Knowing How to Change Attitude: Persuasive Communication of Travel Information Engagement on Social Media in China

（態度変更方法に関する考察

ー中国ソーシャルメディアにおける旅行情報参画への説得コミュニケーションー）

A dissertation presented
by

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CHAPTER 1. INTRODUCTION

1.1 Background

Social media has been transforming the way consumers communicate with each other and with companies (Minazzi, 2015). It is true especially in travel activities, because travel products are mostly considered as experience products, intangible, and difficult to be evaluated prior to consumption (Smith, 1994; Wilson, Zeithaml, Bitner, & Gremler, 2012). These specific features generate high consumer involvement and high-risk perception in the travel information processing (Minazzi, 2015). Therefore, user-generated content (UGC) created and exchanged on social media has become a key information source for travelers (Pan, MacLaurin, & Crotts, 2007). In line with this, the first position of this research is particularly focused on impacts of social media on travel information engagement.

Social media encourages consumer empowerment and presents a golden opportunity for travel brands to engage with their consumers through two-way interactions beyond the purchase (Coşkun & Yılmaz, 2016; Harrigan, Evers, Miles, & Daly, 2017; Minazzi, 2015; Thao, Wozniak, & Liebrich, 2017). Such two-way interactions highlight that the ultimate goal and the value creation of social media marketing in tourism lie in *consumer engagement* (Ge & Gretzel, 2017; Thao et al., 2017). Meanwhile, consumer engagement through social media is becoming highly interactive, social, and context specific (Dessart, Veloutsou, & Morgan-Thomas, 2016). Therefore, how consumers are persuaded to engage in travel information and what

factors change their attitudes are core questions that need to be addressed.

From the social psychological perspective, travel information engagement could be viewed as a behavioral response predicted by *persuasive communication*, which is a cognitive-response approach on the basis of attitude-behavior theories. A successful persuasion includes three stages: information receiving, cognitive processing, and formation of attitude and conation (Tang, Jang, & Morrison, 2012). Although numerous theoretical and empirical studies have addressed the first and the third stages (e.g., Davis, 1989), the cognitive processing at the second stage, how consumers' attitudes are formed and changed, still remains unclear like a black box (Bhattacherjee & Sanford, 2006; J. Zhang, Ito, Wu, & Li, 2017b). Therefore, the key to successful persuasion is to understand why and how consumers' attitudes are changed.

This research adopts the *elaboration likelihood model* (ELM) (Petty & Cacioppo, 1986) as a fundamental theory to explore the cognitive mechanism contributing to a successful persuasion. As one of the most feasible theories to interpret the travel information processing (N. Chung, Han, & Koo, 2015), the ELM is a dual-process theory with two thought routes of persuasive messages: a central route determined by argument quality needing more effort and a peripheral route determined by source credibility needing less effort (Briñol & Petty, 2009; Petty & Cacioppo, 1986). The significance of the ELM is that it directly draws on the information cognitive process, and also addresses the principle that the extent of effortful thinking an individual engages in determines which route and outcome are responsible for persuasion (Wagner

& Petty, 2011).

Although the ELM has been used in a wide range of consumer behavior research, it has several limitations that needs to be addressed if adapt it into the research of travel information engagement. First, as external information primarily drives the information cognitive process (Bhattacherjee & Sanford, 2006), the role of technological features of social media should be expounded to shape the entire persuasive communication (J. Zhang, Ito, Wu, & Li, 2017a). Second, several terms of individual and situational differences have been explored to have bias effects on consumers' processing of information. However, literature is rare from the relational perspective. In this research, the social connection perceptions—users' social presence and self-disclosure—are considered as key factors in fostering bias effects. They are consumers' subjective perceptions rather than the two metrics for classifying different social media applications in the media research (Kaplan & Haenlein, 2010). Third, because consumer engagement values consumers' active interactions between consumers and between brands, it shapes travel information engagement as a social cognitive process. However, the ELM focuses on the utilitarian motivations and their effects on the *adoption side* of information (N. Chung et al., 2015). Considering the social aspects of consumer engagement, this research invites the theory of planned behavior (TPB) (Ajzen, 1991) to develop the ELM into *engagement* per se. Perceived self-efficacy and perceived online social capital, as social motivations, are assumed to mediate the influence of the two routes in the ELM. Fourth, consumer engagement merges adoption and generation sides

of the information together (Fang, Zhao, Wen, & Wang, 2017). Although the ELM has been widely applied, its power to predict consumer engagement is still expected to be explored in more empirical studies, since it focuses more on information adoption than information generation (e.g., N. Chung et al., 2015). Considering these gaps in literature, three basic research questions are therefore raised in this research:

RQ1: What cognitive processes shape travel information engagement in social media?

RQ2: Which paths are more effective in leading to persuasion?

RQ3: Does travel information engagement vary across users' perceptions of social connection in social media? If so, how?

To address these questions, based on the review of literature, an integrated cognitive model was constructed by combining the ELM with the TPB. It draws on consumers' cognitive processing of travel information through external stimulus, cognitive response, evaluation, and behavioral response. In the light of this, this research focuses on the causal and dynamic relationships between persuasive messages (argument quality, source credibility) in travel and recipient-oriented effects.

1.2 Aims and Significance of the Research

Focusing on the role of recipients' perception, this research aims at exploring an effective communication of consumer engagement in travel information to shape and enhance the strategies of travel brands and tourism marketers in social media marketing.

With the purpose of *knowing how to change attitude*, this research is expected to make effort in drawing upon the causal and dynamic paths in the cognitive mechanism of travel information.

One of the most important contributions of this research is that it tries to develop an integrated cognitive model of persuasion to predict consumers' engagement intention for travel information on social media. Drawing insights from the ELM, this research extends the model from *adoption* to *engagement* to explore consumers' utilitarian motivations and social motivations to engage in travel information on social media. The utilitarian motivations shed light on the trigger role of technical adequacy of social media and the mediating effects of persuasive messages in increasing travelers' perception of information usefulness. The social motivations shape the mediating effects of perceived self-efficacy and perceived social capital between persuasive messages and information usefulness. It is expected to add the productive and predictive power to the original ELM in elaborating travel information processing in the specific context of social media.

Another contribution lies in the explosion of the causal and dynamic relationships between persuasive messages and recipient-oriented effects in consumers' processing of travel information. This research attempts to investigate how users' perceptions of social connection on social media interact and bias consumers' thinking route to engaging in travel information. Particularly, the moderating effects of users' social presence and self-disclosure are explored. It hopes to take more insights in consumers' internal

disposition to adopt or generate travel information via social media.

In practice, this research also advances the knowledge of travel brands and tourism marketers in the question: *What are the best ways to engage my audience with social media?* It contributes an effective framework for them to evaluate and update their consumer engagement strategies in social media marketing. By working on investigating Chinese consumers' engagement in travel information, this research is believed to help travel brands in how to design useful travel information, how to build social ties, and how to create a great space of online community. Moreover, the research on consumer engagement is rare and still in the initial phase in the field of social media marketing as well as in the research domain of travel information processing (Thao et al., 2017). Therefore, as an exploratory and empirical study, findings of this research might be more intriguing to the social media marketing in travel from a global perspective.

1.3 Research Design

Following the sequential approach, a multimethod design is used to transfer two quantitative studies from the focus on *adoption* to the focus on *engagement*. That is, a quantitatively-driven study—the pilot study—is conducted first, followed by a second quantitative study: the formal study (Tashakkori & Teddlie, 2010, p. 198). In this research, the pilot study indicated the cognitive process of travel information adoption, results and implications of which informed the nature of the formal study. By the multimethod design, findings of this research are believed to yield deeper understanding

of the persuasive communication in travel information engagement. The implemental framework is underlined in the following section.

1.4 Organization of the Research

This research is organized in seven chapters (Figure 1.1).

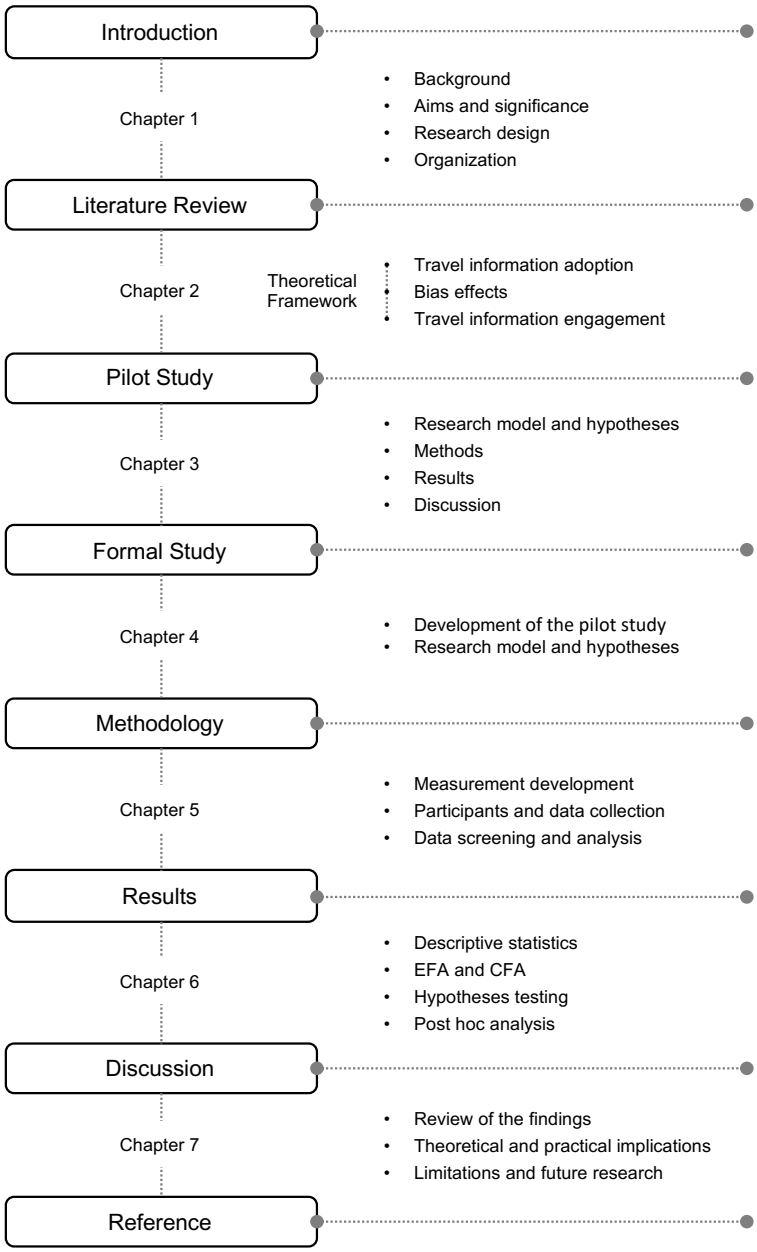

Figure 1.1. Structure of the contents.

EFA = Exploratory factor analysis; CFA = Confirmatory factor analysis.

Chapter 1 is the introduction of this research. It overviews the background, aims, significance of this research, and the basic research design. The rest of this research are organized in the following.

Chapter 2 is literature review. A stepwise approach is used to review the prior research on theoretical framework of consumer engagement, travel information adoption, bias effects, and travel information engagement. Based on the review of key variables, conceptual frameworks of travel information adoption model (TIAM) (Figure 2.6, p. 46) for the pilot study and travel information engagement model (TIEM) (Figure 2.9, p. 52) for the formal study are constructed.

Chapter 3 introduces the pilot study on the cognitive process of travel information adoption. A structural TIAM, as an extended ELM, is established with two routes, the central route (argument quality) and the peripheral route (source credibility). It assumes that the two routes are triggered by technical adequacy of social media and their effects on perceived information usefulness moderated by users' social presence and self-disclosure. An online survey targeting Chinese young people was conducted to test the research model in the pilot study.

Based on the findings in Chapter 3, Chapter 4 focuses on developing hypotheses and the structural TIEM for the formal study, in which travel information adoption is advanced to travel information engagement. The structural TIAM in Chapter 3 is extended by adding the mediating roles of perceived self-efficacy and perceived online social capital. It proposes that self-efficacy and online social capital are predicted by the

two routes in the ELM and have direct impact on behavioral engagement intention.

Chapter 5 introduces the methodology of the formal study. The measurement is developed by modifying and expanding the instruments of the pilot study. The age span of target groups was enlarged to cover more respondents from the groups of less than 18 years of age and over 40 years of age. A web-based survey and a paper-and-pencil survey were conducted synchronously in mainland China.

Chapter 6 illustrates the results of each procedure in the data analysis for testing the structural TIEM in the formal study, including descriptive statistics, exploratory factor analysis (EFA), measurement model, hypotheses testing, and post hoc analysis.

Chapter 7 presents the discussion and implications of the research. A comparative discussion is used to review the findings in the two substudies, following which the theoretical and practical implications are interpreted with the endeavor to answer the three research questions raised in Chapter 1. Finally, limitations and future research are addressed.

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CHAPTER 2. LITERATURE REVIEW

2.1 Theoretical Framework

2.1.1 Consumer engagement

Engagement: Consumers' behavioral response.

Despite the rapidly growing research on consumer engagement (CE) in marketing (Harmeling, Moffett, Arnold, & Carlson, 2017), effort regarding its conceptualization and measurement are still nascent, very restricted, and lack consensus due to its short history (Dessart et al., 2016; So, King, & Sparks, 2014; Thao et al., 2017). Broadly, extant studies have constructed CE with multiple dimensions or with one dimension (Dessart et al., 2016). The multidimensional concept of CE focuses on a psychological state of interactions between consumer and brand (Harmeling et al., 2017). It advocates a consumer's positively valenced, brand-related cognitive, affective (emotional), and behavioral activities (Brodie, Hollebeek, Jurić, & Ilić, 2011; Hollebeek, Glynn, & Brodie, 2014). In the one-dimension setting, CE presents a behavioral construct (So et al., 2014) and is defined as a consumer's behavioral manifestations toward a brand or firm, which result from motivational drivers and go beyond purchase-related transactions (van Doorn et al., 2010). Although construct differences exist in the two perspectives, they share three fundamental points: (1) CE tends to be consumer-based attitudinal and behavioral intensity toward an object (e.g., brand, firm) (Harmeling et al., 2017); (2) CE occurs in a specific context supporting consumers' activity with the

object (Dessart et al., 2016; J. Zhang, Ito, & Liu, 2018); and (3) CE captures consumer-brand interactive relationships beyond transactions (van Doorn et al., 2010). Therefore, CE is naturally a consumers' behavioral response.

This research prefers to understand and construct CE from a behavioral perspective. First, a behavioral focus can build relatively independent constructs of CE to test the feasibility of its measurement due to its shortcomings in empirical study (Dessart et al., 2016; Harmeling et al., 2017). Second, psychological constructs of CE, including cognitive (attention, absorption) and affective (enthusiasm, enjoyment) dimensions (So et al., 2014), are highly memorable and emotional (Thao et al., 2017). As such, they may share so much association that it is difficult for respondents to distinguish them in an investigation. Third, CE in social media contexts is predominantly developed by quantitative measurement (Schivinski, Christodoulides, & Dabrowski, 2016; Thao et al., 2017). As an exploratory and empirical study, this research asserts that the narrow definition of CE is preferable and will help build further strong and direct implications in theory development.

Consumer engagement in social media marketing.

As mentioned previously, CE in this research will be measured as a behavioral construct. As such, CE tends to be behavioral focused, context specific, and dependent on active and continued interactions between a subject and an object in the circumstances (Fang et al., 2017; van Doorn et al., 2010; J. Zhang et al., 2018). Therefore, social media environment has been considered one of the most excellent and

relevant settings for researching CE because they keep both highly interactive and social elements (Dessart et al., 2016; Schivinski et al., 2016; Thao et al., 2017).

Further, social media encourages consumer empowerment (J. Zhang et al., 2018) and presents a golden opportunity for tourism and hospitality brands to engage with their consumers through two-way interactions beyond the purchase (So et al., 2014; Thao et al., 2017). Such two-way interactions, between consumers and between consumer and brand, highlight that the ultimate goal and the effectiveness of social media marketing in tourism lie in CE (Ge & Gretzel, 2017; Harrigan et al., 2017; So et al., 2014; Thao et al., 2017).

However, several key questions remain about the measurement of CE. Researchers have tended to focus on conceptual and qualitative studies on CE (Dessart et al., 2016) because the essence of CE is consumer experience (Thao et al., 2017). Shifting to social media contexts, scholars have systematically explored and verified CE's measurement scales based on consumers' quantitative data (Harrigan et al., 2017; Hollebeek et al., 2014; Schivinski et al., 2016; So et al., 2014). In spite of these, few studies, so far, have empirically and directly investigated the scales of CE. In addition, the construction of the multidimensional scales was too complex with a large number of items, such as 42 items under 11 dimensions (e.g., Baldus, Voorhees, & Calantone, 2015). Such a setting is unsatisfactory for an empirical study, which calls for a short form but powerful measurement. An additional problem is that most of these measurement scales have failed to address engagement with content or information on social media; instead, they

have documented the engagement with the brand or with the online brand community (Schivinski et al., 2016).

Considering the gaps discussed previously, this research tends to follow the calls for further effort in the empirical and quantitative study of CE, which is also scarce in the tourism research area. With a focus on the behavioral dimension of CE, researchers of consumer behavior in travel have mainly explored CE's indicators from two angles: social media metrics or affordance (e.g., Ge & Gretzel, 2017; Thao et al., 2017) and consumers' behavioral intention (e.g., P. Wang, Zhang, Suomi, & Sun, 2017; J. Zhang et al., 2018). For instance, Ge and Gretzel (2017) calculated the number of likes, comments, and reposts under the Sina Weibo posts by a destination marketing organization to indicate CE. Schivinski et al. (2016) developed a behavioral scale of CE with brand-related content on social media, including three potential behavior intentions on Facebook, namely consumption, contribution, and creation. Despite different study approaches, as outlined by Fang et al. (2017), CE is particularly viewed as consumers' active participation, namely *behavioral engagement intention*. Such engagement can be measured by personal engagement (i.e., adoption, use) and interactive engagement (i.e., sharing, generation). In the same way, CE on social media in travel could be determined by an integration of information/electronic Word-of-Mouth (eWOM) adoption and information/eWOM generation (P. Wang et al., 2017; J. Zhang et al., 2018). Table 2.1 (p. 14) presents a partial list of previous studies involving CE measurements on social media and in particular on travel behavior topics.

Table 2.1

Measurements of Consumer Engagement in Literature

Authors	Context	Indicators	Description
Schivinski et al. (2016)	Brand-related social media content	• Consumption	- Reading posts/fanpages; - Watching pictures/graphics; - Following blogs/brand.
		• Contribution	- Commenting videos/posts/pictures/graphics; - Sharing posts; - "Like" pictures/graphics/posts.
		• Creation	- Initiating posts; - Posting pictures/graphics/videos; - Writing reviews/posts.
Dessart et al. (2016)	Facebook brand community	• Learning • Sharing	- Seek ideas/information/ experiences/help; - Share ideas/information/experiences; - Provide help.
		• Endorsing	- Sanction, support, or refer resources shared.
P. Wang et al. (2017)	eWOM on travel review website	• eWOM use/adoption	- Use eWOM; - Motivate to take action; - Agree with the eWOM.
		• eWOM generation	- Share travel experiences; - Provide travel experiences; - Post comments.
Fang et al. (2017)	Mobile travel applications	• Personal engagement	- Continuance use; - Referral; - Word-of-mouth
		• Interactive engagement	- Discussion; - Sharing content; - Solving problems.
Ge & Gretzel (2017)	Posts of a destination marketing organization (DMO) on Sina Weibo	• Liking • Commenting • Reposting	- Endorse posts - Add information to posts - Spread posts
Thao et al. (2017)	Facebook brand communities of airline industry	• Learning; • Sharing; • Co-developing; • Advocating; • Socializing.	- Number of members/active users/fans; - Number of comments/views/user-generated photos or replies; - Number of posts/reposts/shares; - Number of responses to friend referral invites

Note. eWOM = electronic word of mouth. This table is summarized by the author.

2.1.2 Engagement as persuasion

Gauging the sum of behavioral manifestations, the modes of CE are routes to persuasion (Phillips & Mcquarrie, 2010). That is, the CE process equals the process of persuasive communication, by which a brand develops and maintains the engaged consumers. As described in more detail, *persuasion* is an active attempt or strategy to change recipients' actions or beliefs by persuasive messages (Y. Chang, Yu, & Lu, 2015). Transforming such persuasion into social psychology, it draws upon the cognitive process of individuals' attitude change (Myers, 2009; Petty & Cacioppo, 1986). In this line, engagement, as persuasion, can be well constructed through attitude-behavior theories.

In social psychology, persuasion refers to "the process by which a message induces change in beliefs, attitudes, or behaviors" (Myers, 2009, p. 230). Accordingly, a successful persuasion is typically possible when a *recipient* receives a *persuasive message* from another information *source* in a particular *context* or *setting* (Briñol & Petty, 2009). In this mechanism, persuasive communication commonly consists of three stages: (1) information receiving, (2) cognitive processing, and (3) formation of attitude and conation (Tang et al., 2012; J. Zhang et al., 2017b). Website characteristics enable information to be transmitted from a sender to a recipient at the first stage (Gao, Dai, Fan, & Kang, 2010; Tang et al., 2012). The third stage indicates a recipient's evaluation of a psychological object with some degree of favorable or unfavorable response, which is expected to induce subsequent behavior toward the object (Ajzen, 2012; Briñol &

Petty, 2012).

However, cognitive processing at the second stage still remains unclear (Tang et al., 2012; J. Zhang et al., 2017b). In particular, the mode of information cognitive processing has been challenged in the two-way communication emerging with social media (J. Zhang et al., 2017b). Since the key to successful persuasion is to understand why and how consumers' attitudes are changed (Briñol & Petty, 2009), it is essential for both academics and practitioners to endeavor to answer questions such as the following: What types or routes of cognitive processing do consumers engage in? What factors activate cognitive processing? To address these questions, it is vital to trace attitude-behavior theories for establishing a persuasive communication that is well suited to predict CE.

For a number of reasons, this research tends to employ the elaboration likelihood model (ELM) (Petty & Cacioppo, 1986) and the theory of planned behavior (TPB) (Ajzen, 1991) to develop the cognitive process of travel information engagement on social media. First, they both capture the three categories of internal disposition in human behavior: cognitive response, evaluation, and behavioral response (Table 2.2, p. 17) (Ajzen, 2012). Second, they are well accepted to investigate particular behavior in empirical studies because they content the principles of a high-quality theory with good accessibility and compatibility (Ajzen & Fishbein, 1980). That is, dispositions in the two theories can be measured and assessed by questionnaires with similar target, action, context, and time elements (Ajzen, 2012). Third, in the marketing and social

psychology domains, these conceptual frameworks have been considered as the most popular, influential, and feasible for the study of persuasive communication in social media contexts (Teng, Khong, & Goh, 2015; Teng, Khong, & Goh, 2014). Teng et al. (2015) conducted a systematic literature review of attitude-behavior theories used in social media contexts across almost nine years (January 2006–June 2014). They noted that research using the ELM increases steadily and becomes the most applicable model in predicting persuasive communication, followed by the TPB. The explanation power of the two theories was also dominant in the marketing, online communication, consumer behavior, and tourism research areas, among others. For these reasons, this research expects to make further efforts to expand the ELM and the TPB into the consumers' particular engagement in travel information on social media. The following sections will outline more details of the two theories for building the conceptual framework of this research.

Table 2.2

Internal Disposition in Attitude-behavior Relation

Attitude-behavior theory	Type of internal disposition		
	Cognitive response	Evaluation	Behavioral response
Elaboration likelihood model (ELM)	• Argument quality • Source credibility • Elaboration likelihood	• Attitude	• Behavior intention
Theory of planned behavior (TPB)	• Behavioral beliefs • Normative beliefs • Control beliefs	• Attitude toward the behavior • Subjective norm • Perceived behavioral control	• Behavior intention • Behavior

Note. The table is compiled from Petty & Cacioppo (1986), Ajzen (1991), and Ajzen (2012).

2.1.3 Elaboration likelihood model

In social psychology, the elaboration likelihood model (ELM) (Petty & Cacioppo, 1981, 1986) is a dual-route process theory that articulates how individuals' attitudes change in persuasive communication through a central route and a peripheral route, according to individuals' motivations and abilities. As shown in Figure 2.1, the central route requires effortful thought from individuals to cognitively evaluate the argument quality embedded within messages (Bhattacherjee & Sanford, 2006; Petty, Cacioppo, & Goldman, 1981). The peripheral route requires less effortful thought and serves as a result of some simple cues that trigger automatic acceptance such as source credibility (Myers, 2009; Petty & Cacioppo, 1984, 1986).

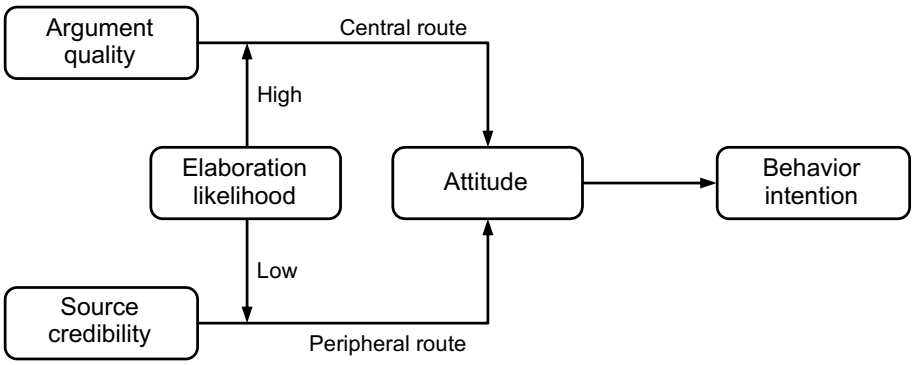

Figure 2.1. Elaboration likelihood model.
Adapted from Petty and Cacioppo (1986) (as cited in N. Chung et al., 2015, p. 906).

The ELM holds that the central route is more stable and enduring to predict long-term behaviors, whereas the peripheral route is relatively less persistent and less predictive of long-term behaviors (Bhattacherjee & Sanford, 2006; T. Zhou, Lu, &

Wang, 2016). Moreover, individuals' motivations and abilities to elaborate are viewed as the "elaboration likelihood," which is guided by the principle that individuals "add something of their own to the specific information provided in the communication" (Petty & Wegener, 1999, p. 46). In other words, elaboration likelihood accounts for the probability that an individual engages in the issue-relevant thinking necessary to identify the merits of the arguments (Cacioppo & Petty, 1984). The amount of elaboration is determined by individual and situational differences (R. E. Petty & Cacioppo, 1984). Because of the bias variance, the most significant postulate of the ELM is that the extent of thinking (cognitive effort) an individual devotes to processing a message will determine which route is responsible for persuasion (Petty & Cacioppo, 1984; Wagner & Petty, 2011).

Apart from the consideration stated in subsection 2.1.2 (p. 15), there are more underlying reasons to select the ELM for interpreting persuasive communication. First, it holds that external information is the primary driver of attitude and behavior changes (Bhattacherjee & Sanford, 2006), and thus it could be used in different media contexts, including social media contexts (e.g., N. Chung et al., 2015; M. J. Kim, Chung, Lee, & Preis, 2016; K. Z. K. Zhang, Zhao, Zhang, & Lee, 2014). Second, it directly draws upon the information cognitive processing with two distinct routes of persuasion, which could be employed to assess the information itself and its source, respectively (Ajzen, 2012). Moreover, recognizing the route by which change occurs is crucial for understanding the consequential attitudes (Briñol & Petty, 2012). Third, the ELM explains why and

how a given persuasion process may lead to different routes and outcomes according to the different cognitive effort of the recipients (Bhattacherjee & Sanford, 2006). It thus could be extended by developing the term of elaboration depending on recipient effects or situational effects (Wagner & Petty, 2011). In addition, a large body of empirical studies has suggested that the ELM is appropriate and pertinent in drawing upon persuasive messages advocated on social media, including travel information (N. Chung et al., 2015; Teng, Khong, & Goh, 2014).

The ELM in social media contexts has been modified or extended on its constructs, determinants, and moderators (J. Zhang et al., 2017a, 2017b). Contributions and limitations in these previous studies are outlined in the following subsections.

Constructs.

Sussman and Siegal (2003) proposed the information adoption model (IAM), which introduced the term *perceived information usefulness* that is derived from the technology acceptance model (TAM) (Figure 2.2, p. 21) (Davis, 1989) into the ELM, instead of the *attitude* variable. They argued that information usefulness, as a key and direct predictor of behavior intention, cannot be ignored and excluded when trying to understand online information processing (e.g., e-mail). They expounded on and clarified its crucial mediating effect among argument quality, source credibility, and their outcome of information adoption (see Figure 2.3, p.21). The IAM simplifies and improves the measurability of attitude change, which is considered difficult to scale accurately. In addition, the IAM particularly expands the usage of the ELM in shaping

the information cognitive process in computer-mediated communication (C. M. K. Cheung, Lee, & Rabjohn, 2008; N. Chung et al., 2015; M. J. Kim, Chung et al., 2016). More importantly, it leads the scope of behavior intention to the direction of information adoption, which has become predominant in subsequent research on persuasive messages.

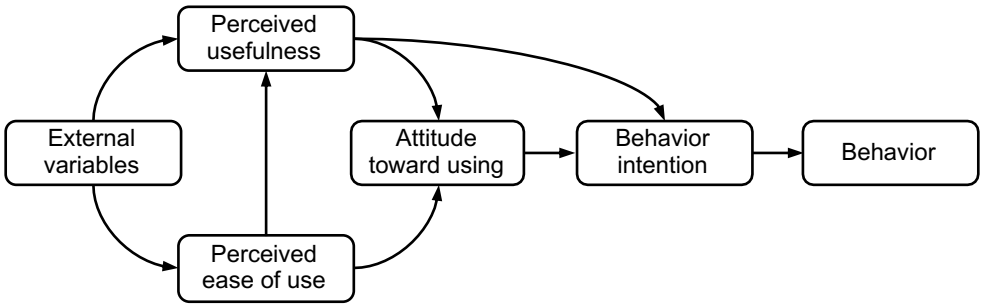

Figure 2.2. Technology acceptance model.
Adapted from Davis, Bagozzi, and Warshaw (1989).

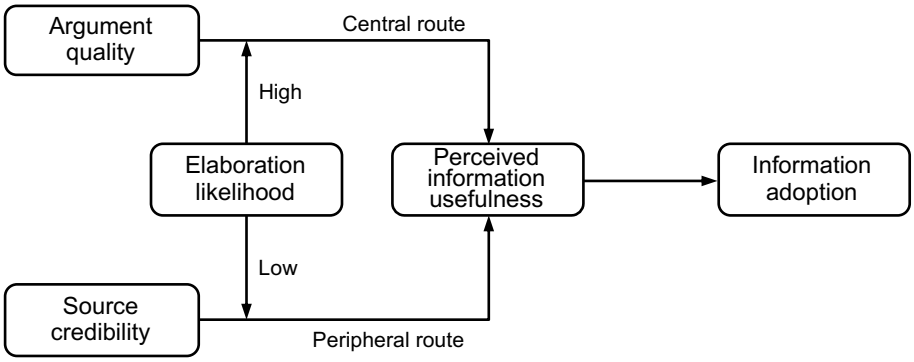

Figure 2.3. Information adoption model.
Adapted from Sussman and Siegal (2003).

However, the IAM did not address the media environment and its features. Because persuasive communication has an external information focus (Bhattacherjee &

Sanford, 2006), the role of external variables considered important in the TAM should also be expounded (J. Zhang et al., 2017a). Turning to social media, the context this research focuses on, unique technological features distinguish it from the traditional website system through the interactions between consumers and between consumers and the technology (C. Wang & Zhang, 2012; J. Zhang et al., 2017a). These interactions are evoking consumer empowerment and thus occur more frequently and are easier to observe (Animesh, Pinsonneault, Yang, & Oh, 2011). Therefore, the technological features of social media that serve as the external variables can heavily motivate consumers to actively participate in information processing via social media (Animesh et al., 2011; H. Zhang, Lu, Gupta & Zhao, 2014). Accordingly, this research intends to introduce the term "technical adequacy" into the ELM and the IAM as a trigger or input to stimulate consumers' processing of travel information on social media (see subsection 2.2.4, p. 38, for more review).

Determinants.

In empirical studies, researchers have successfully explored fruitful factors that determine the two routes in the information process (C. M. K. Cheung & Thadani, 2012; Teng, Khong, & Goh, 2014). In the central route, messages are measured for both quality and quantity. The former primarily includes information quality (Erkan & Evans, 2016), argument strength (C. M. K. Cheung & Thadani, 2012; M. Y. Cheung, Luo, Sia, & Chen, 2009; K. Z. K. Zhang, Zhao, Cheung, & Lee, 2014), valence, extremity, and type of information (e.g., Filieri, 2016; Yan et al., 2016). The latter, such as the volume,

length, and rating of the reviews, has been used to identify the usefulness of eWOM (C. M. K. Cheung & Thadani, 2012; Yan et al., 2016). Involving the peripheral route, scholars have confirmed the significant impact of source metrics on information usefulness via social media, including source trustworthiness, expertise (C. M. K. Cheung & Thadani, 2012; K. Kim, Cheong, & Kim, 2017), attractiveness, similarity, homophily, and tie strength (Steffes & Burgee, 2009; J. Zhang et al., 2017a, 2017b).

Derived from a social psychology perspective, one of the key aims of this research is to determine whether the ELM can predict Chinese consumers' cognitive processing of travel information. Thus, this research traces back the initial operations of the ELM (Cacioppo & Petty, 1984), by which "argument quality" is expected to evaluate the central route, while "source credibility" is expected to examine the peripheral route.

Moderators.

Due to individual and situational differences, individual-oriented characteristics have been employed as recipient effects that strengthen the power of the central route but relatively weaken that of the peripheral route in information processing on social media. Several terms of individual differences have been explored, including, but not limited to, recipients' prior knowledge, expertise, involvement level (Aghakhani & Karimi, 2013; Gao, Tian, & Tu, 2015; R. Li & Suh, 2015; Martin & Lueg, 2013; Sussman & Siegal, 2003; Tseng & Wang, 2016; Xue & Zhou, 2010; Yan et al., 2016; Yang, Hung, Sung, & Farn, 2006), and perceived risk (Tseng & Wang, 2016; Tseng & Kuo, 2014). Situational differences have also been indicated, such as personal relevance

(Alpar, Engler, & Schulz, 2015; Bhattacherjee & Sanford, 2006), product type (Hlee, Lee, Yang, & Koo, 2016), and media richness (N. Chung et al., 2015).

Although moderating effects have been taken seriously in academics, literature is rare from the relational perspective (J. Zhang et al., 2017a). However, the innovations social media bring are changing the social relationship or connection in information communication (Kaplan & Haenlein, 2010), making social aspects more important for consumers when making decisions than that in traditional media. Consequently, consumers' differences in motivations and abilities depend more on the social aspects they perceive in social media. Such social influence is derived virtually from consumers' sense of trust in social media. Thanks to the UGC, consumers are more aware of trust given by social media and, in turn, less effort and ability are required to access the information (Coşkun & Yılmaz, 2016; Robert & Dennis, 2005). Because of the sense of trust and ease in social media, consumers can immerse themselves in a sense of social presence as in real life (N. Chung et al., 2015). Further, because less effort is required in the information exchange, consumers are called upon to disclose themselves and become immersed in the interpersonal communication or social exchange (Coşkun & Yılmaz, 2016). That is why factors related to social connections must be regarded when constructing recipients' thinking effort to engage in information on social media.

Considering the important role of social connection in consumers' decisions in social media, this research intends to employ users' social presence and self-disclosure to appeal for in-depth insights on the bias effects and the dynamism in persuasive

communication on social media (J. Zhang et al., 2017a, 2017b).

2.1.4 ELM and travel information adoption

As overviewed in the prior subsection, interest in the ELM has grown in the travel information adoption research domain (Erkan & Evans, 2016; Petty, McMichael, & Brannon, 1992; Salehi-Esfahani, Ravichandran, Israeli, & Bolden, 2016; Sparks, Perkins, & Buckley, 2013). Its predictive power has been confirmed in the issues of travel information processing, such as information searching on destination or travel websites (Tang et al., 2012; Tseng & Wang, 2016), travel information using via social media (N. Chung et al., 2015), online reviews of restaurants (Hlee et al., 2016; Salehi-Esfahani et al., 2016), and shopping for mobile tourism products (M. J. Kim, Chung et al., 2016). However, tourism products are intangible, information-intensive, experienced, and synchronous, which makes them different from the alternatives (Smith, 1994). Travel information communication is thus closely related to a perceived high risk, which would produce high involvement situations faced by travelers. At this point, travelers are more likely to be extensively involved in the decision-making process (Kerstetter & Cho, 2004). Therefore, comparing to the original postulates in the ELM, previous studies regarding travel information have contributed some particular findings, which further advanced the extension of the ELM from three angles.

First, earlier studies implicitly considered message arguments as more important than source cues for consumers with high involvement because the former was assumed to be more complex, difficult, and effortful (Kitchen, Kerr, Schultz, McColl, & Pals,

2014), while the latter was subordinate in persuasive messages (Chaiken & Trope, 1999). However, it has been argued that travelers always combine both argument quality and source credibility in their thought modes regarding travel information assessment, noting a joint function of the two routes (N. Chung et al., 2015; M. J. Kim, Chung et al., 2016; SanJosé-Cabezudo, Gutiérrez-Arranz, & Gutiérrez-Cillán, 2009). Another decision-making stream for travel products found that the effortless processing mode generates an offsetting effect on consumers' attitudes and intention changes in the high-involvement situation when the information is insufficient with weak and untrustworthy arguments (Filieri, 2016; S. H. Jun & Vogt, 2013). Although there has been a lack of empirical studies to replicate or reinforce these findings, they do raise a question: Which route is more effective in the persuasive communication of travel information?

Second, the ELM has a trade-off postulate which posits that source credibility becomes less important when argument scrutiny increases, and vice versa (Petty & Wegener, 1999). Despite that, researchers have demonstrated that causal relationships exist between argument quality and source credibility when consumers evaluate online reviews of restaurants and hotels (Shan, 2016; K. Z. K. Zhang, Zhao, Cheung et al., 2014). Furthermore, Shan (2016) demonstrated that reviews of hotel products with strong arguments are perceived as having greater source expertise and trustworthiness than those with weaker arguments. The converse is also possible: reviews received from credible sources are deemed more informative and persuasive (K. Z. K. Zhang, Zhao,

Cheung et al., 2014). In short, the two routes in the ELM are likely to be interdependent with potential intimate associations in the cognitive processing of travel information (Crespo, Gutiérrez, & Mogollón, 2015; H. S. Jun & Vogt, 2013). Following these reasons, the trade-off postulate of the two routes in the ELM needs to be questioned in the information processing of experience products such as tourism products (SanJosé-Cabezudo et al., 2009; J. Zhang et al., 2017a, 2018).

Third, in terms of the biased processing, literature in tourism has also documented the moderating effects of recipient characteristics and situational factors derived from the ELM (Wagner & Petty, 2011), mainly including consumers' prior knowledge (e.g., expertise, experience) (Filieri, 2016; Kerstetter & Cho, 2004; Tseng & Wang, 2016) and issue-involvement situations (e.g., H. S. Jun & Vogt, 2013; Tseng & Wang, 2016). In addition to these, as listed in Table 2.3 (p. 28), specific moderators related to perceived risk, product type, and context type have been developed particularly for travelers' information adoption on the Internet and social media (Filieri, 2016b; Hlee et al., 2016; Tseng & Wang, 2016). Although these extensions have advanced the application of the ELM in tourism, similar to the core gap noted in the prior subsection 2.1.3 (p. 18), they have failed to consider the social determinants of the "elaboration" from the perspective of consumers' social relationship in decision making. N. Chung et al. (2015) and Hlee et al. (2016), respectively, captured the important roles played by social presence and reviewers' self-disclosure in biasing which path travelers are willing to engage in, but these terms were not carried out from the consumer-oriented perspective. It thus sheds

light on a challenging question: How do the social aspects perceived by consumers affect how they process travel information? In doing so, this research tends to particularly focus on the potential moderating effects of users' social presence and self-disclosure based on the consumer-oriented perspective.

Table 2.3

Moderators Biasing the Cognitive Process of Travel Information Based on the ELM

Moderator	References
Recipient difference	
Individual expertise	Tseng & Wang (2016)
Consumer experience with consumer reviews	Filieri (2016)
Prior knowledge	Kerstetter & Cho (2004)
Perceived risk	Tseng & Wang (2016)
Disconfirming information	W. Zhang & Watts (2008)
Focused search	W. Zhang & Watts (2008)
Situation difference	
Issue involvement.	Tseng & Wang (2016); H. S. Jun & Vogt (2013)
Social network involvement	M. J. Kim, Chung et al., (2016)
Consumer involvement	Filieri (2016); Rodríguez-Molina, Frías-Jamilena, & Castañeda-García (2015)
Social presence (media richness)	N. Chung et al. (2015)
Restaurant type	Hlee et al. (2016)
Medium type	Filieri (2016)
Reviewers' self-image disclosure	Hlee et al. (2016)

Note. This table is summarized by the author.

2.1.5 From “adoption” to “engagement”

Although the ELM has been used in a wide range of social psychology and marketing science, its predictive power in consumer engagement is still expected to be explored in more empirical studies since it focuses more on information adoption (J. Zhang et al., 2017b). In the specific contexts of social media, consumer empowerment is largely encouraged, driving two-way interactions between consumers and brands (Harrigan et al., 2017). As such, research of consumer engagement in travel information is encouraged to take more insights of social aspects. Accordingly, the outcomes of the persuasive communication would include both information adoption and information generation, expanding “adoption” to “engagement,” meeting both utilitarian motivations (M. J. Kim, Chung et al., 2016) and social or emotional motivations (N. Chung et al., 2015) to engage in travel information. This research argues that engagement is more effective in elaborating travel information processing than adoption.

2.1.6 Theory of planned behavior

Considering the limited application of the ELM in empirical studies on consumers’ engagement intention, theory of planned behavior (TPB) (Ajzen, 1991) is introduced. Given that it is another feasible attitude-behavior theory in persuasion, it can be employed to extend the cognitive processing of travel information from travel information adoption to travel information engagement. In the TPB, social cognitive factors are considered effective in driving consumers’ behavioral intention and actual behavior (Ajzen, 1991). As shown in Figure 2.4 (p. 30), behavioral intention can be

predicted by three inter-correlated independents of attitude toward behavior, subjective norms, and perceived behavioral control (Ajzen, 1991; P. Wang, 2014). Therefore, the focus of the TPB theory lies in the motivational influences on behavior (Teng et al., 2015), whereby it proposes that the stronger an individual is motivated to change behavior, the stronger the intention to engage in behavior (Ajzen, 1991).

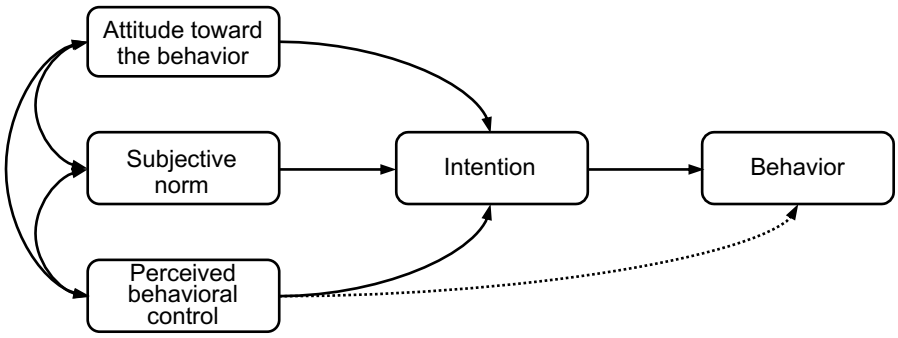

Figure 2.4. Theory of planned behavior.
From "The Theory of Planned Behavior," by I. Ajzen, 1991, *Organizational Behavior and Human Decision Processes*, *50,* p. 182. Copyright 1991 by the Academic Press, Inc.

Integrating the TPB into this research, attitude toward behavior, defined as an individual's favorable or unfavorable evaluations of a behavior, can be directly predicted by perceived information usefulness. In the IAM, perceived information usefulness instead of attitude serves as a mediator between persuasive messages and information adoption. In this perspective, the motivational influence of attitude toward behavior in the TPB can be transformed to the influence of perceived information usefulness. Subjective norms reflects the social influence from important reference individuals or groups (Ajzen, 2011), which closely link to the peers of importance. In

social media, it is the peers of importance that help to build an individual's social network. This research therefore intends to invite perceived online social capital as a social motivation for consumers to engage in travel information. Meanwhile, perceived behavioral control defines the ease or difficulty to perform a behavior as determined by perceived self-efficacy and perceived controllability (Ajzen, 2002). Perceived self-efficacy reflects an individual's confidence in his or her ability to execute a behavior (Ajzen, 2002). Therefore, it can be a direct predictor of behavior intention. In addition, the TPB holds that the likelihood of one's behavioral achievements can be the results influenced by the extent of resources available to him or her (Ajzen, 1991). In line with these reasons, this research tries to emerge the ELM with social cognitive factors, including perceived online social capital and perceived self-efficacy.

2.2 Travel Information Adoption

2.2.1 Argument quality

As reviewed in subsection 2.1.3 (p. 18), persuasive messages in the ELM can shape human attitudes or beliefs via two determinants: argument quality and source credibility (Y. Chang et al., 2015; C. Y. Li, 2013; J. Zhang et al., 2017b). If recipients are operating the central route to persuasion, a persuasive message must encompass strong and compelling arguments that are inclined to engender supportive thoughts (Ajzen, 2012; Myers, 2009). Perceiving these contained arguments exerts the force to modify recipients' beliefs, values, and attitudes in their reasoning process (Azjen, 1992).

Therefore, the term “argument quality” refers to an individual’s perception of the persuasive strength of arguments embedded in information (Bhattacherjee & Sanford, 2006; Petty & Cacioppo, 1986).

Although emphasizing argument strength in the information, even in the initial article that proposed the IAM (Sussman & Siegal, 2003), “argument quality” has long been used to refer to “information quality” (IQ) in empirical studies (C. M. K. Cheung, Lee et al., 2008; N. Chung et al., 2015; Filieri, 2015; Filieri & McLeay, 2014; Teng, Khong, Goh et al., 2014; Tseng & Wang, 2016; K. Z. K. Zhang, Zhao, Cheung et al., 2014). More than that, IQ has frequently been the focus of interest in the research on information systems (IS), e-shopping, and eWOM from the perspective of IS success theory, rather than the consumers’ perspective (Filieri, 2015; S. E. Kim, Lee, Shin, & Yang, 2017; Nelson, Todd, & Wixom, 2005; P. Wang et al., 2017). Adapting IQ into the social media contexts from consumers’ (travelers’) viewpoints, this research believes that it is necessary to define IQ as information characteristics that satisfy consumers’ expectations (S. E. Kim et al., 2017). On the other hand, the “argument strength” dimension cannot be skipped because it is, in essence, the footstone in the concept of argument quality (Petty & Cacioppo, 1986). To address the limitations, this research intends to use the multidimensional approach to measure the argument quality of travel information because it consolidates the two dimensions: IQ and argument strength. One more reason is that the two dimensions have been confirmed cogent in evoking Chinese consumers’ agreement, in reducing their uncertainty, and in predicting their perceptions

on online reviews (Luo, Luo, Schatzberg, & Sia, 2013; K. Z. K. Zhang, Zhao, Cheung et al., 2014).

In an early study leading the IAM to the context of information system, Bhattacherjee and Sanford (2006) tried to return to the strength of argument and measured argument quality with the items of informativeness and persuasiveness. In recent years, scholars have advanced its measurement to be a multidimensional construct in the research regarding social media as well as social commerce (R. Li & Suh, 2015; K. Z. K. Zhang, Zhao, Cheung et al., 2014). K. Z. K. Zhang, Zhao, Cheung et al. (2014) explicitly assigned the argument quality to two content-related dimensions: perceived informativeness and perceived persuasiveness. *Perceived informativeness* refers to consumers' overall perceptions of the IQ in social media (K. Z. K. Zhang, Zhao, Cheung et al., 2014). It thus reflects consumers' expectations in the levels of relevance, accuracy, completeness, sufficiency, timeliness, and understandability (Filieri, 2015; Filieri & McLeay, 2014; S. E. Kim et al., 2017; Tseng & Wang, 2016; Ul Islam & Rahman, 2017; P. Wang et al., 2017). After taking a close look at design features of e-commerce and social commerce platforms (Amazon vs. Facebook), Z. Huang and Benyoucef (2013) suggested that some principles valuing the IQ in e-commerce are not fit for social commerce, such as authority and objective. Nonetheless, it is just as important for social commerce to provide relevant, accurate, complete, and updated information and social content. The other dimension of argument quality, *perceived persuasiveness* (argument strength), describes consumers' perceptions that the

information arguments are cogent, strong, and valid as opposed to specious and weak (R. Li & Suh, 2015; Petty & Cacioppo, 1986). That is, high persuasiveness of the information on social media is likely to be viewed as convincing, strong, logical, and good (M. Y. Cheung et al., 2009; R. Li & Suh, 2015; Luo et al., 2013; K. Z. K. Zhang, Zhao, Cheung et al., 2014). Table 2.4 gives the definitions of the two dimensions in this research that are involved with the social media context.

Table 2.4

Dimensions of Argument Quality

Dimension	Definition	Adapted from
Perceived informativeness (Information quality)	A consumer's perception of characteristics of the travel information that satisfy consumers' expectations.	S. E. Kim et al. (2017); Ul Islam & Rahman (2017)
Perceived persuasiveness (Argument strength)	The extent to which a consumer views the argument of the travel information as convincing or valid in supporting its position.	R. Li & Suh (2015); Luo et al., (2013)

2.2.2 Source credibility

Serving as an effortless and simple cue in the ELM (Petty & Cacioppo, 1986), source credibility is a primary determinant of persuasive messages and also is one of the most-studied variables influencing information communication (Ayeh, 2015; Kiecker & Cowles, 2002; Slater & Rouner, 1996). In persuasion studies, one of the best-known findings remarked that attitude change is produced more by sources with high credibility than those with low credibility (Briñol & Petty, 2009). Specifically for travelers, source credibility has been demonstrated as even more important because of

the psychological and economic risks hidden in the decision making related to intangible tourism products (Ayeh, Au, & Law, 2013a).

Source credibility refers to the extent to which "an information source is perceived to be believable, competent, and trustworthy by information recipients" (Bhattacherjee & Sanford, 2006, p. 811; C. M. K. Cheung et al., 2008, p. 232). That is, source credibility represents a recipient' perception of trust toward the information source (Hussain, Ahmed, Jafar, Rabnawaz, & Yang, 2017). Such trust defines source credibility as a multidimensional concept, based on which a two-dimensional construct—composed of source expertise and trustworthiness—has been well-established in most extant studies (Ayeh, 2015; Ayeh et al., 2013a; Myers, 2009; Shan, 2016). Nevertheless, if we return to the notion of Petty and colleagues' who initially proposed the ELM, source attractiveness under the source factors also induces individuals to travel through the peripheral route and has a great impact on persuasion (Briñol & Petty, 2009; Petty & Cacioppo, 1984; Petty, Kasmer, Haugtvedt, & Cacioppo, 1987; Petty et al., 1992). Though that physical attractiveness may have multiple effects in persuasion in some contexts and serves as a central cue (Solomon, 2013, p. 308), attractiveness has been endorsed as another source attribute to validate the credibility of information sources (Hussain et al., 2017; Kiecker & Cowles, 2002; Ohanian, 1990). Kiecker and Cowles (2002) entered "expertise," "trustworthiness," and "attractiveness" into a matrix to illustrate the credibility characteristics of personal sources in different levels of eWOM communication, from opinion leaders to surrogate consumers. In

accordance with these reviews, this research tends to follow the three-dimensional construct of source credibility and adapts it to the travel information processing on social media (Table 2.5).

Table 2.5

Dimensions of Source Credibility

Dimension	Definition	Adapted from
Perceived Expertise	The extent to which a consumer perceives a source as valid assertions based on his or her knowledge and skills in travel.	Ayeh et al. (2013a); Ohanian (1990)
Perceived trustworthiness	The confidence of a consumer in the source's intent to provide objective, truthful, and honest travel information.	Ayeh, Au, & Law (2013b); Ayeh et al. (2013a)
Perceived attractiveness	The extent to which a consumer identifies the source providing travel information as appealing in the similarity, familiarity, and likeability.	Kiecker & Cowles (2002); Racherla, Mandviwalla, & Connolly (2012); Teng, Khong, Goh et al. (2014)

Expertise (expertness) is an umbrella term used to describe the extent to which a communicator is perceived as "a source of valid assertions" (Hovland, Janis, & Kelley, 1953, p. 21, as cited in Ayeh et al., 2013a, p. 439), covering the knowledge, experience, skills, and professional status of the source (Hussain et al., 2017; Kiecker & Cowles, 2002). When encountering the travel information, consumers are more likely to trust the information from an expert who is perceived as knowledgeable and experienced on the topic (S.Y. Tseng & Wang, 2016; Z. Zhang, Zhang, & Yang, 2016). This disposition further exerts a positive impact on their attitude change and behavior intention (Ayeh et al., 2013a; Shan, 2016; Z. Zhang et al., 2016). *Trustworthiness* refers to the degree of a

consumer's confidence that the source provides objective and honest information (Ayeh et al., 2013b). Very similar to source expertise, trustworthiness can be imaged via personal identifying information on social media (Hussain et al., 2017). In fact, it has been validated as the most important dimension of source credibility in increasing the utilitarian motivation for using eWOM (Reichelt, Sievert, & Jacob, 2014). This research focuses on the sources who are perceived to be trustworthy and reliable in providing travel information. Besides the two dimensions, source attractiveness encompasses the similarity, familiarity, and likeability between recipients and sources in sociodemographic backgrounds, interests, and opinions (Kiecker & Cowles, 2002; Racherla et al., 2012; Teng, Khong, Goh et al., 2014), which means travelers can observe the user profiles on social media to find sources showing similar interests, values, and viewpoints to theirs (Shan, 2016; Teng, Khong, Goh et al., 2014; K. Z. K. Zhang, Zhao, Zhang et al., 2014). From the recipients' perspective, prior research has indicated that the greater attractiveness with which the source is perceived, such as more homophily or similarity with recipients' identification (Ayeh et al., 2013a, 2013b,; Shan, 2016), the more likely that the recipients are persuaded (Kiecker & Cowles, 2002).

2.2.3 Perceived information usefulness

Perceived information usefulness lies at the core of the TAM and the IAM theories (see subsection 2.1.3, p. 21) and advances the applicability and span of the ELM in empirical studies (N. Chung et al., 2015). In this research, perceived usefulness of travel

information can be used to describe the extent to which consumers believe that social media is useful to enhance their task performance (Ayeh, 2015; N. Chung et al., 2015; Davis, 1989). It thus supports consumers' utilitarian motivation to engage in social media (M. J. Kim, Chung et al., 2016).

Numerous studies have identified and replicated many times that "information usefulness" is the most feasible and effective reason for consumers to believe that they can make right decisions (Ayeh, 2015; C. M. K. Cheung, Lee et al., 2008; M. Y. Cheung et al., 2009; N. Chung et al., 2015; Davis, 1989; Sussman & Siegal, 2003). There is no doubt that if consumers perceive the travel information on social media to be helpful and useful, they are more likely to generate favorable responses toward the subsequent adoption for making travel plans or performing other activities related to travel (Ayeh, 2015; N. Chung et al., 2015; Salehi-Esfahani et al., 2016; J. Zhang et al., 2017a, 2017b). This research therefore invites "perceived information usefulness" as directly independent predictor of behavior intention for travel information.

2.2.4 Technical adequacy

Based on the overview of the ELM (see subsection 2.1.3, p. 18), the model is considered limited due to lack of attention to the role of external variables derived from a medium or channel. To address the gap, this research intends to apply "technical adequacy" as a context factor in driving consumers' processing of travel information on social media.

As the research context, social media refers to socio-technical information platforms (Wan, Lu, Wang, & Zhao, 2017) enabled by interpersonal communication technologies and is thus composed of technical and social components (Phang, Kankanhalli, & Sabherwal, 2009; Zhao & Lu, 2012). Accordingly, social media distinguishes itself from the conventional e-commerce by focusing on users' interactive experience in technical adequacy (J. Zhang et al., 2017a), which in turn enhances the efficiency of online information processing. As discussed in more detail, in e-commerce, technical adequacy relies on system features and depicts the appropriate technologies adopted by web retailers, such as search facilities, navigation, personalization, and interactivity (J. Chen & Shen, 2015; Liao, Palvia, & Lin, 2006). Through the innovations in social media, technical adequacy is closely concerned with socio-technological factors embedded in the social media affordance (Cabiddu, Carlo, & Piccoli, 2014). It depends on a combination of the interactive, personalized, and social properties of social media and also can represent the notion of "a possibility for action" (Cabiddu et al., 2014, p. 177) as perceived by consumers (H. Zhang et al., 2014). As such, "technical adequacy" in this research is viewed as the socio-technological features of social media perceived by consumers (J. Zhang et al., 2017b) and is believed to enable consumers to engage with travel information on social media.

The theoretical foundation of technical adequacy in tourism research is relatively underdeveloped (Cabiddu et al., 2014), in particular from the consumers' perspective. Therefore, this research invites the interpretation of technical adequacy in social

commerce engagement because social commerce is classified as a type of social media (H. Zhang et al., 2014). As outlined by H. Zhang et al. (2014), social media holds three core socio-technological features: (1) perceived interactivity, (2) perceived personalization, and (3) perceived sociability. Accordingly, the construct of technical adequacy in this research is given in Figure 2.5.

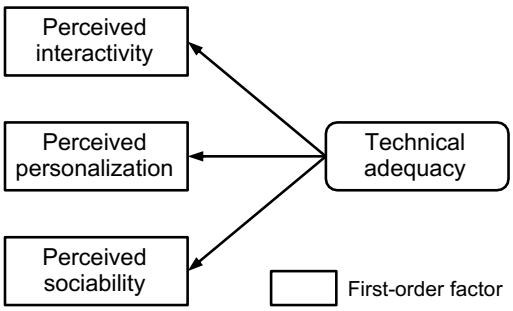

Figure 2.5. Dimensions of technical adequacy (on the basis of H. Zhang et al., 2014).

First, *perceived interactivity* occurs when consumers sense they are in the presence of a social space and perceive a simulation of interpersonal interaction (Z. H. Liu, Min, & Liu, 2014). It therefore consists of machine interactivity and social interactivity. The former describes whether consumers feel that they can control social media through modifying the form and content, while the latter presents whether consumers feel at ease and comfortable to engage in interpersonal communications via social media (X. Hu et al., 2016; Z. H. Liu et al., 2014; Phang et al., 2009). This research uses machine interactivity to refer to persuasive interactivity because the latter is commonly mixed with the sociability of social media. Second, *perceived personalization* reflects consumers' perception of what extent social media can articulate their preferences and

needs (Wan et al., 2017; H. Zhang et al., 2014), which, in this research, is their appeal for customized travel information. Third, *perceived sociability* supports a state of social space perceived by consumers where it feels pleasant to interact with each other (Animesh et al., 2011; Phang et al., 2009). Existing studies in social media contexts always select one or two of these three features (Animesh et al., 2011; X. Hu et al., 2016; Komiak & Benbasat, 2006; Z. H. Liu et al., 2014; Tam & Ho, 2005, 2006; Zhao & Lu, 2012). In spite of that, the trigger role of these features has been widely acknowledged because they meet consumers' needs for informational and emotional supports to confirm their beliefs and responses in processing information (Komiak & Benbasat, 2006; Y. C. Lee, 2017; Y. W. Li, Liang, & Wei, 2013; Wan et al., 2017; X. Wang, Yu, & Wei, 2012; H. Zhang et al., 2014).

2.2.5 Outcome: Travel information adoption

Information adoption is conceptualized as "a process in which people purposefully engage in using information" (C. M. K. Cheung et al., 2008, p. 233). Researchers are more likely to elaborate its concept from an information taking perspective, such as agreeing with others, following others' suggestions, and taking action to use or recommend information (C. M. K. Cheung et al., 2008; Filieri & McLeay, 2014; Sussman & Siegal, 2003). N. Chung et al. (2015) interpreted travel information adoption from taking side and defined "taking" as a sum of behaviors, including replying, forwarding, liking, linking, and commenting. Based on the ELM, Teng, Khong, and Goh (2014) depicted the intention to use information on social media from three

dimensions: following, recommending, and sharing. In these views, "adoption" performs the action intention to accept as well as to use. This research therefore views travel information adoption as a process in which consumers purposefully engage in using travel information on social media. The outcome of this process is the behavior intention to adopt travel information.

2.3 Bias Effects

Returning to the literature limitations of the moderating effects in the ELM and its application in tourism research (see subsection 2.1.3, p. 24; subsection 2.1.4, p. 27), determining how social connection factors (in this research, users' social presence and self-disclosure) interact with the information cognitive process on social media is an important task (J. Zhang et al., 2017a, 2017b). Therefore, it can be helpful to try to identify the two variables.

2.3.1 Social presence

Social presence is defined as an individual's sense of psychological connections with other users in a medium (Gefen & Straub, 2004) and lies in the ability of an individual to imagine the presence of other intelligent social actors (K. M. Lee, 2004). Nevertheless, most previous studies on social presence have focused on information and communication technology (ICT) characteristics—in particular, media richness (Kang & Gretzel, 2012; Kaplan & Haenlein, 2010). As a conclusion, media channels with higher interaction and participation are able to inspire greater levels of social presence

(N. Chung et al., 2015; Kang & Gretzel, 2012). For instance, in a study of travel information adoption using the ELM, N. Chung et al. (2015) interpreted social presence as a principle of media richness and confirmed that rich media (high social presence), such as Facebook, could enhance the influence of source credibility on travel information usefulness. Although social presence has been frequently used to explore the effects of technology (e.g., Biocca, Harms, & Burgoon, 2003), in a given mediated communication, the efficiency of social presence depends more on the scope of its social influence (Kang & Gretzel, 2012). In other words, higher social presence helps generate greater social interaction and emotional connection between members in communication (Biocca et al., 2003; Kang & Gretzel, 2012; Shin, 2012; H. Zhang et al., 2014). For example, Shin (2012) illustrated that social presence can be more effectively enhanced through emotional connection than through technical manipulation in the 3DTV context.

According to the preceding explanation, this research introduces social presence from the social psychology perspective and therefore regards it as an interpersonal connection that interacts with the relationship between consumers in social media (Gefen & Straub, 2004; J. Zhang et al., 2017a). High social presence can be perceived when a consumer feels that others are aware of his or her presence, and the interaction with others on social media is close, emotional, and warm (Kang & Gretzel, 2012; Shen & Khalifa, 2008; H. Zhang et al., 2014). As such, sensing different levels of social presence with one another may imply different levels of human contact and, in turn,

lead to variance of information communication (Park & Cameron, 2014). With the rising sense of one another's presence, an individual is able to reduce uncertainty and improve the level of perceived control and responsiveness of the communication (Cui, Wang, & Xu, 2010). In this lens, it is very necessary to investigate the moderating effects of social presence in persuasive communication.

2.3.2 Self-disclosure

Self-disclosure is defined as the extent to which individuals voluntarily and intentionally reveal their thoughts, feelings, and experiences to others (Z. L. Liu, Min, Zhai, & Smyth, 2016). This is generally manifested through an individual's profile and appears in five subdimensions: amount, depth, honesty, intent, and valence (H. Y. Huang, 2016; Wheeless & Grotz, 1976). These subdimensions reflect one's self-disclosure in frequency and duration, communication intimacy, self-information accuracy, disclosure control and awareness, and disclosure of positive information, respectively (Z. L. Liu et al., 2016). In accordance with the social exchange theory (Homans, 1958), self-disclosure is essential for interpersonal relationship building and maintenance, resulting from the weight toward potential benefits and costs (Piazza & Bering, 2009). Implying greater openness, self-disclosure fosters sharing, exchanging, and trusting between two parties (L. S. Huang, 2015), which makes it a reciprocal benefit-exchange process as well. In this process, self-disclosure generates pre-commitment and, in turn, facilitates interpersonal communication (W. Y. Lin, Zhang, Song, & Omori, 2016). It therefore plays an important role in explaining the

information cognitive process from a relational perspective.

With a premise of benefit-driven and reciprocal processes, researchers have investigated self-disclosure from its antecedents and outcomes in the contexts of social media, in particular, social network sites (SNS) (H. Y. Huang, 2016; Z. L. Liu et al., 2016). Its antecedents are mainly derived from the exchange between benefits and costs, which concerns the comparison between the weight of trust to information or support providers and perceived risk in privacy (R. Chen & Sharma, 2013; Joinson, Reips, Buchanan, & Schofield, 2010; Kobsa, Cho, & Knijnenburg, 2016; Z. L. Liu et al., 2016). Due to the reciprocity effects of self-disclosure, its outcomes are also highly involved in "trust," such as cognitive and affective trust (L. S. Huang, 2015), social support (H. Y. Huang, 2016), and social ties (D. Liu & Brown, 2014). Although they serve as different patterns of trust, a potentially consistent view is that recipients' perceptions of self-disclosure may positively interact with their trust in information providers' reliability and dependence (L. S. Huang, 2015); that is, there may exist a circle where users' self-disclosure and their perceived source credibility are interconnected and mutually reinforce each other. Because of the rare research on self-disclosure in tourism, this research believes that it is suitable to reproduce the pervious findings in other fields. Therefore, users' self-disclosure is considered to be a moderator in the cognitive processing of travel information.

2.4 Developing a Travel Information Adoption Model

On the basis of the literature review in sections 2.2 and 2.3, an extended ELM, namely travel information adoption model (TIAM) (Figure 2.6), can be developed to predict the cognitive processing of travel information adoption. According to the research design, it will be tested in the pilot study.

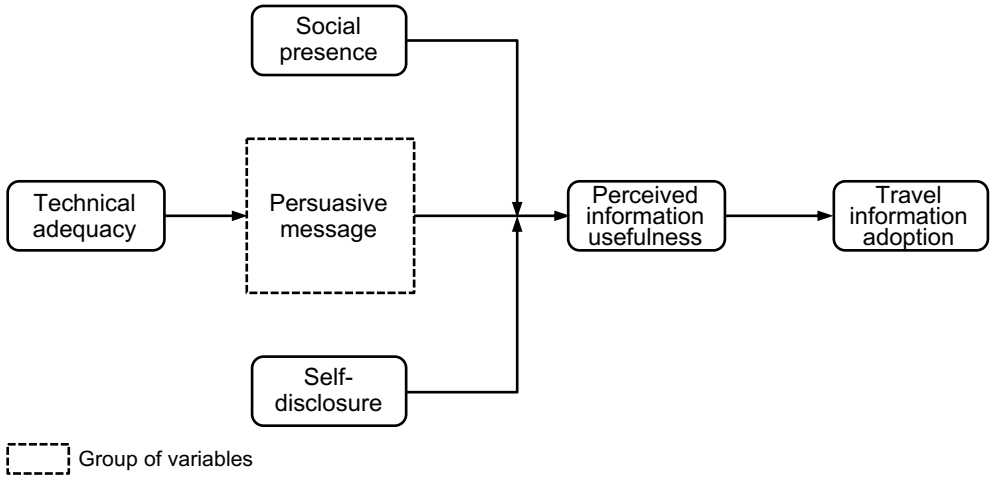

Figure 2.6. Travel information adoption model.

2.5 Travel Information Engagement: Extension of Travel Information Adoption

2.5.1 Perceived self-efficacy

Self-efficacy reflects "an individual's self-confidence in his or her ability to perform a behavior" (Taylor & Todd, 1995, p. 150). In this line, perceived self-efficacy can be used to refer to people's beliefs about their capabilities to organize and execute an action (Bandura, 1994, 1998). In this research, perceived self-efficacy draws upon online travelers' perceived ability and skills of using travel-related technologies to make

decisions (Yoo, Goo, Huang, Nam, & Woo, 2017). Consistent with these illustrations, an individual's behavioral change as a cognitive mechanism is produced and mediated by the level and strength of self-efficacy (Bandura, Adams, & Beyer, 1977). By enhancing intensity and persistence of effort, perceived self-efficacy influences an individual's choice of behavioral setting (Bandura & Adams, 1977; Bandura et al., 1977), which means the higher the perceived self-efficacy, the higher the coping efforts. Through this psychological procedure, more expected performance and behavioral achievements are generated (Bandura & Adams, 1977; T. Zhou et al., 2016). As such, perceived self-efficacy is well accepted as a predictor of task performance as well as the intention to act (Ajzen, 1991, 2012; Bandura, 1994; Bandura et al., 1977).

Despite the powerful effects of self-efficacy on task performance and action intention, its role is still unclear regarding how consumers feel, think, and process travel information. Two reasons may be responsible for that lack of clarity. First, perceived self-efficacy stems from the social cognitive theory and serves as the foundation of human agency (Bandura & Adams, 1977). As a result, it is considered a uniformly accurate predictor of task performance, regardless of where the changes in self-efficacy are produced (Bandura et al., 1977). Likewise, in the TPB, the focus lies in an individual's efficacy expectation to successfully execute the behavior (Ajzen, 2002). Hence, the information—what content and from who—is immaterial, whereas whether it works for performance matters significantly. Such bias continued in the second reason that the majority of research on self-efficacy leans to the theoretical frameworks based

on the TPB and its combination with the TAM (e.g., Casaló, Flavián, & Guinalíu, 2010; Taylor & Todd, 1995; Vijayasarathy, 2004; Y. Wang & Fesenmaier, 2004). However, as one of the attitude-behavior theories, external information concerned with behavior-relevant beliefs is the core component of the TPB, although it does not play a direct role. Considering that the ELM and the IAM may provide richer and more detailed ways to understand information-oriented attitudes and behaviors, how perceived self-efficacy can mediate the two thought routes in the ELM will be an important issue that needs to be addressed. Endeavoring to meet this need, a basic causal structure, including perceived self-efficacy and the ELM, is proposed as shown in Figure 2.7.

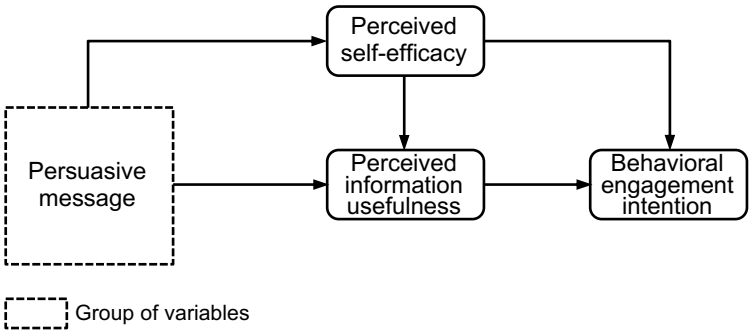

Figure 2.7. Role of perceived self-efficacy in travel information engagement.

2.5.2 Perceived online social capital

From the individual level, *social capital* is commonly defined as the sum of resources that can be accessed, accumulated, or mobilized through one's social network and relationships for some purposeful action (N. Lin, 2008). Thus, social capital is

generated through social interaction but depends on the quality of social relationships and the nature of one's social network (Ellison, Vitak, Gray, & Lampe, 2014; N. Lin, 2008). Social networks, trustworthiness, and reciprocity are key constructs for accessing social capital (Moscardo, 2014). Putnam (2000) separated social capital into two distinct dimensions: bridging and bonding. *Bridging* social capital is described as weak ties or relationships between individuals that provide less emotional support (Ellison, Steinfield, & Lampe, 2007). Conversely, *bonding* social capital stems from one's close relationships and is described as strong ties or relationships between individuals with high trust, high connectivity, and shared norms (Ellison et al., 2007).

A large body of literature has confirmed the relationships of social media usage and social capital—in particular, the specific online social capital (Facebook-enabled) (Ellison, Gray, Lampe, & Fiore, 2014; Ellison et al., 2007; Ellison, Vitak et al., 2014; Horng, Wu, & Liang, 2016). One of the common findings is that a virtuous circle may exist between social media usage and social capital in which they increase each other. In tourism research, Moscardo (2014) established a framework with two feedback loops connecting trust to social capital. It suggested that trust is the critical catalyst to create and access social capital; in turn, the successfully generated social capital can reinforce trust to offer expected reciprocal exchanges. Following these previous studies, social capital can be understood as an outcome of social networking and trust and will encourage the use of social media.

However, social capital is always considered complex and more connected with SNSs such as Facebook (Ellison et al., 2007; Nunkoo & Smith, 2014). As a result, less effort has been given to determining the role of social capital in predicting the information cognitive process. Built on the ELM in the social media context, mediation variables associated with social influence, such as social relationships (N. Chung et al., 2015), attachment (N. Chung & Han, 2017; M. J. Kim, Chung, Lee et al., 2016) and gratification-related motivations (Hur, Kim, Karatepe, & Lee, 2017), have been explored to construct more effective communication in consumer engagement with travel information. However, like the research on information engagement, the exploration of social cognitive factors (social motivations) is still underway. As an empirical study, it is proposed that perceived online social capital is an important factor along with perceived information usefulness in encouraging travel information engagement in social media (Figure 2.8).

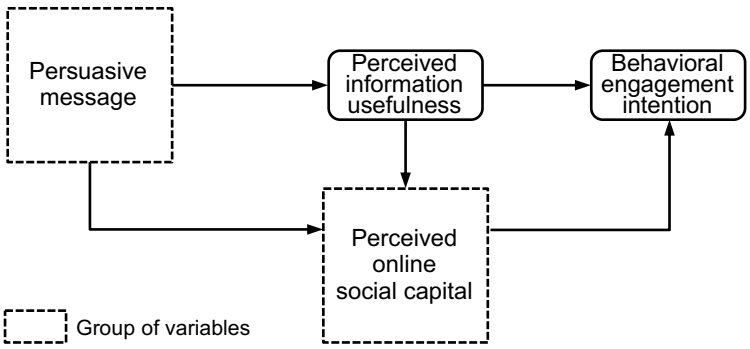

Figure 2.8. Role of perceived online social capital in travel information engagement.

Another inadequacy of the prior research lies in the lack of reliable instruments of social capital. The measurement most frequently used is the Internet Social Capital Scales (ISCS) developed by D. C. Williams in 2006. ISCS measures the two forms of social capital with 10 items in each form, respectively. Subsequently, the vast majority of studies in this field have reproduced or modified the number of items based on the ISCS and its extended versions by Ellison and colleagues (see Ellison, Gray et al., 2014; Ellison et al., 2007; Ellison, Vitak et al., 2014, for more details). Unfortunately, there is no general agreement about which version(s) are most reliable and appropriate for building modes of consumer behavior intention on social media, including travel-related purposes (Y. P. Chang & Zhu, 2012; Chi, 2011; N. Chung, Han, & Koo, 2013; Horng et al., 2016; M. J. Kim, Lee, & Bonn, 2016). Therefore, this research deems that it will be very helpful to test the validity of social capital scales in the travel information engagement field.

2.5.3 Outcome: Travel information engagement

As reviewed previously, this research intends to conceptualize consumer engagement from its behavioral dimension. In this line, travel information engagement in social media can be indicated through consumers' subjective response to behavioral engagement intention for travel information. As constructed by Schivinski et al. (2016), such engagement intention regards consumers' intention to consume, contribute, and create relative content per se. Thus, behavioral engagement intention in this research would be measured by a combination of travel information adoption and generation (P.

Wang et al., 2017). Further, in accordance with the sequential approach designed in this research, behavioral engagement intention would be set as the outcome of the structural model of travel information engagement for the formal study, in which its variance is hoped to be effectively explained by consumers' perception of utilitarian motivation (i.e., perceived information usefulness) as well as their perception of social-related motivation (i.e., self-efficacy, online social capital).

2.6 Developing an Integrated Model of Travel Information Engagement

By extending the TIAM (Figure 2.6, p. 46) with the mediating effects of perceived self-efficacy and perceived online social capital, an integrated cognitive model for the formal study is established, namely travel information engagement model (TIEM) (Figure 2.9).

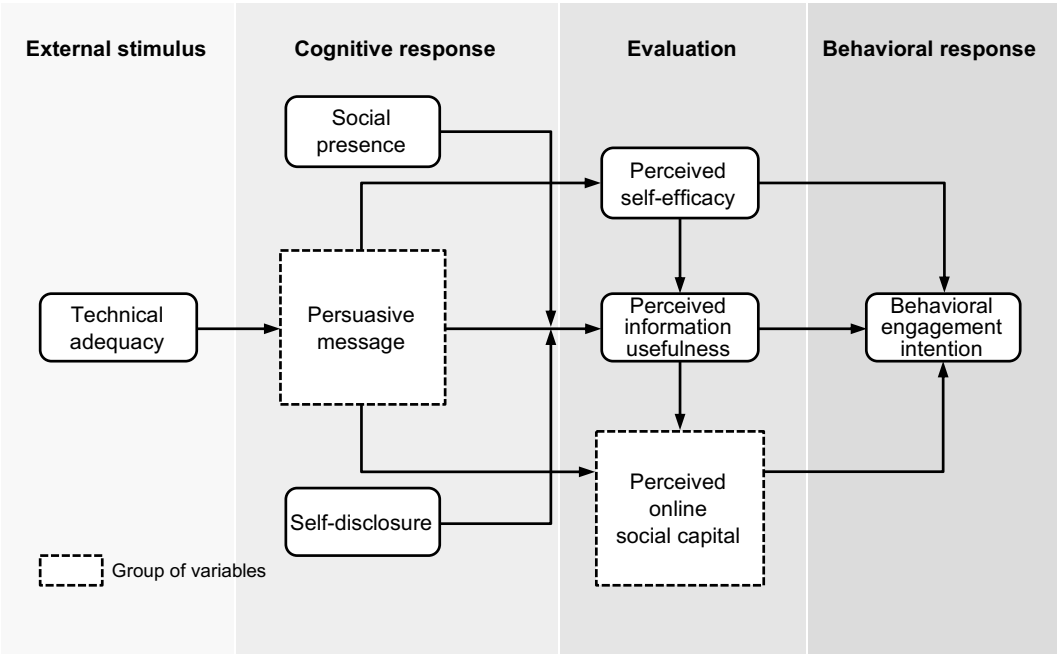

Figure 2.9. Travel information engagement model.

CHAPTER 3. PILOT STUDY ON TRAVEL INFORMATION ADOPTION

To address the three research questions raised in Chapter 1 (p. 4) and interpreted in Chapter 2, the purpose of the pilot study is to initially investigate (1) whether the ELM is appropriate to predict Chinese consumers' adoption of travel information on social media, (2) which path is more effective in leading to persuasion, and (3) whether the cognitive processing of travel information varies across users' social presence and self-disclosure on social media.

3.1 Research Model and Hypotheses

3.1.1 Structural model of travel information adoption

To examine the conceptual model of travel information adoption (TIAM) (Figure 2.6, p. 46), a structural model for the pilot study was constructed. As shown in Figure 3.1 (p. 54), it is a modified ELM with two routes determined by argument quality and source credibility, which are predicted by technical adequacy of social media. As the direct dependent variable of the two routes, perceived information usefulness increases consumers' adoption of travel information on social media. The structural model also extends the ELM by integrating social media users' social presence and self-disclosure as moderators which may bias the dual-route effects on perceived information usefulness. Hypotheses for the pilot study are assumed in the following subsections.

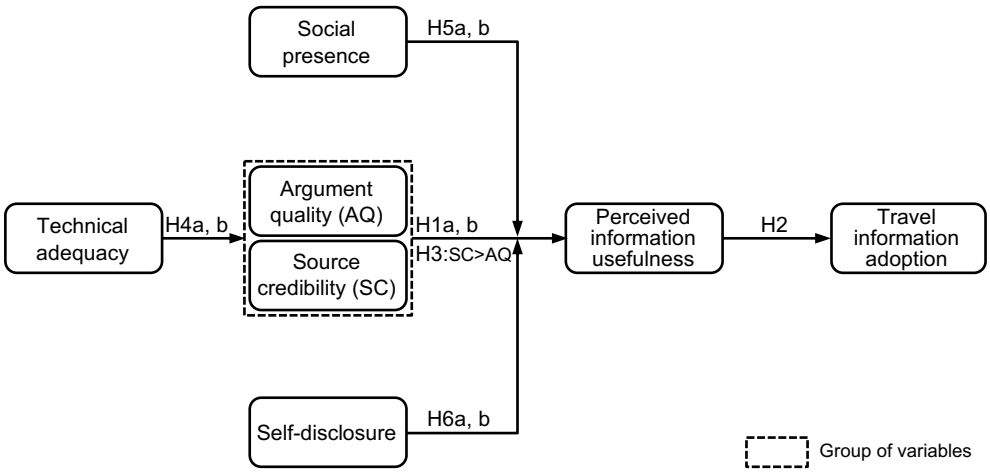

Figure 3.1. Research model in pilot study.

3.1.2 Dual-route effects

Following the dual-route postulate in the ELM, individuals' perceptions of persuasive messages are determined by argument quality and source credibility involved in the information. Information will be perceived as strong in argument quality when it maintains a high-quality and cogent argument, which evokes consumers to hold positive beliefs regarding its usefulness. In addition, information will be assessed as helpful and valuable if it is generated by sources who are experts, trustworthy, and attractive enough. In empirical studies, the efficiency of the two routes has been verified in exploring consumers' evaluations of travel information (N. Chung et al., 2015; Kim, Chung et al., 2016; Tseng & Wang, 2016). For instance, Kim, Chung et al. (2016) indicated that argument quality and source credibility could persuade consumers by improving their confidence to confirm the usefulness of the travel information when they make decisions to purchase tourism products using their smartphone or tablet.

Just focusing on a single route out of the dual routes, researchers have also endeavored to reach deeper insights into the information cognitive process. In the scope of argument quality, Filieri and Mcleay (2014) interpreted that, as components of the central-route thought mode, information accuracy, relevance, and timelessness are strong reasons for travelers to consider using online reviews about accommodation. High quality of information content was also found helpful in shaping consumers' cognition of a tourism destination (Tang et al., 2012; S. E. Kim et al., 2017). Besides these findings, R. Li and Suh (2015) suggested that information credibility on a Facebook page mainly increases along with the persuasiveness and logic embedded in the argument of a message.

In the scope of source credibility, perceived trustworthiness (one of the source credibility factors) has been demonstrated to wield a significant effect on travelers' attitudes toward TripAdvisor and its usefulness for travel planning (Ayeh et al., 2013a; Ayeh, 2015). Research on user-generated product reviews (UGPRs) has revealed that perceived source expertise and receiver-source similarity inspire users' beliefs and directly influence their perceptions of UGPR usefulness (K. Kim et al., 2017). In another study on online tourism product reviews, Racherla et al. (2012) found that consumers are likely to look for reviewers with similar characteristics to establish source cues when putting more trust in online reviews of travel products. Considering the findings of the previous studies discussed, the following hypothesis is assumed:

H1 (a) Argument quality and (b) source credibility of travel information positively

affect its perceived usefulness on social media.

According to the TAM and IAM theories, perceived information usefulness, as a direct predictor of information adoption, could be construed to be individuals' beliefs that using a medium would enhance their task performance (Ayeh, 2015; N. Chung et al., 2015; Davis, 1989). Sussman and Siegal (2003) advocated that information usefulness is qualified as the most effective predictor of information adoption. Extensive research has provided empirical and robust evidence that consumers who perceive travel information to be useful, helpful, and valuable tend to have favorable responses toward using information and continuing to participate (M. J. Kim, Chung et al., 2016; Salehi-Esfahani et al., 2016). Adapted from the IAM theory, the following hypothesis is proposed:

H2 (pilot) Perceived usefulness of travel information positively affects travel information adoption on social media.

Along with the studies mentioned previously, other studies have discovered that richer media modalities (e.g., interactive web pages) can draw high-involvement exposure and shift users' attention from the message itself to the source (N. Chung et al., 2015; J. Zhang et al., 2017a). Consumers prefer to rely more on the peripheral route because rich media depend less on recipients' ability to access information (N. Chung et al., 2015). Regarding the Chinese users, travel-related social media such as Qyer or Douban in China are facilitating the socialization of tourism activities (L. Li, Zheng, & Wang, 2015). In line with this, Yan et al. (2016) found that Chinese consumers would

refer to the comments from their friends on social media when they perceived low credibility of eWOM on e-commerce sites. In addition, Chinese travelers not only follow various travel accounts on social media but also place much more trust in peer reviews than British travelers do (Michopoulou & Moisa, 2016). Hence, the priority of source credibility might be higher than argument quality among Chinese consumers. The following hypothesis is proposed:

H3 Source credibility of travel information is more effective than is argument quality in predicting perceived information usefulness.

3.1.3 Technical adequacy as a trigger

Rising with the mediated communication—in particular, the mobile Internet—technical adequacy rapidly inspires consumers to accept and engage in the evaluation of online information. In the mobile technological environment for travel, context and content are especially interactional, cannot be separated, and inherently arise from each other (Lamsfus, Wang, Alzua-Sorzabal, & Xiang, 2015). In this light, a friendly context, which can support consumers' need for useful information, signifies not only a well-designed website (Tang et al., 2012) but also a socio-technological integration of interactivity, personalization, and sociability (H. Zhang et al., 2014).

Following the preceding interpretation, consumers' perceptions of technical adequacy may address what information they will engage in and whom they are willing to trust. Wan et al. (2017) found that interaction, representing the social system of social

media, boosts users' emotional attachment to content creators, whereas personalization and sociability, classified as technical systems, increase their functional dependence on social media. Meanwhile, X. Hu et al. (2016) argued that the personalization and interaction users feel in social commerce can encourage them to support each other with information as well as with emotion.

In more detail, users' passion for eWOM in social commerce increases with their level of experience in its interactivity when acquiring information. Tam and Ho's (2006) study on user information processing indicated that a personalized web is depicted by its content that is associated with users and their goals, which would stimulate them to pay attention to the content, recall it, and perceive it as useful. They also recommended in another study that web personalization in users' preference matching can be a persuasion strategy through a central route derived from the ELM (Tam & Ho, 2005). Previous studies also suggested that personalization significantly improves consumers' trust and belief in the competence and integrity of online recommendation agents and retailers (Komiak & Benbasat, 2006; Y. W. Li et al., 2013). In terms of perceived sociability, research on online communities emphasized that the sociability feature of social media systems makes users feel pleasant and comfortable interacting with each other (Phang et al., 2009), and in turn reinforces their positive responses to product and brand involvement through information communication (X. Wang et al., 2012; Y. C. Lee, 2017). In sum, technical adequacy could essentially explore consumers' participation in the information cognitive process. Accordingly, the following hypothesis is raised:

H4 Technical adequacy of social media positively affects (a) argument quality and (b) source credibility of travel information on social media.

3.1.4 Social presence and dual-route effects

Regarding the ELM in an online environment, Chen and Lee (2008) suggested that consumers with a high social presence have a high level of emotional stability and openness. They were found to be likely to travel through the peripheral route for hedonic shopping value, whereas consumers with higher conscientiousness are more influenced by the central route in creating utilitarian shopping value. Song and Hollenbeck (2015) found that social presence adds human warmth to text messages with respect to two-way communication through mobile devices. Meanwhile, Walter, Ortbach, and Niehaves (2015) noted that electronic feedback from a knowledge source could improve users' social presence and is considered trustworthy. In other words, social presence perception and source credibility are closely related and promote each other's effectiveness in a persuasive communication.

The social presence of consumers are also different across different products. Choi, Lee, and Kim (2011) stated that social presence with respect to hedonic products has more influence on the intention to reuse an online recommender system as compared to that of utilitarian products. Because travel products are purchased and experienced for entertainment or interest (Choi et al., 2011), the process of using travel information needs more connection and interaction between consumers and between consumer and brand in both breadth and depth. In this view, higher social presence supports more of a

sense of social connection, drawing a higher efficiency in source credibility and relatively reducing the consideration of argument quality in travel information. Therefore, the following hypothesis is proposed:

H5 Social presence on social media interacts with the impact of persuasive messages (travel information) on perceived information usefulness, such that (a) it positively moderates the effect of source credibility on perceived usefulness of travel information, (b) but negatively moderates the effect of argument quality.

3.1.5 Self-disclosure and dual-route effects

In social media contexts, self-disclosure has been mainly examined from the exchange between benefits and costs (H. Y. Huang, 2016; Z. L. Liu et al., 2016). Accordingly, high self-disclosure would generate perceived intangible benefits, such as social support, intimacy relationship, and reciprocity. Similar to a "loop," these benefits could further produce much higher self-disclosure (J. Chen & Shen, 2015; H. Y. Huang, 2016). For instance, H. Y. Huang (2016) proposed that users who disclose personal information on SNS would receive the information and emotional support from their social networks, increasing the amount of useful information they can obtain. J. Chen and Shen (2015) verified that social support from other members on Douban promotes Chinese users' confidence in the ability of information providers, which in turn predicts their intention to disclose themselves.

In line with reciprocal benefits, consumers who disclose information first would

receive an equal or greater disclosure from others, which is beneficial for acquiring information from trustworthy sources (W. Y. Lin et al., 2016). That means self-disclosure may positively interact with source credibility and enable consumers to perceive more useful and helpful information on social media. Conversely, consumers with low self-disclosure may perceive more risk, costs, or uncertainty toward information communication on social media (W. Y. Lin et al., 2016). It has been identified that perceived risk is one factor that weakens the association between source credibility and information usefulness on travel websites (Tseng & Wang, 2016). Accordingly, low self-disclosure may relatively strengthen the effect of argument quality on information usefulness. Therefore, this research assumes the following hypothesis:

H6 Self-disclosure of social media users moderates the impact of persuasive messages (travel information) on perceived information usefulness, such that (a) users with high self-disclosure are more likely to travel through the peripheral route (source credibility), whereas (b) users with lower self-disclosure are more likely to travel through the central route (argument quality).

3.2 Methods

3.2.1 Measurement development in pilot study

The variables in the research model of the pilot study were measured with multiple items on a seven-point Likert scale (1 = strongly disagree, 7 = strongly agree). To fit

into the social media context, items were slightly modified from previous studies (Table 3.1). Particularly, technical adequacy, as a second-order factor, was measured by three first-order factors: perceived interactivity, perceived personalization, and perceived sociability (X. Hu et al., 2016; H. Zhang et al., 2014; J. Zhang et al., 2017a, 2017b). Self-disclosure was measured as a formative variable with five extracted items including amount, depth, honesty, intent, and valence. (Z. L. Liu et al., 2016; J. Zhang et al., 2017a). Table 3.2 (p. 63) contains all the items that measure five groups of the variables shown in Table 3.1.

Table 3.1

Variables and Literature Sources for Measurement Development in Pilot Study

Variable	Source
External stimulus	
Technical adequacy	H. Zhang et al. (2014)
Cognitive response (dual-route)	
Argument quality	Filieri & McLeay (2014); K. Z. K. Zhang, Zhao, Cheung et al. (2014)
Source credibility	K. Z. K. Zhang, Zhao, Cheung et al. (2014); K. Z. K. Zhang, Zhao, Zhang et al. (2014)
Cognitive response (bias effects)	
Social presence	Kang & Gretzel (2012); Shen & Khalifa (2008); H. Zhang et al. (2014)
Self-disclosure	Z. L. Liu et al. (2016)
Evaluation	
Perceived information usefulness	Sussman & Siegal (2003)
Behavioral response	
Travel information adoption	N. Chung et al. (2015); Sussman & Siegal (2003); Teng, Khong, Goh et al. (2014)

Table 3.2

Measurement Items in Pilot Study

Construct	Item
Technical adequacy (TA)	INT1 The tools provided by social media allow me to create content as per my imagination.
	INT2 Social media allows me to change or influence the way the medium looks.
	PER1 Social media stores all my preferences and offers me extra services based on my preferences.
	PER2 Social media does a pretty good job guessing what kinds of things I might want and making suggestions.
	SOC1 Social media enables me to develop good social relationships with others in the environment.
	SOC2 Social media enables me to feel part of the virtual community.
Argument quality (AQ)	AQ1 The travel information from social media is easily understandable.
	AQ2 The travel information on social media is sufficient.
	AQ3 The travel information on social media is comprehensive.
	AQ4 The travel information on social media is up-to-date.
	AQ5 The arguments of travel-related reviews are convincing.
	AQ6 The arguments of travel-related reviews are strong.
Source credibility (SC)	SC1 The information sender is knowledgeable in travel.
	SC2 The information sender is experienced.
	SC3 The information sender is trustworthy.
	SC4 The information sender is reliable.
	SC5 The information sender and I share similar viewpoints.
	SC6 The information sender and I share similar interests.
Social presence (SP)	SP1 I feel the others are aware of my presence on social media.
	SP2 I feel the interaction with the others on social media is close.
	SP3 I feel the interaction with the others on social media is emotional.
	SP4 I perceive the others' messages on social media as being personal.
	SP5 I feel involved with the others on social media.
Self-disclosure (DIS)	DIS1 I often talk about myself when using social media.
	DIS2 I intimately and fully reveal myself when using social media.
	DIS3 My self-disclosures when using social media are completely accurate reflections of who I really am.
	DIS4 I consciously intend to reveal my feelings about myself when using social media.
	DIS5 I normally express my "good" feelings about myself when using social media.
Perceived information usefulness (PIU)	PIU1 Social media is informative for travel information adoption.
	PIU2 The travel information from social media is valuable.
	PIU3 The travel information from social media is helpful.
Travel information adoption (TIA)	TIA1 I intend to search travel information on social media.
	TIA2 I have followed the travel information from others on social media.
	TIA3 I can make the right travel decision through social media.
	TIA4 I am willing to share travel information on social media.

Note. INT = Perceived interactivity; PER = Perceived personalization; SOC = Perceived sociability.

3.2.2 Participants and data collection

The pilot study targeted Chinese consumers—in particular, Chinese young people such as college students and wage earners—because they are considered more indicative and representative as potential travelers. Young people, especially the college students, are the generation who ubiquitously and frequently use social media applications, who have strong desire to learn online, and who also have fruitful experiences in online shopping (X. Zhou, Song, Li, Tan, & Zhou, 2017). Reported by China Internet Network Information Center (CNNIC), Internet users less than 40 years of age occupied the largest proportion of social media application use (82.5%) (CNNIC, 2016) and online tourism product booking (71.9%) (CNNIC, 2015) in China. It is therefore beneficial and crucial to investigate how they process travel information on social media. They are also considered fit to test whether the ELM is appropriate for Chinese consumers' adoption of travel information on social media.

Data collection was conducted through a web-based survey in mainland China from January 14 to 22, 2016. Out of 524 respondents, 356 were retained after screening out those outlier samples and those who had not used social media for travel information activity in the past 12 months.

3.3 Results

IBM SPSS 23.0 was used for descriptive analysis, following which IBM AMOS 23.0 was used to examine the measurement and structural models. Interaction analysis

and multi-group analysis were employed to evaluate the moderating effects of social presence and self-disclosure, respectively.

3.3.1 Descriptive statistics

The valid samples were characterized by their demographic background and their experience of using social media related to travel information. As listed in Table 3.3 (p. 66), 41.6% were male and 58.4 % were female, with an average age of 24.53. The vast majority of valid samples (92.4%) attended advanced education in undergraduate course or above. In terms of occupation, 48.3% of the respondents were students, which nearly matched to the proportion of respondents who are wage earners (48%).

Table 3.4 (p. 67) includes experience items of using social media, in particular travel-related social media. Top three ranking social media platforms are WeChat (93.3%), Sina Weibo (72.5%), and QQ (68.3%). General social media (57.0%), general online travel agency (56.7%), and vertical search platforms (49.7%) were the top three channels leading the visit frequency. In pre-trip, more than half of the respondents visit social media for travel information for less than 2 times (59.0%), and with a duration of less than one hour for each visit (73.9%). In addition, information of accommodation (91.0%) was the top travel information respondents intend to search from social media before the trip. It is worth noting that apart from the stage of pre-trip (97.5%), travel information obtaining happened at all the other travel stages and in the daily life.

Table 3.3

Respondents' Demographic Characteristics in Pilot Study

Characteristic		*N* = 356	
		Frequency	%
Gender	Male	148	41.6
	Female	208	58.4
Age	19 - 22	121	34.0
	23 - 29	201	56.5
	30 - 39	33	9.3
	≥ 40	1	0.3
Education	Senior school	6	1.7
	Junior college	21	5.9
	University	254	71.3
	Graduate school	75	21.1
Occupation	Student	172	48.3
	Private enterprise manager or employee	105	29.5
	Government or Public sector employee	66	18.5
	Self-employed or Freelancer	10	2.8
	Unemployed & Others	3	0.9
Monthly income (RMB)	≤ 1000	132	37.1
	1001 - 3000	67	18.8
	3001 - 5000	74	20.8
	5001 - 8000	56	15.7
	> 8000	13	3.7

Table 3.4

Respondents' Experience of Using Travel-related Social Media in Pilot Study

Characteristic	*N* = 356	
	Frequency	%
Type of social media		
WeChat	332	93.3
Sina Weibo	258	72.5
QQ	243	68.3
Baidu Baike	176	49.4
Video website	136	38.2
Zhihu	128	36.0
Douban	88	24.7
Renren	19	5.3
Momo	10	2.8
Others	16	4.5
Type of travel-related social media		
General social media (e.g., WeChat, Sina Weibo, Douban)	203	57.0
General online tourism agency (OTA) (e.g., Ctrip.com, Ly.com)	202	56.7
Vertical search (e.g., Qunar.com, Kuxun.cn)	177	49.7
General search engine (vs. social media) (e.g., Baidu, Google)	127	35.7
Virtual tourist community (e.g., Qyer.com, Mafengwo.cn)	105	29.5
Websites/Apps released by search engine (e.g., Lvyou.baidu.com)	83	23.3
Websites/Apps released by E-commerce (e.g., Alitrip.com)	66	18.5
Social media visit frequency for travel information before trip (per week)		
≤ 1 time	132	37.1
2 times	78	21.9
3 times	52	14.6
4 times	13	3.7
≥ 5 times	81	22.8
Average length of time for each visit		
≤ 0.5 hour	101	28.4
0.5 - 1 hour	162	45.5
1 - 2 hours	39	11.0
≥ 2 hours	54	15.2
Type of travel information		
Accommodation	324	91.0
Attraction	291	81.7
Transportation	281	78.9
Travel routes	272	76.4
Restaurants	249	69.9
Destination	178	50.0
Entertainment	96	27.0
Shopping	78	21.9
Phase of social media visit for travel information		
Pre-trip	347	97.5
En route trip	165	46.3
On site	152	42.7
Post-trip	16	4.5
Daily life	117	32.9
Others	2	0.6

3.3.2 Measurement model

The measurement model was estimated by the confirmatory factor analysis (CFA) (Hair, Black, Babin, & Anderson, 2010) and a good model fit was demonstrated ($\chi^2(277) = 515.005$, $\chi^2/df = 1.859$, GFI = .898, NFI = .908, NNFI = .947, CFI = .955, SRMR = .054, RMSEA (90% CI) = .049). After the CFA, four items were removed, including two items (AQ1, SP4) with factor loadings less than .60 and two items (TIA1, TIA3) resulting in the insufficiency problem to the discriminant validity. As performed in Table 3.5 (p. 69), all the values of composite reliability (CR) and average variance extracted (AVE) are higher than the recommended levels .70 and .50 (Fornell & Larcker, 1981), respectively. Cronbach's α values of each variable and the factor loadings of most items also exceed .70 (Gefen, Straub, & Boudreau, 2000; Nunnally, 1978). Therefore, convergent validity of the measurement model in the pilot study was supported.

Table 3.5

Results of Convergent Validity Testing in Pilot Study

Construct	Item	Standardized loading	Composite reliability	Cronbach's α	AVE
Technical adequacy (TA)			.808	.769	.586
Perceived interactivity (INT)	INT	**.754**			
	INT1	.806			
	INT2	.823			
Perceived personalization (PER)	PER	**.833**			
	PER1	.783			
	PER2	.665			
Perceived sociability (SOC)	SOC	**.703**			
	SOC1	.886			
	SOC2	.535			
Argument quality (AQ)	AQ1[a]	-	.835	.852	.504
	AQ2	.636			
	AQ3	.678			
	AQ4	.701			
	AQ5	.778			
	AQ6	.747			
Source credibility (SC)	SC1	.718	.900	.908	.604
	SC2	.745			
	SC3	.905			
	SC4	.901			
	SC5	.701			
	SC6	.658			
Social presence (SP)	SP1	.767	.845	.843	.578
	SP2	.828			
	SP3	.747			
	SP4[a]	-			
	SP5	.692			
Perceived information usefulness (PIU)	PIU1	.864	.909	.909	.769
	PIU2	.903			
	PIU3	.864			
Travel information adoption (TIA)	TIA1[a]	-	.755	.743	.610
	TIA2	.874			
	TIA3[a]	-			
	TIA4	.676			

Note. Technical adequacy was set as a second-order factor in the confirmatory factor analysis (CFA). The loadings of its three first-order factors are highlighted in boldface.

[a]This item was removed according to the results of the CFA.

AVE analysis was used to examine the discriminant validity of the measurement model in the pilot study. In AVE analysis, discriminant validity of a measurement model would be sufficient when the square root of AVE for each construct exceeds the correlations between the construct with other constructs (Fornell & Larcker, 1981). Table 3.6 shows the results of AVE analysis, in which distinct constructs in the measurement model are slightly supported because correlation between argument quality (AQ) and source credibility (SC) reached .743 and was larger than the square root of AVE of AQ (.710).

Table 3.6

Results of Discriminant Validity Testing in Pilot Study

				Correlation of constructs					
Variable	*M*	*SD*	AVE	TA	AQ	SC	SP	PIU	TIA
TA	4.82	0.94	.600	***.765***					
AQ	4.64	1.07	.510	.575***	***.710***				
SC	4.66	1.00	.591	.630***	.743***	***.777***			
SP	4.46	1.12	.578	.589***	.351***	.490***	***.760***		
PIU	5.29	0.95	.770	.543***	.546***	.551***	.429***	***.877***	
TIA	5.13	1.06	.610	.552***	.458***	.478***	.422***	.717***	***.781***

Note. TA = Technical adequacy; AQ = Argument quality; SC = Source credibility; SP = Social presence; PIU = Perceived information usefulness; TIA = Travel information adoption. The square roots of average variance extracted (AVE) are highlighted in bold italics.

$^{***}p < .001$.

Therefore, the pilot study further employed the Chi-square difference test to assess the discriminant validity between AQ and SC. In this method, an unconstrained measurement model with the correlation of AQ and SC is first estimated, then a fully constrained measurement model is produced by setting their correlation as 1.0 (Anderson & Gerbing, 1988; Zait & Bertea, 2011). Results revealed that the Chi-square difference between the two models was significant ($\Delta\chi^2(1) = 7.252$; $p < .01$) (Table 3.7), suggesting that AQ and SC were distinct. Hence, discriminant validity of the dataset in the pilot study can be reasonably accepted.

Table 3.7

Chi-square Test of Argument Quality and Source Credibility in Pilot Study

Measurement Model	χ^2	*df*	*p*
Unconstrained model (A)	419.521	38	
Fully constrained model (B)	426.773	39	
$\Delta\chi^2$	7.252		.007
Δdf		1	

Note. If $\Delta\chi^2$ (B - A) > 3.84 ($\Delta df = 1$), significance level is $p = .05$;

If $\Delta\chi^2$ (B - A) > 6.64 ($\Delta df = 1$), significance level is $p = .01$;

If $\Delta\chi^2$ (B - A) > 10.83 ($\Delta df = 1$), significance level is $p = .001$.

3.3.3 Main effects

Figure 3.2 depicts results of the structural equation modeling (SEM). A good model validity was verified (Hooper, Coughlan, & Mullen, 2008; L. Hu & Bentler, 1999) ($\chi^2(195) = 302.509$, $\chi^2/df = 1.551$, GFI = .928, NFI = .937, NNFI = .972, CFI = .976, SRMR = .049, RMSEA (90% CI) = .039). Argument quality ($\beta = .231$; $p < .05$) and source credibility ($\beta = .428$; $p < .001$) positively and significantly predicted perceived information usefulness ($\beta = .716$; $p < .001$), which in turn highly increased the intention to travel information adoption ($R^2 = .512$). Thus, H1 and H2 were supported. Furthermore, the effect of source credibility on perceived information usefulness performed higher and more significant than that of argument quality, supporting H3. As the external stimulus, technical adequacy had positive and strong effects on both argument quality ($\beta = .640$; $p < .001$) and source credibility ($\beta = .708$; $p < .001$), which supported H4a and H4b. Accordingly, results of the SEM provided strong evidence to the main hypotheses in the research model of the pilot study.

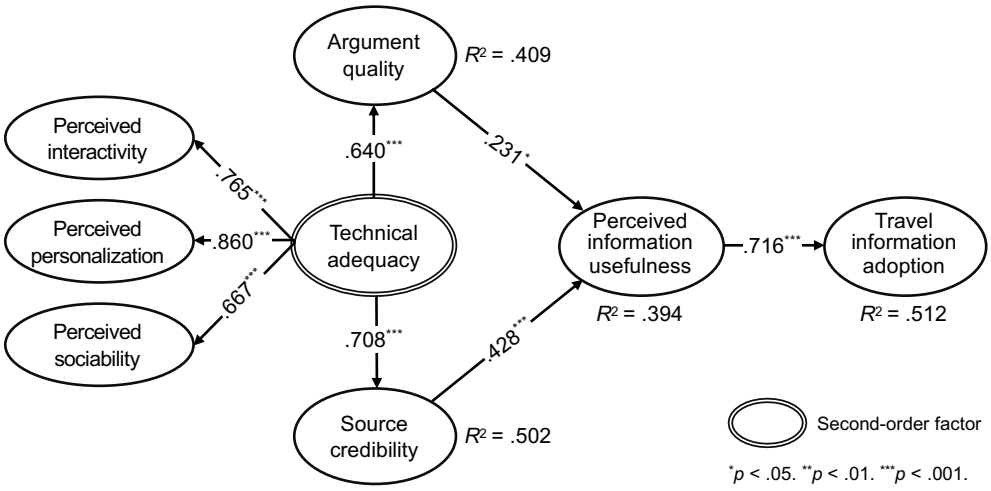

Figure 3.2. Results of structural equation model in pilot study.

3.3.4 Moderating effects

Moderator: Social presence.

Two-way interaction analysis was implemented to test the moderating effects of social presence (Dawson, 2014; F. Li et al., 1998). Results were shown in Figure 3.3 and Table 3.8 (p. 74). First, the effects of argument quality (AQ), source credibility (SC), and social presence (SP) on perceived information usefulness (PIU) were positive and significant (Table 3.8), which shaped the line patterns in Figure 3.3. Second, the product term AQ × SP had a significantly negative effect on PIU ($p < .01$) (Table 3.8), revealing that social presence dampened the positive effect of argument quality on perceived information usefulness. That is, high perception of social presence is apparent to reduce the efficiency of argument quality, slowing the growth of perceived information usefulness (see Figure 3.3a). In contrast, as seen in Figure 3.3b and Table 3.8, perceived information usefulness was strengthened by the positive effect of the product term SC × SP with more significant efficiency ($p < .001$). Depending on these analyses, H5a and H5b were supported.

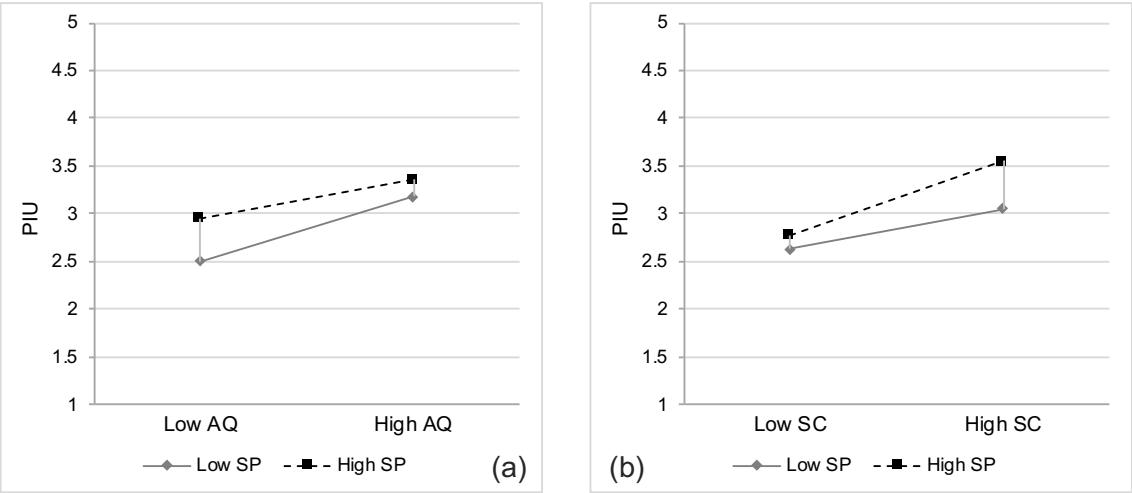

Figure 3.3. Interaction effects of social presence with argument quality and source credibility in pilot study.

AQ = Argument quality; SC = Source credibility; SP = Social presence; PIU = Perceived information usefulness.

Table 3.8

Results of Moderating Effects Testing of Social Presence in Pilot Study

Hypothesis	Path	Unstandardized estimate	*t*	Test result
	AQ → PIU	.270***	3.605	
	SC → PIU	.300***	3.604	
	SP → PIU	.159***	3.845	
H5a	AQ × SP → PIU	-.068**	-3.134	Supported
H5b	SC × SP → PIU	.090***	4.114	Supported

Note. AQ = Argument quality; SC = Source credibility; SP = Social presence; PIU = Perceived information usefulness.

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Moderator: Self-disclosure.

Considering that self-disclosure is measured as a formative variable in the previous research (Z. L. Liu et al., 2016), multi-group analysis was utilized to evaluate its moderation potency. The median split of self-disclosure (*Mdn* = 4.40) was calculated to classify the valid samples into two subgroups (Floh & Treiblmaier, 2006), low self-disclosure group (n = 196, M = 3.61) and high self-disclosure group (n = 160, M = 5.32). Based on this, path coefficients in the produced submodels were compared. Results of causal relations in Table 3.9 were beyond all expectations, such that the relation between argument quality (AQ) and perceived information usefulness (PIU) was significant and stronger for the group with high self-disclosure (β = .526; $p < .05$), but the group difference was not significant (t = 1.364; $p > .05$). Furthermore, contrary to the assumption, the potency of source credibility (SC) on PIU was highly significant and more powerful for the group with low self-disclosure (β = .513; $p < .001$). A significant group difference (t = -2.322; $p < .05$) was also reminded. As these results potentially appeared as opposites to the expectations, H6a and H6b were not accepted.

Table 3.9

Multigroup Difference Analysis for Moderating Effects of Self-disclosure in Pilot Study

		Self-disclosure group			
Hypothesis	Path	Low (n = 196)	High (n = 160)	t	Test result
H6a	AQ → PIU	$.110^{ns}$	$.526^{*}$	1.364^{ns}	Unsupported
H6b	SC → PIU	$.513^{***}$	$.076^{ns}$	-2.322^{*}	Unsupported

Note. AQ = Argument quality; SC = Source credibility; PIU = Perceived information usefulness.

^{ns}This is not significant.

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

3.4 Discussion

Considering the purpose of the pilot study, results indicated that the ELM could be appropriate to elaborate the cognitive processing of travel information adoption on social media among Chinese young people. Argument quality and source credibility of travel information were identified as two routes to increase perceived usefulness of travel information (H1). The direct influence of perceived information usefulness on travel information adoption (H2 (pilot)) was further enhanced. Such dual-route process is consistent with the findings in previous studies (e.g., M. J. Kim, Chung et al., 2016). The pilot study also successfully demonstrated the trigger role of technical adequacy in driving consumers to participate in travel information processing (H4). These findings not only revealed that the ELM can be extended to adapt the context of social media, but also enhanced the predictive power of external stimulus and utilitarian motivation in persuasive communication. Therefore, main paths of the extended ELM in the pilot study contributed to developing the fundamental path model for the formal study.

In response to the second question in the pilot study that "which path is more effective in leading to persuasion," source credibility of travel information more effectively affects perceived information usefulness than argument quality (H3). Although dual routes in the ELM have been verified to be correlated and could co-occur in information processing (J. Zhang et al., 2017b), source credibility was found to be more persuasive in consumers' thought modes. This finding characterized Chinese consumers' decision principle of "take-the-best" or "don't let me think" in travel

information processing. As a preliminary exploration, this finding contributed to more feasible endeavor to enrich the knowledge on the role of social credibility. More importantly, it motivated the research of travel information processing to pay more attention to social motivation factors in attitude change (J. Zhang et al., 2017b). In addition, considering the limited consideration on the power of social influence in the ELM, working on more understanding in the impact of source credibility and its association with social motivation factors was suggested as a crucial task in the formal study.

Regarding the bias effects of social connection factors, the pilot study provided a cognitive response approach in empirical study to draw upon how social presence and self-disclosure perceived by users in social media bias their thought modes in travel information processing. This approach proved to be an effective attempt from a consumer-centered perspective; it is thus distinct from the media research in which the two variables are employed to label the richness in different social media applications (Kaplan & Haenlein, 2010). On one hand, results supported the interaction effects of users' social presence and perceived persuasive messages on perceived usefulness of travel information (H5), such that respondents who perceive higher social presence performed active involve with those credible information providers, whereas respondents with lower social presence in social media were more likely to evaluate the arguments and content quality embedded in travel information. On the other hand, the moderating effects of self-disclosure (H6) were unsupported. Results showed that

self-disclosure negatively, rather than positively, moderated the effect of source credibility on the usefulness of travel information. If consider the strong influence of source credibility in Chinese consumers' internal disposition, the power of "trust" in their adoption of travel information can be reinforced. Since self-disclosure enables reciprocal benefits and social support in the information cognitive process (H. Y. Huang, 2016; J. Zhang et al., 2017a), why the influence of source credibility performed lower among respondents with high self-disclosure would be well worth exploring in the formal study. Considering the potential implications, the pilot study, indeed, reached the access to the third question regarding the dynamic thought modes in travel information processing.

In addition, following the multimethod design of this research, the pilot study successfully practiced the first survey and data analysis procedures. It is believed to be helpful to inspire the author to conduct the second survey for the formal study. Based on the discussion, findings in the pilot study would contribute to the basic framework for the formal study provided in the next chapter.

CHAPTER 4. RESERACH MODEL AND HYPOTHESES

4.1 Development of Pilot Study

The significance of the formal study lies in pursuing more knowledge of "how to change attitude" and trying to answer the three research questions. In this line, apart from transforming the findings of the pilot study, limitations emerging from the measures and the online survey cannot be ignored. Accordingly, the formal study would mainly develop the pilot study in four aspects.

First, shifting "adoption" to "engagement," the formal study aims to examine the reliability and validity of the integrated model of travel information engagement in predicting consumers' cognitive processing of travel information on social media. Therefore, the formal study is expected to maintain the main effects in the structural model of travel information adoption (Figure 3.1, p. 54), which are generated by the external stimulus and utilitarian motivations. More importantly, to seek for more predictive thought modes in processing travel information, RQ1 in this research is hoped to be addressed by exploring more influence factors related to social motivations. Based on the review in Chapter 2, perceived self-efficacy and perceived online social capital derived from the principle of the TPB would be integrated into the structural model of the pilot study. By doing so, RQ2 can also be addressed because "which paths are more effective in leading to persuasion" would be retested.

Second, although not all the bias effects in the pilot study were supported, to

further expand the knowledge of social presence and self-disclosure, assumptions of their moderating effects (H5, H6) in the formal study would be consistent with those in the pilot study. Moreover, targeting a more general population, testing results related to the two moderators can inspire more empirical studies from the alternative perspectives. In addition, more valid measurement scale of social presence is hoped to be estimated because the item SP4 measuring social presence was removed in the pilot study. Through these endeavors, the author expects to answer RQ3 and better understand the dynamic thought modes that vary consumers' engagement in travel information.

Third, the major limitation in the pilot study is attributed to the participant sample, which mainly focused on Chinese young people. Although the findings were considered representative, whether the TIEM extended from the TIAM would be powerful in the general population still needs to be tested. Therefore, the age span of the respondents in the formal study would be expanded to larger age distribution, including the age groups of "< 18" and "> 40."

Fourth, TIA1 and TIA3 measuring travel information adoption were removed as they were found closely associated to the actual behavior rather than the intention of travel information adoption. This suggested that the formal study needs to focus on the measurement scale of behavior intention for travel information. As such, "behavioral engagement intention" is considered well suited for elaborating the outcome of travel information processing, which not only includes the intention to use travel information but also merges the intention to share and generate travel information via social media.

4.2 Research Model and Hypotheses

4.2.1 Structural model of travel information engagement

Based on the preceding interpretation, the path model of TIAM in the pilot study (Chapter 3) was extended by integrating the mediating roles of perceived self-efficacy and perceived online social capital in the cognitive processing of travel information engagement. Accordingly, a structural model of TIEM for the formal study was constructed. Transferring the implications from the pilot study, the structural model of TIEM focuses on utilitarian motivations and social motivations that evoke consumers' engagement in travel information on social media, trying to take more insights in the three research questions raised in Chapter 1 (p. 4). The research model for the formal study is shown in Figure 4.1 (p. 82).

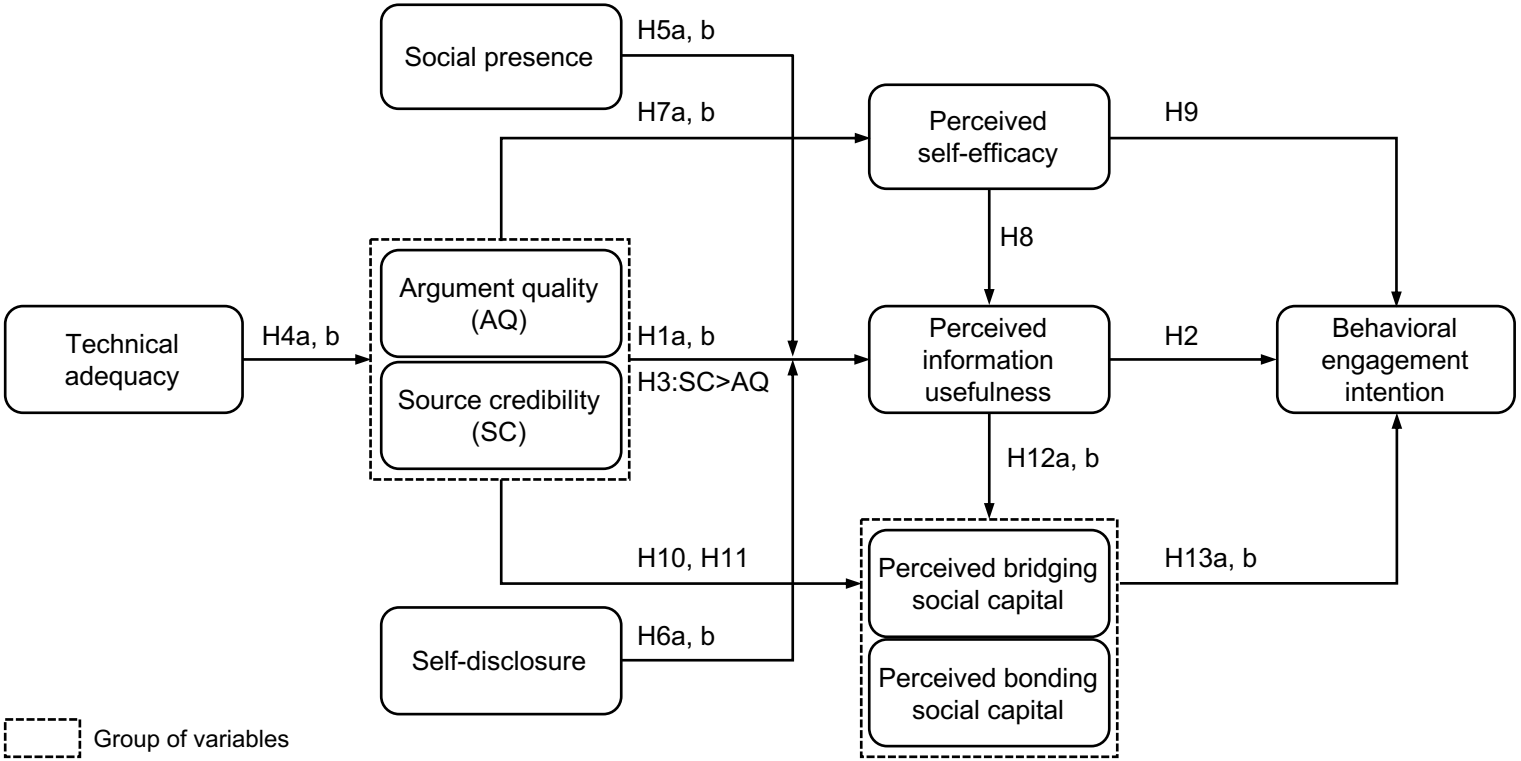

Figure 4.1. Research model.

4.2.2 Hypotheses adapted from pilot study

The structural model of travel information engagement extends and integrates the structural model of travel information adoption for the pilot study (see Figure 3.1, p. 54). It attempts to transfer the outcome of the ELM and the IAM from "adoption" to "engagement," thereby shifting H2 (pilot) to the causal relationship between perceived information usefulness and behavioral engagement intention. To sum up, H1, H3, and H4 that assume the main effects in the structural model of the formal study will be consistent with those in the pilot study (see Figure 4.1, p. 82). Following the preceding discussion, H5 and H6 proposing the bias effects of social presence and self-disclosure will be also unchanged in the formal study. Here, the modified H2 (formal) is given.

In the formal study, this research sets perceived information usefulness as a direct predictor of behavioral intention for travel information engagement. Apart from its significant impact on travel information adoption (J. Zhang et al., 2017a, 2017b), it has also proved to be a crucial reason for consumers to actively engage in travel-related communication. Casaló and colleagues (2010) indicated that when consumers perceive that using a firm-hosted online travel community is helpful for them to plan and organize their travels, as they are more likely to actively participate in the community, using and recommending the host firm and its products. H. Kim, Kim, and Shin (2009) found that perceived usefulness of airline e-commerce websites has a significant and direct impact on consumers' intentions to reuse the websites. In a study on the trust of TripAdvisor, Filieri (2015) suggested that travel reviews given on TripAdvisor improve

consumers' beliefs that the platform is beneficial for reviewers and consumers and, in turn, prompts them to adopt the recommendations and provide positive WOM. The prediction of information usefulness has also been confirmed in driving continuous usage of mobile tourism shopping (M. J. Kim, Chung, Lee et al., 2016). Therefore, H2 in the formal study is updated to the following:

H2 (formal) Perceived usefulness of travel information positively affects behavioral engagement intention for travel information on social media.

4.2.3 Role of perceived self-efficacy

As discussed in subsection 2.5.1 (p. 46), the relationship between the two thought routes in the ELM and self-efficacy is still unclear. It is therefore suggested to trace back the cognitive mechanism of attitude change. According to Bandura's (1977) self-efficacy theory of behavior change, an efficacy expectation, as the conviction, mediates an individual's cognitive process to execute the behavior (Bandura et al., 1977). People's convictions will increase along with their confidence in their ability to manage situations, but their convictions will decrease when they perceive that the situations exceed their coping abilities (Bandura & Adams, 1977). Therefore, the sources generating more confidence will improve an individual's desire to behave. Bandura (1994) illustrated that the influence sources can come from one's mastery experiences in easy successes to reach quick results, observing the successes of others similar to oneself, social persuasion of positive encouragement from others, and one's positive emotional states. In the same line, travel information on social media can be a

source of persuasion that enables recipients to learn other users' successful travel experiences and comprehensive reviews of travel products (Filieri, 2015). As a result, recipients are likely to become confident in their success to perform their tasks because persuasive travel information from others reduces their fear and uncertainty regarding how to handle the situations (Quintal, Lee, & Soutar, 2010). Considering that travel products are characterized by experience and information intensiveness, learning travel information from others is believed to bring much higher levels of perceived self-efficacy than alternative products. Hence, this research proposes the following hypothesis:

H7 (a) Argument quality and (b) source credibility of travel information on social media positively affect users' perceived self-efficacy.

Given that perceived usefulness of information draws out a consumer's beliefs that using social media can benefit and enhance the task performance (Bhattacherjee & Sanford, 2006; Davis, 1989), beliefs in his or her own ability to use social media techniques and online information, no doubt, will promote the perception of information usefulness, thereby driving task performance. Extensive research on perceived self-efficacy supported its important role in predicting perceived ease of use and perceived information usefulness in the context of technology acceptance (J. E. Chung, Park, Wang, Fulk, & Mclaughlin, 2010; McFarland & Hamilton, 2006; Yap & Gaur, 2016). Like beliefs in one's confidence, previous studies also found that self-efficacy can create consumer trust in online shopping and mobile banking (Zhou, 2012; T. Zhou

et al., 2016). Therefore, this research reproduces these findings into the travel information domain on social media, suggesting the following hypothesis:

H8 Users' perceived self-efficacy positively affects perceived usefulness of travel information on social media.

In the tourism research domain, a considerable body of previous studies has attested to the positive and powerful effects of perceived self-efficacy or perceived behavioral control on consumers' decision making. These actions include but are not limited to using and reusing travel support techniques (e.g., mobile apps) (I. Chang, Chou, Yeh, & Tseng, 2016; Fong, Lam, & Law, 2017; Yoo et al., 2017); participating in and contributing to online travel communities (Casaló et al., 2010; Y. Wang & Fesenmaier, 2004); purchasing travel products online (Amaro & Duarte, 2015; Escobar-Rodríguez & Carvajal-Trujillo, 2014); and visiting, revisiting, and recommending destinations (Quintal et al., 2010; Quintal, Thomas, & Phau, 2015). Furthermore, Munar and Jacobsen (2014) highlighted that consumer empowerment via the control enabled by social media is most popular for sharing tourism experiences. In accordance with these contributions, perceived self-efficacy is considered to be vital and effective to construct consumers' behavioral engagement in travel information.

Similar to "ability" in the ELM, self-efficacy has also been tested as a moderator biasing the effects of argument quality and source credibility on travelers' outcome expectations, such as tourism technology satisfaction (Yoo et al., 2017). Although consumers with high self-efficacy were found to react to the central route while

consumers with low self-efficacy were more likely to believe in source credibility, the group with high self-efficacy, overall, has greater trust in online information and thus more actively participates in technology (Yoo et al., 2017; Zhou, 2012; T. Zhou et al., 2016). As an exploratory study for establishing more effective behavioral modes, the well-accepted findings are considered as preferable for this research. In this point, the following hypothesis is raised:

H9 Users' perceived self-efficacy positively affects behavioral engagement intention for travel information on social media.

4.2.4 Role of perceived online social capital

Argument quality and source credibility are two primary indicators of information credibility (M. Y. Cheung et al., 2009), which could be interpreted as trust of informative contents and sources who may provide information support or emotional support (J. Jun, Kim, & Tang, 2017). Persuasive messages are therefore likely to contribute to the formation of online social capital. First, consumers' information behavior on social media is goal-directed; that is, they try to acquire travel information shared by broadly external sources to reduce their perceived risk. Thus, increased interaction and bridging social capital would increase and develop along with their appeal for high-quality information (N. Chung & Han, 2017). Second, social credibility of persuasive messages largely influences social interaction through affective response, which is deemed as a factor motivating emotional expectation (N. Chung & Han, 2017; N. Chung et al., 2015). Hence, travel information recommended by celebrities or

experts may lead to both information support and emotional support, which then drives the bridging and bonding of social capital perceived by the recipients (N. Chung & Han, 2017). Moreover, research on the effect of social capital on brand attitudes through branded e-stickers proposed that strong ties (reference ties) are effective in forming favorable attitudes toward a brand (Y. C. Lee, 2017). Despite this, if incredible information exists within bonding (close peers) in the brand community, the strong ties may be unstable and thereby weaken the connection to the brand. In this framing, argument quality and source credibility may mutually influence bonding social capital on social media. Hence, the following hypotheses are given:

H10 Argument quality of travel information positively affects (a) perceived bridging social capital and (b) perceived bonding social capital on social media.

H11 Source credibility of travel information positively affects (a) perceived bridging social capital and (b) perceived bonding social capital on social media.

Perceived usefulness of travel information describes to what extent consumers believe that social media is useful to enhance their task performance. It thus supports the utilitarian motivation to engage in social media (M. J. Kim, Chung, Lee et al., 2016). Meanwhile, social media also embraces the affective motivations to support consumers establishing relationships with known or unknown people (N. Chung et al., 2015). Ellison, Gray et al., (2014) indicated that the information utility of Facebook could enhance both bridging and bonding social capital between users. From the technology acceptance perspective, researchers argued that the greater usefulness is perceived, the

greater affective responses can reach (N. Chung et al., 2015; M. J. Kim, Chung, Lee et al., 2016; Nusair, Bilgihan, Okumus, & Cobanoglu, 2013). That is, useful information enables consumers to access more connected relationships for meeting their task performance. The following hypothesis is raised:

H12 Perceived usefulness of travel information positively affects (a) perceived bridging social capital and (b) perceived bonding social capital on social media.

For online social capital, numerous studies have verified the effectiveness of social capital in travelers' bridging and bonding attachment on social media (N. Chung & Han, 2017; M. J. Kim, Lee, & Bonn, 2016; M. J. Kim, Lee, & Preis, 2016), continuance usage intention (Y. P. Chang & Zhu, 2012; Hur et al., 2017), and information sharing intention (Hur et al., 2017; Shi & Lai, 2017). Researchers also found that the two forms of social capital serve different roles in predicting consumers' behavioral engagement. Horng et al., (2016) noted that bridging social capital is associated more with giving intention related to social commerce than bonding social capital. M. J. Kim, Lee, and Bonn (2016) found that bridging social capital affects more interpersonal and group attachments than bonding social capital did in seniors' loyalty to SNSs for tourism. Shi and Lai (2017) suggested that higher social tie strength and topic relevance are the most important factors to foster receivers' retweeting behavior. Because which kind of social capital is more effective is still a research question needing more empirical studies, this research follows the common findings and proposes the following hypothesis:

H13 (a) Perceived bridging social capital and (b) perceived bonding social capital

positively affect behavioral engagement intention for travel information on social media.

4.2.5 Control variables

Previous research has suggested that consumers' age, gender, and socioeconomic status may moderate the consumer engagement process (Y. P. Chang & Zhu, 2012; Fang et al., 2017). For instance, for people who have not used the online community, age has a negative influence on their Internet self-efficacy and their perception of online community quality (J. E. Chung et al., 2010). Fang et al. (2017) found that female users and users with high education levels tend to engage at a higher level with mobile travel applications. It was also noted that significantly more female users than male users need to be together to communicate and share travel experiences with their friends, presenting higher bonding than male users (Heimtun & Abelsen, 2012). For outbound Chinese tourists, travel advertising was discovered to have a more significant impact on the cognitive image of destination for male users than female users, whereas female users are more likely to refer to the word-of-mouth (WOM) of a destination image than male users (C. Y. Wang, Qu, & Hsu, 2016). To control the inconclusive impacts from demographics, this research sets age, gender, education level, and monthly income as control variables of the research model in the formal study.

CHAPTER 5. METHODOLOGY

5.1 Measurement Development

Consistent with the pilot study, a multi-item approach was used in the formal study. To appeal for a more reliable and valid measurement model, several items removed in the pilot study were modified or still cut off in the measurement of the formal study (see Table 5.1, p. 92, for more information). On the basis of the modified instruments from the pilot study, measures of the extended variables were added, including self-efficacy, online social capital, and behavioral engagement intention. Like the pilot study, all items were measured on a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

To confirm content validity, two academic researchers and a product manager who has worked for Sina Weibo and Alibaba in China were asked for suggestions on the appropriateness of all items. After that, two groups of English professionals (including a Singaporean) with proficiency in both English and Chinese back-translated the original English questionnaire. Resulting from the cross comparison, the final version of the measurement was decided. All the measurement items are shown in Table 5.1 (p. 92).

Table 5.1

Measurement Items

Construct	Item
Technical adequacy (TA)	INT1 Social media allows me to create content as per my imagination. INT2 Social media allows me to change or influence the way the medium looks. PER1 Social media stores all my preferences and offers me extra services based on them. PER2 Social media does a pretty good job guessing what I want and making suggestions. SOC1 Social media enables me to develop good social relationships with others in the context. SOC2 Social media enables me to make a good impression on others in the context.
Argument quality (AQ)	AQ1 The travel information on social media is accurate. AQ2 The travel information on social media is relevant to my needs. AQ3 The travel information on social media is comprehensive. AQ4 The travel information on social media is up-to-date. AQ5 The arguments of travel information on social media are convincing. AQ6 The arguments of travel information on social media are strong.
Source credibility (SC)	SC1 The users providing travel information are knowledgeable on travel topic. SC2 The users providing travel information are experienced. SC3 The users providing travel information are trustworthy. SC4 The users providing travel information are reliable. SC5 The users providing travel information and I share similar viewpoints. SC6 The users providing travel information and I share similar interests.
Social presence (SP)	SP1 I feel others on social media are aware of my presence. SP2 I feel the interaction with others on social media is close. SP3 I feel the interaction with others on social media is emotional. SP4 I feel the interaction with others on social media is warm. SP5 I feel involved with others on social media.
Self-disclosure (DIS)	DIS1 I often talk about myself when using social media. DIS2 I intimately and fully reveal myself when using social media. DIS3 My self-disclosures when using social media are completely accurate reflections of who I really am. DIS4 I consciously intend to reveal my feelings about myself on social media. DIS5 I normally express my "good" feelings about myself when using social media.
Perceived self-efficacy (EFF)	EFF1 I am confident I can search for travel information that I want on social media. EFF2 I am confident I can evaluate the credibility of travel information on social media. EFF3 I am confident I can distinguish the credibility of sources providing travel information on social media. EFF4 I am confident I can navigate unexpected problems when using travel information by social media.
Perceived bridging social capital (BRI)	BRI1 Interacting with people on social media makes me want to try new things. BRI2 Interacting with people on social media makes me interested in what people unlike me are thinking. BRI3 Interacting with people on social media makes me feel like part of a larger community. BRI4 Interacting with people on social media makes me feel connected to the bigger picture. BRI5 Talking with people on social media makes me curious about other places in the world. BRI6 I am willing to spend time to support general community activities on social media.
Perceived bonding social capital (BON)	BON1 There are several people on social media I trust to help solve my problems. BON2 There is someone on social media I can turn to for advice about making very important decisions. BON3 When I feel lonely, there are several people on social media I can talk to. BON4 If I needed an emergency loan, I know someone on social media I can turn to. BON5 The people I interact with on social media would put their reputation on the line for me. BON6 The people I interact with on social media would be good job references for me.
Perceived information usefulness (PIU)	PIU1 The travel information on social media is informative. PIU2 The travel information on social media is valuable. PIU3 The travel information on social media is helpful.
Behavioral engagement intention (BEI)	BEI1 The travel information provided on social media motivates me to take action. BEI2 I have followed the travel information from others on social media. BEI3 I am likely to agree with and "likes" the travel information on social media. BEI4 I am willing to share my travel related experiences by social media. BEI5 I am willing to post my comments on travel information by social media. BEI6 I am willing to repost travel information on social media.

Note. INT = Perceived interactivity; PER = Perceived personalization; SOC = Perceived sociability.

5.1.1 Measurement scales adapted from pilot study

Four items in the measurement of the pilot study were removed according to the results of confirmatory factor analysis (CFA). They are AQ1, SP4, TIA1, and TIA3. Meanwhile, the factor loadings of SOC2 (λ = .535) and AQ2 (λ = .636) were relatively lower than other items (see Table 3.5, p. 69). To improve the reliability and validity of the measurement, they were modified or updated in the measurement of the formal study.

5.1.2 Measurement of perceived self-efficacy

Perceived self-efficacy reflects consumers' confidence in their ability and skills to make decision through travel-related technologies (Yoo et al., 2017). In this research, respondents were asked to rate their confidence of their ability and skills to use travel information on social media, including searching, evaluating, distinguishing credible sources, and navigating unexpected problems (Yoo et al., 2017; T. Zhou et al., 2016).

5.1.3 Measurement of perceived online social capital

As noted in subsection 2.5.2 (p. 48), ISCS built (Williams, 2006) and its developed version developed constructed by Ellison and colleagues (2007), have been widely used to measure social capital in different fields. This research tried to transfer their applications into the tourism research to define the scope of the items under the bridging and bonding social capital. As such, this research also referred to the version developed by Kim and colleagues (2016) in their research on revisit intention of social network

sites for tourism-related activities.

5.1.4 Measurement of travel information engagement

To gain respondents' subjective behavioral response, in the formal study, the measurement scale of behavioral engagement intention was invited to represent consumers' intention to engage in travel information via social media. Behavioral engagement intention holds two dimensions, combining the intentions for information adoption and information generation. Sussman and Siegal's (2003) version of information adoption measurement was updated to adapt to consumers' particular behaviors identified by social media metrics. As such, information adoption was measured by three items closely related to the taking side in using travel information via social media applications, including following, liking, and being motivated to taking action. Meanwhile, information generation was reflected through consumers' intentions to share, post, and repost travel information via social media, which draws more on the giving side of travel information engagement (Ge & Gretzel, 2017; P. Wang et al., 2017).

5.2 Participants and Data Collection

The questionnaire is composed of three sections. The first section includes the background information of respondents (age, gender, education, monthly income, occupation, and residence), covering the control variables set for testing the proposed research model. The second section concerns respondents' experiences using

travel-related social media, which is designed to understand more of users' habits when they encounter travel information on social media. The third section shows the measurement form capturing all the measured variables and items in this research.

Targeting a more general population in mainland China than the pilot study, the age span of participants for the formal study was enlarged to cover more respondents in the groups of less than 18 years of age and over 40 years of age. In addition, due to the purpose of this research, respondents who have experience using travel information on social media were expected to be the statistical objects. Moreover, to reach a valid statistical analysis, the sample size for the formal survey was guided by the following rules of thumb: (1) the minimum sample size necessary requires 5 cases per estimated parameter, and (2) a represented sample size is suggested to cover 15 cases per measured variables (X. Li, 2006). For the measurement model, 135 parameters and 53 measured variables were counted. An appropriate sample size was preferable between 675 (i.e., 135 × 5) to 795 (i.e., 53 × 15) for the formal study.

The web-based survey and paper-and-pencil survey were conducted synchronously in mainland China during June and July of 2017. From the web-based survey, 585 respondents were obtained, while 147 out of 150 distributed paper questionnaires were collected at a university in mainland China, and thus the response rate of paper questionnaires reached 98%. Therefore, 732 samples were collected, which was considered a suitable dataset for this research, according to the suggested rules stated previously.

5.3 Data Screening

Three steps were applied for data screening. First, respondents who had not used social media for travel information activity during the previous 12 months when the survey was conducted were screened out. Second, the outliers and the samples showing illogical demographics were excluded. Finally, missing data in the dataset from the paper-and-pencil survey were checked. four samples with more than three missing values were removed. After that, three samples with two missing values and two samples with one missing value were imputed and fixed through the method of "median of nearby points" (operated in IBM SPSS 23.0). As a result, a total of 578 valid samples was retained for further data analysis.

5.4 Data Analysis

Seven major steps in the procedures of data analysis was rigorously conducted. It was continued along with (1) descriptive statistics, (2) sample representativeness testing, (3) exploratory factor analysis (EFA), (4) CFA, (5) main effects testing, (6) moderating effects testing, and (7) post hoc analysis. To support these procedures, IBM SPSS 23.0 and AMOS 23.0 were employed. Results in the formal study are given in Chapter 6.

Note. Because the formal study was continued by transferring the first survey findings from the pilot study, more detailed procedures of data analysis will be illustrated in Chapter 6.

CHAPTER 6. RESULTS

6.1 Descriptive Statistics

6.1.1 Demographic profile

Table 6.1 (p. 98) provides the demographic characteristics of the valid samples, with female respondents (59.7%) reported slightly more than males. Age of the respondents ranged from 17 to 56 years of age with an average of 27.28. In terms of education level, 95% of the respondents completed junior college or above, while only 0.5% had some primary education. For the occupation, approximately two fifth (41.2%) of the respondents were student, followed by a group of private enterprise employee (27.3%). Respondents were also asked about their personal monthly income. 31.5% of the respondents fell into the level of "< 1000 (RMB)," which is considered reasonable because of the proportion of students. Besides this, the monthly income levels performed double peaks through the categories of "3000 – 5000 (RMB)" (18.9%) and "> 8000 (RMB)" (18.5%).

Table 6.1

Respondents' Demographic Characteristics

Characteristic		*N* = 578 Frequency	%
Gender	Male	233	40.3
	Female	345	59.7
Age	≤ 18	11	1.9
	19 - 22	142	24.6
	23 - 29	251	43.4
	30 - 39	142	24.6
	≥ 40	32	5.5
Education	Primary school and below	3	0.5
	Junior school	5	0.9
	Senior school	21	3.6
	Junior college	75	13.0
	University	323	55.9
	Graduate school	151	26.1
Occupation	Student	238	41.2
	Private enterprise manager or employee	158	27.3
	Government or Public sector employee	118	20.4
	Self-employed	21	3.6
	Unemployed	10	1.7
	Retiree	6	1.0
	Others	27	4.7
Monthly income (RMB)	≤ 1000	182	31.5
	1001 - 3000	84	14.5
	3001 - 5000	109	18.9
	5001 - 8000	96	16.6
	> 8000	107	18.5

6.1.2 Experience of using travel-related social media

Prior to answering the frequency of using travel-related social media, respondents were asked about which social media they frequently visit. Consistent with the first survey, WeChat was shown as the top application used frequently by the vast majority

of respondents (98.3%). QQ (76.3%) and Sina Weibo (57.1%) ranked the second and third places, respectively. More than one third of respondents had the habit to use knowledge sharing communities, such as Baidu Baike (47.2%) and Zhihu (34.9%).

Regarding the types of travel-related social media, as shown in Table 6.2 (p. 100), general social media such as WeChat, Sina Weibo, were also frequently used for travel-related purpose and occupied 62.3%. Besides this, the top three travel-related applications were general online travel agency (69%), group buying (65%), and vertical search platforms (39.4%). It is notable that 22.7% of respondents had the habit to use online travel communities (e.g., Qyer, Mafengwo), which inherently depend on the user-generated content. Before the trip, a U-shaped pattern was found regarding the visiting frequency of social media for travel information. 34.1% of the respondents were inclined to not visit or just visit social media once per week for obtaining travel information, whereas 24.7% preferred to visit five or more times. For each visit, near to two fifth of the respondents (37.9%) spent half an hour to one hour. In terms of travel products, respondents preferred to search for information of restaurant, accommodation, attraction and transportation via social media. In addition, from the perspective of trip process, respondents' performances on visiting and sharing information on social media were consistent with the behavioral modes during the trip; that is, travelers share more their experiences in the destination and after the trip. Finally, 363 respondents had shared travel information including their travel experiences on social media in the past 12 months, whereas 215 respondents had not.

Table 6.2

Respondents' Experience of Using Travel-related Social Media

Characteristic	*N* = 578 Frequency	%	Characteristic	*N* = 578 Frequency	%
Type of social media			Social media visit frequency for travel information before trip (per week)		
WeChat	568	98.3	≤ 1 time	197	34.1
QQ	441	76.3	2 times	115	19.9
Sina Weibo	330	57.1	3 times	107	18.5
Baidu Baike	273	47.2	4 times	16	2.8
Zhihu	202	34.9	≥ 5 times	143	24.7
Douban	104	18.0	Average length of time for each visit		
Video or Live website	92	15.9	≤ 0.5 hour	191	33.0
Tianya club	26	4.5	0.5 - 1 hour	219	37.9
Linkedin	22	3.8	1 - 2 hours	98	17.0
Others	47	8.1	≥ 2 hours	70	12.1
Type of travel-related social media[a]			Type of travel information		
General online travel agency (OTA)	399	69.0	Restaurant	467	80.8
Group buying	378	65.4	Accommodation	434	75.1
General social media	360	62.3	Attraction	406	70.2
Vertical search	228	39.4	Transportation	370	64.0
Virtual tourist community	131	22.7	Travel route	345	59.7
Short term accommodation	74	12.8	Destination	258	44.6
Specific online travel agency	56	9.7	Shopping	178	30.8
Others	21	3.6	Entertainment	171	29.6
Phase of social media visit for travel information			Phase of sharing travel information on social media		
Pre-trip	529	91.5	Pre-trip	51	8.8
En route trip	250	43.3	En route trip	143	24.7
On site	219	37.9	On site	292	50.5
Post-trip	32	5.5	Post-trip	387	67.0
Daily life	199	34.4	Daily life	105	18.2
Have shared travel information on social media (last 12 months)					
Yes	363	62.8			
No	215	37.2			

Note. [a]Examples of travel-related social media were given in the questionnaire. "General OTA" included Ctrip.com, Ly.com, Fliggy.com (Alitrip.com), TripAdvisor; "Group buying" included Meituan.com, Dianping.com; "General social media" included WeChat, Sina Weibo, Douban; "Vertical search" included Qunar.com, Kuxun.cn, Skyscanner; "Virtual tourist community" included Qyer.com, Mafengwo.cn; "Short term accommodation" included Airbnb, Tujia.com, Mayi.com; "Specific online travel agents" included Booking, Agoda. "Kuxun.cn" was acquired by "Meituan.com" in July 2015.

6.1.3 Sample representativeness

To confirm the representativeness of the dataset, two comparative steps were utilized. The first step is the sampling bias check, in which the dataset was expected to shape the general user personas of online tourism or social media in mainland China. To do so, "2014 Research report of China's online tourism marketing" (CNNIC, 2015), "2015 Research report of user behavior on China's social media applications" (CNNIC, 2016), and "Sina Weibo travel data report" (Sina & Weibo Data Center, 2016) were referenced to verify the reliability of the dataset in this research. Respondents in this research hold higher education levels and greater monthly incomes than the sample population in the CNNIC reports (CNNIC, 2015, 2016). However, in the Sina Weibo report (2016), most users with travel interests have an advanced education. Furthermore, comparing users' regional distribution, 9 of the top 10 province regions that users come from were the same between the dataset in this research and the Sina Weibo report. In Sina Weibo report (2016), top 10 rankings of users' residences are Guangdong, Jiangsu, Zhejiang, Beijing, Shandong, Henan, Sichuan, Hubei, Shanghai, and Fujian. In this research, top 10 rankings are Jilin, Henan, Beijing, Jiangsu, Zhejiang, Fujian, Shanghai, Sichuan, Hubei, and Guangdong. In sum, the sample in this research is considered suitable to represent the general population of online travelers.

The second step is an indirect nonresponse bias check. Unlike checking the differences between people who do and do not respond to a survey, indirect nonresponse bias check is suggested for comparing the early responses with late

responses (X. Li, 2006). Two subsurveys were conducted in this research. Thus, the Chi-square test was used to compare the characteristics of descriptive statistics between the two datasets. Results are provided in Table 6.3.

Table 6.3

Chi-square Test of Descriptive Statistics in Two Substudies

Variable	χ^2	*df*	*p*
Profile			
Gender	0.145	1	.732
Age (19-29)	0.159	1	.697
Education (> senior school)	24.363	3	.000
Occupation (without groups of unemployed and others)	2.716	3	.441
Monthly income (without the group of "> 8000") (RMB)	1.953	3	.583
Experience of using social media in travel			
Social media visit frequency for travel information before trip (per week)	3.884	4	.424
Average length of time for each visit	11.631	3	.009
Type of travel information	29.901	7	.000
Phase of social media visit for travel information	1.906	4	.754

In the comparison of demographic profiles, results indicated no significant differences between the two datasets in gender (χ^2 = 0.145; p = .732). If several sample statistics were removed caused by the expanded sample size in the second dataset, no significant differences were found in terms of age, occupation, and monthly income. Moreover, the Chi-square test of experience using social media in travel reported no significant differences in the visit frequency (χ^2 = 3.884; p = .424) and visit phase in the trip process (χ^2 = 1.906; p = .754). Accordingly, the respondents in the second dataset considerably resemble the respondents in the first dataset, if the added characteristics

beyond the design of the first survey are excluded. In conclusion, the dataset in the formal study is good with reliable representativeness.

6.2 Exploratory Factor Analysis

Exploratory factor analysis (EFA) (Bryant & Yarnold, 1995) was used to anticipate and identify maximum common dimensions loaded on their corresponding multi-item variables. According to the measures of technical adequacy, it was transformed to be three first-order factors for the EFA. A principal component analysis (PCA) was operated on the 53 items with orthogonal rotation (varimax). As a result, two items under bridging social capital (BRI5, BRI6) were removed because of the cross-loading problem, and one item under behavioral engagement intention (BEI1) was removed too, because its factor loading was less than .50 (Field, 2009). After that, the PCA was run again. The Kaiser-Meyer-Olkin measure of sampling adequacy (KMO = .952) verified that the sampling was amenable and adequate for factor analysis (Hair et al., 2010). As shown in Table 6.4 (p. 104), factor loadings for individual items (range from .583 to .826) were higher than the acceptable threshold of .50 (Field, 2009). In addition, technical adequacy was classified into three factors with two items for each, initially confirming the validity of its construct. Combining with the scree plot in the results of the PCA (operated in IBM SPSS 23.0), 11 components were identified and in combination explained 73.902% of the variance.

Table 6.4

Matrix of Exploratory Factor Analysis

	Component										
Item	1	2	3	4	5	6	7	8	9	10	11
INT1	.793										
INT2	.761										
PER1		.749									
PER2		.773									
SOC1			.742								
SOC2			.722								
AQ1				.670							
AQ2				.650							
AQ3				.744							
AQ4				.679							
AQ5				.689							
AQ6				.645							
SC1					.645						
SC2					.679						
SC3					.769						
SC4					.764						
SC5					.668						
SC6					.605						
EFF1						.544					
EFF2						.776					
EFF3						.790					
EFF4						.688					
SP1							.755				
SP2							.691				
SP3							.771				
SP4							.717				
SP5							.695				
BRI1								.653			
BRI2								.713			
BRI3								.660			
BRI4								.641			
BON1									.699		
BON2									.685		
BON3									.698		
BON4									.756		
BON5									.826		
BON6									.746		
PIU1										.731	
PIU2										.736	
PIU3										.728	
BEI2											.583
BEI3											.640
BEI4											.718
BEI5											.793
BEI6											.737

Note. INT = Perceived interactivity; PER = Perceived personalization; SOC = Perceived sociability; AQ = Argument quality; SC = Source credibility; EFF = Perceived self-efficacy; SP = Social presence; BRI = Perceived bridging social capital; BON = Perceived bonding social capital; PIU = Perceived information usefulness; BEI = Behavioral engagement intention.

6.3 Measurement Model

The reliability and validity of the measurement model is determined by convergent validity and discriminant validity through confirmatory factor analysis (CFA) (Hair et al., 2010). Following the suggestions on model modification index in IBM AMOS 23.0, three more items, SP2, EFF1, and BON4, were deleted. Convergent validity was, then, confirmed by three criteria (Fornell & Larcker, 1981; Gefen et al., 2000; Hair et al., 2010): (1) factor loadings of most items were higher than .70, except SC6 and SP1, (2) values of composite reliability (CR) were greater than the recommended threshold .70, and (3) values of average variance extracted (AVE) of all constructs exceeded .50 (Table 6.5, p. 106). Cronbach's α value of each variable was higher than .70 with a range from .845 to .911, which further confirmed the internal reliability of each construct (Gefen et al., 2000; Nunnally, 1978). In the total estimate, a good-fitting model was concluded due to the reasonable fit indices (Hooper et al., 2008; L. Hu & Bentler, 1999): $\chi^2(754) = 1576.67$, $\chi^2/df = 2.091$, GFI = .883, NFI = .910, NNFI = .944, CFI = .951, SRMR = .046, RMSEA (90% CI) = .043.

In addition, technical adequacy is constructed by three dimensions with two items loaded on each dimension. Therefore, the measurement model testing continued the manipulation in the EFA, in which statistical values of these three dimensions were accounted for and performed in the result matrix.

Table 6.5

Results of Convergent Validity Testing

Construct	Item	Standardized loading	Composite reliability	Cronbach's α	AVE
Technical adequacy (TA)				.845	
Perceived interactivity (INT)	INT	**.717**	.752		.602
	INT1	.774			
	INT2	.778			
Perceived personalization (PER)	PER	**.749**	.777		.635
	PER1	.817			
	PER2	.776			
Perceived sociability (SOC)	SOC	**.816**	.866		.764
	SOC1	.883			
	SOC2	.865			
Argument quality (AQ)	AQ1	.706	.885	.891	.563
	AQ2	.719			
	AQ3	.754			
	AQ4	.746			
	AQ5	.809			
	AQ6	.763			
Source credibility (SC)	SC1	.730	.905	.911	.616
	SC2	.751			
	SC3	.889			
	SC4	.909			
	SC5	.729			
	SC6	.671			
Social presence (SP)	SP1	.684	.870	.868	.627
	SP2[a]	-			
	SP3	.797			
	SP4	.872			
	SP5	.804			
Perceived self-efficacy (EFF)	EFF1[a]	-	.853	.850	.659
	EFF2	.844			
	EFF3	.825			
	EFF4	.764			
Perceived bridging social capital (BRI)	BRI1	.786	.886	.891	.660
	BRI2	.838			
	BRI3	.837			
	BRI4	.788			
Perceived bonding social capital (BON)	BON1	.809	.885	.898	.607
	BON2	.805			
	BON3	.777			
	BON4[a]	-			
	BON5	.742			
	BON6	.761			
Perceived information usefulness (PIU)	PIU1	.785	.880	.876	.711
	PIU2	.876			
	PIU3	.865			
Behavioral engagement intention (BEI)	BEI1[a]	-	.872	.884	.577
	BEI2	.784			
	BEI3	.806			
	BEI4	.703			
	BEI5	.768			
	BEI6	.734			

Note. Technical adequacy was set as a second-order factor in the confirmatory factor analysis (CFA). The loadings of its three first-order factors are highlighted in boldface.

[a]This item was removed according to the suggestions of model modification index in AMOS 23.0.

In consideration of the slight inadequacy existed in the discriminant validity of the first dataset, both of the AVE analysis and Chi-square difference test suggested by Zait and Bertea (2011) were utilized. AVE analysis recommends that the square root of AVE of each construct should be higher than its corresponding correlation with other constructs (Fornell & Larcker, 1981). Reasonably, results shown in Table 6.6 supported a distinct construct in the measurement model.

Table 6.6

Results of Discriminant Validity Testing

			Correlation of constructs										
Construct	*M*	*SD*	INT	PER	SOC	AQ	SC	SP	EFF	BRI	BON	PIU	BEI
INT	4.96	1.39	***.776***										
PER	5.30	1.30	.679	***.797***									
SOC	4.89	1.45	.652	.612	***.874***								
AQ	4.62	1.03	.459	.478	.484	***.750***							
SC	4.71	1.02	.416	.420	.450	.783	***.785***						
SP	4.77	1.15	.442	.435	.528	.517	.477	***.792***					
EFF	4.97	1.05	.463	.494	.436	.642	.586	.488	***.812***				
BRI	5.10	1.12	.487	.480	.559	.578	.504	.728	.594	***.813***			
BON	4.46	1.27	.408	.444	.525	.535	.489	.659	.475	.714	***.779***		
PIU	5.25	1.03	.382	.469	.393	.650	.626	.465	.648	.598	.472	***.843***	
BEI	4.84	1.13	.398	.478	.515	.557	.596	.608	.555	.723	.612	.695	***.760***

Note. INT = Perceived interactivity; PER = Perceived personalization; SOC = Perceived sociability. AQ = Argument quality; SC = Source credibility; EFF = Perceived self-efficacy; SP = Social presence; BRI = Perceived bridging social capital; BON = Perceived bonding social capital; PIU = Perceived information usefulness; BEI = Behavioral engagement intention.

The square roots of average variance extracted (AVE) are highlighted in bold italics.

All the correlation scores have significance level at $p = .001$.

However, the same unhoped-for problem as that in the first dataset emerged: Correlation between argument quality (AQ) and source credibility (SC) reached .750 and exceeded the square root of AVE of AQ. The second method, Chi-square difference test, suggests researchers first freely estimate the correlation between two latent variables and then fully constrain it to 1.0 (Anderson & Gerbing, 1988; Zait & Bertea, 2011). If the resulting Chi-square tests of model fit is significant, then the discriminant validity of the two constructs is accepted. By this method, results revealed that the Chi-square difference performing the two model fits was highly significant at .001. ($\Delta\chi^2(1) = 20.889$) (Table 6.7), thereby suggesting that AQ and SC were distinct. To sum up the results of the two methods, discriminant validity of the dataset was also supported.

Table 6.7

Chi-square Test of Argument Quality and Source Credibility

Measurement model	χ^2	*df*	*p*
Unconstrained model (A)	578.269	53	
Fully constrained model (B)	599.158	54	
$\Delta\chi^2$	20.889		.000
Δdf		1	

Note. If $\Delta\chi^2$ (B - A) > 3.84 ($\Delta df = 1$), significance level is $p = .05$;

If $\Delta\chi^2$ (B - A) > 6.64 ($\Delta df = 1$), significance level is $p = .01$;

If $\Delta\chi^2$ (B - A) > 10.83 ($\Delta df = 1$), significance level is $p = .001$.

6.4 Hypotheses Testing

6.4.1 Main effects

Figure 6.1 (p. 110) illustrates the hypotheses and the results of the path analysis, demonstrating an acceptable model fit: $\chi^2(749) = 1583.795$, $\chi^2/df = 2.115$, GFI = .882, NFI = .902, NNFI = .937, CFI = .946, SRMR = .050, RMSEA (90% CI) = .044. Results of the standardized path coefficients indicated that most of the hypotheses were supported, except H1a, H9, and H11a. The proposed research model explained 67% of the variance in behavioral engagement intention of travel information.

To indicate more detail, perceived information usefulness was significantly influenced by source credibility ($\beta = .363$; $p < .001$), but it was not affected by argument quality ($\beta = .149$; $p > .05$). As such, H1 was partially supported because H1b was accepted, but H1a was not. H2 was supported by the positive and significant impact of perceived information usefulness on behavioral engagement intention ($\beta = .370$; $p < .001$). In terms of which route is more effective, the path coefficient of source credibility on perceived information usefulness was significant and higher than that of argument quality, which showed as not significant. H3 was therefore supported. As the external stimulus in the research model, technical adequacy positively and significantly affected both argument quality ($\beta = .660$; $p < .001$) and source credibility ($\beta = .674$; $p < .001$), supporting H4a and H4b.

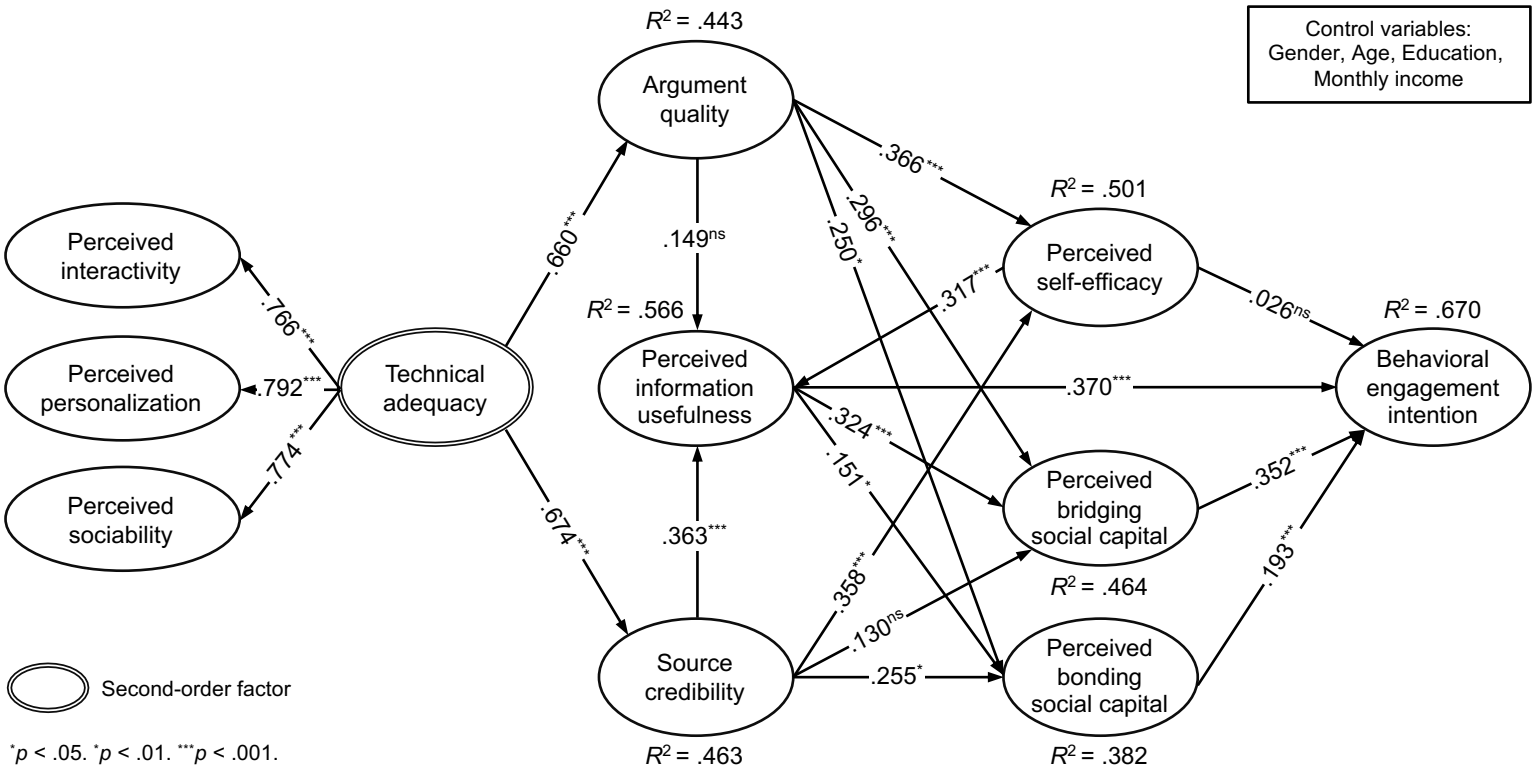

Figure 6.1. Results of structural equation model.

nsThis is not significant.

The roles of self-efficacy and online social capital that were extended to the formal study proved potent to elaborate the behavioral engagement intention of travel information. Argument quality (β = .366; p <.001) and source credibility (β = .358; p < .001) had a positive and significant impact on perceived self-efficacy, supporting H7a and H7b. Perceived self-efficacy (β = .317; p < .001), in turn, had a significant positive impact on perceived information usefulness, and thereby H8 was accepted. Unexpectedly, however, perceived self-efficacy (β = .026; p > .05) had a very weak and not significant influence on behavioral engagement intention. H9 was thus not supported. In terms of the role of online social capital, argument quality positively and significantly affected both perceived bridging social capital (β = .296; p < .001) and perceived bonding social capital (β = .250; p < .05), supporting H10a and H10b, respectively. Source credibility had a positive effect on perceived bonding social capital (β = .255; p < .05), but it did not contribute significantly to perceived bridging social capital (β = .130; p > .05). Thus, H11b was supported, whereas H11a was not. Perceived information usefulness positively affected perceived bridging social capital (β = .324; p < .001) and had a slight but significant effect on perceived bonding social capital (β = .151; p < .05). Hence, H12a and H12b were supported. Further, the positive effects of perceived bridging social capital (β = .352; p < .001) and perceived bonding social capital (β = .193; p < .001) on behavioral engagement intention were confirmed. Accordingly, H13a and H13b were supported. All the testing results of the main effects in the research model are provided in Table 6.8 (p. 112).

Table 6.8

Results of Hypotheses Testing for Main Effects

Hypothesis	Path	Estimate	t	Test result
H1a	AQ → PIU	$.149^{ns}$	1.720	Unsupported
H1b	SC → PIU	$.363^{***}$	4.150	Supported
H2	PIU → BEI	$.370^{***}$	6.599	Supported
H3	β (SC → PIU) > β (AQ → PIU)	β (H1b) > β (H1a)		Supported
H4a	TA → AQ	$.660^{***}$	7.958	Supported
H4b	TA → SC	$.674^{***}$	8.246	Supported
H7a	AQ → EFF	$.366^{***}$	3.952	Supported
H7b	SC → EFF	$.358^{***}$	3.893	Supported
H8	EFF → PIU	$.317^{***}$	5.659	Supported
H9	EFF → BEI	$.026^{ns}$	0.527	Unsupported
H10a	AQ → BRI	$.296^{***}$	3.185	Supported
H10b	AQ → BON	$.250^{*}$	2.541	Supported
H11a	SC → BRI	$.130^{ns}$	1.348	Unsupported
H11b	SC → BON	$.255^{*}$	2.474	Supported
H12a	PIU → BRI	$.324^{***}$	5.351	Supported
H12b	PIU → BON	$.151^{*}$	2.400	Supported
H13a	BRI → BEI	$.352^{***}$	5.612	Supported
H13b	BON → BEI	$.193^{***}$	3.457	Supported
	R^2			
	Argument quality	0.443 (44.3%)		
	Source credibility	0.463 (46.3%)		
	Perceived information usefulness	0.566 (56.6%)		
	Perceived self-efficacy	0.501 (50.1%)		
	Perceived bridging social capital	0.464 (46.4%)		
	Perceived bonding social capital	0.382 (38.2%)		
	Behavioral engagement intention	0.670 (67.0%)		

Note. AQ = Argument quality; SC = Source credibility; PIU = Perceived information usefulness; BEI = Behavioral engagement intention; TA = Technical adequacy; EFF = Perceived self-efficacy; BRI = Perceived bridging social capital; BON = Perceived bonding social capital.

^{ns}This is not significant.

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

6.4.2 Moderating effects of social presence and self-disclosure

Moderator: Social presence.

To establish the moderating effects of social presence, two-way interaction analysis was conducted (Dawson, 2014; F. Li et al., 1998). The procedure was continued as follows: predictors of the dependent variable perceived information usefulness (PIU) was expanded to include not only (1) its independent variables—argument quality (AQ) and source credibility (SC)—in the structural model but also (2) the moderator social presence (SP) and (3) the product terms AQ × SP and SC × SP (Kline, 2011, p. 332). Figure 6.2 and Table 6.9 (p. 114) illustrate the moderating effects of social presence.

In detail, the path coefficient for the product term AQ × SP on PIU was significantly negative ($p < .001$). Nevertheless, the impact of AQ on PIU was not significant, although it performed positive. In accordance with the positive and significant effect of SP on PIU ($p < .05$), AQ instead of SP seemed likely to serve as a moderator in the term AQ × SP. In this view, H5a, which assumed a negative interactive effect of AQ and SP, can be considered accepted. For the moderating effect of SP on the relationship of SC and PIU, the path coefficient for the product term SC × SP was weak and not significant, although the impact of SC on PIU presented as highly significant ($p < .001$). H5b expected a potential positive interactive effect and thus was not supported. A visual explanation of these results is provided through the line patterns in Figure 6.2 (p. 114).

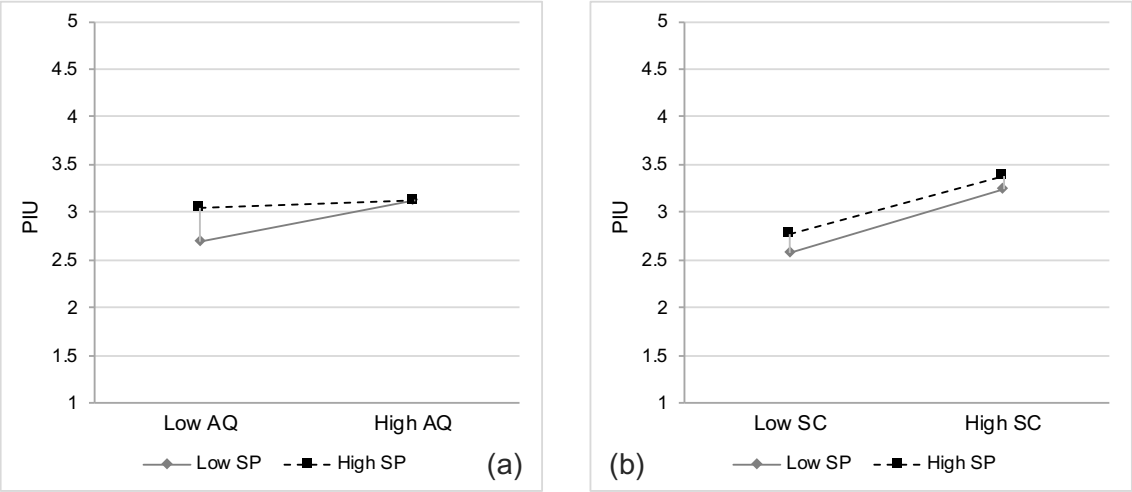

Figure 6.2. Interaction effects of social presence with argument quality and source credibility.

Control variables (i.e., gender, age, education, and monthly income) were counted in when calculating the interaction effects of social presence. AQ = Argument quality; SC = Source credibility; SP = Social presence; PIU = Perceived information usefulness.

Table 6.9

Results of Moderating Effects Testing of Social Presence

Hypothesis	Path	Unstandardized estimate	*t*	Test result
	AQ → PIU	.130	1.349^{ns}	
	SC → PIU	.320	3.629^{***}	
	SP → PIU	.085	2.016^{*}	
H5a	AQ × SP → PIU	-.087	-3.799^{***}	Supported
H5b	SC × SP → PIU	-.014	-0.617^{ns}	Unsupported

Note. AQ = Argument quality; SC = Source credibility; SP = Social presence; PIU = Perceived information usefulness.

^{ns}This is not significant.

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Moderator: Self-disclosure.

The same as the pilot study, multigroup difference analysis was used to test the moderating effects of self-disclosure because it was a continuous and formative variable in statistics. Following Floh and Treiblmaier (2006), samples were categorized by the median split of self-disclosure (*Mdn* = 4.60) into two groups: high self-disclosure group (n = 263, M = 5.44) and low self-disclosure group (n = 315, M = 3.53). Two means were significantly different ($t(576) = 28.896$; $p < .001$), confirming the different levels of self-disclosure between the two groups. After that, differences between path coefficients of corresponding constructs were performed (N. Chung et al., 2015). Table 6.10 depicts the results.

Table 6.10

Multigroup Difference Analysis for Moderating Effects of Self-disclosure

		Self-disclosure group			
Hypothesis	Path	Low (n = 315)	High (n = 263)	t	Test result
H6a	AQ → PIU	$.070^{ns}$	$.335^{**}$	1.043	Unsupported
H6b	SC → PIU	$.457^{***}$	$.081^{ns}$	-2.703^{**}	Unsupported

Note. AQ = Argument quality; SC = Source credibility; PIU = Perceived information usefulness.

^{ns}This is not significant.

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Accordingly, the impact of AQ on PIU was significant and positive in the group with high self-disclosure, but it had no influence on the group with low self-disclosure. Meanwhile, the t-value counting for the group difference was also not significant. H6a was thus not supported. Contrary to expectations, SC more significantly and positively

affected PIU in the group with low self-disclosure, while it did not affect PIU in the group with high self-disclosure, resulting in a significant *t*-value. This result was opposite to the expectation in H6b, thereby it did not support that hypothesis.

A condensed summary of all hypotheses and findings is provided in Table 6.11.

Table 6.11

Results of Hypotheses Testing

Hypothesis	Path	Test result
H1a	AQ → PIU	**Unsupported**
H1b	SC → PIU	Supported
H2	PIU → BEI	Supported
H3	β (SC → PIU) > β (AQ → PIU)	Supported
H4a	TA → AQ	Supported
H4b	TA → SC	Supported
H5a	AQ × SP —(-)→ PIU	Supported
H5b	SC × SP —(+)→ PIU	**Unsupported**
H6a	DIS_{low} — (AQ → PIU)	**Unsupported**
H6b	DIS_{high} — (SC → PIU)	**Unsupported**
H7a	AQ → EFF	Supported
H7b	SC → EFF	Supported
H8	EFF → PIU	Supported
H9	EFF → BEI	**Unsupported**
H10a	AQ → BRI	Supported
H10b	AQ → BON	Supported
H11a	SC → BRI	**Unsupported**
H11b	SC → BON	Supported
H12a	PIU → BRI	Supported
H12b	PIU → BON	Supported
H13a	BRI → BEI	Supported
H13b	BON → BEI	Supported

Note. AQ = Argument quality; SC = Source credibility; PIU = Perceived information usefulness; BEI = Behavioral engagement intention; TA = Technical adequacy; SP = Social presence; DIS = Self-disclosure; EFF = Perceived self-efficacy; BRI = Perceived bridging social capital; BON = Perceived bonding social capital. Unsupported results of hypotheses testing are highlighted in boldface.

6.5 Post Hoc Analysis

Mainly based on the ELM, the foundational process of the proposed research model focused on the information-oriented factors, especially the utilitarianism of the information (i.e., perceived usefulness). Results showed that both the information cognition aspects adapted from the ELM and the social cognition aspects modified from the TPB have associations with perceived information usefulness. In these associations, three direct causal relationships, H1a (AQ → PIU), H9 (EFF → BEI), and H11a (SC → BRI), were found not significant. Therefore, post hoc analysis is preferable to detect the potential mediating effects in the research model. Mediating effects of perceived self-efficacy and perceived information usefulness were tested by using the SPSS PROCESS macro (Model 4) (Hayes, 2013).

First, as displayed in Table 6.12 (p. 118), the indirect effects of argument quality (AQ) and source credibility (SC) on perceived information usefulness (PIU) via perceived self-efficacy were both significant because zero was not located in the 95% confidence interval (Hayes, 2013). Meanwhile, the indirect effect of AQ on PIU was larger than that of SC. As such, although H1a was not supported because AQ had no direct influence on PIU, perceived self-efficacy does fully mediate their relationship.

Table 6.12

Indirect Effects of Argument Quality and Source Credibility Through Perceived Self-efficacy

	Perceived information usefulness		
Predictor	β	*SE*	95% CI
Argument quality	.339	.045	[.255 – .432]
Source credibility	.273	.037	[.203 – .347]

Note. Control variables were taken into account when calculating the estimates. The mediation effect would be statistically significant when the zero is located outside of the confidence interval (CI). Bootstrap resample = 5000.

Second, the indirect effect of EFF on behavioral engagement intention (BEI) was dominated by the mediating role of PIU in this association. The strong and positive indirect effect of EFF on BEI (β = .504; *SE* = .043; 95% CI = [.421-.592]) suggested that perceived information usefulness was a key to unlock the causal relationship of EFF and BEI.

Third, evidence also revealed that PIU positively mediated the effects of AQ and SC on online social capital (Table 6.13, p. 119). Specifically, the indirect effect of AQ on bonding social capital (BON) was slightly higher than that of SC, whereas the indirect effect of SC on bridging social capital (BRI) was, to some context, greater than that of AQ. Therefore, the mediating effect of PIU was beneficial for recovering the inadequacy of H11a.

Table 6.13

Indirect Effects of Argument Quality and Source Credibility Through Perceived Information Usefulness

	Perceived bridging social capital			Perceived bonding social capital		
Predictor	β	*SE*	95% CI	β	*SE*	95% CI
Argument quality	.309	.048	[.219 – .405]	.198	.054	[.093 – .304]
Source credibility	.312	.045	[.229 – .404]	.162	.053	[.550 – .267]

Note. Control variables were taken into account when calculating the estimates. The mediation effect would be statistically significant when the zero is located outside of the confidence interval (CI).

Bootstrap resample = 5000.

CHAPTER 7. DISCUSSION

7.1 Review of the Findings

Focusing on the causal and dynamic relationships between persuasive messages and recipient-oriented effects, this research endeavors to gain more understanding of the cognitive mechanism shaping travel information engagement. To do so, a multimethod design was used to transfer two quantitative studies from the focus on "adoption" to the focus on "engagement." Considering the connection between these two substudies, the author believes that a comparative discussion about the findings in this research will evoke a big picture of how to change consumers' attitudes.

7.1.1 Pilot study vs. formal study

The formal study developed the travel information adoption model (TIAM) in the pilot study in three aspects: constructs of the research model, construct measures, and control variables. Here, the first two aspects are provided because control variables were not mentioned in the pilot study. Table 7.1 (p. 121) summarizes the results of hypotheses testing in the two substudies.

Table 7.1

Results of Comparison Between Pilot Study and Formal Study

Hypothesis	Path	Pilot study	Formal study
H1a	AQ → PIU	Supported	Unsupported
H1b	SC → PIU	Supported	Supported
H2 (Pilot)	PIU → TIA	Supported	
H2 (Formal)	PIU → BEI		Supported
H3	β (SC → PIU) > β (AQ → PIU)	Supported	Supported
H4a	TA → AQ	Supported	Supported
H4b	TA → SC	Supported	Supported
H5a	AQ × SP —(-)→ PIU	Supported	Supported
H5b	SC × SP —(+)→ PIU	Supported	Unsupported
H6a	DIS_{low} — (AQ → PIU)	Unsupported	Unsupported
H6b	DIS_{high} — (SC → PIU)	Unsupported	Unsupported
H7a	AQ → EFF		Supported
H7b	SC → EFF		Supported
H8	EFF → PIU		Supported
H9	EFF → BEI		Unsupported
H10a	AQ → BRI		Supported
H10b	AQ → BON		Supported
H11a	SC → BRI		Unsupported
H11b	SC → BON		Supported
H12a	PIU → BRI		Supported
H12b	PIU → BON		Supported
H13a	BRI → BEI		Supported
H13b	BON → BEI		Supported
	R^2		
	Travel information adoption	0.512 (51.2%)	
	Behavioral engagement intention		0.670 (67.0%)

Note. AQ = Argument quality; SC = Source credibility; PIU = Perceived information usefulness; BEI = Behavioral engagement intention; TA = Technical adequacy; SP = Social presence; DIS = Self-disclosure; EFF = Perceived self-efficacy; BRI = Perceived bridging social capital; BON = Perceived bonding social capital.

Constructs of the research model.

First, comparing the constructs of the two proposed models, the potential mediating roles of perceived self-efficacy (EFF) and perceived online social capital were added in the model of the formal study. Regarding the same hypotheses of the main effects, H1a, which assumes the positive effect of argument quality (AQ) on perceived information usefulness (PIU), performed significantly and was supported in the pilot study, but it was rejected in the formal study. H2 was designed for different outcomes in the two substudies. Results revealed that the predictive power of PIU on travel information adoption (TIA) was greater than that on behavioral engagement intention (BEI). The research model in the formal study is easy to understand because potential mediating effects of online social capital on the causal relationship of PIU and BEI may exist. Moreover, both H3 and H4 were highly accepted in the two research models. These consistent results not only improved the validity and confidence of the research model in the formal study but also reinforced the roles of source credibility and technical adequacy in shaping consumers' travel information processing. That is, source credibility more effectively leads to persuasion. In addition, technical adequacy of social media as an external stimulus can induce consumers' intention to process travel information on social media. Furthermore, the explanation power of the formal research model on behavioral engagement intention reached 67%, which proved more effective than the research model in the pilot study in explaining travel information adoption (51.2%). Based on these reviews, the research model in the formal study can elaborate more causal and dynamic relationships of how consumers process travel information.

Concerning H5 and H6, there are complex results about the moderating effects of social presence (SP) and self-disclosure (DIS) in the two substudies. First, H5, the interaction effects of AQ × SP (H5a) and SC × SP (H5b), were supported in the pilot study, but higher social presence did not strengthen the impact of SC on PIU according to the results in the formal study. The reason may lie in the role of perceived self-efficacy, which was also the direct predictor of PIU beyond AQ and SC. Second, both multigroup difference analyses for the two research models did not support the moderating effects of self-disclosure (H6). That may further amplify the conclusion regarding the role of self-disclosure in drawing upon Chinese consumers' characteristics. These findings are discussed further in the following subsections.

Construct measures

Except the expanded variables, the reliability of construct measures in the formal study performed better than that in the pilot study, revealing that the measurement in the formal study was more suitable and valid to shape consumers' internal disposition. As shown in Table 6.5 (p. 106), no items were removed from the modified measurement of argument quality in the formal study, suggesting that the travel information regarding accuracy and relevance to needs (Table 5.1, p. 92 vs. Table 3.2, p. 63) is helpful to identify the information quality of social media (Z. Huang & Benyoucef, 2013). Further, although one item (SP2) in the fixed measures of social presence was excluded, just like the solution in the pilot study (SP4 was removed), Cronbach's α value of social presence in the formal study was slightly higher (α = .868). More importantly, the

measurement of behavioral engagement intention successfully identified the items of travel information adoption (α = .743) in the pilot study and showed more reliability (α = .884). An interesting finding was that the items relevant to the intention to take some predictable actions did not reflect the engagement intention, such as search information, making right decisions (Table 3.2, p. 63), and motivating to take action (Table 5.1, p. 92). It echoed the distinction between behavior intention and actual action (Ajzen, 1991).

7.1.2 ELM's applicability to shape Chinese consumers' behavior in travel

One of the most important findings in this research is that the ELM can be applied to elaborate how Chinese consumers process and engage in travel information on social media. Although the ELM has been verified as feasible to draw on consumers' adoption of travel information (N. Chung et al., 2015), whether it is able to shape Chinese consumers' characteristics is still limited in literature, in particular regarding the engagement behavior (J. Zhang et al., 2018, 2017b). This research indicated that the dual-route thought mode may be preferable for Chinese young people because both argument quality and source credibility positively increased perceived information usefulness in the pilot study. It is consistent with the previous studies in this domain, in which students or young people are considered the best investigation objects because of their active participation in new techniques, including social media. Another finding in line with the literature (e.g., Ayeh, 2015; Casaló et al., 2010) is that perceived information usefulness is the most feasible and effective factor for consumers to engage

in travel information on social media.

Findings of this research reinforce the power of “trust” for Chinese consumers to engage in a persuasive communication. It is noticeable that source credibility proved to be more effective than argument quality in determining Chinese perception on travel information usefulness via social media. First, this finding challenged previous findings based on the dual-process theory: that argument quality has been considered more persuasive in IT participation (Bhattacherjee & Sanford, 2006), and source credibility might have no influence on the usefulness of online reviews (C. M. K. Cheung et al., 2008). However, paying more attention to the interactive metrics in social media contexts, this research verified the principle that richer media such as social media can cultivate user attention shifting from the message per se to its source. Second, it may also imply that people are influenced first through simple cues on social media, given that Chinese travelers are more likely to be driven by brand recognition and reputation (Michopoulou & Moisa, 2016), and social media fosters Chinese users to socialize with each other through travel-driven issues (L. Li et al., 2015). In other words, Chinese culture shaped by collectivism and high-context communication could encourage consumers to value relationships and interdependence, as well as conform to other people’s opinions (Gao et al., 2015). Third, this finding confirmed the validity of the “take-the-best” decision principle (J. Zhang et al., 2017a). The rapid rising of information and media overload may increase individuals’ cognitive load and stress in assessing valid information and may guide them to the cue that needs less effort. The

recent findings of Samson and Kostyszyn (2015) suggested that in cognitive load conditions, participants presented significantly less trust than those in no cognitive load conditions, but participants' behavior was more impulsive when cognitive resources were limited. Therefore, an appropriate amount of information may be vital to help an individual make a decision. In addition, the phenomenon that the personalized question-answer applications (e.g., Zhihu) are becoming popular in China may also reveal Chinese users' appeal for professional and reliable information from experts or veterans in their specific areas.

Findings also highlighted the trigger role of technical adequacy in predicting both argument quality and source credibility of travel information on social media, which extended previous findings by exploring the external factors that stimulate persuasive communication. Compared to the prior research, which emphasized website design characteristics as an important antecedent of two-route persuasions (Tang et al., 2012), this research focused on the interactive environment rising with social media and its features. In sum, specific social media features, such as interactivity, personalization, and sociability, have been indispensable as facilitators of Chinese consumers to participate in travel information processing.

7.1.3 Bias effects for different consumers

The moderating effects of social presence on the dual-route process was better supported by the pilot study, in which respondents who perceive higher social presence actively involve with others to establish a close and emotional social connection on

social media. Along with that, source credibility becomes more effective to judge travel information usefulness. Differing from N. Chung et al. (2015), this research set social presence as a continuous variable from the social psychological perspective, not as a principle standard of social media classification or richness. Considering the interactive relationship between users on social media, our research contributed a more acceptable and reasonable point of view. On the other hand, H5 in the formal study was partially accepted because there was no positive interaction of social presence and source credibility affecting information usefulness. That may be a statistical analysis issue due to the influence of the added self-efficacy predictor on information usefulness. However, the considerable conclusion is that individuals who do not feel close social connections in the social media space pay more attention to what is said than who said it.

Contrary to expectations, findings in the moderating effects of self-disclosure were not consistent with the hypotheses in both two substudies. It was indicated that self-disclosure was a negative moderator of the effect of source credibility on perceived information usefulness rather than a positive moderator. Because the empirical research targeted Chinese consumers, there may be four considerable explanations. First, although consumers are inclined to perform activities that require less effort, such as referring to source credibility to assess information usefulness, these “take-the-best” acts do not mean that they would disclose equal or greater self-information to others for acquiring expected information. That is, despite the fact that disclosing first could promote reciprocity, people are likely to make a decision based on a utilitarian

motivation while hoping less self-disclosure will garner more favorable information (C. H. Lee & Cranage, 2011). Second, consumers prefer to disclose basic and superficial information about themselves on social media, such as interests and personal matters, rather than intimate information (Attrill & Jalil, 2011). However, superficial information may not be beneficial for building more credibility toward the source because social exchange develops from the superficial to more intimate forms. Third, consumers with high self-disclosure have been found to take more privacy control, setting experience, and ability in particular in collectivistic societies (Liang, Shen, & Fu, 2016). Thus, they are considered confident in assessing the argument quality embedded in information. Fourth, shaped by Confucian ideology, Chinese users may keep things to themselves and follow the same patterns of others in a group, resulting in intimate self-disclosure only existing in groups of close and trusted persons. Members in a group have a mode of "default trust," which enhances the willingness to self-disclose (Moll, Pieschl, & Bromme, 2014); however, it is possible for users to neglect the assessment of source credibility. To this point, the effect of source credibility on information usefulness may be relatively limited for consumers with high self-disclosure.

7.1.4 Social cognitive process of travel information engagement

In the role of users' self-efficacy, its mediating effects were demonstrated. Specifically, compared to the pilot study, argument quality had no impact on perceived information usefulness. The post hoc analysis demonstrated that perceived self-efficacy fully mediated the association of argument quality and perceived information usefulness.

It is interesting that in the author's other paper (J. Zhang et al., 2018), when the role of perceived self-efficacy was not included, the impact of argument quality on perceived information usefulness was positive and significant. Therefore, it can be concluded that perceived self-efficacy is the key cause or motivation for consumers to trust travel information on social media (Yap & Gaur, 2016). Moreover, it is noted that self-efficacy did not directly predict consumers' behavioral engagement intention for travel information, but its indirect effect through perceived information usefulness was supported. This finding reinforced that when encountering travel information, consumers will only admit to the helpfulness of the information when its argument or content enables them to increase their confidence in processing it. As a result, the perceived helpfulness will evoke their intention to use and provide travel information via social media.

In the role of online social capital, this research revealed the positive linkages between social capital and persuasive messages. On one hand, all the primary constructs in the ELM—argument quality, source credibility, and perceived information usefulness—highly contributed to the formation of bridging social capital on social media. This then drives consumers to participate and engage in social media. On the other hand, perceived information usefulness and bridging social capital affected behavioral engagement intention more than bonding social capital did. It extended and reinforced the previous findings in bridging social capital that it serves a more effective role in predicting the purposeful consumers' behavior on social media (Horng et al.,

2016; M. J. Kim, Lee, & Bonn, 2016); that is, weak ties between users are beneficial for expanding access to information.

Another notable finding is that source credibility of travel information has no direct effect on travelers' perceived bridging social capital. However, compared with the paths predicted by argument quality, the post hoc test revealed that perceived information usefulness positively mediates the influence of source credibility on perceived bridging social capital. There may be two possible explanations for these findings. First, source credibility is closely associated with affective considerations, resulting in more emotional support perceived by the recipients. However, perceived bridging social capital is described as having weak ties that create less or no emotional support but more information support (Williams, 2006). Second, in the formation of social capital, having social connections to networks is a necessary but insufficient condition because social capital is more likely to be used to achieve some goals and solve problems (Nunkoo & Smith, 2014). Social capital also needs the adequacy of the connection quality. In this line, for travelers, perceived information usefulness is a motivation to search and share information on social media, and thus it is crucial to meet some goals and solve decision-making problems. Therefore, perceived information usefulness can be a mediator to encourage travelers' perceived bridging social capital.

7.2 Theoretical and Practical Implications

7.2.1 Knowing attitude change in travel information engagement

Three basic research questions were raised in the Introduction (Chapter 1, p. 4). The theoretical implications can be drawn on by endeavoring to answer these questions in this research.

What cognitive processes shape travel information engagement in social media?

Focusing on the recipient-oriented perception, this research is expected to contribute to exploring a cognitive process model of persuasion to shape how consumers engage in travel information on social media. It advanced the concept of "consumer engagement" (CE) into the travel information process research domain. From the social psychological perspective, CE was interpreted as a behavioral response predicated by persuasive communication, which is a cognitive-response approach on the basis of attitude-behavior theories (Teng et al., 2015). Findings of this research shed light on consumers' internal disposition in the information cognitive process, including external stimulus, cognitive response, evaluation, and behavior response.

First, the most significant contribution is that this research established an integrated model combining the ELM with the TPB to explore consumers' utilitarian motivation and social motivation to engage in travel information on social media. Two research models were developed and compared. In the pilot study, an extended ELM focusing on the utilitarian motivation—perceived information usefulness—was

constructed to examine the applicability of the dual-process theory in elaborating Chinese consumers' adoption of travel information. It was named the travel information adoption model (TIAM). In the formal study, TIAM was expanded by the social motivation factors—self-efficacy and online social capital—stemming from the principle of the TPB. The travel information engagement model (TIEM) was demonstrated to be feasible for predicting and shaping consumers' active engagement in travel information on social media. Therefore, it is also suggested that the ELM not only can elaborate on the information using or adoption behavior but also on the information sharing or generation behavior. Considering that the information cognitive processing is still unclear (like a black box linking information receiving and attitude change) (Briñol & Petty, 2012; Tang et al., 2012), this research can enrich the literature and knowledge of the dual-route cognitive process, providing a reference or possibility to explore more dynamic attitude-behavior models.

Second, this research suggested an attempt in exploring the antecedents of travel information engagement. The research on CE is still in the start-up stage, in particular regarding the context of social media (Thao et al., 2017), resulting in the lack of consistent conceptualization and measurement. By critically reviewing the CE dimensions, this research regarded it as a behavioral response and measured it with behavior-focus intentions. Results indicated that the approach is straightforward and valid to construct the CE antecedents. By doing so, this research made an effort to introduce CE into quantitative study and address the engagement with information per

se, rather than with brand (Schivinski et al., 2016). More importantly, based on these definitions, three antecedents containing self-efficacy, information usefulness, and online social capital were explored. Although the direct effect of self-efficacy on behavioral engagement intention was not significant, the mediating role of perceived information usefulness was confirmed. Therefore, it can be considered a successful attempt.

Third, the trigger role of technical adequacy of social media was highlighted. The ELM and its extended model, the IAM, did not address the media environment and its features (Sussman & Siegal, 2003), but external information is the fundamental competence in a persuasive communication (Bhattacherjee & Sanford, 2006). Therefore, this research tried to extend the ELM with the external stimulus derived from the TAM (Davis, 1989). Findings indicated that the dual-route processing of travel information was significantly motivated by the technical adequacy of social media. It further enhanced the observation that content and context are highly interconnected and cannot be separated when exploring consumer behavior on social media (Lamsfus et al., 2015).

Fourth, this research also contributes to a better understanding of the role of social motivation or social evaluation in predicting the information cognitive process. Return to the nature of CE, CE is characterized by social and active continued interactions beyond the purchase between a subject and an object (van Doorn et al., 2010). As the ultimate goal of social media marketing (Harrigan et al., 2017), the social aspects of engagement cannot be ignored in the relative research. In line with this, this research

attempted to pay attention to the mediating effects of social motivation on travel information engagement. Findings highlighted the importance of online social capital to encourage Chinese consumers to actively engage in travel information usage and generation. In addition, the significant mediation of information usefulness between self-efficacy and engagement intention led to more implications in the power of a consumer's confidence. To sum up, this research contributes an alternative way to deliberate the information-oriented process from the social influence perspective. Based on this effort, it is possible to discover a more effective cognitive mechanism for illustrating CE, including but not limited to travel information engagement.

Which paths are more effective in leading to persuasion?

Combining the findings from the two surveys, source credibility performed more effectively than argument quality in predicting travel information usefulness via social media. As discussed previously, earlier studies implicitly viewed that the central route is more important than the peripheral route for consumers to take action in a high involvement situation (Kitchen et al., 2014). However, as a high-involvement situation, travel-related decision making continues with perceived risk because of the intangible nature of tourism products. Although it has been verified that travelers prefer to combine both argument quality and source credibility to assess the information (N. Chung et al., 2015), which path is more effective is still a question that needs to be answered. Therefore, the findings of this research may arouse more attention to the source aspect of the information. That is, "who says" is suggested to be at the core in

the travel information communication domain. In addition, this research also suggested closer attention to the role of bridging social capital because its effect on behavioral engagement intention was found to be higher than that of bonding social capital when it serves as a direct predictor beside information usefulness.

Does travel information engagement vary across users' perceptions of social connection in social media? If so, how?

This research explored two variables related to social connection as "elaboration" in the ELM. In the media research, social presence and self-disclosure are the two basic criteria to classify the different metrics of social media (Kaplan & Haenlein, 2010). The higher the social presence is, the higher media richness is, and the higher self-disclosure is, the higher users' self-presentation of their information is. However, from the recipient-oriented perspective, they can reflect their perception of social connection in the cyberspace of social media. In this line, this research transformed their potentially moderating roles from medium difference to recipients' psychological procedure. As discussed in section 7.1.3 (p. 126), although their bias effects on information usefulness were complex, related hypotheses showed as partially accepted. The common finding is that social presence negatively biased the positive impact of argument quality on information usefulness. In addition, unexpectedly, self-disclosure reduced the positive effect of source credibility on information usefulness. Accordingly, this research can serve as empirical literature to inspire more investigations on these two factors.

7.2.2 Knowing how to persuade Chinese travelers via social media

"Engaged consumers" , as the ultimate goal, symbolize the value creation of social media marketing (Thao et al., 2017). This appeal is also addressed in Social Media Examiner's (2018) latest report: 2018 Social Media Marketing Industry Report. In this report, the top two questions marketers seek answers for are: (1) What social media marketing tactics are the most effective; and (2) what are the best ways to engage my audience with social media? Accordingly, the most efficient manner lies in understanding the cognitive process of consumer engagement from the consumer-centered perspective. This research aims at better understanding persuasive communication in travel information engagement. Therefore, it provides a feasible framework for travel brands and tourism marketers to evaluate their consumer engagement strategies in social media marketing. Despite that the investigation objects are Chinese consumers, findings of this research are believed to be beneficial for tourism marketers globally. This research suggests three tactics they need to focus on: (1) improving information usefulness, (2) attaching importance to social ties, and (3) trying to create a great space of online community.

Key: Information usefulness.

This research reinforced that information usefulness is the most effective predictor of travel information engagement, whereby improving the usefulness and helpfulness of travel information is recommended to be the core and straightforward tactic for tourism marketers.

First, tourism marketers will greatly benefit from understanding the dual-route process when consumers evaluate travel information, especially from paying more attention to source credibility in travel information. As mentioned previously, source credibility was found to be more effective and powerful in building consumers' trust to the usefulness of travel information than argument quality. To do so, one way is to improve consumers' identity to travel brands' accounts on social media platforms. Working on the certified and expert profile of travel brands' accounts will be a valuable solution to display their official and professional identity (J. Zhang et al., 2017a). Through the featured management accounts on social media, travel brands, such as hotel or destination management organization, can participate in the communication with users and followers, which will enhance the positive image and reviews, and mitigate biased reviews toward their service (Z. Zhang et al., 2016). Another effort travel brands need to do is to pay more attention to the UGC in travel, because the credible online reviews have become the most important resources for travel brands to collect potential consumers (Ayeh et al., 2013a). It will be very helpful to seek for and develop users or followers who are knowledgeable and experienced in travel (J. Zhang et al., 2017a). Travel brands can distinguish the reviews from the expert or experienced users by using the function of social media on the sequential decline of online rating (Luo et al., 2013; Z. Zhang et al., 2016). These reviews or recommendation ranking by their persuasiveness can help consumers quickly find helpful information.

Second, how to design the information content with high quality and argument is

also an important task for travel brands to provide useful information. This research successfully identified that consumers perceive high-quality information as accurate, relevant to need, comprehensive, and updated, and consider high-quality argument embedded in the information to be strong and convincing. Although high argument quality may not directly contribute to the information usefulness, it can increase consumers' self-confidence in their ability to judge whether the information is useful. In this point of view, learning the mediating role of users' self-efficacy becomes important for travel brands to provide valuable information. Moreover, researcher has found that cognitive information overload will make consumers feel too stressful to process the information (Samson & Kostyszyn, 2015). The increasing number and rapidly-updated posts on social media also lead to multitasking for users to judge useful travel information. However, when adding humor and pleasure factors into travel brands' posts on social media, the posts can evoke attention and positive effects in the followers (Ge & Gretzel, 2017). Therefore, travel brands can design travel information with initiating emotion and interaction to reduce the users' stress when assessing the information and, in turn, improve their confidence to believe themselves in making decisions.

Third, travel brands should take full advantage of social media features in interaction, personalization, and sociability. As noted in this research, technical adequacy evokes consumers' active participation in the travel information processing. That is, it is essential to enhance consumers' empowerment in an online community through the endeavor in real-time interaction, personalized recommendation, and

travel-related social relationships.

In addition, to increase the usefulness of travel information, it is helpful to work on different tools to improve users' self-efficacy. This research reinforced the importance of information usefulness by finding that it mediates the relationship between self-efficacy and behavioral engagement intention. Although self-efficacy is highly involved with an individual's knowledge, skills, and experience to perform a task, travel brands can still make effort to reduce the obstacles for consumers to access the travel information recommended. Take the elder age group as an example, their self-efficacy in using new techniques, normally, is considered lower than young people. However, WeChat has become popular in the elder age group in China. It can be an efficient channel for travel brands to recommend tourism products to elder age people.

Attach importance to social ties.

This research enhanced the proposition that travel brands can advance consumers' engagement through improving their perceived social capital between themselves. Social capital can be used as a powerful communication tool to establish and enhance consumers' interaction between other consumers and between brands. For the consumers who are active in expanding their bridging social capital, high information quality are important for them to engage in travel information using and sharing. It requires travel brands to make more effort in recommending accurate, relevant, and credible information to consumers and improve the helpfulness of the information. For the consumers who are not active to know new members and pay more attention to

maintain the given intimate bonding social capital, the information recommended should not only come from expert and experienced providers but also keep high quality standard and consistent argument in content. It may also reflect the fact developing new users seems easier than maintaining regular users. More importantly, useful information is the key factor to establish the links between consumers in brand community on social media, in particular for the consumers who mostly follow validated users. That is, although they keep bonding in community, if they perceive much unreliable and useless information in the interaction, they may deny further developing their bridging connections in this community. Therefore, travel brands can apply behavior data mining techniques to manage consumer profiles and based on which to deliver more personalized and relevant information.

Create a great space of online community.

Although the moderating effects of users' social connection (social presence, self-disclosure) performed unexpectedly in this research. What can be extracted is that users' sense of social space and social exchange in online community via social media, in a way, can bias their information assessment. For instance, users who show lower social presence are more likely to read the travel information which is sufficient the depth, breadth and quality. On the other hand, for consumers with low self-disclosure, users who are experienced or have similar interests should be recommended to reduce consumers' perceived risk, and in turn to promote information usefulness. Therefore, making effort in learning more about users' sense of the community space will be

helpful in building emotional connections between users and community. Its efficiency may be small, but if given sufficient time, such factors can be potent and produce more pronounced effects.

7.3 Limitations and Future Research

This research is an initial attempt to define consumer engagement as a dual-route process and advance it into the research domain of travel information. Findings of this research are more likely to shape Chinese consumers' behavior, but they are expected to inspire more research interests in other countries. Considering that the study on consumer engagement is still in the start-up stage, several other limitations need to be acknowledged.

The main limitation is related to the participant sample. First, the two substudies targeted participants with different age spans. The pilot study focused on Chinese young people (mainly less than 40 years of age) with the purpose of testing the applicability of the ELM in elaborating Chinese consumers' adoption of travel information. To seek for more general conclusion, the author tried to expand the age span of the participants and included the groups of less than 18 years of age and over 40 years of age. However, the sample number of the elder age group was relatively fewer. Comparing with the reports of user behavior published by CNNIC (2015, 2016) and Sina & Weibo Data Center (2016), respondents in this research were concentrated in their age distribution. Second, the paper-and-pencil survey in the formal study was conducted at one university in mainland China, which resulted in the centralization of the regional distribution in the

group of students. Although datasets in the two substudies performed good and reliable in the indirect nonresponse bias check, it is recommended in future research to pay more attention to the representativeness in demographics when using a comparative approach.

The second limitation is attributed to the measurement of travel information adoption in the pilot study. Two items were removed, which might reduce the predictor power of the research model. To adapt the IAM (Sussman & Siegal, 2003) to the context of social media, in the pilot study, travel information adoption as the outcome was modified from the initial measurement. Initially, information adoption was measured by the extent of an e-mail delivered in an organization and its content would motivate a recipient to take action, follow its suggestions, and agree with the action suggested in the e-mail (Sussman & Siegal, 2003). Differing from the knowledge adoption in an organization, information adoption via social media defines the information taking side, not only included following intention, but also covered the specific behavioral intentions via social media, such as replying, forwarding, and liking (N. Chung et al., 2015). Therefore, the author made a try to identify the measurement of travel information adoption in the social media context. Its measurement was modified and updated based on consumer engagement research in the formal study, but there was still one item to be removed. In future research, it is considered necessary to explore and test for a more effective measurement of travel information adoption.

Another limitation occurred in the measurement model. It is noted that argument

quality and source credibility highly correlated with each other in both pilot study and the formal study. Chi-square difference test suggested the distinction between them, but it may reflect the findings in previous studies of travel information adoption that consumers are inclined to combine both of the routes to assess the usefulness of travel information (N. Chung et al., 2015; J. Zhang et al., 2017b). Because of the high-perceived risk in the situation of travel information adoption, it has been verified that there is mutual influence between argument quality and source credibility in the cognitive process of travel information on social media (J. Zhang et al., 2017b). Based on these attentions, future research is expected to define and develop a more valid measurement scale to explore the association between the two routes in predicting travel information engagement.

Further, this research focused on the general travel information on social media, with the purpose to gain an effective cognitive model in predicting travel information engagement. However, consumers always combine several social media platforms to search or share travel information. On one hand, different platforms are considered different in social media metrics, which are determined by the levels of media richness and self-presentation (Kaplan & Haenlein, 2010). In this research, these metrics were defined from the social psychological perspective, namely users' social presence and self-disclosure. That may be responsible for the results whereby their moderating effects were not as expected as the hypotheses. On the other hand, different platforms are established based on different strength of social capital. For instance, Sina Weibo and

WeChat are viewed depending on bridging and bonding connections, respectively (J. Zhang et al., 2018).

In addition, this research did not compare the behaviors of sharing and not sharing travel information and did not critically classify the travel information into user-generated content and firm-generated content. However, different types of users (observers, seekers, and advisers) have significantly different participation styles, which in turn have an impact on the efficacy of the decision-making process (Sadovykh, Sundaram, & Piramuthu, 2015). To take more insights in consumers' internal disposition of travel information engagement, in future research, comparative research is strongly recommended to verify the feasibility of the proposed research model of this research in different social media platforms, in different levels of engagement (e.g., sharing vs. not sharing), and in different sources (e.g., user-generated content vs. firm-generated content).

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