Research progress and enlightenment on the application of social media in tourism abroad

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ABSTRACT

With the wide application of information technology in tourism, new technologies and applications have a profound impact on the development of tourism, and promote the transformation of tourism research paradigm. Based on social media and closely combined with the reality of tourism, based on the review, the studies on social media and travel abroad related definition, the types of social media from social media, social media impact on tourism subject and object, social media applications in tourism in four aspects has carried on the summary and review. It is found that the foreign research on social media and tourism is in a rapid development stage. The profound impact of social media on tourism has gradually been recognized by scholars, but the breadth and depth of research still need to be strengthened. Finally, relevant research enlightenment is proposed from the perspective of basic theory and practical application.

Keywords: social media; travel blog; virtual tourism community; online travel reviews; review progress

1. Introduction

The rapid development of information technology has brought great changes to tourism. The establishment of the Computer Reservation System (CRSs) in the 1970s, the popularization of the Global Distribution System (GDSs) in the 1980s, and the development of the Internet in the 1990s have greatly changed the operation and strategic planning of the tourism industry[1]. In recent years, the global popularity and development of social media represented by Facebook and Twitter has ushered in another transformation of tourism in the field of information technology. The combination of social media and tourism spawned many new application form, such as virtual tourism community, travel blogs, online reviews of tourism, tourist Weibo, etc., injected new momentum for the global travel industry, and is increasingly influencing tourist’s information communication and the way of consumption, tourism enterprise business model and marketing pattern, etc. At present, domestic research on the application of social media in tourism is relatively lagging, and some research fields are still blank, which urgently needs to be paid attention to by tourism academia. A review of the research results of relevant foreign scholars will be helpful to point out the research direction of the cross
application of social media and tourism, provide useful reference for relevant domestic research, and provide guidance and help for practical activities.

2. Overview of foreign social media and tourism research

The development of information and communication technologies is driving the reshaping of business processes in tourism and gradually generating a new paradigm. This not only changes the structure of the entire industry, but also provides a variety of opportunities and challenges for stakeholders. At the same time, research institutions and organizations related to academic research gradually came into being. The first ENTER Conference held in Austria in 1994 marked the emergence of e-tourism as one of the important areas of academic research in tourism. Subsequently, the Journal of Information Technology and Tourism (JITT), formally established in 1998, regularly publishes the latest research results related to information technology and tourism, providing a channel for researchers to communicate and provide sufficient intellectual support for the International Federation of Information Technology and Tourism (IFITT).

In this context, many researchers participate in the academic research of information technology and tourism. In recent years, with the increasingly close connection between social media and tourism, foreign scholars have gradually increased their research on social media taking ENTER Conference, an important academic conference on the intersection of information technology and tourism, as an example. Since 2010, social media has become an important topic and object of concern in this conference. Through a comprehensive search of foreign mainstream databases such as Science Direct, EB-Sciohost, Sage Publications, Wiley, Springer Link and Google Scholar, based on combing and analyzing foreign research literature on social media and tourism, it is found that relevant research is mainly distributed in three areas. Academic journals, Research on Tourism Management, Journal of Travel Research, Journal of Information Technology Tourism Etc as the main position. Proceedings of academic conferences, represented by the annual IFITT ENTER Conference. Academic monographs are represented by The Theory, Practice and Case Study of Social Media in Tourism and Hotel Industry published in 2012, which gives a comprehensive overview of the influence and application of social media in tourism from three aspects of theory, practice and case. Foreign studies on social media and tourism are on the rise by year, but domestic studies are lagging. Therefore, the analysis and collation of the current research results is conducive to promoting the further development of the interdisciplinary research of information technology in domestic tourism.

3. Related research progress

3.1. Definition of social media

As for the concept of “social media”, foreign academic circles have not reached a consensus. As a new term, “social media” first appeared in the online community research specialist Mayfield’s book “the what is social media, and is defined as: a kind of giving users significant participation space is a new type of online media, the six most common form of blogs, wikis, podcasts, BBS community, social networks and content, etc. With the continuous update and development of social media, the understanding of the form and definition of social media is more comprehensive and accurate. At present, the most common definition is “Social media is an Internet application collection that allows Internet users to create and communicate user-generated content based on the technology and concept of Web2.0” proposed by Kaplanh et al. Blackshaw says social media including various technologies such as the application of the significance for consumers to achieve “published” on the Internet, “tag”, “dig” or “blog” and so on the application, and can let the consumer to create, initiated, circulated and use these applications to communicate each other about products, brands,
services and ideas\textsuperscript{[5]}. Starting from the applications contained in social media, Meereman believes that social media is different from mainstream media in that anyone can create, comment on and add social media content, and can express it in various forms such as text, picture, audio, video and community\textsuperscript{[6]}. However, social media is different from frequently mentioned concepts such as Web2.0 and UGC (User generated content). Web2.0 is the ideological and technical basis of social media, while UGC can be regarded as the sum total of the ways people use social media\textsuperscript{[7]}. Throughout the above literature, the concept of social media focuses on the change of consumer role of user-generated content (UGC), emphasizes the change of communication mode and mode and the individuation of communication content, which is an innovation compared with the traditional communication mode.

3.2. Types of social media

Different scholars have different types of social media based on their own research perspectives\textsuperscript{[7-9]}, but there is little difference. Mayfield divided social media into online social networks, blogs, podcasts, forums, content communities, micro-blogs and other major forms\textsuperscript{[3]}. Kaplanh et al. divided social media into six types according to the degree of social participation/media richness and degree of self-presentation/self-disclosure\textsuperscript{[4]} (Table 1). At present, the combination of social media and tourism mainly focuses on three aspects: virtual tourism community, tourism blog and online tourism comment, which are also important research fields of foreign tourism scholars.

Virtual tourism community

As a specific type of virtual community, virtual tourism community is mainly gathered by members who take tourism as the topic of discussion. It is the first object that attracts the attention of relevant scholars in the cross research of social media and tourism. Researches on virtual tourism community mostly focus on the definition of virtual tourism community\textsuperscript{[10]}, people’s motivation to participate in virtual community and the results generated after participation\textsuperscript{[11,12]}, the relationship between members’ participation motivation and contribution level\textsuperscript{[13-15]}, and functions of virtual tourism community\textsuperscript{[16]}, the influence of virtual tourism community on tourists’ loyalty and purchasing decision\textsuperscript{[12,17]}, and the influencing factors of service quality of virtual tourism community\textsuperscript{[18]}. Wang constructed the concept and theoretical basis of virtual tourism community because of defining the core characteristics of virtual community and the basic needs of community members, and believed that virtual community has three obvious characteristics: site characteristics, symbolic characteristics and virtual characteristics. Virtual communities are represented in the form of places, with symbols as their essential characteristics and virtually as their form\textsuperscript{[10]} (Figure 1). Motivation and influencing factors of participating members of virtual tourism communities are also an important aspect of the study. Vogt believes that participation and attitude are important attributes of consumer behaviors in online tourism communities, and tourists’ sharing of tourism experience through virtual tourism communities is the main motivation for participation\textsuperscript{[19]}. Virtual tourism communities make it easier for tourists to obtain information, keep in touch and develop relationships, and ultimately make tourism decisions\textsuperscript{[20]}. Based on an empirical survey of 351 members of online tourism virtual communities, Kim et al. believed that the four main factors of membership, interpersonal relationship influence, integration and realization needs, and common emotional connection are related to the concept of online tourism communities\textsuperscript{[12]}. From the perspective of virtual tourism community, some scholars discussed the important factors for its good development and pointed out that the successful operation of an online tourism community depends on the participation of members and their contribution level to the online tourism community. Fully understanding the relationship between community participation motivation and contribution level is conducive to the sustainable and healthy development of virtual community. Wang published
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online questionnaires on the website of large virtual tourism communities in the United States to investigate the motivation of online tourism community members’ participation and the motivation factors driving their contribution. He found that the main driving forces for members’ participation in virtual tourism community activities are social and hedonic benefits. The fundamental incentive factors for members to contribute to virtual tourism community mainly include tools, utility and expectation\textsuperscript{[15]}. Therefore, the current research on virtual tourism community mainly focuses on the characteristics of virtual tourism community itself, the interactive relationship between virtual tourism community and its members, and its influence on tourists’ purchasing decision-making behavior, and less involves the influence mechanism of virtual tourism community on different stages of tourism activities.

Table 1. The form of the social media

<table>
<thead>
<tr>
<th>Socialized media type</th>
<th>Forms in tourism</th>
<th>Main representatives</th>
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<tbody>
<tr>
<td>Social network</td>
<td>Tourism accounts in social network</td>
<td>Facebook, renren.com</td>
</tr>
<tr>
<td>Blog</td>
<td>Tourist blog</td>
<td>Global journal in seven-colored map</td>
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<tr>
<td>Cooperation projects</td>
<td></td>
<td>Wiki, Wiki Travel, etc.</td>
</tr>
<tr>
<td>Weibo</td>
<td>Tourist Weibo</td>
<td>Twitter, Sina Weibo, Tencent Weibo</td>
</tr>
<tr>
<td>User reviews or rating sites</td>
<td>Travel Review Website</td>
<td>Trip advisor, Epinions, etc.</td>
</tr>
<tr>
<td>Online virtual community</td>
<td>Virtual tourism community</td>
<td>Mafengwo.com, mofang.com</td>
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Figure 1. A conceptual model for definition of virtual community.\textsuperscript{[10]}

\textbf{Travel blogs}

Travel blog is one of the most prominent topics in social media and tourism research. Most of the foreign research on tourism blog appeared after 2000, since then, tourism blog has gradually become a new field of tourism academic research. Currently, foreign scholars mainly focus on tourism blog marketing\textsuperscript{[21-23]}, tourism blog content analysis\textsuperscript{[24-27]}, tourism blog research methods\textsuperscript{[28]}, tourism blog as an information source credibility\textsuperscript{[29]} and so on. With the rapid development of network information, travel blog provides a new way for consumers to express their perception of destination and its products and services, and becomes a new channel for scholars to obtain research materials. Through the analysis and processing of tourism blog content, researchers can analyze the information content of tourists’ image of tourist destination\textsuperscript{[25,26,30]}, tourist satisfaction and pleasure\textsuperscript{[31,32]} and other dimensions. Taking the hotel industry as the
background, Magnini et al. analyzed the data of 743 related tourism blogs using text mining and content analysis methods to explore the factors influencing the degree of customer pleasure in tourist attractions and found that the most common factor affecting the degree of customer pleasure in hotels is customer service, followed by cleanliness [32]. Tourism blog is also an important way of tourism destination marketing. Tussyadiah et al. in Pennsylvania tourism website content analysis of narrative structure, the key to find travel blog marketing factors mainly include the characteristic description of bloggers, blog space classification, product, and the evaluation of the experience, and the decisive factors in travel blogs type is a blogger’s personality characteristics is introduced and blog space classification [23].

**Online tourism reviews**

Online tourism reviews are an important way to influence e-word-of-mouth communication. The research of foreign scholars mainly focuses on its influence on consumer decision-making behavior [33,34] and hotel booking and travel planning behavior [35,36]. Online reviews have become an important factor affecting travel booking. Research by Litvin et al shows that online reviews can provide consumers with a stronger perception of product quality, and positive reviews can also improve the overall social image of enterprises, reduce booking suspicion and reduce dissatisfaction after purchase [35]. There is a relationship between consumers’ hotel reservation choice and their perception of trust. Sparks used an experimental design method to explore four key factors affecting consumers’ hotel reservation choice and their perception of trust, and found that consumers tend to accept easily identifiable comments [36]. But consumer acceptance of different comments information is unknown, Vermeulen, etc. will review the overall impression (positive or negative), familiar with hotel (familiar or unfamiliar), critics of professional degree (professional or non-professional) as independent variables, tourism online reviews on the influence degree of the consumers, Studies have found that whether reviews are positive or not, consumers’ familiarity with hotels is increased, and positive review information can enhance the recognition of consumers who are not familiar with hotels [34]. As three typical applications of social media, foreign tourism scholars have preliminarily discussed their cross-integration with tourism from the perspective of tourism practice, but rarely discussed the impact and reform of various application forms on the structure of tourism industry from the perspective of social media.

### 3.3. Research on the influence of social media on tourism subject and object

Research on the influence of social media on tourism subject and object is the main content of relevant foreign studies. There are two types of existing studies: one is based on tourist Angle

To explore the impact of social media on tourists; The other is based on tourism

From the perspective of managers, the influence of social media on tourism managers is analyzed. 2.3.1 Impact of social media on tourists

(1) The influence of social media on tourists’ access to information

As early as 2006, Jepsen believed that it would become a trend for social media information sources to replace traditional information sources [37]. Subsequently, social media did gradually become an important channel for tourists to obtain information. But at the same time, the reliability of network information attached to social media has become the focus of scholars’ attention. For example, Yoo et al. found that user-generated content on the website of the official Tourism Bureau is more credible than content in other review sites, travel blogs, social networks and content communities [38]. Mack et al. found that the content reliability of consumer online review and rating websites was higher than that of travel-related blogs on online travel agency websites [21,39,40]. On the other hand, tourists themselves who get information from social media are also different.
Yoo found that there are two important roles in social media: opinion leaders and opinion seekers, and explored their similarities and differences in the use of social media. The similarities lie in that they are proficient in using computers, young and well-educated, and both use social media in making travel plans and traveling. The difference lies in that opinion leaders have more tourism experience and trust official tourism information sources more. In a nutshell, social media as a new media, the information is increasingly become an important source of tourist information search, Xiang by simulating the tourists use search engines such as travel plan of experiment process, using a prepared a series of keywords related to tourism combined with nine American tourist destination name to search. Analysis of search results shows that social media content accounts for a large part of search results, which means that search engines directly direct tourists to social media sites, thus further confirming the importance of social media in the online tourism field.

(2) The influence of social media on tourists’ decision-making behavior

The development of ICT in tourism often has a profound impact on consumer behavior. In view of the rapid development of social media, foreign scholars have also realized its influence on tourists’ decision-making behavior, such as the influence on tourists’ information search and decision-making behavior and the influence on the vacation planning process. Sharing tourism experience with others is an important need of tourists. The popularity and popularity of social media provide a new channel for information dissemination, making sharing tourism experience a simple and pleasant thing. The development of UGC (user-generated media), in which Internet users create their own content, promotes the sharing of tourism experience to appear on blogs, social networks and other media in the form of pictures, videos and audio, thus influencing tourists’ travel decisions. There are many reasons for the influence of social media on tourists’ decision-making process. For example, De et al. believe that virtual community has become an important knowledge network for consumers, which is bound to have an impact on consumers’ decision-making process. From the perspective of tourists’ trust, Gretzel’s empirical study proves that online reviews and website ratings of tourism-related consumers enhance tourists’ trust in the decision-making process and reduce risks. From the perspective of comparison between social media and traditional travel websites, Cox et al. confirmed that user-generated content and social media have the same influence on travel purchase decisions of traditional travel websites to a certain extent. However, different types of social media will also have different degrees of impact on individuals. Paris took 8 computer-proficient backpackers as research objects and observed the virtual space characteristics of different social media (Twitter, Facebook, YouTube, Blogs) through ethnographic methods, and found that there are two completely different virtual space scopes: identity space and blog space. It should be noted that the use of social media by tourists is not uniform. Cox et al. believe that social media is mostly used before travel, but rarely used during and after travel. Fotis et al. further found that social media was used in the whole process of vacation planning (including before, during and after trips), but the extent and scope of use of social media at each stage were different.

The impact of social media on tourism managers

The rapid development of technology means that ICT is becoming more powerful and complex, and its applications are becoming more practical and user-friendly, thus being utilized by more individuals and organizations. How tourism destinations and their managers adapt to and make full use of this change is the key to break the bottleneck of their own development. There are few special studies on the impact of social media on tourism managers, and most of them put forward corresponding guidance and strategies for tourism managers through the study of tourists’ behavior. Ayeh et al. investigated relevant management staff...
of Hong Kong hotels through in-depth interviews and found that participants basically had a clear understanding of the commercial promotion of hotels by social media and the challenges it brought\cite{47}. Leung investigated the website content of 109 hotels in Hong Kong and 4 hotel managers, and after analysis, pointed out that Hong Kong hotel enterprises are more and more inclined to use social media, and chain hotels accept social media more than independent liquor\cite{25}. For example, Del Larocas believes that online word-of-mouth has an important impact on brand building, product development and quality assurance of managers\cite{48}. Milano et al. pointed out that social network (OSN) has an important impact on the popularity of tourism websites, and verified this hypothesis by collecting data from Italian websites\cite{49}. On the other hand, the spread of social media is also affected by other factors. After studying the adoption and diffusion of social media technologies by Greek tourism professionals, Sigala found that the adoption rate of social media was low due to perceived risks\cite{2}.

3.4. Research on the application of social media in tourism

Social media as a marketing and management tool

In the last decade, ICT has also been rapidly applied in the field of tourism marketing. As early as 2000, Buhalis proposed that the Internet has profoundly changed the distribution and marketing of tourism products\cite{50}. The application of social media in tourism online marketing is an important research field for foreign scholars. Chan et al analyzed the current situation and existing problems of social media marketing by taking Hong Kong hotels as an example\cite{51}. The measurement of marketing methods and marketing effects of social media is the core of relevant research. Social media can be used as an online consumer comment complaint management tool\cite{52}, so as to provide suggestions for tourism managers and serve as the basis for marketing decisions\cite{53,54}. Some scholars believe that social media is so important that it may completely change the practical measures of destination marketing\cite{55}. Measurement of single media marketing effect is a popular research topic, such as the influence of blog marketing\cite{21,22,35} and the marketing effect of social network\cite{56}, among which Maurer et al. took Facebook as an example to conduct in-depth discussion on the marketing effect of social network\cite{57}. More destination management organizations increase the investment in social media marketing to enhance the popularity of e-commerce, and destination marketing organizations and tourism enterprises will use blogs as part of their business strategies\cite{58}. Pulvirenti et al. proposed an evaluation model to measure the impact of social media network (SMN) perception income on network quality and satisfaction in tourism destination marketing\cite{59}. Lin et al. took the Aegean tourism blog of Taiwan engineers as a case study to analyze the tourism marketing response\cite{60}.

2.4.2 Social media as the source of tourism analysis

Since most of the content in social media is written and generated by consumers and has obvious personalized characteristics, it has become a favored source for content analysis by researchers\cite{21}. User-generated online reviews of tourist destinations, hotels and tourism services have become important information sources for tourists. Scholars can obtain valuable data of tourists’ image of tourist destination\cite{25,26,30}, tourist satisfaction and pleasure\cite{31,32} through corresponding text analysis of the content generated by social media users. In addition to text content analysis, picture resources such as photos are also an important analysis data\cite{61}. At present, there are many researches on tourism blog and virtual tourism community as content analysis objects. Enoch et al. conducted content analysis on the travel blogs of Israeli and Danish backpackers about their trip to India, and found that the two tourists from different countries had abnormal construction of tourism discourse on India\cite{62}. Related studies mainly use narrative analysis and content analysis\cite{21}, and Banyai et al. made a comparative analysis of these two methods\cite{28}. Social media can be conveniently for the study of the tourism destination
image analysis to provide the data source, such as Tse through of the Hong Kong tourist experience of mainland tourists to create blogs and microblogging content analysis, reveals the overall mainland visitors to Hong Kong for the purpose of image is positive, and further affirmation of the feasibility of using social media to destination marketing[63]. Law believes that blog, as a reflection of travel experience, discusses the image of Hong Kong as a tourist destination from the perspective of Chinese mainland tourists[30]. Pan et al. obtained tourists’ experience of tourist destinations by conducting semantic network analysis and research on the articles posted by tourists on mainstream travel blog websites[22].

4. Research review and enlightenment

The gradual penetration of information and communication technology into tourism has opened a new direction of cross-study between tourism and information technology. The change of traditional information transmission mode and the change of information paradigm are gradually changing all aspects of tourism. In this context, social media as a new way of communication gradually attracted the attention of foreign scholars. By reviewing foreign literature on social media and tourism research, this paper finds that the current research mainly focuses on four aspects: conceptual definition and characteristics of social media, classification of types of social media, research on the impact of social media on tourism subject and object, and research on the application of social media in tourism.

At present, the research on information technology and tourism cross belongs to a domestic tourism research frontier, and the integration of social media and tourism is a hot issue in recent years, study abroad, but the current domestic, fewer researchers involved in the existing achievements mainly distributed in the field of information science, communication, education, etc, the contribution of tourism study. Foreign research on the intersection of information technology and tourism is earlier, and the research results are relatively rich. Although some scholars classified various application types of social media in the early 1990s and began to discuss the application of various application types in tourism in the early 21st century, the study of social media as a whole in tourism has only started in recent years (Table 2).

The combination of social media and tourism is not only a promotion and influence of information and communication technology on tourism at a deeper level, but also a manifestation and extension of tourism socialization. Reviewing the relevant foreign studies, there are many inspirations for China: (1) From the perspective of basic theories, construct a theoretical framework based on the cross research of tourism and information technology, comprehensively discuss the application research of social media in tourism from the perspectives of information science, psychology, sociology, management, marketing and other disciplines, and integrate the knowledge and methods of various disciplines. The mechanism and relationship between tourists, tourism managers, tourism enterprises and social media are analyzed and discussed.

(2) From the perspective of practical application, based on the basic attributes and characteristics of social media, we conduct more in-depth research on various application forms of its combination with tourism, such as tourism blogs, tourism microblogs and virtual tourism communities, and further explore the influence mechanism of social media in tourism, the marketing mechanism and marketing effect of social media in tourism, the interaction mechanism between social media and tourists and tourism enterprises, the integration and development of social media with tourism websites and tourism e-commerce, etc.

The impact of social media on tourism studies the latest results of cross-integration research between information technology and tourism. With
the continuous development of information and communication technology, more new technologies and forms are bound to appear in the future, constantly changing people's way of life, communication and leisure, and will also constantly have an impact on tourism industry development and tourism academic research. For this reason, it is necessary to update the tourism research paradigm in time to reflect the new direction of tourism research and promote the comprehensive development of tourism disciplines.

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<thead>
<tr>
<th>Start of the studies</th>
<th>Content of studies</th>
<th>Representative authors</th>
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<tr>
<td>Virtual tourism community</td>
<td>Definition of virtual tourism communities, people’s motivation to participate in virtual communities and the consequences that result from their participation, members The relationship between participation motivation and contribution level, the functions of virtual tourism communities, the influence of virtual tourism communities on travelers’ loyalty and purchase decisions, and the influence of service quality of virtual tourism communities. The factors that influence the loyalty and purchase decisions of travelers, the factors that influence the service quality of virtual tourism communities, etc.</td>
<td>Kim,Wang, Cheung, etc.</td>
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<td>Tourist blog</td>
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<td>Tussyadiah, Pan, etc.</td>
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<tr>
<td>Travel online reviews</td>
<td>Impact on consumer decision-making behavior, as well as on hotel booking and travel planning behavior</td>
<td>Gretzel, Litvin, etc.</td>
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<tr>
<td>Socialized media</td>
<td>Social media is an important data source for tourism and social media usage during holidays.</td>
<td>Xiang, Fotis, etc.</td>
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Sources: According to the references [10–15,21–32,41–44]

**Conflict of interest**

The authors declare no conflict of interest.

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