



Impact of user-generated travel posts on travel decisions: A comparative study on Weibo and Xiaohongshu

Zhuoli Wang^a, Wei-Jue Huang^{a,*}, Bingjie Liu-Lastres^b

^a School of Hotel and Tourism Management, The Hong Kong Polytechnic University, 17 Science Museum Road, TST East, Kowloon, Hong Kong

^b Department of Tourism, Event, and Sport Management, School of Health and Human Sciences, Indiana University-Purdue University Indianapolis, 901 W. New York Street, Indianapolis, IN, USA

ARTICLE INFO

Editor: Dr Amit Birenboim

Keywords:

Mobile app
User-generated content
Social media
Travel post attribute
Travel decision
Travel inspiration

ABSTRACT

With the growing popularity and versatility of mobile applications, this study examined consumers' usage of multi-functional social media content apps and the influence of user-generated travel posts on their travel decision-making. Using the case of Chinese millennial travelers and Weibo and Xiaohongshu as representative apps, semi-structured interviews and surveys were conducted. Results showed that while respondents used Weibo more often in daily life, Xiaohongshu was more likely to influence their destination selection. Key attributes of travel posts and preferences of different user groups were identified. The relative importance of each attribute in guiding dining/accommodation/transportation/shopping/attraction decisions was examined. The most active app users placed lower importance on the number of images and higher importance on length of text and language style.

1. Introduction

The emergence and prevalence of social media have sparked a keen interest in the study of user-generated content. User-generated content denotes information or content produced by the populace and distributed online (Daugherty, Eastin, & Bright, 2008). The tourism industry is among the domains influenced by user-generated content the most (Xiang & Gretzel, 2010). Since exposure to digital word-of-mouth is linked to purchasing behaviors, many studies have investigated the effect of user-generated content on tourists' decision-making (Liu, Mehraliyev, Liu, & Schukert, 2020). While businesses recognize the importance of customer reviews for quality improvement, it remains a challenge to achieve a comprehensive understanding of user-generated content (Chu, Deng, & Cheng, 2020). Varieties in displayed formats, contents, and functions of online platforms may lead to considerable differences, such as the length of text, language styles, and use of images and photos. Existing research has examined the attributes of user-generated content on review websites (e.g., review length, review breadth, review valence) and whether these attributes influence the readers' perception and intention (Leung, 2021). However, it is not yet clear how tourist behavior and mobilities may be influenced by different types of social media content or attributes (Büschken & Allenby, 2016).

Furthermore, in the past decade, e-word-of-mouth has changed from computer-based to mobile-based formats in the mobile Internet era (Jia & Wu, 2019). Especially among young generations, mobile applications (apps) are taking precedence over computer-based websites, becoming the preferred channel to obtain travel-related information (Shi, Fan, & Cai, 2020). The valuable and contextual information provided by mobile apps not only enables new shared-mobility services but also has transformed the way people travel around places (Dickinson et al., 2014). Numerous studies have shed light on how user-generated content on review websites (e.g., [booking.com](http://www.booking.com), TripAdvisor) can impact tourist decisions (Chen, Shang, & Li, 2014; Liu et al., 2020). Furthermore, with the increasing popularity of smartphone apps, not only are there travel-oriented apps, such as TripAdvisor, but many multi-functional social media and content apps (hereinafter as "integrated social apps") also became popular platforms for people to share their travel experience. Examples of these integrated social apps include Facebook, YouTube, and Instagram, all of which are available through the mobile format and broaden the information sources for tourists (Sotiriadis & Van Zyl, 2013). As the display format and functions of integrated social apps differ from review websites, readers' preferences for the various attributes of travel posts on such apps should be examined.

Travel behavior and decision-making are also complex, consisting of

* Corresponding author.

E-mail addresses: anson.wy.wang@connect.polyu.hk (Z. Wang), sabrina.huang@polyu.edu.hk (W.-J. Huang), bliulas@iu.edu (B. Liu-Lastres).

different stages (e.g., pre-trip, during a trip) and decision types (e.g., destination selection, accommodation, dining). Unlike travel-oriented apps, which predominantly provide users with information for travel planning, the user-generated content shared via integrated social apps often inspires people to take trips (Gretzel, 2021). The advantage of integrated social apps also lies in user engagement and frequency of interactions. They attract daily users to interact with friends, online celebrities and various content, and allow users to create and share their own experiences (Shi et al., 2020). Moreover, Gretzel (2021) pointed out that during the COVID-19 pandemic, with lockdowns and travel restrictions, “Internet users have been busy looking for inspirational content, including travel-related information” (p. 256–257). Therefore, the effects of multi-functional social apps and their role in inspiring travel and influencing different types of travel decisions warrant further research.

According to pre-COVID data, Chinese citizens took 169 million international trips in 2019, which was the highest among all countries (World Tourism Organization, 2021). China was also ranked first in the number of smartphone app downloads and amount of app spending (iResearch, 2019; Mobile World Live, 2018). Given the outbound tourism market and popularization of mobile apps in China, this study focuses on Chinese consumers to understand how integrated social apps influence their travel decisions. Weibo and Xiaohongshu are currently the most popular integrated social apps in China. Besides having content creation, sharing, and interaction functions, they differ from traditional social networking sites in their search, discussion, and content aggregation functions (Kakkar, 2020). With millions of daily users and a wide array of topics/contents available, they take on the role of search engines, online discussion forums, consumer review sites, and social news aggregation websites. Founded in 2009, Weibo is the incumbent with a larger user base, while the newcomer Xiaohongshu has been successful in combining social media and e-commerce, and became well-known as a product review community (Ren, 2018). Among users of Xiaohongshu, 83% are between 18 and 34 years old, which falls in the age range of millennials (Dragon Social, 2019). The breakdown by age group of Weibo users resembles that of Xiaohongshu, showing that 75% of users are between the ages of 18 and 30 (Weibo., 2019). As Chinese millennials are the primary producers and consumers of user-generated content on these apps, this study focuses on the views of the millennial generation.

This paper attempts to enrich existing knowledge on the impact of user-generated content on travel decision-making by investigating a new type of platform—travel posts on integrated social apps. Using the case of Chinese millennial travelers and Weibo and Xiaohongshu as representative integrated social apps, this study undertakes a two-stage mixed methods approach. The first stage consists of qualitative interviews to explore Chinese millennial travelers’ usage of Weibo and Xiaohongshu for travel information. Although Weibo and Xiaohongshu are both popular in China, they may be perceived differently by consumers. Moreover, given that integrated social apps differ from previous platforms, the interviews aim to identify the main attributes of user-generated travel posts on Weibo and Xiaohongshu to inform subsequent questionnaire design.

In Stage II, a survey is designed to examine how travel posts on integrated social apps influence travel decision-making. To provide further insights on consumers’ preferences for travel posts, both general usage behavior (e.g., open the app, read posts on the app) and specific attributes of travel posts (e.g., number of images, length of text) are examined. Moreover, given the complexity of travel experiences, travel decision-making is conceptualized in two ways: 1) stages of travel (i.e., inspiration to travel, destination selection, pre-trip planning, and en route changes after seeing new posts), and 2) decision types (i.e., dining, accommodation, transportation, shopping, attractions). Hence, the objectives of the second stage study are:

1. To compare Chinese millennials’ usage of Weibo and Xiaohongshu in daily life and at different stages of travel.
2. To investigate Chinese millennials’ preferred style/attributes of travel posts and the importance of each attribute when making different types of travel decisions.

2. Literature review

2.1. Tourist decision-making and information needs

Decision-making refers to the process of collecting and analyzing information to select an ideal choice among pre-set alternatives (Chen, 1998). In a travel context, tourists’ decision-making can be divided into three phases: pre-trip, during a trip, and post-trip (Chen, 1998; Cox, Burgess, Sellitto, & Buultjens, 2009). Tourism products are complex, intangible, and often considered highly risky without prior experience, and therefore, tourists have constant information needs for their decision-making (Fodness & Murray, 1999). At the pre-trip stage, tourists evaluate alternative destinations and potential tourist activities through risk-reduction information searching, in which personal sources such as word-of-mouth would be preferred over impersonal ones (Murray, 1991). Information search at this stage mainly relates to information about potential destinations and activities as a whole (Pabel & Prideaux, 2016). Pearce and Packer (2013) used the case of TripAdvisor to explain how individuals read comments and make destination-related decisions in different ways, either through a rational choice-elimination process or an emotion-based heuristic approach. Tourists also need information along the trip, mainly about service-venue decisions such as transportation, dining, accommodation, and attractions (DiPietro, Wang, Rompf, & Severt, 2007). International travelers tended to spend more time searching for entertainment-related information during the trip, due to their longer stay at destinations (DiPietro et al., 2007). Finally, tourists may share information at the post-trip stage, primarily to showcase their experiences and/or express their concerns (Dwityas & Briandana, 2017).

Information search during the decision-making process can be further divided into internal and external based on different sources (Gursoy & Umbreit, 2004). Internal search relies on prior experiences and knowledge of tourism products or destinations (Fodness & Murray, 1999), while external search refers to collections of information from the marketplace, for instance, travel agents and the Internet (Gursoy & Umbreit, 2004). Moreover, the rapid development of information and communication technologies over the past decades has resulted in the increasing popularity of social media among tourists, which facilitates their external information search and enables them to have two-way communications with businesses and other consumers (Berne, Garcia-Gonzalez, & Mugica, 2012; Navío-Marco, Ruiz-Gómez, & Sevilla-Sevilla, 2018). The increasing amount and transparency of information also expose tourists to new trip ideas and inspirations (Gretzel, 2021; Liu, Wu, & Li, 2019).

2.2. User-generated content and tourists’ decision-making

The rise of user-generated content and peer-to-peer applications, namely Web 2.0, has been considered the most prominent development in Internet applications in recent years (Navío-Marco et al., 2018). User-generated content has also become one of tourists’ most common information sources (Sotiriadis & Van Zyl, 2013). User-generated content is generally perceived as credible, authentic, and reliable, which is essential in shaping people’s initial evaluation of tourism products and affecting subsequent purchasing decisions (Xiang & Gretzel, 2010). The effects of user-generated content on tourists’ decision-making are critical, considering that tourism and hospitality products are intangible and must rely on other people’s previous experience and recommendations (Burgess, Sellitto, Cox, & Buultjens, 2009). Interestingly, tourists’ trust in user-generated content goes beyond their personal circle. A

study in 2016 indicated that 35% of people refer to content posted by travelers they are not familiar with, and the proportion is even higher among millennials (TripAdvisor, 2016).

The impact of user-generated content on tourist decision-making at different stages has been researched in tourism. At the pre-trip stage, previous studies found that user-generated content plays a key role in the initial information search and helps consumers modify the choice sets and finalize the travel plan (Huang, 2012; Luo & Zhong, 2015). Studies also noted that user-generated content influences tourists' en route decisions, such as accommodation and restaurant choices (Liu, Norman, & Pennington-Gray, 2013; Sparks & Browning, 2011). Finally, in the post-trip stage, tourists most likely share their experiences, and the user-generated content they created serves as trip inspirations for others, especially among millennials (Liu et al., 2019).

2.3. The age of mobile apps in tourism

The World Tourism and Travel Council (2019) reported that 83% of world travelers carry their mobile devices along their journey, making mobile devices and applications an essential part of modern travel. Mobile devices, along with easy access to mobile broadband services such as 4G and Wi-Fi, allow tourists to search for and share information whenever and wherever. Intuitive mobile apps also allow people to upload content related to their travel experience with minimum effort (World Bank Group, 2018). Research has shown that nearly half of the travelers find it comfortable to research and plan their stay in a new destination solely by a mobile device (Think with Google, 2018).

The adoption of mobile devices in China is high. Statistics show that the smartphone penetration rate in China has exceeded 50% and is expected to reach 61% in 2023 (Statista, 2019). As the most recent information and communication technology device, smartphones have contributed to major changes in travelers' travel patterns (Thomas, Geurs, Koolwaaij, & Bijlsma, 2018), destinations (Jamal & Habib, 2020), and trip duration (Zegras et al., 2018). Wang, Xiang, and Fesenmaier (2014) examined people's use of smartphones during travel and how smartphones changed tourist experiences. The benefits of smartphones further developed towards providing proactive and personalized recommendations to tourists (Tussyadiah & Wang, 2016). Mobile technology has also been used to track tourist movements, providing valuable insights for destinations (Lewis, Hardy, Wells, & Kerslake, 2021). Given the significant impact of mobile technology, researchers expanded their investigation into its various functions. According to Ettema (2018), the impact of information technologies on travel should be specific to a certain device or application. Mobile apps, therefore, can sort into different types to examine their effects.

Since 2015, the number of active mobile app users in China has exceeded that of websites, with an increasing gap between them (Jia, Li, & Gao, 2015). A study conducted by TripAdvisor (2016) noted that China had been at the forefront in terms of accessing TripAdvisor and online travel agencies via mobile apps. In addition, most people access social media through smartphones, including sharing and searching for travel-related information (World Bank Group, 2018). These integrated social apps have multiple functions and allow users to post information covering various parts of their lives, including travel. For many Chinese tourists, the information exchange process is not limited to travel-oriented apps. Rather, user-generated content on integrated social apps has become a popular alternative.

2.4. User-generated content on integrated social apps

Both Weibo and Xiaohongshu are popular social media sites. Weibo is the largest social media platform in China, with 530 million monthly active users in 2021 (eMarketer, 2021), and is considered a major user-generated platform for travel (World Bank Group, 2018). Xiaohongshu, on the other hand, has embraced 300 million registered users in China by July 2019, with a high percentage of female users (Xiaohongshu,

2019). The mobile apps for these two sites are typical examples of integrated social media apps, including the traditional function of social networking and new functions such as media sharing, discussion, content curation, consumer review, blogging, and shopping. With the vast amount of users and topics being discussed on these two platforms, they have become popular consumer review sites and search engines when people need information.

Most people share travel-related user-generated content on integrated social apps through travel blogs/notes. These are self-published illustrations of travel experiences, ideal for social sharing (World Bank Group, 2018). The blogs and notes can be presented in multiple formats, such as texts, images, videos, and/or a combination of all, which is more captivating than other text-based user-generated content (Huang, 2012). While the formats and attributes of online travel reviews (e.g., review rating, review format, length, photo) have received considerable scholarly attention (Leung, 2021), it should be noted that user-generated content can vary greatly by platform. For example, Duverger (2013) found that reviews of upper-midscale hotels on online travel agency websites had an average of 41 words, whereas other studies found the average length of travel blog posts to be >400 words (Crofts, Mason, & Davis, 2009; Pan, MacLaurin, & Crofts, 2007). Thus, users' preference for the features of travel posts on integrated social apps may not be the same as that on other platforms.

Moreover, studies find that such user-generated content on social networks impacts tourists' decision-making, through shaping their perceived destination image, destination choices, and expected travel experiences (Burgess et al., 2009; Leung, Law, & Lee, 2011; Liu et al., 2019). Liu et al. (2019) found that positive content shared by people perceived as being similar to oneself would trigger higher interest and visit intention for low self-esteem audiences. User-generated content on social networks mediates the upward social comparison when tourists make decisions on where to travel. Kasim, Abdurachman, Furinto, and Kosasih (2019) emphasized that people's trust in social media is the key to shaping their image of the destination from user-generated content. Information from social media was perceived to be sufficient to trigger the intention to select a destination. Yet, actual travel decisions would depend on more factors. It is also noted that users' engagement level with the app determines the effectiveness of the user-generated content. The more active a user is, the more likely s/he would be affected by the content when making travel decisions (Liu et al., 2013).

Interactiveness and co-creation distinguish social media from traditional sources of travel information (Blackshaw & Nazzaro, 2006). Researchers have investigated the various platforms where travel-related user-generated content is created and shared, such as Facebook (Latif, Malik, Pitafi, Kanwal, & Latif, 2020), TripAdvisor (Amaral, Tiago, & Tiago, 2014), and Twitter (Hay, 2010). Existing research has primarily focused on websites, while the influences of integrated social apps on tourists' decision-making have not been fully explored. Moreover, popular social media channels such as Instagram and Facebook are not available in China, suggesting an overlooked context involving user-generated content on integrated social apps and its influence on Chinese tourists. As social media platforms and functions continue to evolve (e.g., from text/images to 3D photos, from videos to streaming, from computer websites to mobile apps), consumer behavior and preferences are also likely to change. Hence, new platforms, features, and consumer groups should continue to be investigated to extend the current state of knowledge.

3. Methods

Exploratory in nature, the study aims to understand the effects of user-generated content on integrated social apps on tourist decision-making. User-generated travel posts may showcase a wide range of information, varying in content, quality, and quantity (Chen et al., 2014). To delineate the effects of travel posts, the study was conducted in two stages. In Stage I, semi-structured interviews were conducted to explore

how travel posts on these two apps influenced people's travel plans, and which attributes of travel posts were considered more essential and likely to influence their decisions. The most influential attributes identified through the interviews were used to inform subsequent questionnaire design. In the second stage, a questionnaire was developed to capture Chinese millennials' use of two integrated social apps and the perceived importance of travel posts and attributes during different stages of travel.

3.1. Stage I: Interviews

The target population of the study was Chinese millennials who had used Weibo or Xiaohongshu before. Although the definition and birth year of millennials varies based on different sources, in China, the terms "post-80s" and "post-90s" generations are commonly used to describe millennials. Hence, this study followed De Hauw and De Vos's (2010) definition of millennials, denoting people born between 1980 and 2000. Interviewees were recruited through purposive sampling based on two criteria: 1) they were born between 1980 and 2000, and 2) they consumed content on Weibo and Xiaohongshu regularly.

An interview guide was developed based on study objectives. The first part of the interview centered on the interviewees' perceptions and usage of Weibo and Xiaohongshu, specifically for travel-related information. Next, interviewees were asked to consider the different stages of travel, including travel inspiration, destination choice, and itinerary planning, and the usefulness of the information on these two apps at each stage. Lastly, interviewees were asked what they perceived to be the essential elements of travel posts on Weibo and Xiaohongshu, and to discuss which attributes had a significant impact on their travel decision-making. Some basic attributes of travel posts were identified beforehand based on the literature (e.g., texts, photos, hyperlinks) to be used as probes or follow-up questions during interviews.

A total of 10 semi-structured interviews were conducted in March 2020. Due to the outbreak of COVID-19 at the time, all interviews were conducted online. The interviews were audio-recorded with the consent of the interviewees. The recordings were transcribed and analyzed to extract the common attributes of travel posts for the next stage of the study.

3.2. Stage II: Survey

3.2.1. Questionnaire design

The questionnaire consisted of three main sections, as well as screening questions and demographic questions. The first main section of the survey is about respondents' usage of Weibo and Xiaohongshu, including their frequency of using these two apps and other engagement behaviors on the apps. Measures for frequency of usage were adopted from Rosen, Whaling, Carrier, Cheever, and Rokkum's (2013) General Social Media Usage scale. As respondents' behaviors on Weibo and Xiaohongshu were asked separately in the survey, a shortened 6-item version was used instead of the original 9-item version. Respondents indicated their frequency of checking the apps and other user activities on a 5-point scale of frequency, from 1 = once a week or below to 5 = once an hour or above.

The second section sought to determine the perceived influence of Weibo/Xiaohongshu travel posts during different stages of travel. The travel process is commonly conceptualized as three stages: pre-trip, during a trip, and post-trip (Chen, 1998; Cox et al., 2009). More recently, scholars have taken note of a stage prior to travel intention and attempted to explore the factors that can "inspire travel dreams" and "trigger the intention to visit a destination" (Gretzel, 2021; Latif et al., 2020). Therefore, this study expanded the pre-trip stage into travel inspiration, destination selection, and specific pre-trip planning (i.e., dining, accommodation, transportation, shopping, and visiting attractions). In addition, given the mobile nature of smartphones and the instantaneous information sharing on integrated social apps, the role of

Weibo/Xiaohongshu in inducing changes in one's travel plans during the trip was also examined. Respondents were asked to indicate whether travel posts on Weibo/Xiaohongshu would influence their decisions in four stages (i.e., inspiration, destination selection, pre-trip planning, en route changes) and five decision types on a 5-point scale of agreement.

The third section focused on the attributes of travel posts on social apps and their relative importance during travel decisions. Five key attributes of travel posts were identified through Stage I interviews, including: number of images, number of videos, length of text, language style, and scope of the content. Respondents were asked to indicate their preferences for each attribute on a semantic differential scale, such as more images vs. fewer images and formal language vs. colloquial language. In addition to their preferred style of travel posts, respondents were also asked to rank the five attributes by the level of importance when they made different types of travel decisions, such as dining/accommodation/shopping.

3.2.2. Sampling and data collection

Similar to the interviews, the target population of the survey was Chinese millennials who were users of Weibo or Xiaohongshu. There were two screening questions at the beginning of the survey to ensure that respondents were born between 1980 and 2000, and had used at least one of the two apps before. For the efficiency of data collection, exponential snowball sampling (i.e. each respondent provides multiple referrals) was adopted, which is more suitable for quantitative research than linear snowball sampling (Gaciu, 2020). Survey links were distributed online through three platforms, including WeChat, QQ, and Weibo, the three largest social media and instant messenger in China, as a way to reach potential respondents who were more likely to be tech-savvy and use Weibo and/or Xiaohongshu. Data collection took place from March to April 2020. A total of 429 responses were received, among which 409 were valid questionnaires.

3.2.3. Data analysis

First, descriptive statistics were presented to show the respondents' frequency of usage and engagement behaviors on Weibo/Xiaohongshu, preferences for different styles/attributes of travel posts, and relative importance of each attribute in travel decision-making. Paired sample *t*-tests were also used to compare respondents' perceptions of Weibo and Xiaohongshu regarding their usage behavior and the extent to which travel posts on the two platforms influenced their travel decisions at different stages. Next, cluster analysis was conducted to classify respondents into different groups based on their usage behavior of Weibo and Xiaohongshu. Lastly, independent samples *t*-tests and ANOVA were utilized to examine if people's preferences of travel post styles and relative importance of travel post attribute varied by age, gender, and Weibo/Xiaohongshu user clusters.

4. Findings

4.1. Interviews

Among the ten interviewees, six were male, and four were female. Their age ranged from 21 to 32 years old. All interviewees were mainland Chinese. Nine were undergraduate students in universities in Hong Kong or Guangdong, and one was a postgraduate student. All interviewees used both Weibo and Xiaohongshu on their smartphones at least once a week.

4.1.1. Frequency of usage

Weibo had a higher frequency of usage in general among 8 of the interviewees, while Xiaohongshu seemed more popular when interviewees were doing travel-related searches. When asked for the reason, most interviewees agreed that Weibo showcased more diverse information and that Xiaohongshu provided more specific product information, including tourism products. Interviewee #7 perceived

checking Weibo as a “daily routine,” and opening Xiaohongshu only when needing an “assessment of some products or stores.” It is worth noting that Interviewee #3 indicated that Weibo was better when searching for information on domestic tourist attractions, but Xiaohongshu had more information on tourist attractions in other countries.

4.1.2. Perception of travel-related posts on Weibo and Xiaohongshu

All interviewees affirmed that travel-related posts on the two mobile apps influenced their decision-making process. Considering the different stages of travel, destination selection and pre-trip planning stages were identified as the stages where people were impacted by Weibo and Xiaohongshu travel posts the most. The influence of such posts was mainly considered as itinerary planning. Although some respondents referred to travel inspiration and en route changes during the trip, the information search behaviors were not as frequent as in the pre-travel stage. Interviewee #2 compared the usage of these two apps at different stages. Specifically, Weibo was mostly used in the travel inspiration stage because travel-related information may pop up during daily use of the app. However, Xiaohongshu would be the more favorable choice at the pre-travel and during-travel stages for its comprehensive information on accommodation and dining choices.

4.1.3. Attributes of travel posts

After summarizing the feedback from interviewees, images gained the most approval as an essential attribute of a travel post, mostly because “it will attract people directly and intuitively” (by Interviewee #4), and “it can replace text to pass on information” (by Interviewee #3). Three interviewees attached the highest importance to the texts of a travel post on account of its credibility and informativeness. They also indicated their preferred style and length of text, which would strengthen their degree of trust. The Vlog was considered supplementary to the aforementioned attributes. Furthermore, Interviewee #2 pointed out that videos were especially important to enhance authenticity in conveying dining-related information.

4.2. Survey

4.2.1. Demographic profile of respondents

Table 1 presents the demographic profile of survey respondents. Among all respondents, 44.3% were male, and 55.7% were female. Over 40% of the respondents were in the age group of 21–25 years old. In terms of education, nearly half of the respondents had a bachelor’s

Table 1
Demographic profile of respondents (N = 409).

	Frequency	%
Age	65	15.7
20 or below		
21–25	177	43.3
26–30	99	24.2
31–35	46	11.3
36 or above	23	5.6
Gender		
Female	228	55.7
Male	181	44.3
Education		
Junior high school or below	47	11.5
Senior high school	75	18.3
Junior college	91	22.3
Bachelor’s degree	154	37.7
Master’s degree or above	42	10.3
Monthly Income (RMB)		
¥2000 or below	79	19.3
¥2001–4000	106	25.9
¥4001–6000	102	24.9
¥6001–8000	58	14.2
¥8001–10,000	40	9.8
¥10,001 or above	24	5.9

degree or above. Given the relatively young age of the respondents, approximately 70% of respondents had a monthly income of RMB6000 or below.

4.2.2. Frequency of usage in daily life

Around 82% of the respondents opened Weibo on a daily basis and 80.3% used Weibo through the mobile app once a day or above. Regarding Xiaohongshu, the percentages were around 73% and 73%, respectively, since Xiaohongshu does not support web page service currently. In terms of user engagement behavior, Weibo scored higher than Xiaohongshu in the frequency of each behavior, including reading posts on the app, liking posts, commenting, and posting on the app. However, paired sample *t*-tests revealed that only two differences were statistically significant. As shown in Table 2, respondents opened Weibo (M = 3.71) significantly more often than opening Xiaohongshu (M = 3.44) (*p* = .002), and they read posts on Weibo (M = 3.62) more often than reading posts on Xiaohongshu (M = 3.42) (*p* = .019). The difference between liking posts on Weibo (M = 3.41) and liking posts on Xiaohongshu (M = 3.26) was marginally significant (*p* = .060).

Based on respondents’ frequency of usage and engagement behavior on Weibo and Xiaohongshu, a hierarchical cluster analysis (Ward’s method – squared Euclidean distance) was performed to classify respondents, with a range of solutions from 2 to 4. After checking the dendrogram and the percentage of representativeness in each cluster (Table 3), the 3-cluster solution was selected. ANOVA results confirmed that the three clusters varied in their use of Weibo and Xiaohongshu (Table 4). Cluster-I (*n* = 143) consisted of “mainly Weibo users” who used Xiaohongshu less often. Conversely, Cluster-II (*n* = 109) consisted of “mainly Xiaohongshu users” who used Weibo less often. Cluster-III (*n* = 157) were the “active users of both platforms,” visiting and engaging with both platforms multiple times a day. Chi-square tests showed that significant differences existed between the clusters in terms of age ($\chi^2 = 29.626, p < .001$) and education level ($\chi^2 = 24.518, p = .002$), but no differences were found for gender ($\chi^2 = 1.198, p = .549$).

4.2.3. Using travel posts at different stages of travel

The influence of travel posts on Weibo and Xiaohongshu at different stages of travel was examined, including: 1) travel inspiration, 2) destination selection, 3) pre-trip planning, and 4) en route changes (Table 5). Overall, travel posts on Weibo and Xiaohongshu were perceived to have similar impacts on respondents’ decision-making across different stages. While there was no significant difference in the two platforms’ ability to inspire respondents to travel, Xiaohongshu (M = 3.91) scored significantly higher than Weibo (M = 3.82) in terms of destination selection (*p* = .036), indicating that respondents considered travel posts on Xiaohongshu to be more influential on their choice of destinations. During the pre-trip planning stage, the influence of travel posts on both platforms was consistent across different trip elements, including dining, accommodation, transportation, shopping, and attractions. It was found that travel posts on Weibo were more likely to influence pre-trip transportation arrangements (M = 3.86) than

Table 2
Frequency of usage in daily life: Weibo vs. Xiaohongshu.

	Weibo	Xiaohongshu	t-value	Sig.
Open the app	3.71*	3.44	3.172	0.002
Open the app through mobile phone	3.61	3.47	1.695	0.091
Read posts on the app	3.62	3.42	2.362	0.019
Comment on posts on the app	3.28	3.21	0.925	0.356
Like posts on the app	3.41	3.26	1.884	0.060
Post on the app	3.11	3.02	1.249	0.212

* Items measured on a 5-point scale, 1 = once a week or below; 2 = multiple times a week; 3 = once a day; 4 = multiple times a day; 5 = once an hour or above.

Table 3
Percentage of sample within each cluster.

Clusters	4-cluster solution	3-cluster solution	2-cluster solution
I	24.7%	35.0%	35.0%
II	10.3%	26.7%	65.0%
III	26.7%	38.4%	–
IV	38.4%	–	–

Xiaohongshu posts ($M = 3.76$) ($p = .056$). For en-route changes, respondents were also more likely to change their dining decisions upon seeing new travel posts on Weibo ($M = 3.88$), compared to that of Xiaohongshu ($M = 3.79$), although the difference was only marginally significant ($p = .080$).

4.2.4. Preferred attributes of travel posts

Based on Stage I interviews, five attributes of travel posts on integrated social apps were identified: number of images, number of videos, length of text, language style (formal vs. colloquial), and scope of the content (broader vs. more specific). Individual preferences on the five attributes were measured through a 7-point semantic differential scale. The mean scores and standard deviations of each attribute are presented in Table 6, revealing respondents' preferences for different styles of travel posts. "Number of images" had the highest mean and lowest standard deviation ($M = 5.43$, $SD = 1.48$), indicating that respondents' preference was the most homogeneous and leaning towards travel posts with more pictures. The mean score of "language style" was close to 4 on a 7-point scale, with the highest standard deviation among the five attributes ($M = 4.13$, $SD = 1.84$). Results suggested that respondents' preferences were quite heterogeneous, with some people favoring formal language and others preferring colloquial language. For the other three attributes, respondents generally preferred more videos, longer text, and a broader scope of the content in travel posts.

Additional analysis was conducted to see if preferred travel post attributes vary by age, gender, and Weibo/Xiaohongshu user clusters (Table 7). Significant differences were observed in respondents' preferences for the number of images and language style. It was found that female respondents had a higher preference for travel posts with more images ($M = 5.57$) than male respondents did ($M = 5.25$) ($p = .032$). Female respondents also preferred more colloquial language ($M = 3.93$) while male respondents preferred more formal language ($M = 4.39$) ($p = .011$). In terms of age, younger respondents (i.e., age ≤ 30) had a stronger preference for more images ($M = 5.39$ – 5.64) than older respondents (i.e., age > 30) did ($M = 4.89$ – 4.91) ($p = .014$). A comparison of respondents' preference for formal or colloquial language by age group revealed that the Age 21–25 group had a significantly stronger preference for more colloquial language ($M = 3.76$) than that of any other age group ($M = 4.34$ – 4.61) ($p = .008$). For the contents of travel posts, although the ANOVA result was only marginally significant ($p = .085$), the mean scores across age groups suggested that while younger respondents generally preferred a broader range of contents, people

Table 4
ANOVA – Cluster difference.

	Cluster-I Mainly Weibo users (n = 143)	Cluster-II Mainly Xiaohongshu users (n = 109)	Cluster-III Active users of both (n = 157)	F-value	Sig.
Open Weibo	3.55 [†]	2.82	4.38	70.823	<0.001
Read posts on Weibo	3.36	2.84	4.32	62.783	<0.001
Like posts on Weibo	2.87	2.56	4.35	93.084	<0.001
Post on Weibo	2.44	2.12	4.27	148.758	<0.001
Open Xiaohongshu	1.79	3.90	4.33	355.485	<0.001
Read posts on Xiaohongshu	1.70	3.83	4.39	419.270	<0.001
Like posts on Xiaohongshu	1.61	3.72	4.19	349.469	<0.001
Post on Xiaohongshu	1.41	3.10	4.18	274.745	<0.001

[†] Items measured on a 5-point scale, 1 = once a week or below; 2 = multiple times a week; 3 = once a day; 4 = multiple times a day; 5 = once an hour or above.

might gravitate towards travel posts with more specific content as they grew older. Comparing the preferences of Weibo/Xiaohongshu user clusters, it was found that "active users of both platforms" preferred travel posts that were longer ($M = 5.03$), written in formal language ($M = 4.74$), and with a broader scope ($M = 5.25$). On the other hand, "mainly Weibo users" preferred travel posts in a more colloquial

Table 5
Travel posts at different stages of travel: Weibo vs. Xiaohongshu.

	Travel posts on Weibo	Travel posts on Xiaohongshu	t-value	Sig.
Travel inspiration				
Will inspire me to travel	3.81*	3.78	0.527	0.599
Destination selection				
Will influence my destination selection	3.82	3.91	-2.102	0.036
Pre-trip planning				
Influence my dining decisions	3.86	3.80	1.183	0.237
Influence my accommodation decisions	3.85	3.89	-0.803	0.423
Influence my transportation arrangements	3.86	3.76	1.908	0.056
Influence my shopping decisions	3.77	3.77	0.000	1.000
Influence my decisions to visit attractions	3.89	3.86	0.575	0.566
En route changes: "New travel posts I see during the trip will prompt me to ..."				
Change my dining decisions	3.88	3.79	1.757	0.080
Change my accommodation decisions	3.82	3.80	0.343	0.732
Change my transportation arrangements	3.76	3.82	-1.323	0.187
Change my shopping decisions	3.77	3.80	-0.560	0.576
Change my decisions to visit attractions	3.91	3.86	1.220	0.223

* Items measured on a 5-point scale, from 1 = Strongly disagree to 5 = Strongly agree.

Table 6
Preferred attributes of travel posts.

Attributes	Preference	Mean	Std. Dev.
Number of Images	Fewer images 1 2 3 4 5 6 7 More images	5.43*	1.48
Number of Videos	Fewer videos 1 2 3 4 5 6 7 More videos	4.94	1.67
Length of Text	Shorter text 1 2 3 4 5 6 7 Longer text	4.67	1.72
Language Style	Colloquial language 1 2 3 4 5 6 7 Formal language	4.13	1.84
Scope of the Content	More specific content 1 2 3 4 5 6 7 Broader scope	5.03	1.73

* Items measured on a 7-point semantic differential scale.

Table 7
Preferred attributes of travel posts by different groups.

	Gender			Age					Weibo/Xiaohongshu user clusters				
	Male (n = 181)	Female (n = 228)	Sig.	< 21 (n = 64)	21–25 (n = 171)	26–30 (n = 95)	31–35 (n = 44)	> 35 (n = 21)	Sig.	Cluster-I Mainly Weibo users (n = 143)	Cluster-II Mainly Xiaohongshu users (n = 109)	Cluster-III Active users of both (n = 157)	Sig.
Number of images ^a	5.25	5.57	0.032	5.39	5.64	5.45	4.89	4.91	0.014	5.38	5.44	5.46	0.893
Number of videos ^b	4.93	4.95	0.887	4.78	5.05	5.02	4.54	5.04	0.381	4.90	5.00	4.94	0.885
Length of text ^c	4.73	4.62	0.498	4.88	4.46	4.84	4.52	5.26	0.113	4.34	4.60	5.03	0.002
Language style ^d	4.39	3.93	0.011	4.39	3.76	4.34	4.61	4.43	0.008	3.59	3.96	4.74	<0.001
Scope of the content ^e	4.94	5.10	0.363	5.16	5.13	5.05	4.87	4.09	0.085	4.97	4.79	5.25	0.090

^a Item measured on a 7-point scale, from 1 = Fewer images to 7 = More images.

^b Item measured on a 7-point scale, from 1 = Fewer videos to 7 = More videos.

^c Item measured on a 7-point scale, from 1 = Shorter text to 7 = Longer text.

^d Item measured on a 7-point scale, from 1 = Colloquial language to 7 = Formal language.

^e Item measured on a 7-point scale, from 1 = More specific content to 7 = Broader scope.

language (M = 3.59).

4.2.5. Attributes of travel posts when making travel decisions

Lastly, respondents were asked to rank the five attributes of travel posts (i.e., images, videos, length of texts, language style, scope) by importance when they made travel decisions regarding dining, accommodation, transportation, shopping, and attractions (Table 8). For dining and accommodation decisions, the *number of images* in the travel post was considered the most important by respondents. For shopping and attraction decisions, both *images* and *videos* were ranked as the most important. One notable exception was transportation decisions, where the *length of text* was ranked as the most important attribute of travel posts.

The views of three Weibo/Xiaohongshu user clusters were also analyzed (Table 9). Previously, when asked about their travel post preferences (e.g., more images vs. fewer images), all three groups leaned towards having more images in travel posts (see Table 8). However, when asked about the importance of these attributes in their travel decisions, “active users of both platforms” placed lower importance on the number of images than the other two clusters did, and this difference was consistent across all five decision types (i.e., dining, accommodation, transportation, shopping, attractions). For example, when making dining decisions, “Weibo users” (M = 4.07) and “Xiaohongshu users” (M = 3.62) gave significantly higher ratings for the importance of *images* in travel posts than “active users of both” did (M = 2.87) ($p < .001$). On the other hand, “active users” placed more importance on the *length* of travel posts regarding dining decisions, and *language style* when it comes to accommodation and shopping decisions. Findings suggest that depending on respondents’ use and engagement behavior on integrated social apps, their preferences for different styles of travel posts and perceived importance of travel post attributes on their travel decisions exhibit

different patterns.

5. Discussion

5.1. Usage of Weibo and Xiaohongshu

Paired *t*-tests revealed that Weibo was more commonly used by Chinese millennials in daily life than Xiaohongshu. Several interviewees also mentioned how they followed the “trending topics” on Weibo. Between the two apps, Weibo has been established longer, with more monthly active users and posts covering a broader range of contents, whereas Xiaohongshu focuses more on products and community marketing (Lian, Chen, & Zhang, 2021). This difference was noted by interviewees, in that they used Weibo more in daily life, but if they already had a destination or product in mind, Xiaohongshu was considered a better platform to search for specific information.

Besides checking the apps, other engagement behaviors should be considered. Usage patterns on social media include active use (e.g., commenting on other posts) and passive use (i.e., reading posts without liking or commenting) (Liu et al., 2013). Comparing the three clusters of Weibo/Xiaohongshu users, it was evident that the “active users of both platforms” group was the most active and engaged in both active and passive use—reading posts and writing their own posts multiple times a day. “Xiaohongshu users” tended to check the app and like other people’s posts multiple times a day, but only shared their own posts once a day. “Weibo users” also checked Weibo very often, but their tendency to post was even lower. Findings suggest that while Weibo users are frequent consumers of user-generated content, Xiaohongshu users are more likely to be content creators generating e-word-of-mouth.

This study also compared consumers’ usage of Weibo and Xiaohongshu at different stages of travel. While previous studies have

Table 8
Importance of travel post attributes when making travel decisions.

	Dining decisions		Accommodation decisions		Transportation decisions		Shopping decisions		Attraction decisions	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Number of images	3.43*	1.42	3.49	1.43	3.16	1.41	3.24	1.47	3.30	1.42
Number of videos	3.25	1.29	3.33	1.21	3.15	1.28	3.24	1.23	3.31	1.22
Length of text	2.98	1.52	2.96	1.52	3.24	1.42	3.01	1.54	3.02	1.55
Language style	2.71	1.48	2.52	1.54	2.74	1.62	2.71	1.52	2.71	1.61
Scope of the content	2.53	1.70	2.53	1.78	2.57	1.79	2.68	1.77	2.53	1.74

* Items measured on a ranking scale, from 1 = Least important to 5 = Most important.

Table 9
Importance of travel post attributes – Cluster differences.

	Cluster-I Mainly Weibo users (n = 143)	Cluster-II Mainly Xiaohongshu users (n = 109)	Cluster-III Active users of both (n = 157)	F-value	Sig.
Dining decisions					
Number of images	4.07*	3.62	2.87	31.906	<0.001
Number of videos	3.20	3.31	3.36	0.608	0.545
Length of text	2.80	3.18	3.41	6.250	0.002
Language style	2.83	2.70	2.87	0.474	0.623
Scope of the contents	2.59	2.61	2.86	1.109	0.331
Accommodation decisions					
Number of images	3.94	3.66	3.22	10.192	<0.001
Number of videos	3.44	3.41	3.34	0.287	0.751
Length of text	2.96	3.20	3.24	1.472	0.231
Language style	2.41	2.61	2.96	4.978	0.007
Scope of the contents	2.80	2.73	2.71	0.087	0.917
Transportation decisions					
Number of images	3.39	3.50	2.87	8.556	<0.001
Number of videos	3.10	3.07	3.39	2.846	0.059
Length of text	3.31	3.40	3.41	0.210	0.811
Language style	2.90	3.01	2.82	0.428	0.652
Scope of the contents	2.85	2.58	2.82	0.821	0.441
Shopping decisions					
Number of images	3.62	3.47	2.99	7.652	0.001
Number of videos	3.22	3.38	3.25	0.512	0.600
Length of text	3.08	3.08	3.35	1.463	0.233
Language style	2.71	2.63	3.03	2.675	0.070
Scope of the contents	2.90	2.92	2.83	0.096	0.909
Attractions decisions					
Number of images	3.50	3.64	3.13	4.928	0.008
Number of videos	3.41	3.30	3.36	0.248	0.780
Length of text	2.96	3.18	3.32	2.116	0.122
Language style	2.85	2.85	2.89	0.034	0.966
Scope of the contents	2.81	2.50	2.85	1.535	0.217

* Items measured on a ranking scale, from 1 = Least important to 5 = Most important.

examined the role of social media in tourists' information search (Sun, Law, & Luk, 2020; Xiang & Gretzel, 2010), this study is unique in expanding the pre-trip stage. Unlike travel-oriented apps, integrated social apps such as Weibo and Xiaohongshu are more likely to influence consumers even when their travel intention has not yet been formed. Nearly 70% of respondents agreed or strongly agreed that travel posts on the two apps inspired them to travel. Millennials have been labelled as "digital natives" (Ball et al., 2019). Growing up with technology in all aspects of their lives, they are more familiar with and impacted by social media than previous generations are. Liu et al. (2019) examined American millennials' benign envy towards other people's travel experiences on social media, and revealed that positive experience sharing on social media can trigger millennials' travel intention.

Shi et al. (2020) further pointed out that Chinese millennials were born during the one-child policy period in China, making them "the loneliest generation without any siblings" (p. 529). Hence, compared to the same age cohort in other countries, the millennial generation in China have a stronger desire to connect with people and are more active in the use of mobile technology. Du, Liechty, Santos, and Park (2020) concluded that Chinese millennials produced travel videos on social media as a way to create touristic fantasies and bond with a close group of family members and friends who were absent from the trip. The

present study also found Chinese millennials to be active consumers and producers of content on Weibo and Xiaohongshu. As they access the apps multiple times a day, they can be exposed to travel-related content during casual browsing. By contrast, apps like TripAdvisor and Ctrip are more commonly used when people start planning for their trips. These findings support Matyas and Kamargianni's (2019) notion, suggesting that mobile apps are more than information channels. Instead, they can shape individuals' travel preferences and be further utilized as a mobility management tool for millennial consumers.

Moreover, lockdowns and border restrictions during the COVID-19 pandemic impede travel, and people may be less likely to plan trips and use travel-oriented apps. Yet, people still surf Weibo or Xiaohongshu daily, with travel-related content and inspirations for future trips popping into their minds. Meanwhile, these new technology-driven, immersive experiences on integrated social apps expand the scope of travel mobility, which is now beyond physical movement and removes the requirement of co-presences for social encounters (Kwan, 2007). Additionally, current travel restrictions may even intensify audiences' yearning for the travel destinations shown on the integrated social apps (Gretzel, 2021). As Dickinson et al. (2014) point out, technology has assigned new meanings to travel and created a transformed mobility paradigm, which centers around social networks and values information exchange as much as people's movement. In the same vein, the findings of this study suggest that travel posts on integrated social apps can play a more important role during the pandemic—for virtual travel, vicarious travel, and future travel.

Although Chinese millennials used Weibo more often in daily life, Xiaohongshu was perceived to be more influential than Weibo during destination selection. The reason behind could be the aesthetic layout of Xiaohongshu. Cover photos and headlines are highlighted in the layout of Xiaohongshu, grabbing readers' attention. As the layout of Xiaohongshu emphasizes more on pictures and videos, when users search for information, posts will pop up with a large cover photo (Fig. 1). On the other hand, Weibo has a more traditional design, which presents the main body of text followed by pictures or sometimes text only. During destination selection, uniqueness is important in creating a mental image of the destination and thus leading to the intention to visit (Qu, Kim, & Im, 2011). Among all the attractors and competitive advantages of a destination, if a distinctive feature could be showcased through the cover photo or headline, it will generate a unique image of the destination (Vinyals-Mirabent, 2019). Another possible reason is the scope of the contents on Weibo and Xiaohongshu. When users actively search for information, posts on Weibo might be more diverse but less organized than Xiaohongshu. Hence, users may find Xiaohongshu to be more useful when evaluating alternatives and selecting a destination (Cox et al., 2009).

5.2. Attributes of travel posts

From Stage-I interviews, five key attributes were identified as essential elements of travel posts on Weibo and Xiaohongshu. Stage II surveys further revealed respondents' preferences in these five aspects. In general, users preferred travel posts with more images and a broader scope of the content. Comparing the preferences of different age groups, it was found that younger respondents had a stronger preference for more images in travel posts. This finding is consistent with Lee, Lee, Moon, and Sung's (2015) study in that pictures on social media are the most welcomed form of information, especially among the younger generation. When grouped by gender, female users manifest a stronger preference for travel posts with more images and colloquial language. Social media posts are often written in an informal style, with abbreviations, slang, and emoticons (Maeda, Shimada, & Endo, 2012). Interestingly, the current study found Weibo and Xiaohongshu users' preferences for language style to be the most diverse and leaning towards formal language rather than informal language. In addition to male vs. female users favoring formal vs. colloquial language,



Fig. 1. Layout of Xiaohongshu (left) and Weibo (right) when searching with the same keyword.

respectively, the most active users of both platforms also indicated a stronger preference for formal language and longer travel posts with content that covered a broader scope.

The relative importance of travel post attributes in guiding dining/accommodation/ transportation/shopping/attraction decisions was examined, and compared across the three Weibo/Xiaohongshu user clusters. The most notable difference was the status of images in travel posts. While “Weibo user” and “Xiaohongshu user” clusters placed more importance on the number of images in travel posts, the “active users of both” group placed the lowest level of importance on images, and the trend was consistent across all five decision types. In terms of preference, they preferred more images in travel posts rather than fewer images. Nevertheless, when considering the importance of the number of images against other attributes, they placed lower importance on the number of images. This finding is surprising, given the emphasis on photos in social media and user-generated content research (Feng & Qian, 2014). It has been argued that one of the most remarkable advantages of photos and videos is media richness, which may be more persuasive than pure text (Lee et al., 2015). If so, why did the “active user” group place lower importance on the number of images?

One possible reason could be that judging from their engagement behavior, this group was not only the consumers of content but also the producers of content. They understood the efforts behind creating posts on integrated social apps. Hence, they paid more attention to the richness and informativeness of the travel posts, not just the photos. The relatively low importance they placed on the number of photos was consistent with their preferences for travel posts with longer texts, comprehensive content, and a more formal writing style. Another possible reason is the growing trend of photo manipulation on social media (Kleemans, Daalmans, Carbaat, & Anshütz, 2018). As active users and content creators on Weibo and Xiaohongshu, they might have a higher level of visual literacy and understanding of photo

manipulation (Lazard, Bock, & Mackert, 2020). During Stage-I interviews, a few interviewees also mentioned that texts might sometimes seem more authentic to the readers. As photo-retouching and video-editing gain popularity on various online platforms, overuse of such technologies may distort the objectiveness of user-generated content and hence lose the trust of readers.

6. Conclusions

Inspired by the growing popularity and multi-functionality of mobile apps that influence travel planning, this study examined Weibo and Xiaohongshu and their impact on the travel decisions of Chinese millennials, at different stages of travel and for different components of the trip. Such understanding also allows this study to provide insights into the impact of technology on travel mobility through integrated social apps. More specifically, this study contributes to tourism literature on tourist decision-making and social media marketing in three ways. First, while previous research investigated user-generated content on travel review websites such as TripAdvisor, this study focused on another type of social sharing platform, referred to as “integrated social apps” in this study. Findings reveal that compared to travel-oriented websites, integrated social media platforms, specifically mobile apps, are accessed frequently in daily life, and may trigger the travel inspiration of those who have not considered the destination. Moreover, compared to social networking sites, information search and product review functions are more evident on Weibo and Xiaohongshu and thus likely to influence a wide range of consumer purchases, including travel. This study is one of the earliest attempts to examine the role of this type of multi-functional, integrated social platform on travel decision-making.

Second, this study expands pre-trip decision-making into travel inspiration, destination selection, and dining/accommodation/transportation/shopping/attractions decisions. With the proliferation of

mobile communication channels, the relationship between social media content and travel inspiration should be recognized. In addition, although destination choice was sometimes considered parallel to other decisions, such as accommodation, dining, and shopping, this study distinguished between destination selection and subsequent travel components. Hence, this study provides a detailed understanding of the pre-trip decision process and highlights the role of integrated social apps on travel inspiration and destination choice. Additionally, participants' engagement with the destination on these integrated social apps is an example of virtual travel experiences, which is an essential component of contemporary travel mobility and warrants further research in this area.

Third, this study identified users' preferences for different styles of travel posts and the importance of these attributes on travel decisions. While the importance of images and videos was supported in previous studies, additional attributes were identified in this study. Furthermore, Weibo/Xiaohongshu users were grouped into three clusters, and the preference of the most active users of both platforms was found to differ from those who mainly used one platform. As these active users are also frequent content creators, their preferences reflect the views of influencers and key opinion leaders, who are likely to influence other consumers and have received scant attention in tourism literature. Thus, this study provides insights into the different perceptions of the consumers and creators of travel-related content with important implications.

This study provides valuable knowledge for destination marketing through integrated social apps. Overall, millennial travelers attach more importance to images than text. Content creators are advised to utilize cover photos and headlines, highlighting destination or product uniqueness through photos with core information as keywords. Travel posts related to transportation are the exception, where readers tend to prefer more detailed texts than photos. Destinations and attractions should also consider incorporating mobile apps in their mobility management plans. More specifically, they can either directly provide their own "tips" on what time to visit or encourage content creators to include such information. Effectively managing tourist mobility is especially significant, given the circumstances of post-pandemic travel and tourists' increasing safety concerns. This study also notes that Xiaohongshu is more influential in driving visitation to destinations. Therefore, any crowds- and mobility-related management plans should focus on crafting strategies specific to Xiaohongshu.

Furthermore, as individual preferences for travel posts were found to differ by age, gender, and Weibo/Xiaohongshu usage, travel firms adopting social media marketing and influencer marketing need to adjust accordingly. Content creators should also note the preferences of different groups to build a larger following. For instance, products targeting female customers may select influencers who provide more image-based information supplemented by narratives written in a colloquial style. Travel posts geared towards younger audiences may need to provide a broader overview of content rather than focused, specialized content. This study also sheds light on the unique views of social media users who are actively engaged in *creating* content. A deeper understanding of their preferences would allow businesses to better connect with potential opinion leaders. Tourism firms may consider launching campaigns and encourage participation from content creators by emphasizing the content and language of the travel posts, rather than photos.

Limitations of the study should be noted. First, while this study aimed to examine the views of Chinese millennials, the study sample was skewed towards the younger half of the millennial generation (age ≤ 30). Although this age group is consistent with most Weibo and Xiaohongshu users, the views of older millennials (age 31–40) are under-represented. Secondly, data collection took place from March to April 2020, which was the early stage of the COVID-19 pandemic in China. At the time of data collection, the duration of the pandemic was unforeseen. The effects of integrated social apps in instilling one's desire

to travel might have evolved given the extended duration of the pandemic, which was not included in this study. Third, this study measured the perceived importance of travel posts and various attributes, but did not examine the purchasing decisions of travelers. Future studies can utilize experimental designs with various scenarios to test the effects of travel posts written in different styles. Lastly, the group of active users/content creators emerged through cluster analysis. The original survey did not include their views on creating travel-related content on social apps. Future research can continue to explore the interactions between social media content creation and travel behavior from the perspectives of influencers who are both consumers and producers of content.

Funding sources

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

References

- Amaral, F., Tiago, T., & Tiago, F. (2014). User-generated content: tourists' profiles on TripAdvisor. *International Journal of Strategic Innovative Marketing*, 1(3), 137–145.
- Ball, C., Francis, J., Huang, K.-T., Kadylak, T., Cotten, S. R., & Rikard, R. V. (2019). The physical-digital divide: Exploring the social gap between digital natives and physical natives. *Journal of Applied Gerontology*, 38(8), 1167–1184.
- Berne, C., Garcia-Gonzalez, M., & Mugica, J. (2012). How ICT shifts the power balance of tourism distribution channels. *Tourism Management*, 33(1), 205–214.
- Blackshaw, P., & Nazzaro, M. (2006). *Consumer-generated media (CGM) 101: Word-of-mouth in the age of the web-fortified consumer*. New York: Nielsen.
- Burgess, S., Sellitto, C., Cox, C., & Bultjens, J. (2009). User-generated content (UGC) in tourism: Benefits and concerns of online consumers. In *ECIS* (pp. 417–429).
- Büschken, J., & Allenby, G. M. (2016). Sentence-based text analysis for customer reviews. *Marketing Sciences*, 35(6), 953–975.
- Chen, J. S. (1998). The tourists' cognitive decision-making model. *The Tourist Review*, 53(1), 4–9.
- Chen, Y.-C., Shang, R.-A., & Li, M.-J. (2014). The effects of perceived relevance of travel blogs' content on the behavioral intention to visit a tourist destination. *Computers in Human Behavior*, 30, 787–799.
- Chu, S.-C., Deng, T., & Cheng, H. (2020). The role of social media advertising in hospitality, tourism and travel: A literature review and research agenda. *International Journal of Contemporary Hospitality Management*, 32(11), 3419–3438.
- Cox, C., Burgess, S., Sellitto, C., & Bultjens, J. (2009). The role of user-generated content in tourists' travel planning behavior. *Journal of Hospitality Marketing & Management*, 18(8), 743–764.
- Crotts, J. C., Mason, P. R., & Davis, B. (2009). Measuring guest satisfaction and competitive position in the hospitality and tourism industry: An application of stance-shift analysis to travel blog narratives. *Journal of Travel Research*, 48(2), 139–151.
- Daugherty, T., Eastin, M. S., & Bright, L. (2008). Exploring consumer motivations for creating user-generated content. *Journal of Interactive Advertising*, 8(2), 16–25.
- De Haauw, S., & De Vos, A. (2010). Millennials' career perspective and psychological contract expectations: Does the recession lead to lowered expectations? *Journal of Business and Psychology*, 25(2), 293–302.
- Dickinson, J. E., Ghali, K., Cherrett, T., Speed, C., Davies, N., & Norgate, S. (2014). Tourism and the smartphone app: Capabilities, emerging practice and scope in the travel domain. *Current Issues in Tourism*, 17(1), 84–101.
- DiPietro, R. B., Wang, Y., Rompf, P., & Severt, D. (2007). At-destination visitor information search and venue decision strategies. *International Journal of Tourism Research*, 9(3), 175–188.
- Dragon Social. (2019). User age distribution of Xiaohongshu in China as of January 2019. In *Statista*. Retrieved from <https://www.statista.com/statistics/1053545/china-xiaohongshu-user-age-distribution/>.
- Du, X., Liechty, T., Santos, C. A., & Park, J. (2020). "I want to record and share my wonderful journey": Chinese Millennials' production and sharing of short-form travel videos on TikTok or Douyin. *Current Issues in Tourism*. <https://doi.org/10.1080/13683500.2020.1810212>
- Duverger, P. (2013). Curvilinear effects of user-generated content on hotels' market share: A dynamic panel-data analysis. *Journal of Travel Research*, 52(4), 465–478.
- Dwityas, N. A., & Briandana, R. (2017). Social media in travel decision making process. *International Journal of Humanities and Social Science*, 7(7), 291–292.
- eMarketer. (2021). Number of monthly active users of Sina Weibo from 1st quarter of 2018 to 1st quarter of 2021 (in millions). In *Statista*. Retrieved from <https://www.statista.com/statistics/795303/china-mau-of-sina-weibo/>.
- Ettema, D. (2018). Apps, activities and travel: A conceptual exploration based on activity theory. *Transportation*, 45(2), 273–290.
- Feng, H., & Qian, X. (2014). Mining user-contributed photos for personalized product recommendation. *Neurocomputing*, 129, 409–420.
- Fodness, D., & Murray, B. (1999). A model of tourist information search behavior. *Journal of Travel Research*, 37(3), 220–230.
- Gacui, N. (2020). *Understanding quantitative data in educational research*. London: Sage.

- Gretzel, U. (2021). Dreaming about travel: A Pinterest netnography. In W. Wörndl, C. Koo, & J. L. Stienmetz (Eds.), *Information and communication Technologies in Tourism 2021* (pp. 256–268). Springer.
- Gursoy, D., & Umbreit, W. T. (2004). Tourist information search behavior: Cross-cultural comparison of European Union member states. *International Journal of Hospitality Management*, 23(1), 55–70.
- Hay, B. (2010). Twitter twitter-but who is listening? A review of the current and potential use of twittering as a tourism marketing tool. *CAUTHE 2010: Tourism and Hospitality: Challenge the Limits*, 561.
- Huang, L. (2012). Social media as a new play in a marketing channel strategy: Evidence from Taiwan travel agencies' blogs. *Asia Pacific Journal of Tourism Research*, 17(6), 615–634.
- iResearch. (2019). Number of mobile app downloads worldwide from 2014 to 2023, by region (in billions). In *Statista*. Retrieved from <https://www.statista.com/statistics/266488/forecast-of-mobile-app-downloads/>.
- Jamal, S., & Habib, M. A. (2020). Smartphone and daily travel: How the use of smartphone applications affect travel decisions. *Sustainable Cities and Society*, 53, Article 101939.
- Jia, S. S., & Wu, B. (2019). User generated information on mobile channels with more concise reviews and more extreme ratings. *IEEE Access*, 7, 83495–83503.
- Jia, Z., Li, D., & Gao, W. (2015). Evaluation of Chinese online tourism and travel service providers from the users' perspective. In *2015 International conference on management, education, information and control*. Atlantis Press.
- Kakkar, G. (2020). Types of social media. Digital Vidya. Retrieved from <https://www.digitalvidya.com/blog/types-of-social-media/>.
- Kasim, H., Abdurachman, E., Furinto, A., & Kosasih, W. (2019). Social network for the choice of tourist destination: Attitude and behavioral intention. *Management Science Letters*, 9(13), 2415–2420.
- Kleemans, M., Daalman, A., Carbaat, I., & Anschutz, D. (2018). Picture perfect: The direct effect of manipulated Instagram photos on body image in adolescent girls. *Media Psychology*, 21(1), 93–110.
- Kwan, M. P. (2007). Mobile communications, social networks, and urban travel: Hypertext as a new metaphor for conceptualizing spatial interaction. *The Professional Geographer*, 59(4), 434–446.
- Latif, K., Malik, M. Y., Pitañi, A. H., Kanwal, S., & Latif, Z. (2020). If you travel, I travel: Testing a model of when and how travel-related content exposure on Facebook triggers the intention to visit a tourist destination. *SAGE Open*, 10(2), 1–12.
- Lazard, A. J., Bock, M. A., & Mackert, M. S. (2020). Impact of photo manipulation and visual literacy on consumers' responses to persuasive communication. *Journal of Visual Literacy*, 39(2), 90–110.
- Lee, E., Lee, J. A., Moon, J. H., & Sung, Y. (2015). Pictures speak louder than words: Motivations for using Instagram. *Cyberpsychology, Behavior and Social Networking*, 18(9), 552–556.
- Leung, D. (2021). Unraveling the interplay of review depth, review breadth, and review language style on review usefulness and review adoption. *International Journal of Hospitality Management*, 97, Article 102989.
- Leung, D., Law, R., & Lee, H. A. (2011). The perceived destination image of Hong Kong on Ctrip.com. *International Journal of Tourism Research*, 13(2), 124–140.
- Lewis, G. K., Hardy, A., Wells, M. P., & Kerslake, F. L. (2021). Using mobile technology to track wine tourists. *Annals of Tourism Research Empirical Insights*, 2(2), Article 100022.
- Lian, K., Chen, Z., & Zhang, H. (2021). From the perspective of feminism: Market positioning of Xiaohongshu. *Advances in Social Science, Education and Humanities Research*, 571, 190–194.
- Liu, B., Norman, W. C., & Pennington-Gray, L. (2013). A flash of culinary tourism: Understanding the influences of online food photography on people's travel planning process on flickr. *Tourism Culture & Communication*, 13(1), 5–18.
- Liu, H., Wu, L., & Li, X. (2019). Social media envy: How experience sharing on social networking sites drives millennials' aspirational tourism consumption. *Journal of Travel Research*, 58(3), 355–369.
- Liu, X., Mehraliyev, F., Liu, C., & Schukert, M. (2020). The roles of social media in tourists' choices of travel components. *Tourist Studies*, 20(1), 27–48.
- Luo, Q., & Zhong, D. (2015). Using social network analysis to explain communication characteristics of travel-related electronic word-of-mouth on social networking sites. *Tourism Management*, 46, 274–282.
- Maeda, H., Shimada, K., & Endo, T. (2012). Twitter sentiment analysis based on writing style. In *Advances in natural language processing. Lecture notes in computer science*, 7614. Berlin: Springer.
- Matyas, M., & Kamargianni, M. (2019). The potential of mobility as a service bundles as a mobility management tool. *Transportation*, 46(5), 1951–1968.
- Mobile World Live. (2018). Countries with the highest amount of app spending from 2017 to 2022 (in billion U.S. dollars). In *Statista*. Retrieved from <https://www.statista.com/statistics/868946/countries-ranked-by-app-spending/>.
- Murray, K. (1991). A test of services marketing theory: Consumer information acquisition activities. *Journal of Marketing*, 55(1), 10–25.
- Navío-Marco, J., Ruiz-Gómez, L. M., & Sevilla-Sevilla, C. (2018). Progress in information technology and tourism management: 30 years on and 20 years after the internet. *Tourism Management*, 69, 460–470.
- Pabel, A., & Prideaux, B. (2016). Social media use in pre-trip planning by tourists visiting a small regional leisure destination. *Journal of Vacation Marketing*, 22(4), 335–348.
- Pan, B., MacLaurin, T., & Crofts, J. C. (2007). Travel blogs and the implications for destination marketing. *Journal of Travel Research*, 46(1), 35–45.
- Pearce, P. L., & Packer, J. (2013). Minds on the move: New links from psychology to tourism. *Annals of Tourism Research*, 40, 386–411.
- Qu, H., Kim, L. H., & Im, H. H. (2011). A model of destination branding: Integrating the concepts of the branding and destination image. *Tourism Management*, 32(3), 465–476.
- Ren, Y. (2018). Know your Chinese social media. *The New York Times*. <https://www.nytimes.com/2018/11/19/fashion/china-social-media-weibo-wechat.html>.
- Rosen, L. D., Whaling, K., Carrier, L. M., Cheever, N. A., & Rökkum, J. (2013). The media and technology usage and attitudes scale: An empirical investigation. *Computers in Human Behavior*, 29, 2501–2511.
- Shi, J., Fan, A., & Cai, L. A. (2020). Leisure mobility of Chinese millennials. *Journal of China Tourism Research*, 16(4), 527–546.
- Sotiriadis, M. D., & Van Zyl, C. (2013). Electronic word-of-mouth and online reviews in tourism services: The use of twitter by tourists. *Electronic Commerce Research*, 13(1), 103–124.
- Sparks, B. A., & Browning, V. (2011). The impact of online reviews on hotel booking intentions and perception of trust. *Tourism Management*, 32(6), 1310–1323.
- Statista. (2019). Smartphone penetration rate in China from 2015 to 2023. In *Statista*. Retrieved from <https://www.statista.com/statistics/321482/smartphone-user-penetration-in-china/>.
- Sun, S., Law, R., & Luk, C. (2020). Tourists' travel-related information search channels. *International Journal of Hospitality and Tourism Administration*, 1–16.
- Think with Google. (2018). How smartphones influence the entire travel journey in the U.S. and abroad. Retrieved from <https://www.thinkwithgoogle.com/consumer-insights/consumer-travel-smartphone-usage/>.
- Thomas, T., Geurs, K. T., Koolwaaij, J., & Bijlsma, M. (2018). Automatic trip detection with the Dutch Mobile Mobility Panel: Towards reliable multiple-week trip registration for large samples. *Journal of Urban Technology*, 25(2), 143–161.
- TripAdvisor (2016). TripBarometer 2016 traveler trends & motivations global findings. Retrieved from <https://www.TripAdvisor.com/TripAdvisorInsights/wp-content/uploads/2018/01/TripBarometer-2016-Traveler-Trends-Motivations-Global-Findings.pdf>.
- Tussyadiah, I. P., & Wang, D. (2016). Tourists' attitudes toward proactive smartphone systems. *Journal of Travel Research*, 55(4), 493–508.
- Vinyals-Mirabent, S. (2019). European urban destinations' attractors at the frontier between competitiveness and a unique destination image. *Journal of Destination Marketing & Management*, 12, 37–45.
- Wang, D., Xiang, Z., & Fesenmaier, D. R. (2014). Adapting to the mobile world: A model of smartphone use. *Annals of Tourism Research*, 48, 11–26.
- Weibo. (2019). Breakdown of microblog users of Sina Weibo in China in 2018, by age group. In *Statista*. Retrieved from <https://www.statista.com/statistics/320940/china-sina-weibo-user-breakdown-by-age-group/>.
- World Bank Group. (2018). The voice of travelers: Leveraging user-generated content for tourism development 2018. Retrieved from <http://documents.worldbank.org/curated/en/656581537536830430/pdf/130052-WP-PUBLIC-Sept-25-2pm-DC-TheVoiceofTravelers.pdf>.
- World Tourism and Travel Council. (2019). Mobile payments in travel & tourism. Retrieved from https://wtcc.org/Portals/0/Documents/Reports/2019/Security_and_Travel_Facilitation_Seamless_Travel_Journey_Mobile_Payments_in_Travel_and_Tourism_Mar_2019.pdf?ver=2021-02-25-182803-757.
- World Tourism Organization. (2021). *Yearbook of tourism statistics, data 2015–2019* (2021 ed.). UNWTO: Madrid.
- Xiang, Z., & Gretzel, U. (2010). Role of social media in online travel information search. *Tourism Management*, 31(2), 179–188.
- Xiaohongshu. (2019). Number of registered users of Xiaohongshu in China from 2015 to 2019. In *Statista*. Retrieved from <https://www.statista.com/statistics/1053577/china-xiaohongshu-user-gnumber/>.
- Zegras, P. C., Li, M., Kilic, T., Lozano-Gracia, N., Ghorpade, A., Tiberti, M., ... Zhao, F. (2018). Assessing the representativeness of a smartphone-based household travel survey in Dar es Salaam, Tanzania. *Transportation*, 45(2), 335–363.

Zhuoli Wang earned a BSc degree in Hotel Management from The Hong Kong Polytechnic University and an MSc degree in International Management from The Hong Kong University of Science and Technology. His research interests include e-commerce and social media marketing.

Wei-Jue Huang is an Associate Professor in the School of Hotel and Tourism Management at The Hong Kong Polytechnic University. Her research interests include consumer behavior in tourism.

Bingjie Liu-Lastres is an Assistant Professor in the Department of Tourism, Event, and Sport Management at Indiana University-Purdue University Indianapolis. Her research interests include tourist and organizational well-being.