

Mauritius as a Smart Tourism Destination: Technology for Enhancing Tourism Experience



Randhir Roopchund

Abstract This research paper provides an overview of how technology is shaping the pathway for Mauritius to become a Smart Tourism destination. Mauritius a small island economy recently hosted an international conference entitled ‘Digitalisation and Sustainability’ in the tourism sector. The conference emphasised on the need for enhancing competitiveness of Mauritius as a tourism destination through technology and innovation. Mauritius has also invested in Smart Cities to provide technology-driven facilities to businesses and customers. A qualitative research approach is adopted based on content analysis, literature review and reference will be made to the challenges for the country to emerge as a Smart tourist destination. The research analyses the megatrends in digitalisation that emerged from the conference and further analyses different indexes for ICT to assess the readiness of Mauritius as Smart Tourism destination. Different Mauritian tourism websites and metrics are used to gather data for purposes of analysis. The research shows that the hospitality industry is investing in new technological tools due to increasing customer sophistication. The Hospitality.mu and Mari Deal.mu portals are clear examples of the digitalisation trend in the tourism industry with the increasing use of the internet by consumers at all levels of the value chain. The research will also showcase some examples of real applications of technology in the tourism sector being adopted at the national and international level.

Keywords Smart Tourism · e-Tourism · Digitalisation · Competitiveness · Technology · Destination management

1 Introduction

Tourism is one of the biggest and rapidly growing and promising sectors in the world that is triggering growth, creating jobs and also helping to reduce global poverty. According to the UNWTO (2017), the tourism sector accounts for 10% of

R. Roopchund (✉)
Beau Plan, Université Des Mascareignes, Pamplemousses, Mauritius
e-mail: roopchund@udm.ac.mu

© Springer Nature Singapore Pte Ltd. 2020
B. Pati et al. (eds.), *Advanced Computing and Intelligent Engineering*,
Advances in Intelligent Systems and Computing 1089,
https://doi.org/10.1007/978-981-15-1483-8_44

global GDP, 10% of total employment worldwide and 7% of the world's exports equivalent to USD 1.4 trillion. However, the tourism industry is currently dealing with a number of challenges such as climate change, sustainability and digitalisation which will shape the future of the industry. Digitalisation and tourism success are inherently and intrinsically linked (Tralac 2018). The rapid progress in Information and Communication Technology (ICT) is fast developing the tourism sector creating both opportunities and challenges.

Contribution to Knowledge

Though the concept of Smart Tourism has been well established in developed countries, small island economies still have enormous progress to make. Hence, this study fills the research gap by analysing the progress made by Mauritius as a tourism destination. Wilson [1] uses the example of how Fogo Island makes use of innovative policies and sustainable tourism for fostering economic growth and development. Mauritius has the highest internet penetration rate in Africa (ITU 2017) and consequently it is important for the key economic sectors to adopt Smart technologies and solutions to pave the way towards a high-income economy. This study, therefore, makes a strong case for the adoption of new technologies and innovations in the tourism sector to improve our destination image. A study by Wang et al. [2] demonstrated that the website quality of a hotel is strongly linked to the e-trust which also mediates the relationship between website quality and online booking intentions. The study is also of significance as it increases the awareness of stakeholders about the importance of technology in the overall customer behaviour.

Technological advances are creating major disruptions in tourism by empowering tourism actors to engage in new markets, offerings, management practices and competitive strategies [3]. The Mauritian tourism sector is facing a number of challenges with globalisation and increasing competition globally triggering the need for the use of technology for improving the value chain. The research puts emphasis on the ICT applications at different levels for example for destination management and improving the overall quality of services in the tourism sector.

2 Background and Context of Study—The Mauritian Tourism Sector

The Mauritian Tourism industry is the third pillar of the economy and contributes significantly to economic growth and has been a major driver in the overall development of Mauritius [4]. The tourism sector contributes around 25.6% to the overall GDP of the Mauritian economy. The World Travel and Tourism Council has forecasted that the GDP will increase by 4% in the year 2027. During recent years about 67% of the tourist arrivals are of European origin, with France and Great Britain originating almost half of the visitors. The Minister of Tourism in the conference for digitalisation explained that 'intend to seize the potential of new technology to advance the tourism

industry'. With social media and new products like crypto-currency and blockchain, technology can hold a lot of promise but it can also be disruptive. Consequently, the use of ICT and digitalisation represents significant opportunities and challenges for the Mauritian economy. Hence, the Mauritian tourism sector will surely benefit from the exploitation of innovative digital practices such as the use of destination management and the use of innovative apps. It is important to evaluate the potential of digitalisation as it may help companies to improve their overall efficiency and at the same time ambition to become more sustainable.

2.1 Mauritius as ICT Hub

The aim of the Mauritian government is to position the country as one of the leading ICT destinations, being a model in Africa, which supports the new e-Global age [5]. There are six hundred ICT companies operating in Mauritius in different business activities ranging from software development to business process outsourcing. There are some major players such as Microsoft, IBM and Accenture amongst others. The drive to emerge as an ICT-BPO Hub has resulted from a plethora of factors such as the changing global economic environment, changing government policies and the Mauritian bilingual population (Fig. 1).

Mauritius is a small island with around 1,280,000 population. However, we have an internet penetration rate of 63% (highest in Africa). Some 720,000 people use different social media such as Facebook, Instagram and Twitter. There are 1.74 million subscribers to mobile services indicating that we have more mobile phones are sim cards than the actual population size. In addition, around 48% of mobile users are active mobile social users. These statistics clearly demonstrate that Mauritius is poised to emerge as Smart economy where technology plays a key role in economic



Fig. 1 Key digital statistical indicators. Source Hootsuite (2018)

growth and development. The government has also adopted the e-government initiative where it plans to digitalise different Ministries for improving effectiveness and efficiency.

Research Objectives

- Study the importance of Smart Tourism for a Small Island economy as Mauritius
- Analyse the Smart Tourism initiatives at the national and organisational level for improving the destination competitiveness
- Consider the use of innovative technologies for improving tourism experience
- Develop recommendations for improving the Smart Tourism concept in the Mauritian Context.

3 Literature Review

3.1 Smart Tourism Concept

The Smart Tourism destination (SD) idea that is attracting a lot of interest from researchers and may be considered as a significant development in the tourism field [6]. The hypothetical development is still limited and the ‘destination concept’ is complex, evolving, socially-developed and multi-layered, as reflected in literature (e.g. Pearce [7]; Saarinen 2004; Saraniemi and Kylänen [8], and so on). Smart destinations have been largely influenced by some earlier conceptualisations, for example, ‘e-Destinations’. E-Destinations stress the usage of ICTs to give data and to end up an instrumental part of all transactions along the value chain [9], in smart destinations technology is centrally embedded in all elements thanks to new developments, such as the Internet of Things (Koo et al. 2016).

Many countries are feeling increasing pressure to realise Smart Tourism to influence economic growth and development. In Asia, there are more collaborative efforts to drive the Smart Tourism agenda forward. Governments in China and South Korea are supporting initiatives in developing the technological infrastructure that supports Smart Tourism Hwang et al. [10]. In Europe, many of the Smart Tourism initiatives were born out of smart city projects and, as a consequence, Smart Tourism destinations are increasingly making an appearance in the European tourism landscape. The focus in Europe is about developing smart end-user applications that support enriched tourism experiences using already existing data combined and processed in new ways based on innovative approaches Lamsfus et al. [11]; Boes et al. [12, 13]. In the Mauritian context, the government is encouraging Smart city schemes for building intelligent buildings for improving the sustainability of the economy. There are a number of Smart City projects that have been developed across the island—Medine Smart City, Moka Smart City and that of Beau Plan amongst others. In 2015, the Finance Minister proposed the creation of eight smart cities and five ‘technopoles’,

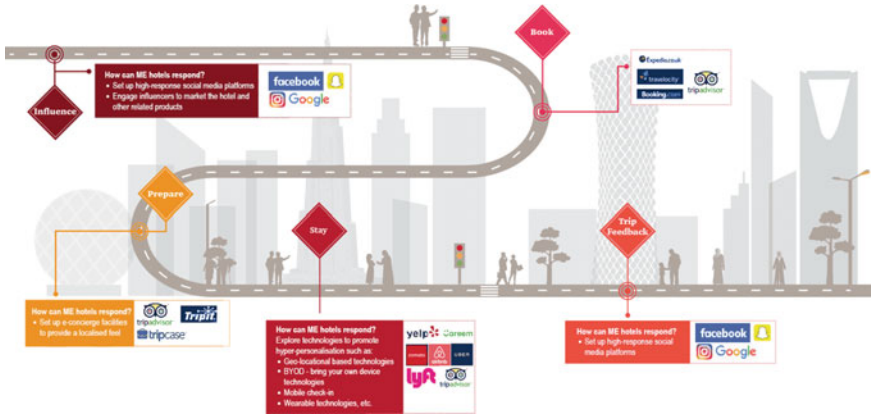


Fig. 2 Technology interactivity in hotel value chain

with an overall investment of Rs.120 billion and requiring 7000 acres of land. In Australia, the emphasis has shifted to smart governance and use of open and big data. Based on the discussion, transformative power of smart technologies is being universally accepted not only in terms of the economic potential but also the social and experiential dimensions (Fig. 2).

The above diagram shows how technology may influence the tourists during the whole value chain in hotels affecting the overall tourism experience. At the pre-purchase stage, tourists may be influenced by social media posts and use of search engine optimisation where technology helps to make hotels become more visible to customers. Nowadays, many customers book their air tickets and hotels using online platforms such as Expedia, Booking.com amongst others. These agencies also send customised communications to the customers to influence their purchase decision. During the stay, technologies may be used to provide high degree of personalisation such as mobile check-in or also provide some updates about services available during the stay. After the stay, customers may still use technologies to provide feedback on their overall level of satisfaction or any complaints regarding the quality of services being offered.

3.2 Smart Tourism versus E-Tourism

Smart Tourism is defined as ‘tourism supported by integrated efforts at a destination to collect and aggregate/harness data derived from physical infrastructure, social connections, government/organizational sources and human bodies/minds in combination with the use of modern technologies to transform that data into on-site experiences and business value-propositions with a view to improve the overall efficiency, sustainability and experience enrichment’.

Table 1 ICT tools in tourism

| Tools | Meaning | Tourism area/application |
|-------------------------------|--|--|
| Destination management system | DMS is used information management, marketing [27], exchange with different tourism stakeholders including tourist education | Destination e-Metrics |
| Intelligent transport system | Provides real-time transport information to customers [28] | Visitor experience at Acadia park |
| Location-based services | Provide real-time information to tourists at different geographic locations Berger et al. [29]; [30] | Tourism industry at large |
| Global positioning system | GPS is identified for both tracking and analysis of tourist movements [31] and also identifying tourists location | Possibility of tracking tourists—places of visit |

Hence, Smart Tourism is much broader in scope compared to E-tourism in terms of use of technologies for enhancing the overall tourism experience. The use of big data and smartphones for providing customised interactions and solutions is becoming very common in the tourism sector. For example, the use of geo-localisation software to analyse the tourist's attractions preferred by tourists is an example of Smart Tourism practices.

3.3 *ICT Tools for Destination Management*

There are many ICT tools to gather data about tourists' movements and conduct at the destination is mainly based on GPS, WiFi or video technologies. The system is about computing the number of people at different access points such as airports or at the entrance of specific sites such as theme parks and so on.

Some of the tools that may be used for destination management are (Table 1).

3.4 *Technology and Tourists Buying Behaviour*

Tourism technology research has primarily focused on the role of technology on customer buying behaviour (selection, purchase and evaluation of customer experiences). Information and Communication technologies directly or indirectly influence the consumer decision making processes and very important the overall tourism experiences. For example, tourists check consumer ratings and feedback before

booking for hotels Sagala [3]. However, what is more, important is that consumers are empowered so that can take part actively in the decision making processes known as active co-creators (prosumers) of their hospitality experiences. Several research studies Sigala and Gretzel [3]; Stephen and Lamberton [14] illustrate how tourists 'become co-designers, co-marketers, co-advertisers, co-promoters, co-distributors of tourism experiences through user-generated-content, customer review platforms, blogs, wikis, participation in innovation contests and toolkits, crowdsourcing practices'. Crowdfunding platforms also allow tourists to sponsor and support the implementation of tourism experiences such as concerts, tours or other events.

However, technology is also influencing the motivation of tourists to choose their destinations as many people are being influenced by social media pictures and selfies being posted. Travelling may also be used as an act of self-promotion and identity development, however, social media advances have further escalated and digitised this social practice. For some travellers [3], the quality of the tourism experience itself does not determine their satisfaction. Tourists are not experiencing their environment as much of the time is spent with the camera and their emotions depend much on the content shared on social media.

Many companies are making use of social media as communication tools for Destination Management Organisations (DMOs) and National Tourism Organisations (Leung et al. 2013; Hays et al. 2013). However, many organisations are not effective in managing communication to reach their targeted audience. The companies need to work on their communication strategies so as to achieve their set objectives (Huertas and Marine-Roig 2014).

The concept of Travel 2.0 was developed to respond to the emergence of the concept of Web 2.0. The main idea is not about getting the cheapest trip but more about improving the overall tourism experience and satisfaction [15]. Conrady [16] characterises Travel 2.0 by suggesting that it consists of five important branches namely transparency, collaboration, better basics, speed and predictability. It is also the realisation by the tourism industry of the Web 2.0 referring to a cultural travel change (Miguéns et al. [17], p. 2) and includes the harnessing of different technological applications like social media in the travel context [18, 19].

3.5 The Mega Trends in Mauritian Hospitality

The Mauritian Hospitality Website (Hospitality.mu) makes reference to the use of three technologies in the tourism sector which are namely cloud systems, Social Media and mobile platform. There is increasing disintermediation and direct bookings through the technological platforms. Social media plays an important role in driving sales and improving the hotel's reputation. This has given rise to innovative hotel management structures in this twenty-first century, and these have become totally 'Guest-Centric'. In other words, it's all market-driven in real-time, and guests dictate how quickly these changes are adopted by hotels. The inability to identify these basics may drive hotels out of their markets.

Table 2 Summary of technological megatrends

| |
|--|
| Use of customer-centric solutions—changing business environment from business to business, business to customer and now peer to peer environment |
| Artificial intelligence for linking CRM tools to yield management tools—use of big data and precision data may help to re-invent Mauritian tourism with more customised and smart solutions to customers |
| Need for greater adaptation of the content such as the use of videos and online streaming |
| Compliance with global data security standards and adherence to general data protection regulation |
| Increasing use of mobile marketing and Smart Apps to influence tourism behaviour |
| Possibility of greater crowdsourcing possibilities |
| Hospitality black chains—use of inter-connected supply chains |
| Cloud-based training programmes for employees in the hotel sector |

Source Adapted from Hospitality.mu [20]

The Hospitality.mu [20] site makes reference to the following applications of technology in the Mauritian context for achieving smart and sustainable tourism (Table 2).

Boodnah et al. [21] referred to the use of Polwi by Light and Polwi by Nature as one of the examples of Smart Tourism in Mauritius. Each year, Porlwi (Mauritian Capital) chooses a theme that encapsulates a key element of the city's regeneration. The use of lights and technology is used to make the capital look very beautiful based on a particular concept.

3.6 Tourism Destination, Competitiveness and Technological Advancement

Ritchie and Crouch (2003) explained that tourism competitiveness is a multidimensional concept that includes economic, political and technological competitiveness as well. As explained earlier, the European Commission and the Mauritian government are multiplying the use of technology for improving the overall competitiveness of the tourism sector and achieve a higher degree of sustainability. The technological megatrends in Mauritius show how the Mauritian tourism industry is using technology for reducing costs and also streamlining the different processes so as to enhance the overall customer value.

3.7 Challenges of Smart Tourism for SIDS

The implementation of Smart Tourism in SIDS requires the right ecosystem with the active participation of the major stakeholders, namely the government, hotels, promotion agencies and the customers. The challenges for a small island country is largely different from that of developed economies due to resource availability, the socio-cultural landscape and also exogenous factors affecting the destination competitiveness. Kaudeer et al. [22] referring to Mauritius as an example, make reference to priority areas that should be considered when creating smart SIDS. Mauritius as a Small island economy suffers from geographical distance, climate change and resource constraints for the Mauritian tourism sector.

3.8 Research Method

The research approach used is qualitative and analyses the trends in Smart Tourism at two levels namely the national and organisational level. The research uses different tourism websites at the national level to gather information about Smart Tourism initiatives. Some of the important websites used are Hospitality.mu, Ministry of Tourism, Mauritius Tourism Promotion Authority and the website used for hosting the digitalisation conference amongst others. Reference is also made to the World Economic Forum Global Tourism competitiveness and ICT indexes to makes inferences about the readiness of ICT in the travel and tourism sector. For the section on Smart Apps in the tourism sector, the data was sourced from Mauritius Telecom which is the major player in the Telecommunications sector. In order to consolidate the Smart Tourism perspective in the Mauritian context, use is made of Azuri Mauritius as a Case study to analyse some smart initiatives including the analysis of the social media platform where it uses technology for enhancing customer engagement. Buhalis and Amaranggana [23] are of the view that case studies are suitable for researching the best practice of STDs and generating in-depth knowledge on this subject. As the study is qualitative, the main objective of the study is simply to understand where Mauritius stands as a Smart Tourism destination. The ontological perspective adopted is that Smart Tourism may be highly beneficial for the country to achieve its marketing objectives. The main hypothesis is whether Mauritius may be considered as a Smart Tourism destination. The research is of significance as the country is a small island economy that does not have natural resources which may be used to achieve competitive advantage. The main limitation is, therefore, the fact that the findings may not be used for purposes of generalisation. The main constructs used for doing the analysis are Smart Tourism initiatives, digitalisation, ICT readiness, development of smart tools which is influencing the tourist satisfaction during their visit to Mauritius amongst others. These constructs are grounded in the literature review discussed earlier. The diagram below outlines the research model adopted for the present research:

4 Analysis and Findings

4.1 *Government Involvement and Smart Tourism*

It is important to assess the overall ICT readiness of our country to become a Smart Tourism destination. As a starting point, it is important to indicate that Mauritius ranks first in ICT Development Index in Africa and consequently bolsters our ambition to become an ICT hub in Africa. The organisation of the first international conference on digitalisation and sustainability in the Tourism Sector has been another major step towards positioning Mauritius as a Smart Tourism destination. Zhu et al. [24] discuss the important role of government in developing Smart Tourism. They are of the view that ‘Smart Tourism can serve as guider on tourism informatization in the designing stage. In macro level, government not only needs to encourage the construction of tourism informationisation in the form of policies and regulations, but also needs to concretely standardise the framework of Smart Tourism at a national scale’. Koo et al. [25] stress the importance of developing the right ecosystem for the development of Smart Tourism based on mutual support and collaboration. The executive members of the conference also signed a Memorandum of Understanding (Ministry of Tourism 2018) with a view to further enhance the process of digitalising the tourism sector for improving our brand image and identity. Some of the key points in the roadmap towards digitalisation include the need:

- ‘to create a working group on Digital Platforms aimed at identifying, analysing and proposing a balanced approach, exchanging best practices and helping in developing regulatory framework and policies to create a level playing field for tourism service suppliers’;
- to promote and diversify sustainable tourism practices by promoting the development of ‘ecotourism, agro-tourism, medical tourism and cultural tourism’;
- to develop a national regulatory framework to protect the privacy of visitors.

The ambition of Mauritius to be an ICT hub and also enhance our visibility of the Tourism sector has been further consolidated by the announcement of the Prime Minister to invest in ‘new digital platforms will be created to provide information on safety, costs of inland travel, road maps, dining, shopping and exchange rates of currencies, amongst others’ (National Budget 2018).

4.2 *ICT Readiness and Tourism Competitiveness Index*

The World Economic Forum has developed the Travel and Tourism Competitiveness Index which measures ‘the set of factors and policies that enable the sustainable development of the travel and tourism sector, which in turn, contributes to the development and competitiveness of a country’. Mauritius ranks 65th amongst 136 countries on the global competitiveness index and one of the sub-index is ICT readiness where

Table 3 ICT readiness and global ITU index

| Countries | ICT readiness index (2017) | Global ITU index (2017) |
|--------------|----------------------------|-------------------------|
| Mauritius | 4.54 | 5.88 |
| Seychelles | NA | 5.03 |
| South Africa | 4.4 | 4.96 |
| Madagascar | 2.1 | 1.68 |
| India | 3.2 | 3.03 |

Source WEF (2017) and global ITU (2017)

Mauritius has scored 4.54 in 2017. Mauritius has improved its ICT readiness by 7.6% in two years (ICT Readiness Index being 4.22 in 2015). It is important to compare ICT readiness Index of Mauritius to the neighbouring countries such as Seychelles, Madagascar, South Africa and India (Table 3).

Hence, based on the two comparative indexes Mauritius seems to be well poised in terms of ICT readiness at the regional level to be a Smart Tourism destination. Another element which is of critical importance is the IT security issues. Based on a survey carried out by IBM Mauritius ranks first in Africa in terms of security levels.

4.3 *Analysing Some Smart Tourism Metrics*

The analysis also seeks to analyse some metrics that may be used to evaluate the overall readiness or trend of Smart Tourism in Mauritius.

From Table 4, it may be analysed that Mauritius has made significant strides to emerge as a potential Smart Tourism destination due to the high internet penetration, use of social media and based on the tourism booking profile. However, the online booking rate is not so strong in the Mauritian landscape.

4.4 *Development of Smart Apps for the Tourism Industry*

The Mauritius Telecom has recently devised a few Smart Apps that may be helpful in the endeavour to become a Smart Tourism destination. These apps include Mauritius Tourist Guide, Chake, Myweather and NouMoris which may be used by tourists during their visit to Mauritius. The role of these tools is to empower tourists to take decisions and make them part of the services being provided. A small brief on the different Apps and technologies are provided in Table 5.

Table 4 Smart Tourism metrics

| Smart Tourism metrics | Statistics | Analysis |
|-------------------------------------|---|---|
| Digitalisation indicators | 63% internet penetration 57% social media utilisation | With the highest internet penetration Mauritius ambitions to become a Smart Tourism destination (Source: Internet World Stats 2018) |
| Official my tourism twitter profile | Tweets, current page 2,681 following 1,009 followers 23.1 K likes 205 | Though there are many followers yet the very small number of likes indicate little engagement with Mauritius tourism twitter account |
| Mauritius tourism facebook page | 14,178 likes for FB page | This shows that there is higher engagement on FB page |
| Air Mauritius | Online booking-around 40% | Use of traditional travel agencies may explain such a behaviour |
| Tourism booking profile | Haywantee and Nunkoo [32] Statistics from survey based on 877 respondents from Europe Chi square test values Travel agents 132.54 Friends 99.91 Internet 127.97 Information leaflets 82.6 | Results indicate that nationality and existing product knowledge largely influence travellers' information search behaviour. The results of the study indicate that internet was an important source of information for tourists. However, first-time travellers preferred traditional sources such as travel agencies, friends, leaflets and national tourism offices as compared to repeat visitors |

Source Author (Statistics from various sources referenced)

4.5 Smart Living in Tourism: Case Study of Azuri Mauritius

Hotels in Mauritius are also adopting Smart Tourism initiatives with the increasing use of digital tools and applications for achieving greater sustainability. Azuri Mauritius has been set on a preserved beach of the north-eastern coast that frames the Azuri village, Radisson Blu Azuri Resort and Spa delivers guests a distinctive getaway experience. Some of the smart initiatives being adopted by the hotel are outlined based on case study research. The hotel has installed fibre optic network across the village and currently awaiting connection from the service provider. This will boost up speed connectivity throughout Azuri and improve the working aspect of Azuri. The hotel has also developed the 'Azuri app'. This has a huge potential in serving its citizens and visitors through information distribution and interaction as well as managing 'municipal' services. The company also makes use of blogs to create interests of customers on its different services (an example is provided below).

Table 5 Smart Apps for tourism in Mauritius

| Apps | Smartphone-driven applications for tourists |
|---|---|
| Mauritius tourist guide | Provides tourists with different information related to tourists attractions and places of interests |
| Chake app | Provides updates on different events happening in Mauritius. The chake app provides users with a map view and detailed information on different activities (such as art galleries, theatre, sports) |
| NouMoris | The NouMoris app provides a complete schedule of national events and activities on the smartphone |
| https://taxiservicemauritius.com/mobile-app/ | Book taxi and tours around the island through mobile app |
| https://www.myt.mu/mobile/mytweather-app | Enables tourists to check weather predictions and plan their holidays accordingly |

Source Mauritius telecom website [33]



Source Azuri Facebook (2018)

Besides thinking of the effective use of resources and services the group is carefully addressing its current and future demands. Azuri is also considering other initiatives such as the development of education campus, designing and building a professional business hub and introducing Wifi free public zones as part of its future development plans. The company is also very active on social media for increasing customer engagement. Research shows that social networking sites are pressurising suppliers and buyers who are being largely influenced by the views and opinions of travellers. The information generated on these social media sites provide a range of information that are being shared and circulated which helps to educate customers

about the products and other service issues [19]. An example of customer feedback and engagement is provided on the social media page of Azuri:

'The best hotel service by far, staff was very courteous, very welcoming and even upgraded our room. Oh had a great birthday cake as well and was serenaded by the band. Rooms are very clean. Cheers to the staff members for your great hospitality. I'll be sure to recommend it to friends and hopefully come back.'... (Feedback 1)

Lovely place to relax.. beautiful apartment with all that you wud need for your stay... only toaster cud not be used as it kept on tripping the electricity. thanks Kris for the warm welcome n check out... deff will be back... (Feedback 2)

Amazing place... excellent food and favoured place which has a lot of qualities that i really appreciate about Azuri #AK (Feedback 3)

From the above comments, it is clear that social media may be used for value creation and starting in a conversation for higher customer engagement.

4.6 Policy Implications

The purpose of the study is to analyse the role of technology at national and organisational level to make Mauritius become a Smart Tourism destination. The literature shows that tourism is a major pillar of our economy and the government is interested in making Mauritius a Smart island and destination by supporting the digitalisation process. The analysis shows that Mauritius ranks high in ICT readiness and internet penetration important for the process of digitalisation. The government through the Mauritius Telecom has developed a number of applications that may be used by tourists and the public at large. The research findings are in line with the literature which shows that Smart Tourism may be a source of differentiation, a way to reduce costs of operations and more important a strategic marketing tool.

In addition. The case study of Azuri portrays different smart initiatives for improving tourists' engagement at all levels of the value chain. Hotels are using websites, social media, blockchain technologies to be more competitive and improve the overall visibility of the hotel industry. At the national level, the use portals such as Hospitality.mu, Marideal.mu and Mauritius Tourism are clear landmarks of the significant progress for harnessing technology at national and international levels in the Mauritian tourism industry.

4.7 Recommendations for Tourism Sector

Based on the analysis, some recommendations can be made to improve the image of Mauritius as a Smart Tourism destination. The institutional support from the Ministry of Tourism and MTPA are instrumental for improving the global visibility of Mauritius. The global conference on Digitalisation and Sustainability has been

very useful to promote Mauritius as a Smart Tourism destination and also provides an overview of how technology is being used in the hospitality and tourism sector. The government should continue to support the local actors to adopt new trends such as destination management system, location-based services and also destination management system (destination e-metrics). This year the government has sponsored the World Artificial Intelligence Show in Mauritius with a view to transform the way businesses are being conducted and to portray Mauritius as leading Smart City island in Mauritius.

Mauritius can play a leading role to showcase Smart Tourism for African economies in the years to come. The country can also partner with some African economies such as Nigeria to collaborate on tourism technological platforms. There is a huge potential of using technology for marketing Mauritius as a strong tourism destination with the increasing number of flights to African economies. Mauritius can also seek help from technologically advanced countries such as India and UK to improve its destination image.

Hotels should provide information to tourists about Smart Apps that may be highly useful for improving the overall customer experience. The hotels may also develop their own apps for a smart interaction in terms of booking, provision of information about tours/activities and cultural information about the country. The Case Study of Azuri shows that hotels are taking the right initiatives to provide the right tourism experience.

In the first instance, it is important to improve the broadband internet connectivity so that tourists will not face any problems in using the Smart Tools and Apps. Hotels should also employ high profile IT Managers so that they can develop appropriate tools for enhancing the overall tourism experience. Hotels may also use online links for assessing customer satisfaction and also interact with customers through portals. The study also shows that social media may be used for enhancing customer engagement and building a good image of the company. Consequently, hotels should invest in social media marketing to start the dialogue and build a long term profitable relationship.

5 Conclusion

The research paper presents very interesting findings for the tourism sector to further developing the Smart Tourism concept. It is important to include all the actors of the tourism industry to enhance the overall competitiveness of destination economies such as Mauritius. There is need for greater efficiency in the use of resources through the deployment of right technologies and also improving the overall service quality through innovative service processes. The Mauritian government is supporting the process of digitalisation through capacity development and by providing technology diffusion schemes. Mauritius needs to engage in sustainable business practices so that it may develop both as a Smart island and Tourism destination.

References

1. Wilson, M.I.: Smart and sustainable: lessons from Fogo Island. In: Stratigea, A., Kyriakides, E., Nicolaidis, C. (eds.) *Smart Cities in the Mediterranean*. Progress in IS, Springer, Cham (2017)
2. Wang, L., Law, R., Guillet, B., Hung, K., Fong, D.K.: Impact of hotel website quality on online booking intentions: eTrust as a mediator. *Int. J. Hosp. Manage.* **47**, 108–115 (2015)
3. Sigala, M.: New technologies in tourism: from multi-disciplinary to anti-disciplinary advances and trajectories. *Tourism Manage. Perspect.* 1–5 (2018)
4. Ministry of Tourism. Ministry of Tourism. Website, Available from <http://tourism.govmu.org/English/Pages/default.aspx> (2017). Accessed 16 May 2018
5. MICT. Available from <http://ictpoconference.govmu.org/English/Mauritius%20ICT%20Hub/Pages/default.aspx> (2018). Accessed 24 July 2018
6. Jovicic, D.Z.: From the traditional understanding of tourism destination to the smart tourism destination. *Curr. Issues Tourism* (2017). <https://doi.org/10.1080/13683500.2017.1313203>
7. Pearce, G.D.: Toward an integrative conceptual framework of destinations. *J. Travel Res.* **53**(2), 141–153 (2014)
8. Saraniemi, S., Kylanen, M.: Problematizing the concept of tourism destination: an analysis of different theoretical approaches. *J. Travel Res.* **50**(2), 133–143 (2011)
9. Buhalis, D.: *eTourism: information technology for strategic tourism management*. Pearson (Financial Times/Prentice Hall) (2003)
10. Hwang, J., Park, H.Y., Hunter, W.C.: Constructivism in Smart tourism research: Seoul destination image. *Asia Pac. J. Inf. Syst.* **25**(1), 163–178 (2015)
11. Lamsfus, C., Martín, D., Alzua-Sorzabal, A., Torres-Manzanera, E.: Smart Tourism destinations: an extended conception of smart cities focusing on human mobility. In: Tussyadiah, I., Inversini, A. (eds.) *Information and Communication Technologies in Tourism 2015*, pp. 363–375. Springer, Heidelberg, Germany (2015)
12. Boes, K., Borde, L., Egger, R.: The acceptance of NFC smart posters in tourism. In: Tussyadiah, I., Inversini, A. (eds.) *Information and Communication Technologies in Tourism 2015*, pp. 435–448. Springer, Google Scholar, Heidelberg (2015)
13. Boes, K., Buhalis, D., Inversini, A.: Conceptualising smart tourism destination dimensions. In: Tussyadiah, I., Inversini, A. (eds.) *Information and Communication Technologies in Tourism 2015*, pp. 391–403. Springer, Heidelberg (2015)
14. Lamberton, C., Stephen, A.T.: A thematic exploration of digital, social media, and mobile marketing: research evolution from 2000 to 2015 and an agenda for future inquiry. *J. Mark.* **80**(6), 146–172 (2016)
15. Wolf, P.: Travel 2.0 confronts the establishment. Retrieved 12 Mar 2014, from http://www.phocuswright.com/research_updates/travel-20-confronts-the-establishment (2006)
16. Conrady, R.: Travel technology in the era of Web 2.0. In: *Trends and Issues in Global Tourism 2007*, pp. 165–184. Springer (2007)
17. Miguéns, J., Baggio, R., Costa, C.: *Social Media and Tourism Destinations: TripAdvisor Case Study*. *Adv. Tour. Res.*, Aveiro (2008)
18. Ling, J.: Intention to use online social networks for travel purposes: a case study at three Bangkok-based universities. *AU-GSB e-J.* **3**(2), 50–59 (2010)
19. Xiang, Z., Gretzel, U.: Role of social media in online travel information search. *Tourism Manage.* 179–188 (2010)
20. Hospitality.mu website: Available from <https://hospitality.mu/> (2018). Accessed 28 June 2018
21. Boodnah, K.D., Armoogum, V., Jaunky, V.C., Armoogum, S.: Towards smart tourism: an individual appreciation of porlwi-by-light festival. In: *2016 IEEE International Conference on Emerging Technologies and Innovative Business Practices for the Transformation of Societies (EmergiTech)*, pp. 323–328. Balaclava (2016)

22. Sahib-Kaudeer, N.G., Jhummun, D.S., Gobin-Rahimbux, B.: What is 'smart' for small Island developing states? In: 2016 IEEE International Conference on Emerging Technologies and Innovative Business Practices for the Transformation of Societies (EmergiTech), pp. 13–19. Balaclava (2016)
23. Buhalis, D., Amaranggana, A.: Smart tourism destinations. *Inf. Commun. Technol. Tourism* **2014**, 553–564 (2013)
24. Zhu, W., Zhang, L., Li, N.: Challenges, Function Changing of Government and Enterprises in Chinese Smart Tourism, *Tourism tribune* (2014)
25. Koo, C., Gretzel, U., Hunter, W.C., Chung, N.: The role of IT in tourism. *Asia Pac. J. Inf. Syst.* **25**(1), 99–104 (2015)
26. Azuri Facebook Page. <https://www.facebook.com/AzuriLuxuryResidences/> (2018). Accessed 15 July 2018
27. Horan, P., Frew, A.J.: Destination eMetrics. In: Frew, J.A., (ed.) *Proceedings of the Travel Distribution Summit, Europe Research Conference 2007*, pp. 25–44. Axon Imprint, London (2007)
28. Diagle, J.J., Zimmerman, A.C.: The convergence of transportation, information technology and visitor experience at Acadia National Park. *J. Travel Res.* **43**, 151–160 (2004)
29. Berger, S., Lehman, H., Lehner, F.: Locationbased services in the tourist industry. *J. Inf. Technol. Tourism* **5**, 243–256 (2002)
30. Liburd, J.J.: Sustainable tourism and innovation in mobile tourism services. *Tourism Rev. Int.* **9**(1), 107–118 (2005)
31. Shoval, N., Isaacson, M.: Tracking tourists in the digital age. *Ann. Tourism Res.* **34**, 141–159 (2006)
32. Ramkissoon, H., Nunkoo, R.: Information Search Behaviour of European Tourists Visiting Mauritius, pp. 7–21. *Tourism* (2008)
33. Mauritius Telecom Website. Available from <https://www.myt.mu/mobile/moreapps/> (2018). Accessed 25 June 2018