

Electronic word-of-mouth and online reviews in tourism services: the use of twitter by tourists

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Abstract Lately, the online social media have revolutionized communications and consequently the marketing of tourism destinations and businesses. The area is rapidly evolving and the challenges and opportunities arising from it for tourism industry are already apparent. Electronic word-of-mouth (e-WOM) and online reviews/recommendations are increasingly used regarding tourism services that are high involvement services. The purpose of the present study is to develop a conceptual framework for understanding the foundations of digital communication and empirically investigate its validity by examining the factors influencing the tourism consumer behavior. This study adopts a conceptual model of e-WOM and explores the use of Twitter by the tourists. Findings revealed the factors affecting tourists' decision-making and indicated that this social medium is not a panacea; it is another marketing channel to be wisely used in integrated communications marketing of tourism services.

Keywords Electronic word-of-mouth · Social media · Twitter · Tourism behavior · Tourism services

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1 Introduction

Nowadays, and most importantly in the future, the tourism system is inevitably influenced by the new business environment created by the diffusion of Information and Communication Technologies (ICT's), which represent one of the most influential environmental factors for travel and tourism industry, fostering substantial innovations and transformations [7, 57, 63]. The rapid development of the Internet and WWW is having profound impacts on the industry. However, the adoption and implementation of e-commerce and marketing, as well as the leverage of the benefits of Web technology for destination marketing is not the same across the sector as indicated by Burgess, Parish, & Alcock [8]. Related literature, see for instance Moutinho, Ballantyne & Rate [51], suggests that as we progress through the 21st century we must pay attention to the ongoing outputs of the 'digital revolution'. One of the main challenges for tourism destinations and businesses is the rise of Social Media (SM)/networking platforms (e.g. Facebook, Twitter, YouTube, and MySpace) allowing individuals and tourists to interact and share their views and experiences with potentially unrestricted virtual communities [54, 63, 67]. Middleton, Fyall, Morgan & Ranchhod [50] have pointed out the key developments in marketing, especially consumer centric marketing and the focal role of the Internet in the marketing mix. The benefits of using the Internet as a marketing tool in the tourism industry have been well documented [20, 34]. These benefits have been considerably amplified by Web 2.0 applications and tools that transforming the tourists' role and behavior. SM are fundamentally changing the way tourists search, read and trust, as well as collaboratively produce information about tourism suppliers and tourism destinations [63]. In using SM, the tourists coproduce and share a huge amount of information and knowledge namely user-generated content (UGC). Thus, tourists become co-marketers, co-designers, coproducers and co-consumers of travel and tourism experiences. Personal channels of communication exist when two or more people communicate directly with each other [44], using various forms: face to face, on the phone, through mail or e-mail, or through an internet 'chat'; designed as electronic Word-of-Mouth (eWOM) and Online reviews (electronic recommendations and experience sharing). These developments have important implications for digital marketing. Within this context, it is imperative to consider how the Internet and the online communities within Web 2.0 are shaping tourism marketing communications. Despite the increasing importance and impact of SM in the travel and tourism industry, there are few studies investigating the impact of SM on tourists' behavior. To address this lack, this article explores the way in which SM affect tourism behavior in decision-making process. More specifically it examines the use of eWOM and Online reviews and the factors influencing purchase behavior by investigating the use of Twitter by tourists. The study's aim is to improve our understanding into the issue of behavior of connected tourists. This knowledge is crucial in adopting the appropriate approach and adequately implementing these tools in exploiting UGC and SM interactions.

The remainder of this article is organized as follows. It first outlines the context of digital environment and the impressive rise of SM. In the next section, the article reviews related studies on interpersonal influence and WOM. It then provides the theoretical framework of our study; a conceptual framework of eWOM and Online

reviews encompassing all constituent parts from narrator and reader perspectives: motivations for contributing, sources and media, mediating variables, and outcomes. This conceptual model is used as a theoretical framework in our study. The paper moves on then to present the quantitative study regarding the use of twitter by tourists and the factors influencing their behavior. The study's conclusions and implications are presented into the next section. Finally, the article indicates the study's limitations and suggests directions for future research.

2 Digital environment and social media

The importance of the Internet for the tourism industry has been documented by various authors, e.g. Egger & Buhalis [19], illustrating the need for developing and applying technological solutions for obtaining strategic benefits. Many scholars e.g. [19, 49, 66] have examined marketing and management issues of electronic tourism; approaches, models and paradigms have been discussed. A marketing approach that tourism destinations and business use in communicating and influencing connected/networked users and members is digital or viral marketing, essentially based on SM [5, 39, 40]. Tourism destinations and companies begin to understand that ICT's and SM have forever changed the tourists' consumption behavior. Understanding the current tourists, but more importantly, predicting how to reach those tourists in coming years, will crucially impact how destinations and business develop, market and distribute their services and products [51].

It is worth stressing that there is no universally adopted definition of SM. Brian Solis [64] notes that although discussion continues on the definition, a short working definition has been agreed as, "Any tool or service that uses the Internet to facilitate conversations", with a long version proposed as, "SM is the democratization of information, transforming people from content readers into publishers. It is the shift from a broadcast mechanism, one-to-many, to a many-to-many model, rooted in conversations between authors, people, and peers". Chan & Guillet [10], based on the suggestions of Kaplan & Haenlein [40] and Xiang & Gretzel [76], define SM "as a group of Internet-based applications that exist on the Web 2.0 platform and enable the Internet users from all over the world to interact, communicate, and share ideas, content, thoughts, experiences, perspectives, information, and relationships". Literature suggests various types of SM as are shown in Table 1.

In relation to Web 2.0 applications and SM, scholars suggest different terms and definitions (online, social media, viral, and connected marketing). For instance, Kabani [39, p. 3] suggests the following definitions: "Online marketing is the act of leveraging the Internet in general to get your message across", "SM marketing is the act of leveraging specific social media platforms (places where people connect and communicate) to promote a product or a service to increase sales". Kirby & Marsden [43, p. xviii] define viral marketing as "the promotion of a company or its products and services through a persuasive message designed to spread, typically online, from person to person", and connected marketing as "an umbrella term for viral, buzz and word of mouth marketing. Any promotional activity that uses word-of-mouth connections between people, whether digital or traditional, as communications media to

Table 1 Social media: types and content/function

Type	Content/Function	Examples
Blogs and Micro-Blogs	Blogs are websites that allow blogger(s) to keep logs, share personal experiences and insights in a particular area, and interact with readers through the posting of comments. Micro-blogs: share the same function, except that the content of these blogs are mainly text-based and are limited to a certain number of characters.	Blogger (blogging) Twitter (microblogging) Travel Blog (travel blogging)
Social Networking Sites	Websites where people create personal profiles, virtually meet, connect, communicate, and develop relationships with other users.	Facebook (social networking) LinkedIn (professional networking)
Collaborative Projects	Aiming at aggregating the community intelligence, these sites highly depend on the users to work out the content. They are classified into two main types: wikis (sites with content open to users) and social bookmarking sites. In these sites, users interact with each other in the process of content collaboration.	Wikipedia (wiki)
Content Community Sites	Sites designed for sharing of materials (text, photos, videos, etc.) modified from pre-existing work or originated with people who upload the materials.	Youtube Flickr
Sites Dedicated for Feedback	Websites that allow users to post, read, review, discuss, and share experiences and opinions on a myriad of topics.	Typical forms: Online forums and sites dedicated for product reviews

Source: Retrieved from Kaplan & Haenlein [40], O'Connor [56], Solis [64], and Wunsch-Vincent & Vickery [75]

stimulate demand". McColl [48, p. 17] defines viral marketing as "the marketing on the Internet that spreads a message rapidly". Finally, Chan & Guillet [10] define SM marketing as "a set of Internet-based applications that enable interaction, communication, collaboration of user-generated content and hence, sharing of information such as ideas, thoughts, content, and relationships". Probably the most appropriate term is viral marketing and, based on above definitions, it might be suggested that "viral marketing is constituted by marketing techniques that use SM to produce increases in brand awareness or to achieve increased visitation through self-replicating viral processes".

SM offer the opportunity for anyone to write or produce material and to publish this online. This material may then be communicated through their social network of 'friends' (Facebook), 'followers' (Twitter) or 'contacts' (LinkedIn). One of the key benefits of SM is that they are using one of the oldest forms of communication, WOM, and utilizing the power of the Internet and the latest mobile technologies to provide the tools to connect people together quickly [10]. Since there are more and more people communicating via SM, this approach to meet and communicate with

people all over the world is emerging as a major social phenomenon. None of them existed a decade ago. But the explosive growth of SM has shifted power from the mass media to the individuals. In 2009 there were more than 2 million tweets per day; in 2012 that number exceeds 250 million. The number of Facebook users grew from 100 million to 800 million in the last three years [53]. According to a global survey conducted in 2010, social networking, and specific social networking sites such as Facebook and Twitter, would be the most used forms of communication and most used applications in 2015 [1]. As of December 2011, eMarketer estimates that just over 1.2 billion people around the world used SM sites at least once per month. That represented 23.1 % growth over 2010, and double-digit growth will continue throughout eMarketer's forecast period, though the rate of change will decrease as the market matures [21]. Consequently, worldwide SM advertising revenues are set to grow nearly 50 % in 2012. eMarketer forecasts marketers will spend \$7.72 billion on SM advertising in 2012, including paid advertising on SM and in social games and applications. By 2014, eMarketer expects nearly \$12 billion will go to SM advertising worldwide [22]. One of the most well known SM is Twitter. Twitter, as a communications platform, has evolved and it increasingly functions as a real-time newswire disseminating and amplifying information gathered from the world and the web. At the same time, though, being social, it functions as a source of entertainment and leisure. It seems that Twitter has already become the new golden child of the Internet [72].

Consequently, online communities have transformed consumers, societies, and corporations with wide spread access to information, enhanced communication and improved social networking. Millions of individuals, tourists and businesses exchange opinions, criticize, ask for help, make suggestions, analyze their needs and present their requirements, rate products and services, and share their experiences in the SM [21, 63]. The dissemination of SM is bridging distances; experiences are transmitted online and are becoming public, sharing satisfaction or dissatisfaction with other people. In SM, narrators are absolutely free. . . and experience sharing and recommendation are very easily accessible. Within this new digital environment, it seems that the main challenge is the bargaining power of tourists/consumers [52]. The rise of SM and online selling channels empowers tourists to perform an increasing number of tasks themselves. They are able to obtain information on their own about destinations, travel offers, flights, and view photos and videos. They can also compare prices, schedules and services that are included. They can then make the reservations and purchase. Finally, they can act as recommenders through eWOM activity. Although with little development so far, it is argued that the prosumers (*producers + consumers*) are becoming prosumers—a designation suggested by Edu William [74] to refer to those users who carry out through their blogs three activities: (i) *produce*—creating knowledge; (ii) *broker*—distributing, sharing, filtering and recommending; and (iii) *consume* personalizing information. Apparently, SM create major opportunities and potentially some negative implications for destination marketers and managers. Nielsen Global Online Consumer Survey [26] found that recommendations from personal acquaintances or opinions posted by consumers online are the most trusted forms of advertising worldwide. Furthermore, according to the 19th World Travel Monitor Forum held in ITB 2012 (February, 2012), travel bloggers are gaining recognition as one of the most credible sources of online travel information [38].

eWOM or advice from online friends often ranks as the most influential source of pre-purchase travel information, and the immediacy of interaction with travel bloggers through SM is being recognized as a powerful force. It is estimated that tourism destinations and companies that depend on traditional marketing techniques will lose out to their innovative opponents. In order for tourism destinations and businesses to remain competitive, it is important to: (i) build successful and profitable relationships with the bloggers and travel influencers; (ii) modernize their marketing strategies and follow customers online to engage and interact with tourists on SM; and (iii) develop into brands in the new digital era of WOM recommendations and buying decisions. Certain destinations are already using SM; for instance, a very good practice is provided by Canadian Tourism Commission (CTC) the Canada's destination marketing organization. The CTC was a very early adopter of SM and the first tourism organization to use developed video content in creative broadcast spots [24]. It constitutes an example how SM have become an integral part of the CTC's communications strategy. However, the field of SM is still evolving. A survey of travel and industry best practices performed by Wanderlust in 2011 [73] provides further evidence of the tourism industry's increasing maturity and sophistication in using the Internet as a marketing tool. This study reports that: (i) While the industry has seen increased adoption of SM, marketers still rely on high cost, underperforming media; (ii) Tourists' insights available from customer databases that can help drive strategy, promotion and messaging, are sorely underutilized; and (iii) Marketers fail to execute on brand positioning.

3 Literature review

Literature suggests that WOM constitutes a powerful marketing tool [17, 35, 42, 46, 58] and marketers realize the importance of WOM, especially with regard to its implications for trust and associated outcomes [5, 12, 69].

3.1 Word-of-mouth and recommendations

Litvin, Goldsmith & Pan [46, p. 459] define WOM as "the communication between consumers about a product, service, or a company in which the sources are considered independent of commercial influence". WOM has been shown to play a major role for tourists. The concept of customer/tourist's satisfaction is of utmost importance because of its influence on behavioral intentions, WOM and purchase decision. Past studies have examined the link between satisfaction and negative/positive WOM. Studies have also revealed that consumer/tourist satisfaction and perceived service quality are positively related to behavioral intentions, e.g. Cronin & Taylor [13], Prebensen, Skallerud & Chen [59]. The latter study [59] suggests that there are causal relationships for important constructs in the tourism consumption process, between motivations to travel, tourists' satisfaction and intentions to communicate with others by WOM. Apparently, a visitor's satisfaction or dissatisfaction with a destination will influence his/her subsequent behavior. Literature indicates that visitors' overall satisfaction leads to their likelihood of revisiting a destination, sharing

his/her experience and recommending destination or product [36]. It is suggested that tourism destinations and businesses should encourage tourists to tell effective service stories through online review forums. The widespread adoption of Web 2.0 has drastically facilitated WOM with a range of communication channels [10]. Through SM, Web 2.0 allows users/tourists freely and swiftly share information, opinions and experiences with peer tourists/consumers with no geographic or time constraints [33, 63]. Thus, conventional forms of WOM gave their place to digital/online ones. In the digital environment, it is especially important to understand the behavior of connected consumers. It is imperative to explore and gain insights of the behavioral factors that influence Internet users when making an on-line decision and purchase [60].

3.2 eWOM and online reviews

Litvin et al. [46, p. 461] suggest that eWOM can be defined as “all informal communications directed at consumers through Internet-based technology related to the usage or characteristics of particular good and services, or their sellers”. This definition includes communication between producers and consumers as well as those between consumers themselves—both integral parts of the WOM flow. It is estimated that online reviews provide a trusted source of product information. Nonnecke, Andrews & Preece [54] focus on the ways the community members interact and contribute value in the form of content, reviews, and recommendations. They explored a key community member behavioral decision is to lurk or to participate. This study examined the nature of lurking, why people lurk and the differences in attitudes between lurkers and posters. Findings revealed significant differences between people who lurk (not post) and those who post in an online community and authors conclude that when people lurk they are observing, which is not a negative behavior. De Bruyn & Lilien [14] indicate that the key driver in viral marketing is the effectiveness of unsolicited, electronic referrals to create awareness, trigger interest, and generate sales or product adoption. They explored how WOM process influences consumers’ actual behaviors in an online environment. Investigating the acquaintances, this article found that characteristics of the social tie influenced recipients’ behaviors (decision-making process). Another study by Trusov, Buckin, & Pawels [69] has proven the relative effectiveness of eWOM compared to traditional marketing. The findings from this article also provide a strong motivation to better utilize WOM channel of communication.

The relationship between sensation seeking and e-commerce was investigated by López-Bonilla & López-Bonilla [47]. Their study was related to the purchase of leisure products which usually have a higher frequency of purchase on the Internet. This study indicates that: (i) significant differences exist between e-shoppers and non-e-shoppers of leisure products with respect to the subscale of thrill and adventure seeking; and (ii) there are significant differences between shoppers and non-shoppers only with women. The gender gap existing in online shopping was the topic of the study performed by Bae & Lee [3]. This study investigated the effect of online consumer reviews on consumer’s purchase intention. Their findings indicate that the effect of online consumer reviews on purchase intention is stronger for females than males. The negativity effect, that consumers are influenced by a negative review

more than by a positive review, was also found to be more evident for females. Zhu & Zhang [80] support the notion that online consumer reviews can be a good proxy for overall WOM which, in turn, can have a strong influence on the decision-making processes of other potential buyers, who search the Internet for product information [12]. Hsieh, Hsieh & Tang [35] focus on the dissemination of eWOM communication from a message perspective, and explored the factors that make online video engaging or how they influence recipients' forwarding intentions. They investigated the persuasiveness of online video and used the source, content, and channel dimensions to examine three potentially influential factors: awareness of persuasive intent, perceived humor, and multimedia effect. From another perspective, that of opinion mining, Robinson, Goh & Zhang [60] examined how consumers actually interpret and are influenced by electronic online review. They explored the textual factors in online product reviews aiming to suggest an approach which effectively extract accurate, reliable, influential and useful information from the raw opinion data collected from informal product reviews. They identified factors that make an online opinion text more or less persuasive. These factors help to facilitate the development of adequate opinion mining approaches.

Despite the increasing importance of SM and their impact on travel and tourism marketing, few studies have been conducted in this field. Previous studies have focused on the following issues: (i) the marketing potential of tourists' narratives as digital WOM [70]; (ii) the impact of blogs and user reviews [61, 77]; (iii) the role and the profile of opinion leaders—helpful reviewers—in online travel communities [45]; and (iv) the hotel companies' performance in viral/social media marketing [10]. These studies focus on specific issues and encompass, in our opinion, few limitations; namely: the perspective taken, the issue explored and the media investigated. Therefore, their findings cannot be generalized to all SM. The above literature review indicates that little research has investigated the use of SM by the tourists as a WOM channel. Within the context of increasing influence of SM in interpersonal communications and the importance of eWOM and Online reviews in tourism destination marketing, it is argued that the topic needs further investigation to improve our theoretical knowledge of how tourists use a SM and operate in the eWOM process. The purpose of the present study is, therefore, to develop a conceptual framework for understanding the foundations of digital communication and empirically investigate its validity by examining the factors influencing the tourism consumer behavior. Hereafter we briefly consider the following aspects and issues in order to provide a conceptual framework contributing to a better understanding of eWOM.

In an online communication context there are two poles of communication: (i) sender/narrator, and (ii) recipient/receiver. With regard to *narrator/sender's perspective*, the individuals/tourists providing a review or recommendation (eWOM) might be opinion leaders, close friends, family, or relatives (i.e. strong ties), as well as acquaintances or strangers (i.e. weak ties). In online and offline WOM, opinion leaders—trusted and informed individuals—play a key role [46]. Opinion leaders interpret meanings and influence opinion seekers [45] and other members' decision making [79]. From this perspective, three are the main issues, namely motivation, sources/media, and mediating variables. Regarding the motivations for engaging in eWOM, related literature suggests that consumers and tourists are motivated to wish

to share experiences with others by their emotions [65], by affective elements of satisfaction, pleasure and sadness, e.g. Nyer [55], by altruism [28], by a need to exhibit reciprocity [16], and by simply enjoy sharing their travel experiences and expertise, with post-trip sharing being often one of the joys of travel [46]. These four motivations are considered to be the main for contribution in WOM activity. The sources/media of WOM are the consumption experience and mass media. However, tourists go online for information about tourism destinations and businesses. The Internet has become a prevailing external information source [33, 63], complementing other sources of communications. There are several types of electronic media that have an impact on interpersonal relationships: (i) Emails and instant messaging (communications linking one consumer to another); (ii) Web pages/websites: is an asynchronous, one-to-many medium. It is a communication media connecting a single tourist with many others; (iii) Blogs (weblogs or online diaries) is a shortened version of the term web log'—commonly a publicly accessible web-based journal; and Online communities which are groups of connected individuals who share interests and interact with one another. These communities offer the opportunity to socialize with likeminded individuals and tourists [46, 54]. With regard to the mediating variables of eWOM, those influencing the message's sender include: customer-employee relationships, consumer involvements, surprises [27, 41].

From the *perspective of recipient/receiver* of eWOM, two are the crucial issues; the mediating variables and the outcomes. As for the mediating variables that influence the reader, literature suggests four variables: (i) Source evaluation: Communication researchers stress that the term denotes the source-, message-, medium- and media credibility; source reliability, trust/trustworthiness of source and of provided information [52, 62]. Trust in peer community members has been found a significant mediator [78]. (ii) Brand familiarity. In psychology (consumer behavior) this term is known as the familiarity heuristic is based on using schemas or past actions as a scaffold for behavior in a new (yet familiar) situation [2]. The familiarity heuristic increases the likelihood that customers will repeatedly buy products of the same brand. Due to the familiarity heuristic, the customers have the rule of thumb that their past behavior of buying this specific brand's product was most likely correct and should be repeated [68]. (iii) Sociometric integration: it constitutes the consumers' degree of integration into their community, for instance, academic community [46] or a brand community [78]. (iv) Memory: In psychology, memory is the processes by which information is encoded, stored, and retrieved. Encoding allows information that is from the outside world to reach our senses in the forms of chemical and physical stimuli. Literature distinguishes between recognition and recall memory [9]. Recognition memory tasks require individuals to indicate whether they have encountered a stimulus (such as a picture or a word) before. Recall memory tasks require participants to retrieve previously learned information. Furthermore, it is estimated that in digital context there is an opportunity for tourists and travelers, as well as for tourism destinations and businesses. Social networking settings, for example, offer an opportunity for organizations and consumers to place rich interactive content of the Internet [18]. That's why this variable has been included into the framework on both perspectives. The expected outcomes from the dissemination of eWOM include: (i) influence on purchase decision; positive WOM increases the probability of purchase, while negative WOM has the opposite effect [35]; (ii) product evaluations [15]; (iii) consumer

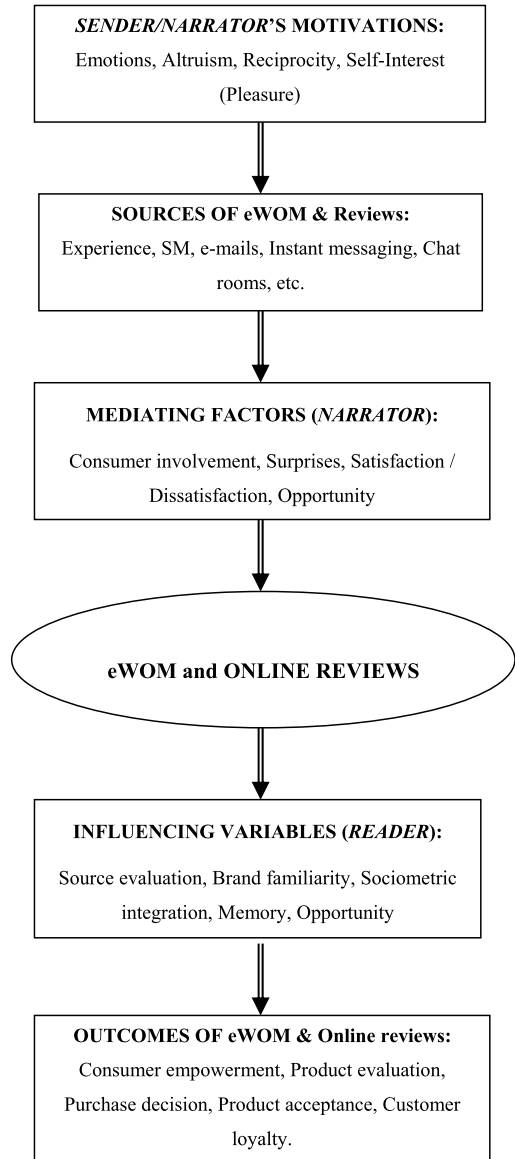
loyalty intentions [29], and (iv) empowerment of consumers [3, 46]. Additionally, two terms—source credibility and degree of involvement—need to be further clarified. Source Credibility/Reputation: Reputation is the trust in a particular person in a specific domain, the extent to which receivers believe a communicator is honest and concerned about others and unalterable in the short-time [31]. Online reputation systems help users to reduce uncertainties regarding tourism product quality and performance because they help tourists identify whom to trust for their decision making [31, 80]. Research suggests that expertise and trustworthiness influence source credibility, which consequently leads to more positive evaluation of reviews [32]. People depend on an expert when they lack expertise in an area. This issue has been highlighted by Lee et al. [45]. Degree of involvement: The product involvement in consumer experience has been explored and found that it is connected with the perceived risk [41]. Tourism services are seen as high risk purchases because they are intangible and they cannot be evaluated before their consumption [30, 50]. Havitz & Dimanche [30] suggest that the relationship of the involvement construct with search behavior and promotional stimuli is relevant in tourism contexts. Buying tourism services is a process involving a high involvement decision. They are considered high-risk purchases, for which the emotional risk of reference group evaluation is an important aspect of the decision making process and thus recommendation and suggestions are more influential, raising marketing stress levels for tourism providers. The above discussion of the literature allowed us highlighting the issues and aspects involving in eWOM and clarifying the various terms and concepts. Based on above literature review, the article suggests a conceptual framework for eWOM and Online reviews, illustrated into Fig. 1. This framework is adapted from the model of WOM suggested by Litvin et al. [46], mainly because their approach is integrated considering both perspectives, namely sender/narrator and recipient/reader.

This framework has been used in our study as a theoretical background. The justification of choosing this conceptual framework is threefold: (i) it offers a sound foundation of understanding of the motivations and outcomes of eWOM and Online reviews [46]; (ii) it considers the two perspectives, the two poles (i.e. narrator/sender and recipient/reader) involved into a digital communication; and (iii) it emphasizes on the variables influencing both parties. This conceptual framework has been empirically tested by a quantitative study presented into the next section. It is worth stressing that the study focused on the recipient's perspective (and not on the sender/narrator's), by examining the factors that influence tourists in decision-making process.

4 Study and methodology

The main aim of this study, on which this article is based, is to explore the way in which the users of one SM (Twitter) decide about tourism services purchase and the factors influencing the use of information retrieved from this SM. This topic has been chosen because it combines two challenging issues: (i) the need to explore tourism services encompassing a high degree of involvement purchase process within a digital environment; and (ii) the increasingly expansion of Twitter; Twitter has been chosen as a wide SM that is continuously expanding [73]. This SM is a real-time information

Fig. 1 A conceptual framework of eWOM and online reviews



network powered by people all around the world. It is used by persons in nearly every country in the world in six languages. It was established in 2006, although it has an impressive penetration; every day 370,000 new users are added, spending more navigation time [71]. The information that spread through Twitter can help tourists make better choices and decisions and, should they so desire, create a platform for them to influence what’s being talked about around the world. Users can access Twitter through more than 50,000 third-party Internet and mobile applications. Thus, the use Twitter is completely up to members and groups. Twitter is built on open-source

software; thousands of developers have taken advantage of Twitter's open API [71]. Many hospitality businesses are using Twitter to build their brand and connect more personally with their customers. Chan & Guillet [10], in their study about the use of SM by the hotel industry in Hong Kong, report that among the 23 SM sites investigated, Twitter (56.7 %) and Facebook (53.7 %) were the most widely used SM sites. Many tourists have started travelling with Twitter and their expectations of what the web can do for travel is changing again [23, 72]. A study by Jansen, Zhang, Sobel, & Chowdhury [37] found that 19 % of the Twitter users mention an organization or product brand in some way in their "tweets" with about 20 % of all microblogs mentioning a brand, expressing a sentiment or opinion concerning that company, product, or service.

The following research hypotheses related to four factors have been formulated.

Factor 1: Source reliability/credibility

H1-1: Twitter users believing that other users/followers/groups are reliable, tend to use information retrieved from Twitter regarding tourism services.

H1-2: Twitter users estimating that other users/followers/groups are unreliable, tend to use information retrieved from Twitter regarding tourism services.

Factor 2: Degree of involvement

H2-1: Twitter users believing that purchase of tourism services constitutes a high involvement decision process, tend to spend more time in posting.

H2-2: Twitter users who estimate that tourism services purchase constitutes a high involvement decision process, tend to use relative information provided by other users/followers.

Factor 3: Communication frequency

H3: Twitter users frequently communicating with their 'followers' and 'friends', tend to use information retrieved from Twitter regarding tourism services.

Factor 4: Source expertise and knowledge

H4: Twitter users estimating that other users/followers may have expertise and/or knowledge about specific tourism services, tend to use this information.

A quantitative method has been chosen in order to test whether a hypothesis is valid or not. It is estimated that quantitative research allows greater accuracy of results and summarize vast sources of information and facilitate comparisons across categories and over time [11]. An online questionnaire with 48 questions and eleven constructs was designed. All constructs used (see Table 2) are those suggested by related literature review [6, 29, 31, 33, 45, 46, 62, 68, 78] and have been modified to fit in the study's context and aim. As it is shown, all constructs have a high Cronbach's alpha (see Table 4). The questionnaire had been developed through the website www.surveymzmo.com [25]. Surveygizmo.com is a platform for building online forms and surveys for marketing and research projects. For the interpretation of the sample the statistical software Minitab 15 has been used because of its good interactivity and outcomes accuracy. Minitab is a statistics package that was developed at the

Table 2 Questionnaire—constructs

Constructs/Dimensions	Meaning
1. Trust (in users and in the SM)	Refers to the members' trust in other Twitter users and the willingness to provide personal information to others followers/groups in Twitter.
2. Messages' attitude	Refers to the frequency and the nature (positive or negative) of the messages/twits posted in Twitter about tourism services.
3. Participation	Term defined as a person's posting time per month.
4. Degree of involvement in the decision making process	Intention to use information in decision making; intention of spreading information via eWOM and Online reviews, credibility of information about tourism services in Twitter and degree of involvement.
5. Motivation	It incorporates readiness and willingness to engage information processing. The driving force that makes Twitters users exchange tourism information.
6. Opportunity	Availability of Twitter users to access the SM without any restriction (navigation time and/or terms) and find valuable information and purchase opportunities.
7. Ability	Twitter users' skills and competencies that make them capable to communicate with other users/followers.
8. Customer to customer knowhow exchange	Exchange of information among Twitter users that enhances their knowledge and experience.
9. Overall consumer value	Consumer's perception of benefits resulted from the offering compared to cost or sacrifice engaged.
10. Loyalty	Attitude to remain loyal to a product, service or brand (since there is satisfaction) and to recommend to other users.
11. Interpersonal/Person–group connectivity	Social benefits derived from being connected and communicate with other people (friendship, support, intimacy, etc.). This factor is considered as being determinant of consumers' participation in a SM.

Pennsylvania State University. All items except respondents' profile were measured using a 5-point Likert scale.

The target population was users of Twitter, mainly from Europe (Greece and other European countries) and South Africa. During a period of five months (September 2011 to January 2012) in total 500 persons have responded filling in the online questionnaire; their demographic profile is shown in Table 3.

For all questionnaire constructs, except demographic data and those who had less than three questions, Cronbach's method has been used aiming at testing the questionnaire's reliability. This test is the most commonly used and measures construct's internal consistency; i.e. determine questions really useful for the survey and avoid misleading data. In Cronbach's analysis the most significant figure is α , whose value has to be greater than 0.7 in order to consider a construct strong; in other words, it indicates the construct's validity. A summary of the Cronbach's Alpha of each construct is shown in Table 4.

Table 3 Respondents' profile ($N = 500$)

	Sample (volume)	Distribution (in %)
Gender:		
Female	282	56.4
Male	218	43.6
Age group:		
18–25	146	29.2
26–35	223	44.6
36–45	90	18.0
46–55	22	4.4
56–65	14	2.8
66 and +	5	1.0
Educational level:		
High school	153	30.6
Graduate degree	282	56.4
Postgraduate degree	65	13.0
Total	500	100.0

Table 4 Questionnaire's construct—Cronbach's α

Questionnaire construct	Cronbach's α
Trust	0.8675
Motivation	0.7482
Degree of involvement in decision-making	0.8235
Participation	0.7646
Person–group connectivity	0.7904
Customer-to-Customer knowhow	0.8451
Ability	0.9045

All constructs had high α value, varying between 0.7482 and 0.9045. This means that information gathered is compatible and to be used in a regression analysis and other statistical analyses.

5 Statistical analyses, findings and discussion

The data set was evaluated by applying statistical methods. Firstly, the method of regression analysis has been applied and gave the following results. The first hypothesis aimed to investigate whether Twitter members use information retrieved from other users/followers that are considered reliable. According to source credibility theory which is an eWOM attribute [6, 31, 45], persons tend to trust more others that seem to be reliable in different ways (e.g. share critical information). The first sub-hypothesis—the reliability of other users/followers—has been confirmed ($R^2 = 76.8\%$). The unreliability is not accepted ($R^2 = 27.4\%$). In other words, theory is confirmed; source reliability has an influential role in using tourism informa-

tion. This confirms the findings from previous studies [45, 70]. The second hypothesis is related to the degree of involvement. As it has been seen, tourism services require high involvement in decision-making process. Moreover, online reviews sharing behavior is motivated by involvement; this behavior is expressed through posting messages/tweets. Findings indicated that high degree of involvement in tourism services purchase process leads to high degree of posting ($R^2 = 81.2\%$). On the contrary, this degree of involvement doesn't considerably lead users/members ($R^2 = 32.6\%$) to use information from Twitter to make their decision. Probably they use additional media as an information source to make purchase decisions. The third hypothesis aimed at exploring the issue of communication and relative trust. In SM, there is a strong or weak tie/liaison with the 'Followers' or 'Friends', depending on communication frequency [10, 70]. Literature suggests that if the connection is considered to be strong and credible, the tweet/message's receiver use the information provided. Findings show that this hypothesis is not confirmed; the connectivity person-group does influence the user but in relatively low degree ($R^2 = 31.7\%$). The last hypothesis explores the issue of source credibility from an expert perspective. When a user/follower possesses specific knowhow and expertise, then the information provided by eWOM and Online reviews may be considered as more credible and relevant than other information sources [6, 45]. This hypothesis has been confirmed ($R^2 = 72.3\%$), the experts have an influential role and the users take advantage of their knowledge and expertise. This finding confirms previous studies [45, 79]. Briefly, study's findings indicated that three factors are very influential regarding the use of information regarding tourism services retrieved from Twitter, namely: (i) Reliability of Twitter followers/users; (ii) Degree of involvement—Posting; and (iii) Expertise and Knowhow of Twitter users/followers. The other factors investigated—i.e. Unreliability of Twitter followers/users; Degree of involvement—use of information; and Person—Group connectivity—have a relatively low degree of influence.

Furthermore, advanced/multivariate analyses were performed to evaluate the data set and to explore mutual correlation of selected factors [4]. These analyses were related to the investigated factors influencing the use of twitter by tourists, i.e. source reliability, degree of involvement, communication frequency and source expertise. To determine the appropriateness of principal components analysis (data reduction procedure) for the data set, a correlation matrix for the influential data, the Kaiser-Meyer-Olkin measure of sampling adequacy, was used to examine whether the strength of the relationship between variables was large enough to proceed to a factor analysis. The Barlett test was found to be significant ($p < 0.00002$). Therefore the data reduction by principal components would be legitimate. A factor analysis with Promax rotation was performed. An eigenvalue of 1.0 was used for the factor extraction criterion and loadings of 0.30 were used for item inclusion. Cronbach's coefficients were also examined for each factor to check the reliability of the data and to serve as a measure of internal consistency among the items—all Cronbach's coefficients were above 0.7, indicating reliability (see Table 5).

A principal axis exploratory factor analysis with Promax rotation was performed for influencing factors of twitter's use by tourists. The communalities varied between 0.32 for negotiations and 0.73 for unrest. The four factors were (see Table 5): Source reliability (Factor 1), Degree of involvement (Factor 2), Communication frequency

Table 5 Factor analysis—results

Factors	Mean value	Cronbach's A
1. Source reliability	2.52	0.937
2. Degree of involvement	1.98	0.845
3. Communication frequency	1.86	0.792
4. Source expertise & knowledge	2.23	0.876

Table 6 Factor correlation matrix between influencing factors

Factors	(1)	(2)	(3)	(4)
Source reliability (1)	1.000	0.605**	0.505**	0.458*
Degree of involvement (2)	0.605**	1.000	0.313*	0.436**
Communication frequency (3)	0.505**	0.313*	1.000	0.292*
Source expertise & knowledge (4)	0.458*	0.436**	0.292*	1.000

Notes: * Statistically significant on a 5 per cent level;
 ** statistically significant on a 10 per cent level

(Factor 3), and Source expertise & knowledge (Factor 4). According to the findings, Source reliability (Factor 1) appears to be the most critical influencing factor; and it is followed by Source expertise and knowledge (Factor 4). The correlations between the four factors are presented in Table 6.

Findings indicate that all factors are positively correlated between them. This table indicates correlations that have practical significance [4] are between factor 1 (Source reliability) and factors 2 (Degree of involvement), 3 (Communication frequency) and 4 (Source expertise & knowledge). There is also a practically important correlation between Degree of involvement (Factor 2) and Source expertise & knowledge (Factor 4). Therefore, it can be stressed that the most crucial factors from a viral marketing perspective are Source reliability and Source expertise & knowledge.

6 Conclusion and marketing implications

The rise of SM has particularly significant implications to the travel and tourism industry. As one of the primary functions, SM allows sharing of information among people from different parts of the world. Social networking is bringing changes to communication patterns and interpersonal relationships. Additionally, SM allow organizations to engage in timely and direct end-consumer contact at relatively low cost and higher levels of efficiency, making it a very attractive alternative to the traditional communication tools. Hence, Web 2.0 applications and tools provide opportunities that could be exploited by tourism destinations and companies that are already utilizing search-based promotion via the online platform [63]. This article took a tourism consumer perspective and investigated the use of SM by the tourists. A conceptual framework of eWOM and Online reviews was firstly suggested. This framework has been empirically tested by a quantitative study focusing on the recipient's perspective, and not on the sender/narrator's. It explored how the eWOM and Online reviews provided by a SM such as Twitter are used by recipients and examined factors influencing the tourism consumer behavior in their decision making. Study's findings

advance our understanding of how precisely a SM members are using the information retrieved in an online environment and the factors influencing their behavior. It is estimated that the research's contribution is twofold. First, a conceptual framework of eWOM, experience sharing and reviews recommendations in a digital environment has been proposed. This framework provides a useful foundation of understanding, by considering the perspectives of two parties involved in online communication, i.e. the narrator/sender and the reader/recipient. Additionally, the key issues—motivations, media and influencing factors—have been incorporated into this framework. Furthermore, this study suggests that two terms are more appropriate to be used in the new digital context and environment: instead of 'word-of-mouth' and 'electronic word-of-mouth' we estimate that '*WORD-OF-NET*' (term suggested by Moutinho et al. [52] and '*ONLINE REVIEWS*', term used by Lee et al. [45] and Robinson et al. [60] are more adequate. Second, this conceptual framework has been partially tested by means of a quantitative research focusing on the recipient's perspective. This study explored the use of online reviews by the Twitter's users and followers in their decision-making behavior. The study's findings indicate that three factors are very influential regarding the use of information regarding tourism services retrieved from Twitter, namely: (i) Reliability of Twitter followers/users; (ii) Degree of involvement—Posting; and (iii) Expertise and knowhow of Twitter users/followers. Obviously, the factor 'Source reliability' is a crucial one and must be seriously taken into consideration by travel and tourism marketers. Furthermore, source reliability was found to be the most critical influencing factor; and it followed by Source expertise and knowledge. Findings also revealed correlations between factor Source reliability and all other factors. It can thus be argued that the most crucial factors from a viral marketing perspective are Source reliability and Source expertise & knowledge. This knowledge is very useful in travel and tourism marketing. Tourism destinations and businesses are increasingly adopting viral marketing. This marketing approach mainly consists of exploiting in efficient and effective ways opportunities provided by SM, implementing actions to positively react to online users/members' reviews, suggestions and experience sharing. Trained persons (usually, staff members) monitor SM users' reviews and react in an appropriate way, taking advantage of positive postings and addressing negative comments, and make their own messages, online reviews, posts and tweets in order to increase source credibility, reviews and information exchange. Another implication is related to the tourism services' nature (high involvement and risk purchase decisions). This nature involves two challenges/issues: (i) Consumers' behavior: high degree of tourist involvement leads the SM members to carefully use information and to spend more time and searching on other Internet sources, such as travel sites and blogs, as well as destination websites. (ii) Consequently, tourism and travel marketers, by adopting an integrated approach of viral marketing, must focus more on lurking than on posting [54]. By doing so, marketers could identify consumers' comments—positive or negative—regarding their experiences, monitoring destination or company's brand, reputation and image; and these of competitors. This means adopt a different strategy, an approach for listening to the SM and responding to visitors/customers' comments and feedback. Furthermore, with lurking, comments, suggestions, recommendations, experience sharing are valuable source of feedback, providing information enhancing customer relationship, determining consumers' needs

and requirements and contributing to improve service quality [63, 66]. The crucial issue is communicating with and influencing tourists; adopt and implement an integrated marketing communication approach aiming at stimulating purposeful dialogue with visitors and generating message synergy. A successful SM strategy will provide forums for destination, opportunities for comments, suggestions and feedback. SM and social networking are expanding at a rapid pace, and therefore it is imperative for tourism destinations and companies to understand what exactly are and how can be effectively used in the digital environment. SM are not a panacea, are another tool in the marketing toolbox, not a substitute for an integrated multi-channel strategy. SM must fit into otherwise integrated marketing communications plans. The success or otherwise of viral marketing, like any marketing tool or channel, depends on creative and strategic application.

7 Limitations and future research

This study focused on the use of SM in tourism services that are of high involvement purchase decision. The present study has some limitations that should be acknowledged and discussed toward directions for future research. Firstly, the suggested conceptual framework of eWOM and Online reviews must be improved and finalized in order to achieve a comprehensive and integrated approach to digital interpersonal communications. Future studies could probably contribute in this field suggesting additional factors and variables to be incorporated. Secondly, the present study focused on the reader/recipient's perspective. It is suggested that future empirical studies, using an improved conceptual framework, could explore the narrator/sender perspective, i.e. the motivations of engaging in review and recommendation activities, as well as the mediating factors. Another interesting research issue/suggestion could be a possible extension of the conceptual model with a feedback-loop. This feedback loop could involve the expectations of the customers from the purchased tourism service (or business), the confrontation of these expectations with real experiences and the consecutive perceptions driving eWOM sender's motivations. In such a structure the current conceptual model would represent the recipient's perspective in the forward direction and the sender's perspective in the backward direction. Future research regarding SM should be equally conducted from the perspective of tourism destination and industry. Thirdly, the study has an exploratory nature containing inherent drawbacks. For instance, the sample employed limits the generalization of findings. Future empirical studies should employ a more representative sample to provide further corroboration of the findings. Fourthly, there are two constructs—'Navigation ability on Twitter' and 'Intention to participate in an online referral campaign' (i.e. Willingness to participate in a promotional campaign)—that have not been explored in our analysis. These constructs could have an impact on eWOM and Online reviews, and probably would be connected with the use of information retrieved from a SM. Finally, it has been focused on Twitter, one of the SM. The results cannot automatically be extended to other SM. Future research should explore and compare other SM having different features. Studies should explore other SM in order to investigate the issue of influencing factors and the tourism consumer behavior of users of

other SM, such as Facebook, MySpace, etc. An interesting issue would be a comparative analysis of the tourism consumer behavior among the users of two or three SM; for instance Twitter, Facebook and MySpace, regarding travel and tourism services. Along the same line, future studies should examine the similarities and differences in consumer behavior of tourists using microblogs (Twitter) and tourism-related SM (e.g. Travelblog) in order to expand the findings of this study limited to a single SM.

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