia features in Louis de Bernières' 1994 novel Captain Corelli's Mandolin [21].

The posters created in this decade follow the same topics and compositions with the previous years, but the approach is clearly more related to advertising and marketing. As a result of the crisis with Macedonia and the crisis in the Balkans, more Byzantine elements are included and the first organized attempt in making Greece a religious tourism destination is made. For the first time there is an opening for Balkan tourists featuring messages in Cyrillic and Russian language.

The photography techniques used are more advanced and have a tendency to create a more mystic and more attractive view as compared to the clear sunny pictures of previous decades. New island destinations are included such as Leros, Chios and more and there is emphasis on the natural environment like caves and canyons and mountain terrains. This comes as an attempt to overcome the isolation of mainland destinations and move away from the mass tourism model of sea, sun, sand.

4.8   2000–2009

The most important changes in this decade are the introduction of the Euro in the Greek economy and the technological revolution. This marked the end of posters and the introduction of digital marketing methods.

In 2004 Greece organized the Olympic Games and won the Euro. These events established Greece as an international tourism destination. Greece has found its distinct identity and is entering international markets and exhibitions as a strong tourism player. GNTO is working with marketing companies a logo and internet site are created and all posters are part of a comprehensive marketing campaign with the logo and the site always being part of the composition. Additional products such as notebooks, jigsaw puzzles and many more replace the original posters and are distributed directly to the users. Marketing enters a new era and posters are no longer included in the mix. They remain not as a tool as much as a symbolic reminiscent of the years that have passed.

5   Conclusions

The tourism posters created by the GNTO for the promotion of Greece as a tourism destination paint a very vivid picture of the external and internal factors which influenced the development of tourism in the country. All artistic creations are products of their time and convey important socio-political and cultural information regarding the environment in which they were created. Starting from an artistic and cultural approach in the early decades when tourism was mainly targeted to the privileged few, passing through the rapid growth of technological infrastructure and the aviation era where mass tourism prevailed, posters follow the target audience and create an image the best fits the desires and needs of potential visitors.

Architecture is an integral part of the tourist attraction of Greece from ancient monuments like the timeless symbol of the country the Parthenon, to the Medieval Castle in Rhodes to the Xenia Hotel in Crete, architecture is always featured in most posters. Villages and traditional windmills and houses, architecture creates and complements the natural environment creating a sense of locality and greatly influencing the experience, as became evident from the analysis of the posters.

Still, the promoting actions do not always have the desired effects, in some cases the actions are aimed at achieving or maintaining certain market shares, leaving behind those related to the optimization of resources and the sustainability of destinations.

The instrumental objectives of the tourism policy are not only related to the production of tourism experiences, but also to promote them. So the idea of promotion being just a simply tool of tourism policy changes and concludes in promotion being an inseparable part of the tourism experience. A misleading or thoughtless promotion would mean a failure of the instrument if it gets an increase in the number of tourists in the short term. Thus, in promotion, continuity is a fundamental factor and it is possible that the key to success and posters though obsolete as a marketing tool, are still used by the GNTO in all promotional materials as a collectable memorabilia of the difficult road that led to the current picture of Greek tourism.

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The Use of Social Media on Board: A Comparison Study Throughout Deck and Engine Cadets of Merchant Marine Academy of Macedonia, Greece

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Abstract Previous work at the Merchant Marine Academy of Macedonia was carried out regarding the engine cadets that have fulfilled the first on board training voyage. The same survey took place regarding the engine cadets that have fulfilled also the second on board training voyage. In the present paper a merging of the two different surveys is conducted in order to draw a conclusion concerning all the cadets. In the present study an investigation takes place on how Cadets can benefit using Social Media on board during the training voyage and implications are presented.

Keywords Social media · Merchant marine · On board training

1 Introduction

Merchant Marine Academies were established in 1998, as a continuation of the Merchant Marine Schools of Higher Education and are directed by the Hellenic Ministry for Mercantile Marine and Island Policy. The objectives of Merchant Marine Academies are to train students as either Merchant Marine Deck or Engine officers.

The Merchant Marine Academy of Macedonia is the second largest educational institution for marine officers in Greece. It was established in 1973, in Nea Michaniona, 30 km from Thessaloniki. The Academy is in a seaside area of 40,000 m^2. The buildings cover an area of 10,000 m^2.

The courses last 4 years; that is six semesters of theoretical studies in the Academies and two semesters of rewarded vocational training on board ships. Thus, the theoretical studies in the Academy interchange with training on board and the students are provided with high standard educational experiences and

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1035

acquire specialized knowledge corresponding to the most current technological developments.

The graduates of the Academy are awarded a Certificate of Studies of Higher Education and the Diploma of the third Officer of Merchant Marine.

The Academy provides the students with a place where they are supported by professional, well experienced teaching staff, buildings, equipment, modern laboratories, and up to date engine room simulators. The Academy follows the international trends in educational development according to the standards of STCW and IMO, creates collaborations with other domestic and abroad institutes—universities, develops close relations with the private sector of marine technology in order for the students to have better chances in the international marine business environment. Finally, it participates in research programs co-funded by the European Union.

The Academic program is designed to prepare students to pursue a career at sea as ship's deck or engine officers in the commercial marine industry. Marine engineer officers occupy positions from junior officer to chief engineer and are responsible for the safe and continuous operation of machinery and power systems of the vessels they are employed on. Besides, at professional level, they may become involved as a marine superintendent or a surveyor at new ship's constructions and repairs.

In the present study an investigation takes place on how Cadets can benefit using Social Media on board during the training voyage as shown in previous work, where the use of special language, and the association of ideas may create an online community [1].

2 Survey

A survey was contacted with a structured questionnaire. 447 questionnaires were answered by the Merchant Marine Academy Cadets. 396 of them were men and 51 were women. The survey took place on May 2019. The questionnaires were answered by Deck and Engine Cadets and by Cadets that have fulfilled either one or two Training voyages. 260 questionnaires were answered by Cadets that have fulfilled one Training voyage and 307 were answered by Cadets that have fulfilled two Training voyages. 120 of them graduated from the Academy in June 2019.

The present survey investigates the possibility of accessing social media during the training voyages for the Cadets of the Merchant Marine Academy of Macedonia. For the cadets this is the first time they are on board a ship for a period of 6 months. Depending on the ship voyage, they might have to face more than 20 days in the sea with minimum contacts with family and friends. The social media and networks are a way to communicate with them making their everyday life more friendly. It is very important to find out how often they have access to the internet and how they value the ability of communication with those back home. Another interesting point is how social media and networks help the crew establish better relationship between them during their voyage, helping the captain have a more satisfied crew.

3   Results and Discussion

Firstly, the survey looked for the use of the Social Media. So, a number of questions concern the type and the frequency of the use. The results showed that almost 50% used Social Media 2–3 times per week, which is a high percentage taking into account the luck of internet (see Fig. 1).

For the survey it was also important to find out the duration of the access. The results are also very interesting since almost a 60% used Social media for more than half an hour (see Fig. 2).

The next interesting question was whether the Social Media covered the needs of the Cadets for communication. From the results (see Fig. 3), it is obvious that the majority, more than 50%, were covered by the duration taking into consideration the "Absolutely" and "Almost Absolutely" results. However, a significant 30% replied that the use was insufficient taking into consideration the "Not at all" and "Almost not at all" answers.

One major question was how the use of Social Media influenced the Cadets' mood during the on board the ship training voyage, showing that by using the Social Media they can create an online community with people sharing the same ideas [2]. Thanks to the popularity and the global character that Social Media have, Cadets can now freely discuss their experiences with others [3]. The results show that the use influenced the mood of more than 50% of the Cadets. Those that were not influenced were less than 20% a significantly small percentage (see Fig. 4).
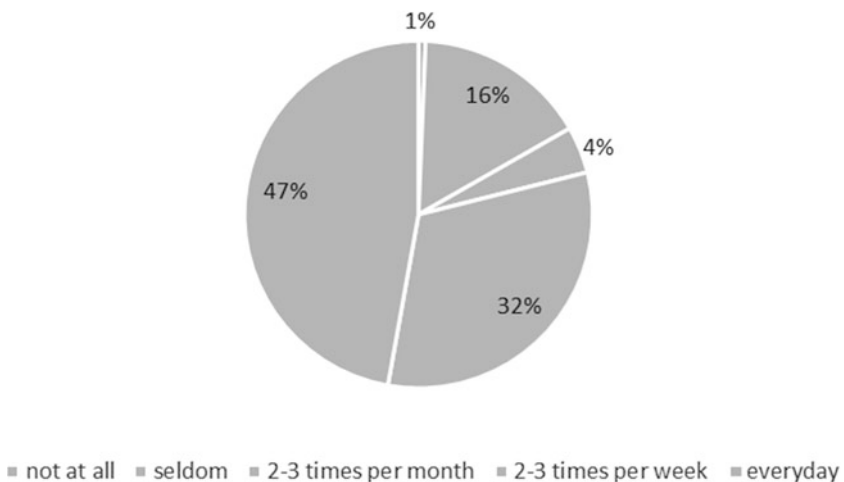

Fig. 1 How often did you have access to Social Media

Duration of access

$\blacksquare$ < 10 min $\blacksquare$ 10 - 20 min $\blacksquare$ 20 - 30min $\blacksquare$ >30 min
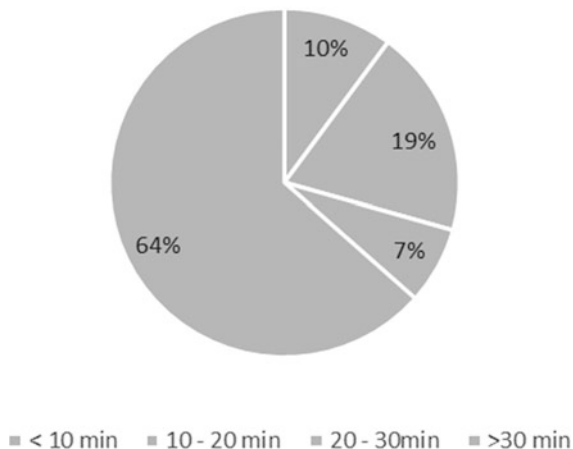
Fig. 2 Duration of access of Social Media

The use of Social Media covered your needs for communication

$\blacksquare$ Not at all $\blacksquare$ 2 $\blacksquare$ 3 $\blacksquare$ 4 $\blacksquare$ Absolutly
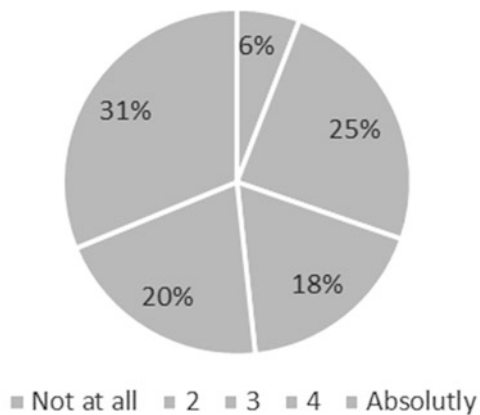
Fig. 3 The use of Social Media covered your needs for communication

Then the question was if Social Media reinforced the communication with off board people and how much was that help. Almost a 70% replied that the use helped them very much taking into consideration the answers "Very much" and "Almost very much". But, a strong 30% replied that the help was average (see Fig. 5).

On the contrary, when the question was whether Social Media reinforced the communication with on board people and how much was that help, only a 30% replied that the use helped them very much, taking into consideration the answers

Mood Influenced by Social Media
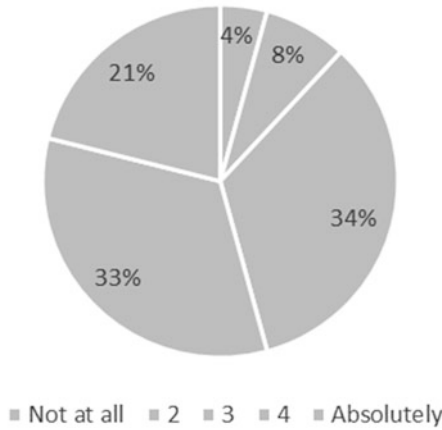
Fig. 4 Mood during the on board the ship training voyage influenced by using Social Media

Communication with off board people
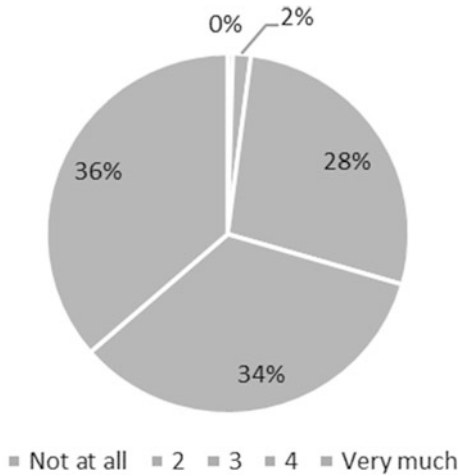
Fig. 5 How much did the Social Media help the communication with off board people

"Very much" and "Almost very much". Nearly a 50% replied that they could not find any relevance between the use of Social Media and the communication with the on board crew (see Fig. 6).

Wanting to summarize the previous questions, there was interest to find out finally how important the Cadets think the use of Social Media on Board the ship training voyage is [4]. The answers showed (see Fig. 7) a clear importance with an

Communication with on board crew
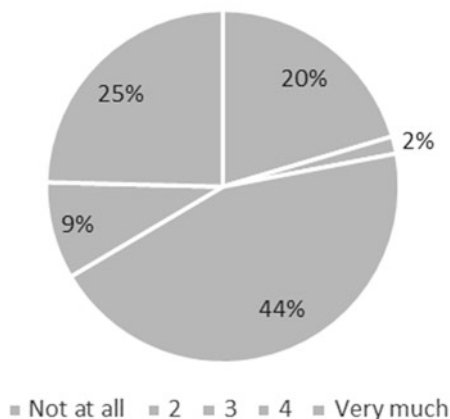
Fig. 6 How much did the Social Media helped the communication with on board people

Social Media and the First Training Voyage
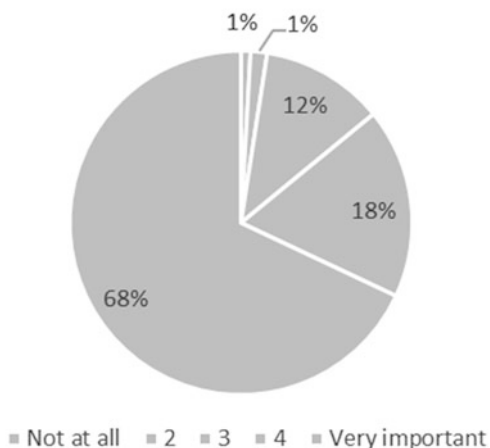
Fig. 7 How important do you think Social Media is On Board your Training voyage

enormous 80% when taking into consideration the answers "Very important" and "Almost very important".

The survey concluded with the question concerning the way a Cadet chooses a Shipping Company for the on board the ship training voyage. This shows the importance for shipping companies to fully provide access to Social Media in their effort to recruit new Cadets, as shown in similar cases [5]. The answers showed that

Fig. 8 How important do
you think Social Media is for
you to choose a Shipping
Company
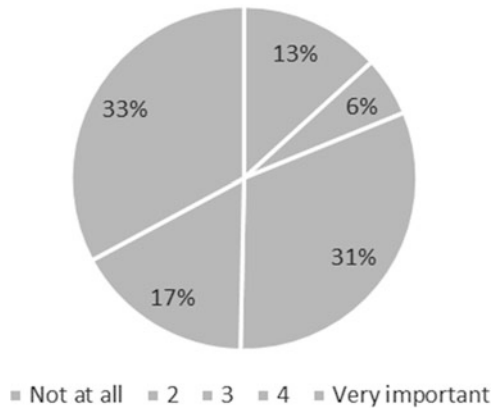
a 50% take into high consideration the existence of access to Social Media. On the
other hand, only a 25% of the Cadets believe this factor is of minor importance (see
Fig. 8).

4   Conclusions

The penetration of IT in everyday life is now huge, with positive and negative
consequences. The possibilities and benefits of the new era require at least a
thorough enough knowledge of computer capabilities. As shown in previous work,
Marine Cadets tend to use computers more often than in the past [6].

The difficulties in a seaman's life are well known. With the subjects of distance
and solitude added, it is obvious that Merchant Marine Academy Cadets face many
inconveniences regarding communication and updating when on board. During their
voyage it is important to maintain contact with family and friends. It helps them feel
that they are still part of life back home and not isolated. Thus, there is inner peace
and normal everyday behavior among the crew. Here we consider the possibility for
Merchant Marine Engine Cadets to use Social Media on board their first training
voyage. The extremely high cost of internet provision and the relatively low internet
speed are also factors that should be taken into account. So, we examine what is
their access to a network and how is this a decisive factor for them choosing their
Employer Company.

The conclusions for the present survey are that Marine Cadets believe it is very
important to have access to the Social Media since that helps them stay in contact
with people on shore and to withstand the everyday difficulties. Another key point
is that among the factors of choosing employer company, is the existence of internet
access and hence Social Media access on board the ships.

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Impact of Seasonality on the Management of Tourist Accommodation Establishments in the Azores

Flavio Tiago, João Couto, Diana Verissimo, Sandra Faria, and Teresa Borges-Tiago

Abstract This study identifies and analyzes the impact of seasonality on the management of tourist accommodations in the Azores. We selected a set of accommodation types under various categories to determine the similarities and differences in the impact of seasonality on their management. Using a qualitative method, we conducted interviews with the managers to draw conclusions. The results point to the existence of significant seasonality, with a high concentration of sales in the summer. They also highlight the need to stimulate low season demand by searching for new segments of tourists who could be encouraged to travel to the region and improve intermediate season demand by increasing marketing activities.

Keywords Seasonality · Management · Tourism · Azores

1 Introduction

Tourism in the Azores is in a phase of growth and development, presenting itself as a very important sector for the regional economy. The promotion of the destination and its attractiveness have generated an increase in demand and, consequently, influenced the growth of tourism in the region. Investments in various types of tourist accommodations have been increasing. As the sector grows both in the supply and demand aspects, so do the challenges for tourism entrepreneurs in attracting customers as well as maintaining competitiveness.

The Azores have become more accessible in terms of price and flights available since the liberalization of air space in 2015. Low-cost airlines such as Ryanair and Easyjet began to operate in early spring at very competitive prices. With the entry of new airlines, interest in and the turnout at the Azores have increased,

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especially as the domestic market began to emerge very early. However, seasonality remains an important negative effect on companies. The uneven distribution of occupancy throughout the year can affect the whole business of the hotel, especially the financial, human resources, and marketing activities.

Through this research, we intend to understand the phenomenon of seasonality. Its relevance in the management of the companies, its positive and negative effects, and ways to avoid the negative implications are some of the aspects that this study clarifies.

2   Background

The development of tourism over the years has enhanced its relevance gradually to the point that today it is crucial for both national economies and consumers. Traditionally, tourism was viewed merely as an industry that caters to leisure travel; however, the phenomenon is more complex. Tourism is a combination of phenomena and relationships caused by movement of people and their stay at various destinations [1].

One of the fundamental problems for the development of tourism and the management of destinations is seasonality. This can be understood as the temporal imbalance in tourism phenomenon, which can be expressed in terms of elements such as the number of visitors, their expenditure, air transport and other modes of transport, employment, and access to attractions [2].

The complexity of seasonality is the result of the interaction of both factors the place of destination as the source, where the tourist flow is influenced by a set of socio-cultural, economic, and physical elements [3, 4]. This phenomenon to be connected to weather conditions, the period of school vacation, and professional profiles and age of tourists. In some destinations, there is a high concentration of visitors in 1 or 2 months in the summer (directly related with the influx to beaches); in others, the concentration can be high both in summer and in winter (such as the mountains, winter sports destinations); in other cases, the maximum concentration occurs at times immediately before and after the summer, as in major urban centers [5, 6]. Seasonality can arise from two factors: natural and institutional. The former includes sunlight, extreme temperatures, snow, and rain and the latter involve human actions and policies, as a result of religious and ethnic convictions and social and cultural rights. For example, tourists who prefer the heat, sunlight, and water sports seek beach hotels, while tourists who practice winter sports or prefer landscapes with snow search for ski resorts or hotels on snow-capped mountains [7–9].

Being a continent with a well-developed tourism industry, Europe stands as an example of the diversity of destinations. In the Mediterranean, beaches are the main destinations and much sought after in the summer, while in the Alps, the search is greater in winter for sports in the snow [10]. Institutional sources cause more fluctuation and inconsistent patterns in seasonality compared to natural reasons because their timing and duration cannot be estimated accurately. School holidays

and public holidays are included in this category, and in some destinations, the volume of tourism demand increases significantly [11]. One of the most significant elements in institutional seasonality is the travel by pilgrims to great religious events in Judaism, Islam, and Christianity.

The origins of seasonality are not limited only to these two typologies; other causes such as social pressure, major sporting competitions, or the inertia of travelers can also be considered promoters of seasonality. Social pressure refers to the phenomenon that people are influenced by the default behavior of society, which leads them to choose vacations according to the established habits in the groups they belong. Major sporting competitions, such as the Olympic Games, bird watching, skiing, snowboarding, or surfing, attract a high volume of visitors for a short period. Some sports require appropriate infrastructure as in the case of ski locations, which has provided the opportunity for investment in accommodation associated with these activities [12]. Inertia and tradition appear as the fifth form of seasonality, as many people choose to travel in high season because they have always done so; for example, families continue to choose to travel in times of school holidays even after the children have finished school [13].

The seasonality of a tourist destination is influenced by three factors: (1) demand factors: response to natural conditions, institutionalized holiday seasons, holiday tradition or inertia, change in tastes; (2) attributes of the offer: weather conditions, physical facilities, opportunities for activities, events, and social and cultural attractions and (3) travel agents: prices and differentiated taxes, new attractions and events, diversification of markets. The causes of seasonality can be further divided into pull and push factors. Institutional origins such as calendar effects (Easter, Christmas), inertia, tradition, social pressure, and access (transport) are push factors; the weather and seasonal sports (hunting, golf, skiing, fishing) are considered pull factors [14]. We can consider a set of tools targeted for business and development policies of destinations to reduce the impacts of seasonality: prolong the summer season, explore opportunities in the intermediate periods and develop year-round attractiveness [15].

The events developed in a tourist destination contribute immensely to local attractiveness, both as a marketing point and as an economic stimulus. The strategy of creating and developing events can reduce the seasonality of a destination [16]. These events can combat seasonality through an expansion of the tourist season, the extension of the work to other locations and geographical areas, diversification of attractions, enhancement of the attractiveness of the destination to the current customers and new travelers, and promotion of a positive image of the tourist destination [17].

Through a study on organizational change management in tourist attractions was found that adaptation and flexibility are crucial factors for the success of the management of attractions [18].

The events and festivals on their own, due to their limited duration, cannot create an intermediate or high season, but they may be crucial to add attractiveness in a period of low season and from thereon to influence the length of stay of visitors [19].

Seasonality is a common phenomenon for all destinations. The intensity and the period in which it occurs is that they vary. In the literature, several factors are identified as mitigators or adjuvants for the existence of this phenomenon. However, most works focus only on one of the approaches and in mature destinations. This work seeks to identify the combination of factors that can help minimize seasonality in destinations that are not yet at maturity.

3   Methodology

This study intends to interpret and clarify several aspects related to seasonality. The important variables that were developed during the research were the aspects of a tourist destination, the positive and negative implications for the management of the accommodation, and possible solutions or measures to mitigate the effects.

This study deals with the characteristics of a tourism destination in order to identify factors influencing the dynamics of the seasonal phenomenon. On the other hand, the aim is to evaluate impacts, both negative positive, in managing hotel units. Financial burdens, marketing and human resource expenses, and increased pressure to provide a greater quality of service are considered to be the negative implications of seasonality. However, some authors defend the positivity of the phenomenon. By exploring the cases, the behavior of Azorean accommodation enterprises due to seasonality, the strategies they adopt, and the ways in which they balance the effects of seasonal differences will be verified. The qualitative method, specifically through case studies, was the method of study considered best suited to explore the theme of seasonality. This is an ideal situation to choose the qualitative method, as it does not use quantified or categorized data, but rather interprets and gives meaning and direction to the phenomenon [20, 21].

For this study, semi-structured interviews were the chosen technique for data collection from the directors of hotels. A subjective sampling survey was carried out at lower season in 2017. Semi-structured interviews consist of open-ended questions that allow some flexibility in their responses. Therefore, such an interview format helps to broaden the field of research, especially when the topics feature a precise dynamic. In this study, the question set dealt with the implications of seasonality in the management of tourist accommodation establishments in the Azores region. The interview guide was prepared with open questions, progressing from more general to more specific ones, and contained questions framed in a way that would lead to a clear response.

The participants were chosen according to the characteristics of the hotel units that they managed so that the study incorporated different perspectives. Thus, selected directors ran hotels with different ratings or at different locations. The interviews lasted about 30 min to 1 h and were recorded in audio format and supported by hand-written notes.

4   Case Study Analysis

Song and Li [21] identify several methods to analyze and forecast the demand for tourism in a destination. Adopting one of the most common methods referred by these authors, the following estimation was made for Azores, acknowledging that this region suffered from highly visible seasonality in the last 20 years (around 40%) (Fig. 1).

When looking closer to the data, it's possible to identify three seasons: high season during July, August and September; low season comprehending November, December and January; and, mid-season for the remaining months.

Song and Li [21] identified some new research directions, that integrated both quantitative and qualitative data to enhance the seasonality phenomenon understanding. So, initially and for the purposes of this study, we try to find out the differences between the responses of the various hotels and accommodation, highlighting their particularities. In order to guarantee the most representativeness five different units were selected in Azores: aparthotel representing small hotels and aparthotels; a guest house representing standard accommodation; Hotel T representing small and four-star city hotels; Hotel A representing large and four-star city hotels; and Hotel M representing small non-city hotels. The responses obtained from the directors of the Azorean units, made possible to identify the factors underlying the three seasons, although opinions diverge. For some managers, the climate is not restrictive, at the promotion level, some directors agree that there is still much work to be done to achieve a greater volume of tourists throughout the year, see Table 1.
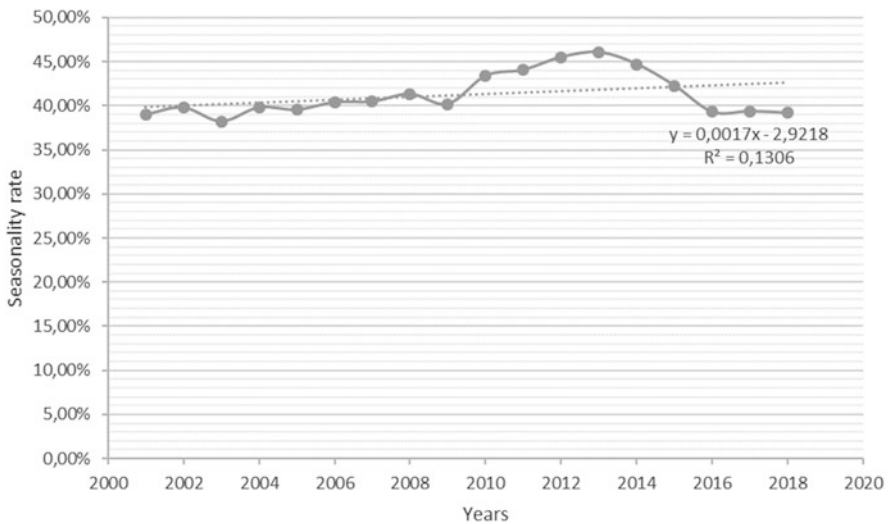

Fig. 1   Seasonality estimation in Azores

Table 1 Factors influencing seasonality

	Guest house	Aparthotel	Hotel T	Hotel A	Hotel M
Climate	✓	✓	✓		
Promotion	✓		✓	✓	
Accessibility			✓	✓	
Tourists tradition					✓
Events				✓	

Entrepreneurs of various establishments have agreed that with the new transport model, and the liberalization of airspace, seasonality could reduce due to improved accessibility to the region. Despite this optimistic outlook, there are concerns about the ability of the destination to accommodate a large number of tourists. The availability of the tourists to travel more in the summer than in other months also presents as a factor that influences the differences in occupancy rates throughout the year.

Events are considered essential to develop the destination, and entrepreneurs felt that the region already hosts some events of great attractiveness, but there is potential to create more events.

We also sought to understand how the seasonality influences the human resource management of the companies in the tourist accommodation enterprises in the region. Specifically, we wanted to know whether there was any difficulty in hiring employees or retaining them, and whether the tourism sector's instability affected the satisfaction and commitment of employees. Difficulty in hiring is common in accommodation enterprises; training cost is one of the main problems. Entrepreneurs felt that motivated teams that showed satisfaction and commitment were less influenced by instability in the industry. In general, all consider that quality of human resources in the region is poor, suggesting the need for hospitality schools to include training practice in tourism.

We also questioned hotel managers about the tactics used to cope with seasonality. The changes in prices are undoubtedly the most widely used tactic to respond to the seasonality, opting for lower prices and promotions during low season to attract more customers. Managers expressed interest on diversification of markets as a tactic with the potential to reduce seasonality, particularly pinning on the American and Canadian markets as well as on the Azorean immigrant communities in these countries.

The responses to the question about the importance of the Internet and agencies showed a consensus, as they are conspicuous in obtaining reservations. The importance of the Internet and its recent growth have been considered, but agencies and operators continue to be very important for companies. Responses to this question also made it possible to realize that the Internet has increased the forecast of occupancy of the accommodation, and tour operators and agencies are very important especially in low season because they can attract large groups.

The Azores are much sought after when they host a few events that are characteristic of each location, like the Santo Cristo on the island of São Miguel or São Joaninhas on Terceira Island. The occupancy rate grows and often reaches its maximum capacity in the festive season, and its development and promotion can significantly influence the distribution of visitors throughout the year. All entrepreneurs agree regarding the importance of the events to attract customers. The accommodations are affected differently depending on their location. Centralized hotels in Ponta Delgada have increased occupancy rate during the Santo Cristo and the Azores Rally, particularly in the case of the Hotel A and Apart Hotel, which are right on the seashore where the event happens. The Hotel M has a privileged location opposite the marina, close to the venue of the Red Bull Cliff Diving challenge. In addition, Hotel A saw its occupancy increase until last year because it received organizers and athletes for the competition.

However, directors of Azorean tourists' establishments consider it important to create larger events and attractions, especially in the intermediate and low seasons, especially when these are not directly linked to weather conditions.

To sum up, with the selected case studies, it has been possible to realize that the phenomenon of seasonality affects all entrepreneurs in the tourism sector, but not always in the same way. Management of each establishment adapts to the seasonality in different ways, although the goal is common—increase the occupancy rate in times of lower concentration of tourists.

5 Discussion and Conclusions

The main question of this study concerns the implications of seasonality in the management of hospitality firms. As pointed by Song and Li [21] several approaches can be used to address this subject. Thus, the research question was addressed through a structured literature research followed a qualitative method.

Adapting the standard model of seasonality, it was possible to identify the pattern of seasonality of tourism in Azores. This seasonal pattern is based on the identification and characterization of three key elements: demand, supply, and agents. The seasonality of the Azores destination is due to natural and institutional sources. Natural sources range from its climate to its biodiversity while the institutional factors are tradition of tourists traveling in summer, school holidays, festivals, and specific events.

The factors of demand of the Azores are characterized by tradition or inertia of travelers; looking for a milder climate than the country of origin; and the preference for nature. The factors of supply in the Azores include characteristics such as nature tourism; mild climate; and diversified activities on land and at sea. The agencies involved in the management of these factors adopt differential pricing according to the season, sporting and religious events, and the marketing strategies implemented during the low season.

Portugal has a pattern of one peak season and is considered a destination of the sun and beaches with the maximum number of visitors in the summer. Through research, the pattern of seasonality in the Azores was identified. The seasonal pattern of the Azores can be considered to reflect the Single-peak characteristics.

The impacts of seasonality involve application of business tactics. The more common among Azorean entrepreneurs are the price and the marketing. The price is usually managed according to the occupancy rate, decreasing during low season and increasing during high season. The marketing also proves very important for Azorean directors, through promotions and renovations of image and identity, which are ways to attract more visitors.

In the opinion of the managers, destination promotion and regulation of market participants are tasks that require greater attention. The government may have significant functions in the growth and development of tourism, particularly in the control and supervision of accommodation. The differences between the local community and hotel establishments were referred throughout the study as one of the concerns of the managers interviewed. Further, unregulated growth and development without monitoring also worried the stakeholders in the industry.

One of the limitations of this study is the fact that it only interviewed those managing the enterprises from the island of São Miguel; it would be interesting for a future investigation, to study the other islands, especially the smallest that still have limited air accessibility. Considering the current dynamics of tourism in the Azores, it is crucial to re-evaluate these results in the future, to understand whether the trend for the growth of the volume of visitors will keep up as air space management undergoes changes. Using a method that combines both qualitative and quantitative analysis, would help in obtaining in a numerical form, results of the investigation on seasonality and its evolution on the Azores as a whole and between the different islands.

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Exploring the Relationship of Physician Practice Characteristics with Patient's Therapeutic Experience: An Exploratory Quantitative Research

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Abstract The patient-physician therapeutic relationship begins before the two parties' verbal communication. For example, the patient may form an attitude from the non-verbal communication cues, such as the practice's physical environment, the processes and the administration staff. Colors, paintings and works of art, lighting, certificates, are features that may affect the patient during his waiting time and, probably, his relationship with the physician. This research wanted to examine patients' therapeutic experience, and, specifically, their perceptions on the ambient environment of physicians' waiting areas and practices and their relationship with trust and proximity to the physician. To this end, we conducted a quantitative research with 95 respondents of the psychiatric health sector. Data were analyzed through advanced statistics, using the SPSS 23 statistical package. Our findings imply that there is a relationship between the physician practice's interior decoration and the patients' trust and proximity. Specifically, cluster analysis grouped data in three clusters that we called as 'Leeries', 'Aloofs' and 'Intimates', showing variability on the variables patient's trust and proximity to physician as well as, on variables pertaining to practice' ambient environment. The paper discusses the findings and implications as well as the limitations and propositions for future research.

Keywords Physician practice characteristics · Patients' therapeutic experience · Practice interior design · Patient's trust and proximity to the physician

1 Introduction

From a marketing perspective, the physician's vocation lays in the realm of marketing of services. In this spirit, it is well documented in the marketing literature of services that the perceived provider's service quality depends not only on his/her

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performance, which is intangible, thus, difficult to be a priori evaluated, but also on the non-verbal cues, i.e., the physical environment, the processes and the interaction with the administrative staff [1]. In other words, the patient tries to evaluate the intangible service that the physician will deliver to him/her, through the tangible materials that surround the service, i.e., the physician's practice. For example, Omachonu, referring to the health sector, discriminates between the real and the perceived service quality and posits that patients perceive the quality of health service through the context of their own experiences [2].

In this study, we operationalize these tangible elements of the physician's service environment and the non-verbal cues, as we focus our discussion on the aesthetics of the waiting room and the physician's practice, and, especially we examine the relationships of the physical evidence, i.e., the medical certificates, the furniture, the decoration, the lighting and the colors, with the patient's trust on and proximity to the physician.

Pertinent research showed that aesthetic surrounding may improve an individual's affective condition, as well as, they may contribute to a feeling of well-being [3]. Patients, who are taken care of, in an aesthetically pleasing environment, may feel that they are respected as persons and that their well-being may mean something to the caregiver. Also patients have judged aesthetic surroundings as having a positive effect, ranging from small to fairly large. Along similar lines, surroundings that stimulate and promote pleasure and delight, feelings of security, and harmony, may influence the immune system, the physical resources, and patients' defensive power [4]. According to Swartz [5], designing a clinic has an effect on the patient from the first moment that he, or she, will enter it. Moreover, the physical environment of a praxis affects the relationship between a doctor and a patient and plays an important role in creating feelings of friendliness and warmth, even before the patient communicates with the people around him [6, 7]. In the same way, Ulrich [8] adds that supportive environments complement the healing properties of drugs and, thus, speed up the process of recovery. To sum up, aesthetics of premises is an important factor for the human being, whether he is healthy, or ill, young or old, since they affect him physically and psychologically [4].

However, the aforementioned research was concerning the surroundings of hospitals. Thus, to our knowledge, there is a gap in research examining the relationship of the physicians' ambient environment and, especially, that of colors, with the patient's trust upon and, proximity to the physician, as reflecting his/her therapeutic experience.

This research starts to fill in this void. Specifically, we focus on a specific physician specialty, located in Greece, the one of psychiatrics, on the notion that this physician specialty may be more close to the patients' psychological well-being, as affected by the practice environment. Specifically, we aim to examine the relationship of physician practice's interior design characteristics with patients' perceived experience about his/her relationship with the physician.

The paper is organized as follows: First, we present the literature review on the subject matter. Following is the methodology of the study, presenting also the measurement validation, the sampling details and some demographic characteristics.

Next, we present the analyses and discuss the research findings and implications. The paper ends with the limitations and propositions for future research.

2 Theoretical Background

The patient-physician therapeutic relationship building begins before the two parties' verbal communication. Specifically, the patient may form an attitude from the non-verbal communication cues, such as the appearance of the psychotherapist and the practice's physical environment, as well as, from the administration and supportive staff. Among these non-verbal communication cues, the ambient features are the intangible factors that affect space, such as temperature, smell, lighting, brightness, cleanliness and noise levels, as well as symbolic objects, such as office design. Okken et al. [9] state that the physical elements affecting the overall image of an indoor environment are usually furniture, lighting, sound, colors and lighting, adding the external environment (city, country, sea, lake), which plays an important role in the patient's overall experience, especially if there is a window in the waiting area of the clinic and in the main examination area.

The physician's external environment should also be spacious and comfortable, in proportion to the number of patients, warm and properly lighted throughout the day, designed solely and wholly for the purpose for which it is intended and should guarantee privacy. We, generally, find three dimensions of space [10, 11]. The architectural features that are stable; the physical structure, or architectural design of the building that can affect or regulate people's communication, i.e. the actual dimension of the space, the total area, the height of the ceiling, the existence of a window, or a door. The interior design refers to the design of the room and to the objects in it and their arrangement, the furniture, the colors and the frames on the walls, as well as, smaller decorative objects. The way of placing the furniture can guide people's behavior. For example, the positioning of a desk, or chair, may affect eye contact with others and may encourage, or discourage conversations.

Regarding the physician, per se, the presentation of his/her certificates reflect the non-verbal communication which may play a role in patients' perceptions on the physician's medical authority. The medical practice usually reflects doctor's personality. Prior research shows that the presence of doctor's certificates has a positive impact on the patient's perception towards the physician as more energetic and dynamic [12]. Indeed, Heppner et al., found a correlation between the perceived efficiency and reliability of the counselor with the presence of proficiency proofs, diplomas, awards and certificates [13]. So, we may assume that the exposed degrees and diplomas may influence the patients' trust on the physician and diminish distance between the two interacting parties.

Moreover, Baker et al., reported that the perceived time in the waiting room has to do with lighting, temperature, as well as, with colors and furniture [14]. Since the patient's perceived waiting time affects his, or her, satisfaction, the purpose is to find ways to make waiting time pass more pleasantly and quickly [15].

Along similar lines, in Allison's study of waiting rooms, patients commented positively on praxis that had paints in the walls, indoor plants, decorations and magazines [7]. In a study by Lohr et al., the room with the plants was described with more positive qualities such as "pleasant", "tranquil", "attractive", while the room without the plants was described as "interesting" and "ornate" [16]. Also people in the room with plants showed greater resistance to pain [17]. Along similar lines, Dijkstra in a healthcare environment, plants seem to have stress-relieving properties [18].

Wexner, long ago has attempted to investigate the extent to which colors are associated with feelings and mood [31]. This research also stressed the importance of the shade of colors, since a different shade of the same colors may have different results. Indeed it has been found that colors in health care environments may improve staff efficiency and may accelerate recovery of a patient by 10%. According to Dijkstra et al., blue has been found to lower blood pressure, heartbeats and breathing, while red tends to increase these biological functions [18, 19]. In the same spirit, Pressly and Heesacker found that the blue-violet combination may reduce blood pressure, however it may increase the sense of sadness and fatigue, at the same time [20]. Moreover, Hupka et al., say that people associate colors with emotions [21]. The same researcher found that blacks and reds cause anger, and, moreover, black causes fear. Along similar lines, another research found that red is the color mostly associated with feelings of excitement, stimulation, blue with safety and comfort, orange with discomfort, annoyance and inconvenience, purple with dignity and splendidness, yellow with cheerfulness and cheerful diffusion and black with power and dexterity [22]. From another point of view, Dijkstra et al., mentioned that each person interprets colors differently [23]. In this sense, these researchers separated people, into the ones who have the ability to conceivably reduce the complexity of an environment and, to those whose capacity is reduced to a lesser extent [23]. Indeed, colors play an important role in human psychology and, particularly, the light colors are associated with positive feelings, while the dark colors are associated with negative feelings [20]. Accordingly, we make the following hypothesis:

H1: Physician's practice characteristics, namely, decoration emphasizing physician authority (exposition of physician certificates), cleanness, wall paintings, nice view, soft lighting, modern decoration and light colored decoration, will be related to patient's trust upon, and, proximity to, the physician.

3   Methodology

The methodology of this study involved data collection from secondary and primary sources. First, we delved into the pertinent literature on marketing of services, psychology, and environmental psychology [20, 24–28]. As a next step, we conducted qualitative research through personal unconstructed interviews with

Table 1 Sample demographics

Sex		Age group		Income		Education	
Male	36.8%	18–30	17.9%	Below 5000 €	44.2%	Secondary	41.1%
Female	62.2%	31–45	52.7%	5001–12,500 €	37.9%	University	46.2%
		46+	28.4%	≥12,501 €	15.8%	MSc/PhD	12.7%

approximately 15 physicians. The above preliminary study resulted in the formation of the quantitative research instrument, which was addressed to our research field, as discussed below, in the sampling session. All 11 measures were tapped through multi-item, 5-point Likert scales and are shown on Table 2. The data collection yielded 95 fully completed questionnaires. As a next step, we performed a series of statistical analyses, using the SPSS 21, in order to support our measures' reliability and validity. All constructs had coefficient alphas that ranged between 0.628 and 0.887, indicating acceptable levels of reliability [29]. Our research hypothesis was examined using advanced statistics.

Overall, cluster analysis successfully classified our sample in three groups, which we called as 'Leeries', 'Aloofs' and 'Intimates', respectively, according to their reflected profile, showing varied degree of patient's trust and proximity to the physician.

3.1 Sampling and Demographic Characteristics

Our research sample was a convenience, judgment sample, based on the accessibility of the researchers to the respondent subjects. Our research field was the psychiatric specialty and the psychiatric patients. Specifically, we contacted 200 psychiatric patients visiting private psychiatric clinics, Primary Health Network Practices and two Mental Health Centers in the prefectures of Peloponnese. The research took place between November 2016 and March 2017. Of the 200 patients, we were able to collect 95 fully completed questionnaires, yielding a 47.5% response rate, which were filled in, either on the spot, into the waiting area of the practice, or, during two consecutively appointments to the practices. Table 1 depicts some of the respondents' demographic characteristics.

4 Findings and Discussion

Hypothesis H1 argued that Physician's practice characteristics, namely, decoration emphasizing physician authority (physician certificates), cleanness, wall paintings, nice view, soft lighting, modern decoration and light colored decoration, will be related to patient's trust upon, and, proximity to, the physician. This was examined

Table 2 Final cluster centers, cluster membership & ANOVA statistics

	Clusters				
	Leeries	Aloofs	Intimates	F	Sig
Patient's trust to physician	12.82	19.27	19.94	55.71	0.00
Patient's proximity to physician	7.94	12.61	8.69	27.96	0.00
Physician authority (exposition of certificates)	21.15	22.54	11.63	57.43	0.00
Practice's cleanness	17.67	17.81	16.38	3.41	0.04
Practice's wall paintings	6.36	6.49	4.88	7.89	0.00
Practice's nice view	7.48	7.41	7.44	0.01	0.99
Practice's soft lighting	10.09	9.76	9.94	0.14	0.87
Practice's decoration	15.45	14.43	15.38	1.76	0.18
Practice's personal character	7.76	8.30	7.69	1.56	0.22
Practice light colored decoration	7.48	9.51	8.69	4.39	0.02

through cluster analysis. Specifically, we tested the research sample grouping ability, on the basis of their responses. This resulted in an interpretable solution, producing three clusters, which could be defined uniquely and meaningfully, on the basis of all the research measures.

This analysis appears to be able to classify 86 out of 95 participants of the total sample, and showed that 6 out of all 11 variables had explanatory powers upon this classification. The mean cluster center values for the three patient clusters are presented on Table 2, together with the ANOVAs of the cluster means and significance levels. Specifically, the analysis classified 33 respondents on the first cluster, the 'Leeries', another 37 respondents on the second, the 'Aloofs' and the rest 16 respondents on the third cluster, the 'Intimates', accounting for 38%, 43% and 19%, respectively.

Specifically, our findings further supported prior research relating external factors with patients' perceptions [17]. As shown on Table 2, the variables that showed interpreting powers upon the research dependent variables, i.e., patient's trust and proximity to physician were physician authority (exposition of certificates), practice's cleanness, practice's wall paintings and practice light colored decoration thus further support prior research findings, and thus, they were able to successfully differentiate the sample into the three clusters [7, 9–13, 16, 20].

However, our research results did not support the relationship of the variables practice's nice view, soft lighting, modern decoration and personal character, with the dependent variables, despite prior literature arguments [12, 15, 20].

Our research results showed that there is a difference in the way patients evaluate practices and show trust on physician's medical expertise. Specifically, the 'Leeries' profile reflects the patients who are less trustful towards the physician, however they scored lowest than the rest two, regarding the feelings of distance from the physician. This patient group seems to have the least preference of all three to the light colors, the practice's cleanness and wall paintings. It appears that trustworthiness is on a par with the practice's ambient characteristics, in terms of light coloring, cleanness and wall paintings decoration. In other words, when trust

to the physician is missing, the practice's ambient characteristics would receive a lower score as constituents of the therapeutic experience.

In regard to the second cluster of "Aloofs', as shown on Table 2, cleanliness, light colors, wall paintings and physician's certificates of the physician's authority, seem to make a difference when the patient is rather distant from the physician. As light colors are associated with positive sentiments, all the above environmental characteristics may create a sense of familiarity with the physician, which may facilitate self-disclosure, which is essential for the therapeutic result, thus enhancing patient-physician proximity.

The 'Intimates' patient cluster scored highest of all three clusters, in respect to patient's trust to the physician. Along similar lines to the 'Leeries', trustworthiness appears not to be congruent to diminishing the perceived psychological distance from the physician. It is implied that there may be some more traits for the attainment of the physician-patient proximity. Moreover, the 'Intimates' scored lowest of all, in respect to the practice's environment and specifically, for cleanness, wall paintings and certificates that reinforce the physician's authority. Furthermore, they depicted mediocre preference to the light colors and they gave the lowest score on dark colors' preference, although that this last relationship in the model did not seem to suffice (i.e., insignificant). It appears that, when the physician has gained the trust of the patient, all the surrounding issues are less important, although that they contribute to the total therapeutic experience. Maybe the physical environment plays a role in shaping the patients' attitude, at the early stage of the relationship with the physician, when the patient has not yet knowledge of the physician's aptitude and skills. When trust is established, all the rest appear to be, more or less, of secondary importance.

On the whole, research findings imply that the physicians' waiting areas and the practices, in general, should be designed to satisfy the patient and to distract from the stress and anxiety caused by the reason, for which they are visiting the physician, thus enhancing the therapeutic experience for the patient.

5   Limitations and Future Research

As this is a preliminary study, one should not generalize too far. We need to broaden the scope of the research field into a larger spectrum of patients, and also to compare various patients' groups, in order to compare patients' idiosyncratic characteristics with their preference in respect to physicians' waiting room and practice's atmosphere, interior design and aesthetics.

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The Effects of Workplace Well-Being on Individual's Knowledge Creation Outcomes: A Study Research Among Hotel Employees

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Abstract The purpose of the present study was to reveal, when employees enjoy well-being at their workplace their will have higher knowledge creation outcomes. The study took place at the individual level. The sample of the study consisted of 185 employees from 31 units of 12 different hotels in Greece. A valid scale measuring workplace well-being was used along with a scale that was developed for this study in order to measure knowledge creation outcomes. Results indicate that employees who enjoy workplace well-being they will actually develop higher knowledge creation outcomes, with $p = 0.001$. This should be considered by hotel managers, when designing and implementing human resources practices as those who will boost workplace well-being will result to greater knowledge creation outcomes. Future research could be conducted by adding more variables to the equation the various aspects of well-being in order to see how health, social and happiness well-being of the employees affect the knowledge creation outcomes of the employees.

Keywords Knowledge creation outcomes · Workplace well-being · HRM · Hotels · Tourism

1 Introduction and Literature Review

Gaining competitive advantage is the constant goal of successful organizations. Taking advantage of the environment that the organisation is operating and growing may lead to gaining this advantage [1], the same may take place by using all

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kind of company's/organisation's resources [2]. Knowledge, as a resource of an organization is vital [3, 4]. However, and as it is logical for knowledge to exist, knowledge should be created [3]. Several international organizations and major players in their field, such as the ABB, Unilever, Sony, Toyota, General Electric's, Siemens, Phonic and Matsushita, recognize the importance of knowledge creation and for that reason they have invested in building initiatives, functions and projects that enhance knowledge creation [5, 6]. Organizational knowledge creation theory has been used to explain phenomena in various fields, including those of organizational theory, organizational behaviour, human resource management and leadership, innovation and technology management, strategic management, public administration and management information systems [7]. Hence, it is quite obvious that knowledge creation is enjoying extended and prosperous research. However by taking a deeper look into knowledge and its creation, even if there is plenty of research until now, there is a feeling that we have scratched the surface of understanding [8]. This means that new mechanisms of creating knowledge should be researched in order to help an organization to gain competitive advantage. The knowledge creation process can take place in every level, organisational, team and individual, of the organization [9] and can be measured by its outcomes [10]. However, knowledge creation process starts from individuals, as usually every process does, and later on spreads on all levels with the good management guidance, and that is one of the reasons this research is going to focus on the individual level. The other reason is that the individual level is the most overlooked when it comes to research for knowledge creation. According to Nonaka [4] at this level, knowledge creation takes place when interacting with the individual's environment.

But what helps individuals reach better outcomes, in general, and more specifically knowledge creation outcomes? After a review of the literature that has been produced by know, concerning knowledge creation and its outcomes we can see that a relationship that has not yet been researched is the one between workplace well-being that the employees are enjoying at their workplace. Employees' well-being on the workplace can be defined as the quality that an individual enjoys on his/her job experience and job functioning [11] and from now on in this paper employees' well-being on the workplace is going to be mentioned as employees' wellbeing. An employee that experiences employees' wellbeing, as also derives from the above, will probably have better outcomes on the job [12] and that could also include better and more knowledge creation outcomes. Thus this research study tried to reveal more about the effect that wellbeing has on knowledge creation outcomes. This research's sample is employees of Greek Hotels as Tourism and Hospitality industry has always been one of the strongest economic resources of Greek Economy, and at the same time it is a service sector that is very strongly based on the people that are employees to provide those services, especially when it comes to four or five star hotels where the expectance of high quality services is always expected. Greece's tourism and hospitality industry being stronger that most of other sectors, it still has a long way to go when it goes to taking advantage of all of its resources as it is still remaining closer to the "traditional" sea and sun tourism, however it has the chance to utilize so much more, like sport tourism, health tourism, religious tourism etc.

thus knowledge creation is essential in all employee positions in order for the Greek tourism and hospitality industry to flourish. However with unhappy employees that are not committed to their occupations this is hardly possible to occur. The aim of this paper is to reveal whether there is a positive relationship between workplace well being and knowledge creation outcomes at the Greek hotel industry.

2 Knowledge Creation Outcomes

Knowledge is the justified true belief or true opinion combined with a reason, as given by the classical definition of it. An interesting approach of this definition took place by Chisholm [13]. He describes knowledge as following: "α knows that π, means: α accepts π, α has adequate evidence for π, and π is true". Several other writers and philosophers, such as Platto, Hintikka, Rynin, Ayer, etc., occupied themselves in reforming this classical definition of knowledge but all of them formed their definitions under three conditions that can be addressed as: the condition of acceptance or belief, the condition of justification or evidence and the condition of truth [14].

The above definition refers to knowledge as a concept that is applicable in every aspect of life. But what about organizational knowledge? Organizational knowledge is a concept which is also quite fuzzy and has been described and analyzed in multiple ways [5, 15].

According to Nonaka and Takeuchi [5], organizational knowledge is the validated understanding that derives from an organizations understanding about the relationship that it has with its environment. Following the latter definition, organizational knowledge is static and concerns the organization's view on which way existing resources should be exploited in order to achieve the best possible outcome [16].

As knowledge creation is a complicated concept that is important in every organisational level, there should be a way to be measured. Knowledge creation can be measured by its outcomes which differ according to the level of observation. Rosendaal [10] supports that plans, contracts, proposals and analyses are some outcomes that derive from knowledge creation and which can vary throughout the different levels of analysis. Creativity theory, as defined by Torrance [17] can also help in defining knowledge creation outcomes. This theory suggests that creativity lays in problem identification, solution proposals, new ideas and the combination of the above to the existing context. Nonaka, Toyama and Konno [18] refer to the above as knowledge assets, which derive from the knowledge creation process. Thus, the combination of the above knowledge creation outcomes in the individual level could be conceptualized as new skills, new cognitive tools and new knowledge. When the above knowledge creation outcomes are new skills, new cognitive tools and new knowledge that a person acquired through knowledge transfer among individuals, thus learning, and when this is not something totally new that he/she developed, it can also be defined as learning outcomes [19].

This study is focused on individuals as those are the first level where knowledge is created in an organization. The knowledge creation outcomes that an individual will develop on the job will be there to keep, but it will use and combine them in order to achieve the best possible organization outcomes. Furthermore at the tourism and hospitality sector, as in all "service" sectors are the ones who come in contact with customers and their needs and those who are in the process to prepare everything for the visitor to go as well as possible and are the only ones who know how to improve the mistakes they recognize if they need new services and what are the openings that can and should be made. In this study an effort is made in order to understand how those knowledge creation outcomes are developed, and to bring in the light a small piece of the knowledge creation's "black box".

3   Employees' Well-Being at the Workplace

Well-being can be roughly distinguish between the well-being that someone enjoys in their overall life, and is strongly connected to happiness, and the well-being that focuses on more specific segments of someone's' life, such as work or family [20]. The well-being of a person describes the overall experience of someone in, both, their personal and professional life and is related to how various people experience their happiness [21]. The well-being that someone enjoys in their place of employment can be described as the experiences, functions and quality of their job [11]. The well-being of employees became a very important topic among researches and thus there is a variation amongst its conceptualization [21]. Of course well-being of somebody's overall life can be affected by the level of well-being that someone experiences at the workplace, as usually individuals spend one third of their days in their working environment [12]. Employees' well-being can be seen as a broad subject that is affected by workplace factors. According to employees perception, as stated in Kumar, Pio, Brewer, Frampton, and Nicholls [22] study, a healthy workplace, meaning one that managers collaborate with the employees to achieve a continual improvement process, in order to protect and promote health, safety and wellbeing of all employees. Furthermore, the sustainability of a workplace were employees are enjoying well-being in an everyday basis are less likely to experience burnout and more likely to have better outcomes in their everyday activities well-being is the sum up of well beings individuals experience in their different aspects of everyday life. Employees' well-being is the well-being that an individual experiences at its working environment. Working environment is the environment that an individual gets to spent more than 1/3 of their day, or even more, so the well-being they experience in this environment gets to affect their overall well-being. The way people treat or are treated during their work time, the relationships with their colleagues, the freedom they have, the opportunities they are entitled etc. get to shape their well-being at the workplace. Up until now, the workplace well-being's connection with knowledge creation outcomes has not been researched, and this is a big part of what this research is concerned about, however

enablers of employees well-being, like trust and affective commitment [23], have been connected to knowledge creation outcomes [24, 25] thus this study used that background to proceed one step beyond. When employees work in a company that make them happy and healthy and when the social environment provided is suitable for the employees, they will be more than motivated to create new knowledge in order to do the best job possible. Furthermore, proving that workplace well-being is important for knowledge creation will provide the organizations with one more reason to promote workplace well-being which, and that could be vital for employees' social life, happiness and, most importantly, health.

4   Research Hypothesis

When employees experience well-being at the workplace they are motivated to achieve better outcomes [23] some of which could also be knowledge creation outcomes. Thus it is hypothesised that Workplace well-being will have a significant and positive effect on knowledge creation outcomes at the individual level.

5   Methodology

This is a cross sectional study as the data for both dependent and independent variables were gathered at one point at a time. A quantitative research was used to collect and analyse the data. Data collection and data analysis took place at the individual level.

5.1   Population and Sample

Data were gathered from 31 units of 12 different hotels in the Greece. The total amount of questionnaires was 185 which were filled in by those hotel employees. Of the sample 41.18% were men and 59.82% women. The average of overall tenure was 10.17 while the organisational tenure was 4.65 years. The average age was 32.8 years. This research took place during the ending of the 2017 summer season, and the sample was somewhat convenient and somewhat random as at the beginning random hotels from Greece were contacted in order to participate at the research, however since it was really seldom to have a positive response form a random hotel, the researcher utilised her network in order to have a greater sample.

5.2   Control Variables

As Paauwe and Richardson [26] propose in their model of HRQ/TQM, the relation between performance, age and gender can affect employees' outcomes. As a result, age and gender are used as control variables in this research. More specifically, gender was identified by asking the sample to indicate if they were male or female. For analysis purposes the gender variable was transformed to a dummy variable with 0 being the male (reference group) and 1 the female. To identify the age, a question asking how many years old each person was, was used. Another control variable that was used in this research was work experience in years as it is more that common sense that experience may affect the outcomes of Human resource practices, furthermore this is also found to affect the way that someone acquires knowledge [27, 28]. The fourth control variable that was used in this research was the seasonality of the position as it is expected to have an impact both on employees' well-being [29] as well as the organisational outcomes such as knowledge creation [30].

5.3   Measures

Employees Well-Being   For the measurement of workplace well-being, the combined scales of anxiety contentment and depression enthusiasm, developed by Warr [1] was used. Employees were asked to answer the questions with a five point Likert scale where 1 = never, 2 = almost never, 3 = sometimes, 4 = often, 5 = Very often. The Cronbach's α for this scale was 0.865.

Knowledge Creation Outcomes   Knowledge Creation Outcomes scale was created and adjusted for this research as there is no scale measuring the knowledge creation outcomes at the individual level. This scale is based on knowledge creation and creativity theory. These theories suggest that knowledge creation outcomes, at the individual level, can be identified as the new skills, new cognitive tools and the new knowledge that someone acquires and/or creates. Of course once more as the individual is the level of observation the employees' perception is the one that had been declared on the answers of these questions. As the goal of the research is to define the knowledge outcomes that an individual acquired in the organization they are currently working, the general topic are: Since I've been working in this organization. A five point Likert scale will be used where 1 represents = strongly disagree and 5 = strongly agree. Overall, what the construct of the scale self-assessment of the achievement of learning outcomes concerning effectiveness and efficiency on their workplace. The scale was piloted revised and repiloted prior to its finalisation for conducting the research in order to make sure that it is valid. The Cronbach's alpha for this scale in the current research resulted in 0.776.

Statistical Analysis The validity was checked with a factor analysis method. Cronbach's alpha was used to check the reliability of each and every one of the (sub) scales in the model. Simple and multiple regressions were used to reveal the significance of the relationships between the variables at the employee level and the effect of the control variables on these relationships.

6 Results

The outcomes of the statistical analysis showed that the research hypothesis was confirmed as workplace well-being resulted in $\beta = 0.380$ and $p = 0.000$ which shows a very high level of significance. The results above show that when employees enjoy workplace well-being they are more probable to develop knowledge creation outcomes at the place of their employment. Furthermore, the results showed that the control variables boosted the model and better explain the relationship as the model with the control variables showed a bigger $R2$ change from 0.242 to 0.259 improving the model 0.017. Moreover, the results of the analysis showed that the employees of the hotels in Greece enjoy workplace well-being just a little bit above average as the overall mean resulted in 3.44 while there self-assessment for knowledge creation outcomes was quite good with overall mean of 4.02.

7 Discussion and Conclusions

The purpose of this survey study was to investigate to what extend does Workplace Work Being affect Knowledge Creation Outcomes at the individual level with a sample of hotel employees. The concepts that were used for this purpose were Workplace Well Being and Knowledge Creation Outcomes, at the individual level. The latter was measured with a scale developed for this research, utilising the self-assessment of the achievement of learning outcomes concerning effectiveness and efficiency at their everyday work life, based on Rosendaals' [10] notion which supports that plans, contracts, proposals and analyses are outcomes that can be measured as knowledge creation. The workplace well-being resulted in having a significant and positive result on the knowledge creation outcomes, meaning that the more well-being the employees enjoy at their place of work the most knowledge creation outcomes they will develop. This is in accordance with the researches that support that employees well-being will produce better outcomes for the organisation [31–33]. Furthermore, it is a ground-breaking outcome as there is no other study that has researched the effect of workplace well-being on the knowledge creation outcomes. However, it is also supported by common sense, as when people enjoy workplace well-being they are motivated enough to develop themselves and become more efficient in order to make sure that they will continue working in that environment.

This research study resulted both in suggestions for the managers and policy makers concerning on how they will make their practices more efficient both for the shake of their organisations as well as their employees, as well as future research for academics in order to reveal the contents of Huma Resource's "black box", thus below the future research recommendations. To proceed with the managerial implications, this study reveals that the managers of the hotels that aim in boosting knowledge creation outcomes should design and implement HR practices that enhance workplace well-being as workplace well-being has double importance for the organisation. It helps in producing knowledge creation outcomes as well as is of great importance by its own meaning as employees should enjoy a healthy and happy workplace in order to both have better outcomes for the organisation as well their life overall, as work is at least 1/3 of the employees and when seasonal work is referenced, the work hours could be 12 or 14, and even if this is for only half a year, the intensity can really affect the employee's well-being.

Concerning it is suggested that future research could be conducted adding more variables to the equation, like the various aspects of well-being, in order to see how health, social and happiness well-being of the employees affect the knowledge creation outcomes of the employees. Furthermore, since the effect that workplace well-being has on knowledge creation outcomes has never been researched before, it needs to be tested in other economic sectors in order to see how this relationship applies there as well. Another thing that the future research should look into, could be whether the results of the research are according to the intentions of the companies' HR practices or there are other variables that predict those outcomes, i.e. Perceptions of HR practices as per Nishii and Wright [33] suggest.

To conclude, this research aimed in finding a new way of explaining the way knowledge outcomes are created by individuals in an organization. Especially on the Greek Tourism sector, which would be benefited by new knowledge if it wants to grow beyond the "Sea and Sun" visitors and by the results it is obvious that boosting employees well-being in their workplace could lead to the desired outcomes.

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The Value of Cultural Routes in Greece: Examination of the Current Situation

Lambros Vasiliadis and Dimitrios Belias

Abstract International trends and growing demands in the field of cultural tourism gave birth to Cultural Routes in recent years. It is a program of the Council of Europe. In our study we will examine the influence of this program on the management of the material and intangible heritage of mankind. Our study emphasizes the benefits that can be gained for Greece. Given the economic crisis and the resulting social crisis that has plagued Greece in recent years, it is imperative that the adoption of new cultural models that will strengthen the economy at local, regional and national levels will create incentives for entrepreneurship and the preservation of cultural heritage. Regarding the current situation in Greece, the paper unveils that there are some fine examples which can be used as role models for the future development of new cultural routes. However, there is a need to create the necessary policies and initiatives from the side of the Greek state.

Keywords Cultural routes · Greece · Cultural heritage · Culture · Tourism

1 Introduction

The public sphere for many years it was dominated from the view that culture and development did not go along, and so culture was not included in development strategies. It was mainly linked to the traditions and customs that were often considered to be a drag on developmental plans [1]. Nowadays "culture comes to the forefront", as the process of globalization, the economic crisis and many new social parameters are factors that transform societies [1] and force us to rethink culture with new ways and through new reflections [2]. It is no coincidence that

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governments everywhere are reviewing development strategies and looking for new sources of dynamism, recognizing the power of culture all the more and considering it as a factor of sustainable development [1], but also as a factor of social cohesion, respect and mutual understanding between of people coming from different cultural backgrounds through actions such as the cultural routes.

The outcome is that there is a growing interest for research in how cultural can become a mechanism of development by using many different approaches including the cultural routes [1], though there is a pretty limited research when it comes for the case of Greece. In order to fill in this gap, the current paper will focus on the case of cultural routes as a mechanism of promoting cultural heritage and creating development opportunities by using the case of Greece. Hence, the aim of this paper is to present the current situation on the cultural routes in Greece.

2 Methodology

The present work was conducted through a bibliographic research on the management of cultural routes in Greece. In the context of highlighting the intangible element of the heritage, international conventions of scientific bodies and European institutions such as UNESCO, the Council of Europe, the European Commission and ICOMOS have been studied. The aim of the diploma thesis is to present the new data in the field of heritage and to expose the need for a new cultural policy for Greece, more adapted to the new circumstances. For this reason, it has been preferred to study articles and research over the last 30 years. Besides, a key part of our research focuses on the institution of Cultural Routes which were launched in 1987.

3 Cultural Heritage Policy in General

Cultural heritage is denoted everywhere in what we think and what we do [3], shaping and shaping our everyday life. It surrounds us in the cities and villages, the natural landscapes and the archaeological sites. The elements constituting the cultural heritage differ greatly among human groups and change over time but the attachments they reflect are universal [3]. The cultural heritage is a social and cultural building [4], which records and expresses the long processes of historical development that are the essence of different national, regional, local and local identities and is an integral part of modern life. It is irreplaceable and is a basic foundation for development now and in the future [5]. As it is shaped by people, it also reflects the diversity of humanity, which is embodied in the uniqueness and pluralism of the identity of groups and societies. As a source of exchanges, innovation and creativity, cultural diversity is so indispensable for mankind, however indispensable is biodiversity for nat. In this sense, it is a common

heritage of humanity and must be recognized and assured in the interests of current and future generations, and provides the narrative testimony of historical development [6].

In an effort to identify the concept of cultural heritage in the most representative and integrated way, we will refer to some landmark conventions in shaping its modern definition. According to the Faro Declaration [7], cultural heritage is defined as "a set of resources inherited from the past, which people recognize independently of their property status as a reflection and expression of the ever-evolving values, beliefs, knowledge and traditions". It includes all aspects of the environment that arise from the interaction of people and places over time, both of the natural and cultural environment. It encompasses landscapes, historical places, locations and built environments as well as biodiversity, collections, past and ongoing cultural practices, knowledge and live experiences.

A series of declarations, conventions, improvements, directives from international bodies such as UNESCO, ICOMOS and the Council of Europe have been the precursors to the above general definition of our cultural heritage. Starting at the Venice Charter (Venice Charter) in 1964, the breadth of heritage was widened because of concern about natural heritage, historical monuments and buildings in building blocks, historical urban and rural centers, historic gardens and non-natural heritage including the environment, social and last of the intangible values [8]. UNESCO and ICOMOS are at the forefront of identifying the common terminology and scope of the legacy since 1965. In 1965, at the ICOMOS Statute Assembly, the scope of the definition of heritage was redefined. Heritage and monuments and locations have been designated. In 1968 the General Assembly of UNESCO in Paris adopted the recommendation of the Cultural Property Protection at Risk by Public or Private Works [8].

In 1972, UNESCO tried to include in all the testimonies of tangible culture as complete as possible. Article 1 (1) of the Declaration on the Protection of the World Cultural and Natural Heritage as a cultural heritage is defined as: (a) monuments: architectural works, monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave works and combinations of characteristics, (b) groups of buildings: groups of individual or associated buildings; (c) locations: human works or a combination of works of nature and man and areas including archaeological sites. The three categories are of great importance to the whole world, historical, aesthetic, ethnological or anthropological. A decade later, at the World Conference on Cultural Policies in Mexico City in 1982, the anthropocentric character of culture was emphasized as UNESCO included the intangible element in the definition of heritage. "Culture consists of a set of distinctive intellectual, material, mental and emotional characteristics that characterize a society or a social group. It includes not only the arts and letters, but also the way of life, the fundamental rights of human existence, values systems, traditions and beliefs" [9].

In the twentieth century, the wider definition of cultural heritage was adopted globally, which used the 1972 Declaration as a basis, including also the enlightened cultural heritage and the intangible of oral traditions, performing arts and rites. It included, in other words, all intangible elements, which are considered by a given

community as important components of its inner identity and its uniqueness as compared to all other human groups [10].

In Greece, the concept of cultural heritage was formally identified in 2002 by Law 3028, where Article 1 (1) states that the cultural heritage consists of cultural goods within the boundaries of cultural territory, including territorial waters, as well as within of the maritime areas in which Greece exercises jurisdiction in accordance with international law. Cultural heritage includes intangible cultural goods. As we examined the course of identifying the concept of cultural heritage, we can safely come to the conclusion that it is a living source of renewed energy [1]. As humanity evolves, culture can only follow the same evolutionary course.

4   Cultural Routes

One of the aims of the routes is to overcome borders—geographically, politically, culturally—by creating communication bridges and links between the elements shaping the cultural journey. It is essential to emphasize diversity as each feature plays its own role and is considered to be an integral part of the journey [4, 11]. The rationale of the cultural journey essentially reveals the phenomenon of human mobility and exchange. The innovation lies in the fact that through the route the visitor discovers the communication routes and the cultural properties that connected different people [5, 6]. At the same time, it represents a territorial plan, which helps to read the signs of the engraved history in the landscape and allows for its decoding collective autobiography and the interpretation of old and recent evidence. Inheritance, physical and intangible, has a leading role in the design of the route and should be interpreted as a key element by identifying the areas that are included [12].

As a territorial program, it must also respect the resources and the area where it is to be implemented following the virtuous circle resource/program/area, elements that are related and interdependent. This means that the regions are emerging through cultural route programs, but they must be developed in a coherent way with existing resources. On the other hand, the program creates new resources for the region [12]. The routes create a new type of tourism [13]. Attracting visitors of various categories. They are addressed to a variety of users, such as international guests who stay overnight, longer stays, or urban residents. [. . .] Simply put, the tourism route linking a number of attractions to promote local tourism ton encouraging visitors to travel from one place to another [14].

Finally, Cultural Routes can be categorized according to: (a) the territorial scope of the local, national, regional, European or intercontinental; (b) their cultural scope within a given cultural area or extended to different geographical areas, or continue to share a process of mutual influence on the formation or development of their cultural values; (c) their objective or function, social, economic, political or cultural; (d) with their duration in time which are no longer used in contradiction with those that continue to develop under the influence of socio-economic, political; (e) with

their duration in time which are no longer used in contradiction with those that continue to develop under the influence of socio-economic, political and cultural changes; (f) structural shaping, linear, circular, cross-linked, radial networking; (g) sea, mixed, or other environmental setting [5].

5 Cultural Routes and Tourism

Economic pressures and political decisions internationally encourage the review of public cultural heritage resources as recreational and tourism attractions [15]. Given the new conditions, many tourism analysts consider cultural routes to be the most effective way of distributing visitors, giving the opportunity for less explored areas with valuable cultural resources to become more widely known [14]. Route tourism can be described as a strategy that links less well-known, usually rural areas, to tourist attractions in order to advertise them more effectively under a unified theme and to improve the management and preservation of their heritage features. Cultural routes aim to protect and document smaller cultural heritage sites often of local importance. Scattering visitors to less developed areas increases the attractiveness of spaces through collective marketing but also expands the visitor's period of stay. In addition, via routes, productivity and local economy are enhanced as goods and services are products of local societies [4].

By guiding the flow of tourists to areas that are likely not to interest visitors or would not be the first choice, they are also relieved by bustling mass tourism destinations. The development of this new tourism model meets the principles of viability through the diversification of destinations and the strengthening of local pride and the economic boom of the community [15]. The visitor seeks the journey in which he experiences the cultural heritage, he experiences the elements of the cultural heritage, such as the visual arts and arts of the spectacle, the buildings of cultural heritage, regions, landscapes, ways of life, values, traditions and events, gastronomy, art, music, architecture [16].

What is particularly important is more contact with locals, real people, and engagement with local culture and creative practices. Postmodern research on identity, meaning and roots encourages many to seek out experiences that enable them to interact with local societies and to understand how they relate to the world [13]. The routes offer such experiences combining both education and fun, while retaining community attention and fulfilling both the scientific and social and educational role of the heritage [15]. On the other hand, at the level of entrepreneurship and co-operation of operators, route tourism brings together places and activities in a particular geographical area under a specific trade issue. (. . .) Offers opportunities for local businessmen to supply visitors with tourist goods and services such as accommodation, sale of local crafts and food or other activities taking place in their area [4].

The other guest as part of this two-way relationship is quite demanding and to meet needs cooperation among all involved members. For a successful route, many

individuals, organizations, bodies and structures in Europe should be involved [17]. Increasing tourist interest in culture creates more incentives for cultural heritage preservation, network development and the exchange of expertise between actors by reducing inter-regional inequalities and offering socio-economic, cultural and environmental benefits to scattered locations [15].

6 Cultural Routes and Tourism in Greece

Greece's participation in the European Cultural Routes program is very limited. Kouri [15], observes that "in Greece cultural routes are underdeveloped and their communication is incomplete, as the mapping, evaluation and interpretation of cultural resources is inconsistent." Just in 2005, Greece declares its presence in the program of Cultural Routes in Europe, which began in 1987. The Council of Europe certified the Cultural Route "The Olive Streets". It is a thematic route based on olive culture, both as a landmark of the land and a landmark of the Mediterranean way of life. It includes paths of intercultural dialogue and discovery. The route follows the traces of Olive Culture starting from Greece and traveling to the Mediterranean countries. The relationship between olive and man was and is so powerful that it has affected many aspects of its life by calling it a mythical or sacred tree. Influences are found in gastronomy, arts and traditions, in the everyday habits of the Mediterranean peoples, who have shaped their living cultural heritage. The traveler has the opportunity to experience the special culture of the olive and to get in touch with places, products and traditions. Different cultural paths run through the countries of Southern Europe and North Africa (www.coe.int) [16]. The aim of this route was to provide a way out of new collaborations between remote areas that would experience isolation differently.

A wealth of small and medium-sized businesses along the Olive Routes are involved in export trade. These routes and missions have provided a good basis for strengthening cooperation between businesses and establishing a good basis for new joint initiatives [17]. In addition, it is possible to bring together all the members involved in the economic exploitation of the olive tree (artists, small producers and farmers, young entrepreneurs, etc.) that would be threatened by the economic crisis [18, 19]. In addition to the Cultural Routes of the Council of Europe in Greece, smaller routes are planned. Some are thematic and extend beyond the borders, but mainly these are local routes. Another example of a cultural route is EUROTEX, a program that aims to rescue the textile heritage by developing fabric tourism in peripheral regions.

In Crete, the Crecotel hotel chain, a member of a large and environmentally conscious touristic organization of the German TUI, supports the program. Seven different Textile Routes have already been delineated with the support and promotion of the hoteliers of Rethymno in Crete. Greece is also a partner in the "Via Mediterranea" program, which is a cooperation program for the development of

agrotourism among the Mediterranean partner countries including Portugal, France and Spain [11].

Another event is the "Green Cultural Routes". These are actions to raise public awareness and engage with the cultural heritage. The "Green Cultural Routes" were designed by the Museum's Directorate of the Ministry of Culture and Youth to participate in the National Action Plan for Education in Sustainable Development. The aim of the action is to promote sustainable development through the education of citizens in the field of protection and promotion of the cultural wealth and the country's natural environment. The action was first implemented in 2012 and developed in prefectures. The actions include the Ephorate of Antiquities and Museums of the Ministry of Culture, in collaboration with Municipalities, Primary and Secondary Education Directorates, Environmental Education Centers, Universities, schools, cultural associations, environmental organizations, civic associations and co-operatives, as well as many volunteers. The duration of the events is usually three days in May, which are determined by the Ministry and the admission is free to the public. The action continues until today and the gradual increase in the number of participants and the number of events testify to the success of the project. The action continues until today and the gradual increase in the number of participants and the number of events testify to the success of the project. The action continues until today and the gradual increase in the number of participants and the number of events testify to the success of the project.

Lastly, we believe that it is worth mentioning the "DIAZOMA" Association, which, in cooperation with the regions of Greece, is planning Cultural Routes, Nature Routes, Culture and History, aiming at the unification of the archaeological sites, the promotion of the monuments and their general integration to the wider developmental planning of the Regions. The cooperation between a non-governmental organization and local government institutions "orchestrates an unprecedented scale, depth and quality, social, scientific and business cooperation", as noted by the President of the Association, Mr. Stavros Benos, and adds by responding to a of the basic issues of the management of politics "This is now the road to any European funding: sustainability, link to economy, multi-arm development" [20]. The proposal regarding the Via Egnatia Cultural Route is in progress and includes the unification of archaeological sites and monuments of the Egnatia Motorway in East Macedonia and Thrace. The aim is to create a modern touring route, which will follow its traces and will be a great incentive to attract visitors. The "Cultural Route of Epirus" includes four Regional Units and in cooperation with the Region of Sterea Ellada, the Cultural-Environmental Route Program: "The Paths of History—Nature Routes and Culture" is planned and implemented. The aim of the Route is to create a complete and branded "product" of cultural tourism. By attracting unknowns to the very common sights of the Region, the aim is to attract tourist interest and secondly to strengthen local businesses [20].

Regarding the current status, the case of cultural routes had emerged during the past years, though still there are few cases, such as the above mentioned cases. An interesting point has been made from [21], who have examined the case of Andreou Syngrou Avenue as a case of an urban cultural route, while [22], have

examined the case of the cultural routes of the Greek monks in South Italy, as a case of intercultural exchange but also the case of combining this route with a similar one in Greece (such as in the case of cultural routes in Meteora). Furthermore, Oikonomopoulou et al. [23], have mentioned the fact that cultural routes are important for the protection of the cultural heritage, though in Greece many of them have been planned but few implemented. Finally the case of Vasiliadis et al. [24], have mentioned that there is an emerge of cultural routes in Greece, something which gives value on the tourist profile of the destinations which accommodate those routes.

7 Conclusion

Cultural culture introduces a new model of cultural management and tourism product at the same time with multi-level benefits for societies, such as small business creation, development of cultural tourism products and services. They offer a new cultural asset that creates interaction between a monument that needs protection and development and the cultural or regional content to which it has to be linked in order to be fully understood and valued [18]. Although the international community has adopted the institution of cultural routes very early, Greece does not seem to have given the necessary attention. As we have already seen in Greece, the only route certified by the Council of Europe is the "Olive Streets". Through our study we concluded that the actions it implements are very limited and in no way follow the examples of other European routes [25, 26]. Overall, we will agree with Kouri's view [15] that Greek cultural policy needs to be renewed primarily in order to set goals that respond to modern national and international reality to explore the established typologies of culture, state role and relationships with other stakeholders and to review the pressures issues of cultural democracy [25, 26]. It is necessary to exploit opportunities and opportunities, coordinated, combined and targeted actions by public bodies and the private sector with excellent and "smart" use of the available resources and on the basis of integrated and coherent planning in the long run [27].

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Developing a Tourism Destination Through Gastronomy Branding

Maria Vrasida, Magda Peistikou, and Natasa Iliopoulou

Abstract This study investigated in depth the growth of interest in branding a destination through gastronomy, and more specifically the interaction among culture, tourism, and food industry. Food appears as a part of the destination marketing mix, as it helps providing a full experience of one destination; it literally allows tourists taste the destination through the local food culture. Food appears as an essential element of every travel experience. It is the "what we eat, how we eat it, and why we eat it" scheme that contributes in travelers' pleasure while visiting new places. In recent years, gastronomy has become one of the main sources of attraction in the tourist destinations. That is the reason why new and older fine dining restaurants, Michelin starred ones as well, have developed a certain approach towards tourists, especially in Northern and Western Europe. Restaurants provide fine dining experience, sometimes in more casual locations, as part of local culture and tourist attraction creating a destination positioning in market of tourism.

Keywords Tourism · Gastronomy · Culture · Food tourism · Food travel

1 Introduction

This study researched the keywords "Gastronomy", "Tourism", "Food Tourism" and the concept of "food traveling", through various models that were identified in literature. An interesting outcome from the literature review, was that tourism is moving towards the direction of alternative packages of experiences, with food

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1083

being considered as a significant element of culture and a unique element of marketing mix for different locations worldwide.

2 Food and Culture

The destination marketing literature stresses the importance of differentiation by giving emphasis in the destination's unique tangible and intangible products or services available. Food and tasting experiences have become an important aspect in contemporary tourism. Gradually food, is considered as an element of culture, and is being used in destination marketing mix, because it helps to give a sense of place and allows tourists to literally taste the destination they visit. Food is coming directly into contact with local culture and it is considered for its valuable asset. Food is not only a basic human need, and gastronomy is the aspect of culture that tourists most frequently come into contact. They literally ingest local culture and this is the main reason for travelling, in some cases.

Food is not only a necessity to feed ones appetite but can be a tourist attraction as well. Nowadays more and more tourists are looking for alternative travel experiences, authentic local attractions, and food is considered as one of the most common choices one could make. Unlike other tourist attractions, food is available all year-round, anytime of day and in any weather. Food is part of culture and both notions are significantly connected, the way people eat, why and what they eat all become immediate points of difference upon entering a new culture. That is one more reason why tourists consider food as an important aspect of their destination choices, since they are seeking not only new and different or exotic tastes by travelling, but new food cultures. The food is an added value and plays significant role in ones travelling experience, since it can be overall, the most memorable part of the destination visited. For example, many travelers from Asia have started visiting Western Europe, not only for its culture but for its food as well, since it "has evolved into a key culinary destination" [1].

According to current researches, it is observed that tourists spend one third (1/3) of their travel expenses on visiting fine dining restaurants or generally food related purchases [2]. More specifically, Hu and Ritchie [2] state that food is considered as a "pull factor" for tourists to visit a destination, and it is one of the most important factors to satisfy travelers alongside other ones, such as scenery, accommodation and other activities [3].

Countries such as Greece, Italy, France and Spain attract the so called gastronomy tourists, who consider their attract different types of gastronomy tourists such as foodies, adventurers and traditionalists due to its wide range of countries, which have varying relationships with their culinary heritage.

Gastronomy tourists will often travel to Western Europe to experience unique cuisines that are famed for dishes that have achieved global success. Italian food is a prime example: Chinese tourists want to sample authentic pizza and pasta, and be culturally submerged in the process.

3 Food and Tourism

Researches have demonstrated food and tourism as two concepts closely related in the past three decades [4]. Hall and Sharples [5] describe the relation of food and tourism as the "visitation to primary and secondary food producers, food festivals, restaurants and specific locations for which food tasting and/or experiencing the attributes of specialist food production region are the primary motivating factor for travel". Food tourism nowadays can be linked also with cultural and natural heritage attraction, fact that offers a differentiated experience and a comprehensive offer of product. Food has a "cultural, social, geographical and political significance" [4] that concludes its attraction to tourists and its worldwide prominence.

Food tourism is considered as a life style, and travelers who choose visiting certain locations due to the gastronomical experiences offered, choose also physical embodiment and sensual experience. Food tourism, culinary tourism or gastronomy tourism, are terms that can describe tourists' desires and activities related to food [4].

Food tourism includes physical experience of food and tourists' interaction with food-related activities such as visitation to sites of food production, cooking classes, or food-themed events [6]. All these contribute and affect the economic restructuring of urban areas, providing the development, maintenance and/or even revival of local food products, in many cases. Urban neighborhoods or quarters can become attractive to visitors, especially those that specialize in particular ethnic tastes. Food tourism activities have occupied an increasingly relevant role in the travelers' agenda. Travelers who are looking for experiences that go beyond the palate, seek for experiences related to gastronomy and entertainment.

4 Advantages of Food Tourism

The meaning of the term gastronomy needs to be clarified as each destination interprets it differently. According to Warwick et al., [7] there is conjecture about when the term gastronomy was initially used. Even though various authors argue that there is a strong link to the ancient Greek words gastro (stomach) and nomos (law), the term is assumed to first appeared as the title of Joseph de Berchoux poem published in 1801 La Gastronomie ou L'homme des champs a table.

After the publication of the book The Physiology of taste, the derivative "gourmet" also came forward. As the famous gastronome, Anthelme Brillat-Savarin, stated, "Gastronomy is the knowledge and understanding of all that relates to man as he eats. Its purpose is to ensure the conservation of men, using the best food possible" [8].

Nowadays a shift towards the more scientific aspect of the activity is being observed and as a result gastronomy is being treated as a science. An interesting point though made by Lashley et al., [9] is that a concise definition of gastronomy

is notoriously elusive. Additionally, they characterise as elitist the interpretation of the definition that tends to associate gastronomy almost exclusively with restaurants and restaurant cuisine.

Nevertheless, gastronomy can often be defined and in several cases as very accurately Gillespie et al. [10] are pointing out it is being confused with pseudo gastronomy which as the author explains is a snobbish attitude that many people adopt towards food and wine. Santich [11] made an interesting attempt to clarify the different terms for gastronomy existing. As the author mentions, the term simply relates to the enjoyment of the very best in food and drink or is a far reaching discipline that encompasses everything into which food enters including all things people eat or drink.

Yeoman and McMahon-Beattie [12] summarise the whole idea in the following: "Awareness, interest and the enjoyment of food have coincided with the increased consumption of tourism, therefore it was perhaps inevitable that they would combine and be referred as food, culinary, gourmet or gastronomic tourism".

The contribution of gastronomy in tourism development is unquestionable with various examples worldwide. The fact that food is an essential element of the travel package, resulted the last years in the tourism suppliers focusing on replacing restaurant food with a "culinary experience". This experience is more than simply serving food to tourists. The whole idea is based on transfering the local culture to the tourist through the help of colours, scents and flavours. Moving to the next level, the tourism industry realised, quite soon enough, that local cuisines should expand their horizons in order to enrich the tourist experience. Based on research, Kivella and Crotts [13] concluded that the motivation to travel for gastronomy reasons is a valid construct. As a result, the term gastronomy was initiated in the concept.

Richards [14] states: "Gastronomy has a particularly important role to play in this, not only because food is central to the tourist experience, but also because gastronomy has become a significant source of identity formation in postmodern societies [14]". The advantage of this combination is the difficulty in replicating the product. Maybe the overall idea can be followed by various destinations but the product itself is unique. Each destination produces unique elements and has exclusive access to specific resources. So, the case of "reprinting" in a sense, the idea is impossible.

In parallel, a key factor of the tourism and gastronomy success is the collaboration between the public and the private sector. In addition, gastronomy is to truly reflect local and regional food particularly in rural tourism where scale and volume are success factors [12].

Gastronomy is increasingly being seen by destinations as a means to add value to the tourist experience and is associated with high-quality and high yield tourism. Festivals using gastronomy as a theme especially provide destinations with an opportunity to promote their local produce often reflecting their cultural identity and offer an alternative distribution outlet while educating consumers and generating awareness in an informal environment [5, 15].

Over centuries tourists have travelled to learn other people's languages and ways of life. As a form of well-being tourism, gastronomy tourism has the advantage of

procuring unknown enjoyments through the senses familiarising people with others and creating and renewing memories in a realm that is both every day and exotic. An increasing number of destinations have chosen gastronomy as a hallmark of excellence. Gastronomy tourism has also the advantage that even with no knowledge of the language, food and drink can offer an acclimatisation and naturalisation of the tourist [16].

Also gastronomy has become a significant source of identity formation in post-modern societies [14]. Modern societies and local communities that already introduced to their tourist portfolios, culinary products enjoy the benefits. Quan and Wang [17] determined three benefits that gastronomic tourism can give to destinations:

- Gastronomic tourism contributes to the development of rural tourism and agricultural economy.
- Destinations with various gastronomic resources are in the position to develop a complete gastronomical profile.
- Food can also be included in other aspect of the tourism activity i.e. events.

Moreover, as UNWTO [18] points out: "The interrelation between gastronomy and tourism provide a vehicle for the transmission of culture which in turn, if properly managed, enhances local economic development, sustainable practices and food experiences. Hence, gastronomy tourism, helps to brand and market destinations, as well as assists in maintaining and preserving local tradition and diversity, harnessing and rewarding authenticity [18].

Through the years, and as gastronomy tourism was further developed, wine tourism started to consist a single market. Various authors consider it nowadays a niche market that exists in the niche market of gastronomy. Adding to that, many wine regions and tourism destinations have realised that the benefits of wine tourism are not limited to the wineries but are also obvious to each area of the regional economy [19].

5 Conclusion

Through this article one can interpret and understand thoroughly that tourism nowadays has changed, food, local culture and other experiential activities play significant role in ones traveling preferences. The literature that was reviewed presented the significance of gastronomy in international tourism industry and especially the example of food tourism, a new movement of tourists. Gastronomy can act as a motivator for tourists and through networking there is a potential of creating new destinations. Gastronomy tourism or food and wine tourism, is a growing niche market that enhances and promotes local culture while it may create loyalty [20–22]. Tourists are seeking for new experiences, and food acts as a pull factor in their research of destination, food gives them the opportunity to "taste" the chosen destination.

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Personality Type and Career Preferences Among Young Adults in Post-Recession Greece

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Abstract The literature findings on the predictive power of the Big Five personality model on career choice students make is scant. The purpose of this study is to investigate the relationship between personality type and career selection. A 56-item questionnaire was used to measure personality traits and demographics, including three questions regarding preferences to work in the public sector, in the private sector and as a self-employed person. Approximately half the population of the Business Department students answered the questionnaire (N = 417), using Google docs in class. The results indicated that of the five traits only Neurotism and Agreeableness related to career choice. Although further studies need to be conducted to examine the aforesaid variable relationships, based on the findings reported here, career advisors and school counselors could be of greater benefit to students if they focused more on those possessing the two traits to an above average extent.

Keywords Big five · Five factor model · Career preferences

1 Introduction

The Greek public university system is one with limited choices for the students, centralized in its nature, with the Ministry of Education playing a major role in decisions pertaining to the yearly student intake, Program offerings, budget sizes and the university policies by and large. One such policy uniform to the country's university system is the prohibiting of the students to change their major or the department they enrolled, once they enter the university (typically at the age of 18). The student's decision at that age to enter a specific department of a school, determines his/her academic path, in most cases, whether they like it or not. Since

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there seems to exist no interest in making university offerings to students more flexible, it is becoming increasingly important for students to make the right school and department choice when deciding they field of study they want to pursue.

Students that are happy with their field of study, will more likely excel at it, will probably attend more frequently and will probably seek employment in workplaces related to their studies.

The purpose of this paper is to investigate the relationship of college student career preferences with their personality traits, as measured by the Five Factor Model, or the Big Five Personality traits. The results of the study are expected to offer some insight into the relationship above, in addition to assessing the effectiveness of existing career orientation mechanisms and to offer suggestions for the improvement of the matching between personality type and career choices.

The literature on the Big Five and career choice is scant, mostly focused on Holland's work on Personality and Vocational Interests [1–3]. We will make an effort in this contribution, examining the relationship of the Big Five traits with three career choices, self-employment, public sector work and private sector employment.

2 Career and the Big Five Personality Characteristics

A variety of definitions in the literature cause problems when comparing the findings of one study to those of the next. While some scholars view career as a concept with attitude and behavioral dimensions, others consider it as a sequence of positions in a person's working life [2, 4, 5] defined it as "a set of occupational experiences and roles that make up a person's working life." Career in this paper will be defined as the path the student wants to follow in his/her work life in the private sector, the public sector or as self-employed. We decided not to address the vocational interests of the students because our sample included only the first-year students. In line with the extant literature short definitions of the Big Five Factors will be used, encapsulating the adjectives we used in the questionnaire to measure each factor [6]. Briefly, Extraversion implies an energetic, spontaneous, adventurous, assertive, sociable person, with positive emotions [7, 8]. Agreeableness or likability is related to traits such as being friendly, generous, altruistic, tender-minded, trusting, and modest [2, 8]. Conscientiousness describes an individual's level of achievement, impulse control, organization and planning, acceptance of traditional norms and feeling responsibility toward the others [6, 9, 10], that facilitates task- and goal-directed behavior, such as thinking before acting, delaying gratification, following norms and rules, and prioritizing tasks. Neuroticism contrasts emotional stability and characterizes individuals as tense, anxious, nervous and emotional [1, 2, 11]. Finally, Openness to Experience describes the imaginative, artistic, conventional, curious and being interested in a variety of things [3, 12]. Based on the limited

literature on the topic of the Big Five and Career selection, the following hypotheses were derived:

H1: There is a relationship between extraversion as strong personality trait and the career choice students make

H2: There is a relationship between conscientiousness and career choice

H3: There is a relationship between Agreeableness and career choice

H4: There is a relationship between Neuroticism and career choice

H5: There is a relationship between openness to experience and career choice

3   Methodology

In our effort to make our study as useful as possible, we chose the first-year students as our sample, since they have not immersed in the deeper concepts of the more advanced classes in their specialization and have not yet identified with their major (e.g. marketing or accounting). The questionnaire has been used in the past by the first author and its reliability and validity have been checked in at least two other studies [13, 14]. The classes were asked to connect to the internet at the site where the questionnaire was placed. Half the students used their mobile phones and completed the questionnaire in-class (N = 417). We used SPSS, v.21, to conduct our analyses. We used Factor analysis and ANOVA to test our hypotheses.

4   Results

The calculation of the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) is an indication that the variables are able to group to smaller set of underling factors. According to Pallant (2006) [15] this measure is acceptable since Pallant gives KMO test equal or greater than 0.60 and in our research KMO is 0.81 indicating the appropriateness of using the technique for factor analysis. This appropriateness was further supported by the Barlett's Test of Sphericity, ($\chi 2 = 4565.4$; $p < 0.001$). Therefore, the factor analysis is feasible. The EFA was performed to determine the underling dimensionality of "career choice" by analysing patterns of correlations among 41 attributes. Principal Component Analysis and orthogonal Rotation with Varimax method was applied to increase the explanatory ability of the model. Varimax method, attempts to minimize the number of variables that have high loadings on each factor [16]. A five factor solution was chosen representing 37.8% of the total variance. In order to determine the number of factors extracted the Kaiser's criterion was applied, where the eigenvalue of a factor represents the

amount of the total variance explained by that factor and eigenvalue should be greater than one. Other criteria examined were scree plot, percentage of variance, item communalities and factor loadings [16].

The communalities of the variables ranged from 0.34 to 0.90 suggesting that the variances of each original variable were reasonably explained by the five-factor solution. Factor loadings of the variables ranged from 0.340 to 0.766 above the suggested threshold of 0.30 for practical and statistical significance [16].

The Crombach's alpha for the five factors varied from 0.75 to 0.79 (0.735 in total model) higher than the generally agreed upon lower limit of 0.60 for research at exploratory stage [17, 18] indicating internal consistency among the variables within each factor. The five factors were labeled based on the core variables that constituted them: Extraversion, Agreeableness, Consciousness, Neurotism, Openness to experience.

Five composite variables were created and used as indicators for the latent construct "Career choice" in the subsequent SEM.

SEM was applied to testing the Career choice model in which 5 hypotheses were developed based on a comprehensive review of the literature. Various measures of overall model goodness fit and measurement model fit were assessed to determine if the proposed model was acceptable.

At first, we test the sample for Positive Definiteness, where the determinant (=1,28E005) of the correlation matrix was not equal zero (Fig. 1).

H1: There is a relationship between extraversion as strong personality trait and the career choice students make.

Equal variances assumed, the hypothesis of relationship between extraversion and career choice is not supported [$F(3, 417) = 1002$ p $= 0.392 > 0.05$].

H2: There is a relationship between consciousness and career choice.

Equal variances assumed, the hypothesis of relationship between consciousness and career choice is not supported [$F(3, 417) = 1238$ p $= 0.295 > 0.05$].

H3: There is a relationship between Agreeableness and career choice.

Equal variances assumed, the hypothesis of relationship between Agreeableness and career choice is supported [$F (3. 417) = 3072$ p $= 0.028 < 0.05$]. Post hoc analysis did not reveal any differences among different career choices made by students having the trait agreeableness as their main personality characteristic.

H4: There is a relationship between Neuroticism and career choice.

Equal variances assumed, the hypothesis of relationship between consciousness and career choice is not supported [$F(3, 417) = 0.282$ p $= 0.839 > 0.05$].

H5: There is a relationship between openness to experience and career choice.

Equal variances assumed, the hypothesis of relationship between openness to experience and career choice is supported [$F (3, 417) = 6708$, p $= 0.00 < 0.05$]. Post-hoc analysis reveals differences among different career choices made by students having the trait of openness to experience as their main characteristic. Students that prefer their career to be as entrepreneurs or free-lancers are

Factors	Factor Loadings	Eigenvalue	Variance Explained (%)	Crombach's Alpha
Extraversion		6,1	14,7	0,79
I am extrovert and sociable	,766			
I am talkative	,722			
I am full of energy	,694			
I am a happy person	,660			
I cause enthusiasm in others	,552			
I have a dynamic personality	,518			
I like to work with others	,512			
I am original, with new ideas	,460			
I have a vivid imagination	,352			
Conscientiousness		3,5	8,38	0,75
I like to be respected	,601			
I want to have control of the situations	,548			
The feeling of success is important to me	,537			
I am interested in my personal development and improvement	,518			
I am efficient in what I do	,470			
I am reliable person	,466			
I am ambitious person	,453			
I like to feel free and independent	,452			
I am generally a person of trust	,377			
I like to deal with practical issues	,369			
I am realistic	,352			
I am curious about many different things	,341			
Agreeableness		2,4	5,62	0,70
I tend to be disorganized	,723			
I tend to be lazy	,674			
I may be somewhat careless	,661			
My attention is easily distracted	,597			
I have patience until I finish what I do R	,400			
I make plans and implement them in detail R	,397			
I worry too much	,376			
I like to have my things clean and tidy R	,355			
Neurotism		2,0	4,8	0,68
I quarrel with others	,655			
I have high temper	,605			
Sometimes I behave rudely towards others	,600			
I tend to emphasize the mistakes of others	,503			
I am often tense	,454			
I help others un-sellfishly R	,433			
I am in favor or people equality R	,487			
Openness to experience		1,8	4,3	0,55
I concern myself with art, music, literature	,635			
I believe that the end justifies the means R	,452			
I am resourceful	,431			
My studies are in the field of	,430			
I prefer routine work R	,371			

Fig. 1 Factors (five personality traits)

more open in experiences than students who prefer to work in private sector (mean = 0.1566 > mean = −0.1589). Also students who prefer their carrier to be named as "other" (not in private sector, not in public sector nor as entrepreneurs) are more open to experience than students willing to work at the private sector (mean = 0.2267 > mean = −0.46023).

Regression analysis revealed R2 of the model = 0.28% (Fig. 2).

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Extraversion	Between Groups	3,006	3	1,002	1,002	,392
	Within Groups	416,994	417	1,000		
	Total	420,000	420			
conscientiousness	Between Groups	3,708	3	1,236	1,238	,295
	Within Groups	416,292	417	,998		
	Total	420,000	420			
agreeableness	Between Groups	9,081	3	3,027	3,072	,028
	Within Groups	410,919	417	,985		
	Total	420,000	420			
neurotism	Between Groups	,850	3	,283	,282	,839
	Within Groups	419,150	417	1,005		
	Total	420,000	420			
openness to experiene	Between Groups	19,336	3	6,445	6,708	,000
	Within Groups	400,664	417	,961		
	Total	420,000	420			

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,487[a]	,238	,098	,738

Fig. 2 Model summary

5 Conclusion

The present study examined the relationship between the big five personality factors and employment preferences of first-year university students. Although not all factors related significantly to students' employment choices, openness to experience and agreeableness did. Students scoring high in these two traits are affected by their personality when they decide what career path to take. More research is needed to delve into the dynamics of the type of relationship between career choice and the two traits. This is important for career counselors and teachers who engage in helping out students who are trying to make career decisions at a critical juncture in their lives.

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Dominance of Tourism Marketing Channels in the Global Travel and Tourism Industry: A Financial Market Perspective

Alexios-Patapios Kontis, Ioannis Tsakalos, and Theodoros Stavrinoudis

Abstract As tourism services markets expand and become more and more complex and uncertain, there is growing recognition that competitive advantage of marketing channels rely not only on superior channel commitment and performance, but also on instant accessibility through mobile devices and user-friendly applications that cancel anachronistic terms such as limitations of place and time. The rapid developments of Information Communication Technologies (ICT) on Tourism Distribution Channels have a great impact on worldwide tourism and hospitality industry with significant effect on the dealings between the members of the channels. Vital factors such as power, roles and influences change unpredictable causing confusion to several of the tourism stakeholders. The purpose of the present paper is to examine the case of increasing dominance of the Online Tour Operators on traditional tourism producers (hospitality industry) by comparing their share prices' returns. In order to achieve this aim, we employ the Dynamic Conditional Correlation (DCC) model to examine dynamic correlations between the major Online Tour Operators' and big capitalization Hotel Groups' returns. The primary purpose of this article is to expand the understanding of industry practitioners as well as to academic researchers interested in tourism distributions marketing channels.

Keywords Tourism · Marketing Channels · Tourism Distribution · Online Travel Agencies (OTAs)

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1 Introduction

Over the past few years, online shopping has made a notable leap forward and in many economic sectors it has become the main marketing channel or a new business model [1–4]. Particular on tourism, the Internet has evolved into being one of the most important marketing channels for the sale of tourism services, as it allows potential customers not only to gather information about hotel amenities and destination facilities, but also to complete the necessary reservations just via a wide or mobile screen [5, 6]. In addition, the world-wide accelerating adoption of mobile devices enabled online travel bookings with significant impacts on tourism distribution strategies and considerable changes to the overall travel market [7, 8]. The above led Thakran and Verma to notice that "the centuries-old tradition of innkeeping has changed dramatically over the years—not in terms of the basic transaction of a room for the night, but in terms of how that room is sold" [5].

Nowadays it is increasingly recognized that products and services must be directly available to the final consumers, so in many business sectors, such as tourism, competition advantage strongly relates with the field of products and services trade and distribution in the market [9, 10]. The rise of digital distribution of a wide range of tourism services (e.g. hotel rooms, flights, travel packages, attraction tickets, cruises, car rentals) is due to the many benefits and advantages to both services providers and final consumers [11]. So there is a favorable environment for the sudden emergence and the rapid growth of the e-intermediaries, if not their dominance. As the customers are increasingly depending on online search, even the well-known international hotels chains and powerful tourism brands could no longer be the absolute powerful member in demand markets as they may face more and more challenges raised by the competition of Online Travel Agencies (OTAs) [5, 12].

An increasing number of surveys focus on the relationships between tourism producers and online traders in order to outline the power game between online tourism distribution channel members during the fundamental and remarkable evolutions in tourism marketing. This paper attempts to examine the business progress to both Online Travel Agencies (OTAs) and hospitality industry (the main tourism producers) by comparing their share prices' returns of each subsectors leaders during the last years.

2 Literature Review

The tourism distribution channels interconnect—direct or indirect—the suppliers with consumers making tourism products and services available to consumers [13] via one or more intermediaries. As intermediary is defined "any corporate third party or organization between producer and final consumer that facilitates purchases, the transfer or title of the buyer and sales revenue to the producer" [14:

293]. Stern and El-Ansaray [15: 3–4] maintain that distribution channels beyond of satisfy demand, they also increase function as a network that creates value for the total of participants. Several recent studies show that value creation has not been fair and balanced for all stakeholders, especially in tourism distribution channels, due to several different factors, such as the development of Information and Communication Technologies (ICTs).

As Information and Communication Technologies (ICTs) have added new forms of distribution channels and recently new business models, such as sharing economy platforms, the basic linear supply chain models in tourism have mutated to extremely complex distribution networks [4] with multi-level affects in tourism industry. The relevant literature acknowledges that Information and Communication Technologies (ICTs) are restructuring the existing tourism distribution system and transform the distribution channels, with significant effects on the tourism industry in totally [10, 16–18]. So, in the era of digital evolution on tourism sector, literature identifies three main pillars of change which are related to the structure of tourism distribution, the power of online tourism operators (new and existing) and the process of tourism production [19, 20]. The incorporation of new technologies by tourism distribution companies has caused major transformation on traditional and prevailing distribution structures with significant impacts on the strategies and operating methods of the tourism industry, creating major opportunities and the same time hard threats for the total of participants [17]. The changes on tourism distribution structures affect both the behaviour of the final consumers and the business strategies adopted by the channel participants [21]. The transformation on the relationships between the members of the channels such as roles, influences and power, change quickly with an unpredictable and non-linear way, causing confusion to several of the tourism stakeholders [5, 12]. The changes in power positions on distribution channels are related with the contribution of suppliers and intermediaries in the total value chain. In many cases are recorded movements which lead to corporate integrations and towards the interconnection of the participants or to the total extinction of some companies. Finally, the intensive application of new technologies in tourism production process have a wide range of positive effects such as better quality for the services, cost reduction for companies and customers and increase consumers satisfaction.

As mentioned before, distribution channels have been perceived as a network of interdependent entities that have banded together for purposes of trade [22]. But, although the distribution channels have to function effectively as an intergraded system, the increasing competition and the different priorities of independent members of channel in many cases cause "partner asymmetries" as result of an unequal "power game" [23]. The new circumstances concerning trading of tourism services push hotel businesses to understand the vital role of tourism distribution channels as well as the increasing dependence on them. More and more hotels establish autonomous distribution channels via Internet or adopt multi-channel distribution strategies in order to obtain fuller coverage of the target markets [5, 7].

In regards to the methodology employed, there is a large body of literature which examines the dynamic conditional correlations among different asset classes, indices etc. Following Engle [24] many researchers tried to extend literature in various data sets [25–29] as well as, develop alternative models to capture the correlation dynamics among time series [30].

In summary, tourism market has undergone profound changes due to the emergence of new players, who base their power on the way they interact with the consumers through the new technologies and mobile applications. The hotel sector is trying to maintain its leadership in the tourism industry, but in recent years it has become clear that the distribution sector is winning this battle. Comparing the share prices' returns of the leaders of both, online intermediaries and hospitality sector, this paper attempts to examine their performances.

3   Methodology

3.1   Sampling and Data Collection

An important issue in financial time series is to model the volatility. For this reason, starting from the seminar work of Engle [24], a variety of extensions for ARCH models have been proposed and tested in empirical studies. At the same time, it is of considerable importance to understand the co-movements of their returns. The proper way for the investigation of these considerations are the multivariate GARCH models to estimate the covariance matrix Q_t. Correlation models are based on the decomposition of the conditional covariance matrix into conditional standard deviations and correlations.

In order to quantify the dynamic correlation between OTAs and top ten Hotel Groups share prices' returns, we employ the Dynamic Conditional Correlation (DCC) model. The DCC model helps us to test the interdependence among aforementioned firms. DCC model has been used in several studies which study the ripple effect among different asset classes. However, there is limited evidence in regards to the tourism industry.

Let r_t denote the (N × 1) vector time series of assets returns. Following We assume a first-order autoregressive process, $AR(1)$, for share returns in the mean equation as follows:

$$r_t = \phi_0 + \phi_1 \cdot r_{t-1} + \varepsilon_t \tag{1}$$

where $\varepsilon_t | \mathcal{F}_{t-1} \sim N(0, H_t)$, $\mathcal{F}_t$ pictures the information up to and including time t and H_t refers to the covariance matrix.

The DCC model estimator of conditional variances and correlations functions in two phases: first, authors estimate a univariate GARCH model for all shares and then, the univariate variance estimations are introduced as inputs to obtain dynamic correlations. The DCC model captures the dynamics of time-varying conditional correlations, with the covariance matrix, H_t, specified as follows:

$$H_t = D_t R_t D_t \tag{2}$$

where $D_t = \text{diag}\left\{\sqrt{h_{i,t}}\right\}$ is a m x m diagonal matrix with the square roots of the conditional variances in the diagonal; and, $R_t \equiv \{\rho_{ij}\}_t$ is the time-varying conditional correlations matrix. Both D_t and R_t and, thus, H_t are assumed to be positive defined. The first order univariate GARCH process is indicated in Eq. (3):

$$h_{i,t} = \omega_i + \alpha_i \cdot \varepsilon_{i,t-1}^2 + \beta \cdot h_{i,t-1} \tag{3}$$

where $i = 1, 2, \ldots, m$, indicates the i-th equation in the vector autoregressive (VAR) model and $h_{i,t}$ is the conditional variance of the error term, $\varepsilon_{i,t}$, of the i-th equation, obtained from the first estimation step. Next, the standardized residuals' vector is employed to develop the DCC correlation specification as in the following equations:

$$Q_t = (1 - \theta_1 - \theta_2)\overline{Q} + \theta_1 \eta_{t-1}\eta_{t-1}' + \theta_2 Q_{t-1} \tag{4}$$

and

$$R_t = Q_t^{*-1} Q_t Q_t^{*-1} \tag{5}$$

where $\overline{Q} = E\left[\eta_t \eta_t'\right]$, the unconditional covariance of the standardized residuals, is obtained from the initial estimation step and $Q_t^* = (\text{diag}(Q_t))^{-1/2} = \text{diag}\left(\frac{1}{\sqrt{q_{11,t}}}, \ldots, \frac{1}{\sqrt{q_{mm,t}}}\right)$ is a diagonal matrix composed of the square root of the diagonal elements of Q_t In Eq. (4), θ_1 and θ_2 are scalar parameters, $\eta_t \left(\eta_t = D_t^{-1}\varepsilon_t\right)$ is the standardized residual matrix and Q_t is the covariance matrix of η_t. The parameters θ_1 and θ_2 capture the impact of previous shocks and previous dynamic conditional correlations on current dynamic conditional correlations. The DCC (1, 1) parameters, θ_1 and θ_2, are positive and their sum is lower than 1 ($\theta_1 + \theta_2 < 1$), which ensures that Q_t is positive and mean-reverting. This means that, following a shock, the correlation among share prices' returns to long-term unconditional level. The correlation estimators of Eq. (4) are as follows (Eq. 6):

$$\rho_{ij,t} = \frac{q_{ij,t}}{\sqrt{q_{ii,t}q_{jj,t}}} \text{for } i, j = 1, 2, \ldots, n \text{ and } i \neq j. \tag{6}$$

The DCC model is estimated by the maximization of the log-likelihood function in Eq. (7):

$$L = -\frac{1}{2} \sum_{t=1}^{T} (m\log(2\pi)) + 2\log|D_t| + \log|R_t| + \eta_t' R_t^{-1} \eta_t \qquad (7)$$

4 Research Results

Table 1 presents the empirical results of the DCC GARCH Model. Both a, b parameters of DCC model found to be positive and a + b < 1, supporting the presence of dynamic correlations over time in both sub periods. Dependence is getting higher during the period 2014-mid 2019, while in the late period we observe a slight diversification for OTAs which means that there is limited evidence regarding the existence of dynamic correlations. Findings support that investors may diversify their portfolio by including OTAs in their portfolio. This enables us to minimise the market risk by including shares which react independently in relation to global financial markets. First period highlights the contagion phenomenon since crisis affected world's financial markets while the second period OTAs increasing market share leads to lower correlation dynamics among OTAs and global financial indices.

5 Conclusion and Research Implications

This research captures the correlations dynamics among traditional hotel groups and OTAs with global financial indices. We employed our data set basis market capitalization for the hotel groups and the market share for the OTAs. Recent developments in the global tourism industry changed rapidly the marketing channels and their dynamics over time. Financial crisis highlighted market's needs and traditional players' weaknesses, while technology enabled OTAs to grow further. Findings support the contagion phenomenon during the first period of our sample; however this is not continued on the second sub-period. Results confirm that there is limited evidence regarding the dynamic correlation among OTAs and financial indices which is a clear signal for the rational investors who will to diversify their portfolio.

Table 1 Estimation of the DCC model parameters

Parameter	MSCI World Hotel Restaurant and Leisure						S&P500					
	2010–2013		2014–2019				2010–2013			2014–2019		
	a	b	a	b			a	b		a	b	
Hotel groups												
Marriot International Inc.	0.057*	0.935	0.028*	0.975*			0.043*	0.947*		0.026*	0.968*	
Las Vegas Sands Corp.	0.054	0.944	0.015*	0.922			0.039*	0.958*		0.004	0.982	
Sands China Ltd	0.024*	0.952*	0.022*	0.907			0.018	0.955		0.031	0.941*	
Jardine Matheson Hlds	0.033*	0.965	0.020*	0.869*			0.027	0.959		0.024*	0.928*	
Galaxy Entertainment	0.059	0.936	0.026	0.968*			0.042	0.951*		0.031	0.965	
Hilton Worldwide Hlds	0.046*	0.950*	0.056	0.854*			0.034*	0.948		0.061	0.906	
Loews Corp.	0.044*	0.952	0.022	0.956			0.035	0.961		0.019	0.972	
New World Development	0.025	0.963*	0.015*	0.871*			0.015	0.972*		0.008	0.897*	
MGM Resorts Int.	0.064	0.909	0.062	0.889			0.050*	0.938		0.055*	0.915*	
Wynn Resorts Ltd	0.009*	0.975*	0.027*	0.913*			0.002	0.991		0.019	0.931	
OTAs												
Booking Holdings Inc.	0.035*	0.932	0.055*	0.911*			0.066	0.902*		0.063	0.966	
Expedia Group Inc.	0.049*	0.942*	0.059	0.946			0.044	0.908		0.059	0.945*	

Note: * denotes 10% significance level

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