The Effects of Perceived Interactivity, Perceived Ease of Use and Perceived Usefulness on Online Hotel Booking Intention: A Conceptual Framework

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Abstract
Since online booking website has grown rapidly, numerous interactive features and attributes are available for deployment. However, the use of too many interactive features may cause the website to become complex, difficult to be used and less useful to some users. Based on review of past literature, the present article proposes a conceptual framework with nine propositions to understand the role of perceived interactivity, perceived ease of use and perceived usefulness toward online booking intention among hotel website users. The framework is supported by the Technology Acceptance Model (TAM) as the underlying theory. As a result, we argued that perceived website interactivity dimensions (two-way communication, responsiveness, and user control) influences perceived ease of use and perceived usefulness of the website. Consequently, hotel websites with greater perceived ease of use and perceived usefulness are more likely to influence online booking intention.

INTRODUCTION

The online hotel booking technology has become a major tool for selling hotel services. Because of that, researchers have devoted considerable attention to developing and testing models of online hotel booking adoption (e.g., Liu & Zhang, 2014; Qi, Law, & Buhalis, 2013; Scaglione, Schegg, & Murphy, 2009). Research indicated that hotel website adoption has positive relationship with business performance (Scaglione et al., 2009). The study showed that higher Revenue per Available Room or RevPAR was achieved after website adoption than before. Furthermore, hotels with no booking website suffered a reduction in revenues. In addition, the study also found that hotels with their own web presence enjoyed stronger revenue growth rates than hotels with online presence via other portals. Qi et al., (2013) reported that the most popular channel for searching hotel information was individual hotel websites. However, users had higher intentions to revisit third-party websites than hotel-owned websites (Morosan & Jeong, 2008). Though, online travel agent (OTA) websites are performing better than individual hotel websites in most of the aspects except website quality (Liu & Zhang, 2014), the distribution cost for using the OTA is quite high. Ideally, the use of Internet technology should improve service quality, increase sales revenue, lower labor, distribution and marketing costs. Hence, proper
deployment of individual hotel website is very crucial to each hotel business. Hoteliers need to know how to better deploy their own booking websites successfully.

Previous research has addressed several aspects of online hotel booking adoption by hotel customers: 1) room rate or price (Andrés-Martínez, Gómez-Borja, & Mondéjar-Jiménez, 2014), 2) convenience or ease of use (Agag & El-Masyr, 2016; Essawy, 2013), 3) perceived usefulness (Agag & El-Masyr, 2016), 4) website quality (Wang, Law, Guillet, Hung, & Fong, 2015), 5) image (Bhatiasvei & Yooopetch, 2015), 6) cost (Özbek, Gümalan, Koç, Şahin, & Kas, 2015), 7) perceived risk (Özbek et al., 2015), 8) satisfaction (Akrimi & Khemakhem, 2014), 9) subjective norms (Bhatiasvei & Yooopetch, 2015), and attitude (Chung & Zhao, 2006; Li, Yang, & Liang, 2016). However, little studies have investigated on the intention of hotel customers to book for hotel rooms based on Internet usage characteristics, particularly website interactivity (Abdullah, Jayaraman, & Kamal, 2016). The existing literature suffers a dearth of research on the effects of online interactivity on online consumers (Fang, 2012). Therefore, the aim of this study is to investigate the influence of travelers’ perceptions on hotel website interactivity on online hotel booking intention based on the well-established TAM. The present article proposes the link between experiential aspect of website interactivity, perceived ease of use, perceived usefulness and online booking intention. The next section presents a literature review of the TAM and its application in online hotel booking research. This is followed by a discussion on a conceptual research model and related propositions. Finally, in the research methodology section, plan for instrument development, data collection and data analysis are presented.

LITERATURE REVIEW

Online Booking

Online booking means making a reservation for a service over the Internet (Bhatiasvei & Yooopetch, 2015). Hospitality companies wishing to minimize costs but at the same time providing convenient booking facilities to travelers often utilizes online booking tools (OBTs) such as hotel website, online travel agency websites as well as airline website. Researchers have identified many factors influence online booking adoption. Among all, high adoption rates are achieved when comprehensive implementation strategy is deployed (Carlson Wagonlit Travel, 2011). Besides booking via desktop computer, customer may also use mobile phone or other portable mobile devices connecting to wireless networks to book airline tickets, hotel accommodations, and other tourism related products or services (Yang, Chu, & Yang, 2006). The adoption of online booking technology by service providers and customers in the hospitality industry has increased recently due to the convenience for checking information, making inquiries, and making reservations online (Carlson Wagonlit Travel, 2011).

Technology Acceptance Model

The Technology Acceptance Model or TAM (Davis, 1989) is one of the most influential theory to understand user acceptance of technology. TAM is an extension of the Theory of Reasoned Actions (TRA) (Ajzen & Fishbein, 1975). According to TRA, a person’s belief influences his/her attitude. Then, the attitude develops a behavioral intention to perform a behavior. The link between attitude-intention-behavior was then adapted by Davis to develop TAM to predict user acceptance of technology. TAM highlighted the links among external variables, perceived ease of use (E), perceived usefulness (U), attitudes (A) and behavioral intention (BI) toward the actual adoption of technology. TAM believes that U and E are two major predictors for acceptance behavior. U refers to individuals’ perceptions on that using an application would increase their performance (Davis, 1989). In online hotel booking context, performance could be reaching more and better choices, better price and better offer compared to offline booking (Özbek et al., 2015). E refers to a tentative user’s degree of expectation about using an application. In online booking context, E refers to less effort in comparison to other alternative. According to TAM, individuals’ technology adoption could be estimated based on their intentions. U and E respectively is the main and secondary determinants of individuals’ intentions to use technology.

Fig. 1 illustrates the relationships among the variables in original TAM (Davis, 1989). However, in many studies, the effects of U and E were investigated only on behavioral intention to use (BI). Besides, the effects of U and E on A were not examined. Furthermore, the effects of U and E on actual use variable was also not reported (Bhatiasvei & Yooopetch, 2015; Özbek et al., 2015). One of the reasons for excluding the attitude and actual use variables from the model is the poor relationships between attitudes, intentions, and actual use (Özbek et al., 2015). Moreover, literature reported that the full mediator effect of attitude variable on the relationship between and BI in original TAM was not confirmed by many studies. These variables may be excluded from applied TAM model (Burton-Jones & Hubona, 2006).
Although TAM has been studied extensively, the model can be modified or integrated with other variables or models to fit different study context (Lu, Yu, Liu, & Yao, 2003). Therefore, the original version of TAM is modified and integrated with website interactivity (as external variables) to serve as the underlying theory for the present study.

**CONCEPTUAL FRAMEWORK AND PROPOSITIONS**

Based on the literature review, it is recommended that that original TAM needs to be integrated with other variables to make it a stronger model. The integration between TAM and other related variables will allow for an understanding of why Internet users plan to use or not to use online booking technology such as hotel booking website. Since online hotel booking technology has changed rapidly, the demand for more interactive website has increased. Previously, customers can only access hotel information supplied by hoteliers or hotel marketers but today, hotel customers also make purchase decision based on peers’ opinions, online ratings or third party feedback posted online (Casaló, Flavián, Guinalíu, & Ekinci, 2015). Besides, goal-directed customers prefer hotel website that allow product or service customization (Kabadayi & Gupta, 2011). For these reasons, hotel booking websites need to be more interactive than before. Thus, in our conceptual framework (Fig. 2), perceived interactivity dimensions are proposed as external variables in original TAM.
Perceived Website Interactivity

Internet is a well-known interactive technology. That is why, research on website interactivity has received much attention from many scholars (Kim, 2011). However, there is a significant different between actual interactivity and perceived interactivity. According to Voorveld, Neijens, and Smit (2011), adding interactive features to a website does not lead to a stronger perception of interactivity. Actual interactivity or also known as feature-based interactivity can be measured objectively by observing the number and type of interactive features on a website (Song & Zinkhan, 2008). On the other hand, perceived interactivity or experiential interactivity is subjectively experienced by website users (Liu & Shrum, 2002; Wu, 2005). Thus, to measure this construct, researcher can ask website users to recall about their feelings or experiences during website visit.

Despite the fact that there has been a lot of attempt to define interactivity, there is still no agreement about its definition and conceptualization (Song & Zinkhan, 2008; Voorveld et al., 2011; Wu, 2006). Interactivity construct has been defined in literature in four perspectives: 1) process, 2) features, 3) perception, and 4) combination of process, features and perception (McMillan & Hwang, 2002). In this article, we define interactivity from the perspective of website user perception, not user of other interactive media in general. Besides, we suggest three core dimensions of perceived website interactivity based on validated scale to measure the construct and consensus from a number of studies (McMillan & Hwang, 2002; Song & Zinkhan, 2008; Wu, 2006).

Hence, following Mollen and Wilson (2010), perceived interactivity is defined as “an experiential phenomenon that occurs when a user interacts with a website or other computer-mediated communication entities. Perceived interactivity is the degree to which the user perceives that the interaction or communication is two-way, controllable, and responsive to their actions” (p. 921). Accordingly, there are three major dimensions of perceived interactivity, 1) two-way communication, 2) responsiveness, and 3) user control. Two-way communication represents the two-way information flow which enable user to respond back. Responsiveness refers to the extent to which a website’s capability to responds to users’ information needs when it performs the two-way communication with the user. The focus for responsiveness is on the feedback from the website rather than from the website user (Dholakia, Zhao, Dholakia, & Fortin, 2001). It measures how fast the website response to its user, provide real-time feedback, and process messages as well as online transactions (Kim, 2011). Finally, user control is conceptualized as user input and choice capability (Yoo, Lee, & Park, 2010). Website user can choose the timing, content and sequence of communications (Dholakia et al., 2001).

Empirical studies support the placement of perceived website interactivity as external variables in TAM (Coursaris & Sung, 2012; H.-H. Lee, Fiore, & Kim, 2006). In their article, the level of image interactivity technology (IIT) of a website has a significant positive effect on perceived ease of use and perceived usefulness (H.-H. Lee et al., 2006). Likewise, research on mobile website interactivity also reported that levels of interactivity has positive relationship with the perceived usefulness and perceived ease of use (Coursaris & Sung, 2012). In the context of social networking sites (SNSs), Pai and Yeh (2014) also found positive effects of interactivity on both perceived ease of use and perceived usefulness. Therefore, based on above discussion, we believe that the three core dimensions of perceived website interactivity have significant influence on perceived ease of use and perceived usefulness of online booking website. For that reason, we offer the following propositions:

Proposition 1. Two-way communication is antecedent of perceived ease of use.

Proposition 2. Two-way communication is antecedent of perceived usefulness.

Proposition 3. Responsiveness is antecedent of perceived ease of use.

Proposition 4. Responsiveness is antecedent of perceived usefulness.

Proposition 5. User control is antecedent of perceived ease of use.

Proposition 6. User control is antecedent of perceived usefulness.

Perceived Ease of Use

Davis (1989) defined perceived ease of use as “the degree to which a person believes that using a particular system would be free of effort” (p. 320) and posited that perceived ease of use has a positive effect on perceived usefulness. It has been supported by a number of studies (Abdullah, Ward, & Ahmed, 2016; Cho & Sagnyov, 2015; Lee, Tyrrell, & Erdem, 2013; Tong, 2010). Abdullah et al. (2016) found highly significant positive relationship between students’ perception on the ease of use of e-portfolio system and perceived usefulness of
the technology. In another study, meeting planners also agreed that ease of use factor influence their perception on the usefulness of social media (Lee et al., 2013). Likewise, Cho and Sagynov (2015) and Tong (2010) found highly significant effects of perceived ease of use on perceived usefulness among online customers. Hence, by improving the perceived ease of use of a technology, perceived usefulness could be enhanced and later translate into an increased behavior intention and acceptance of the technology.

In the context of online hotel booking, perceived ease of use is defined as the degree to which hotel customers feel that online booking is not difficult and free from much effort to use. If they feel online booking is easy to use, they will normally perceive it as being useful to them. For instance, Özbek et al., (2015) used the TAM to investigate how tourists adopt online booking sites. They reported that perceived ease of use of online booking site has a positive relationship with perceived usefulness. Thus, the following proposition is proposed:

**Proposition 7.** Perceived ease of use is antecedent of perceived usefulness.

**Proposition 8.** Perceived ease of use is antecedent of online booking intention.

**Perceived Usefulness**

According to TAM, users behavioral intention to adopt a technology is determined by their perception on the technology’s usefulness and ease of use (Özbek et al., 2015). Davis (1989) defined perceived usefulness as “the degree to which a person believes that using a particular system would enhance his or her job performance” (p. 320). The scholar also stated that perceived usefulness has a positive influence on behavioral intention. This relationship is supported by numerous recent studies (Bhatiasevi & Yoopetch, 2015). For instance, consumer of online health services highlighted the importance of perceived usefulness both at the initial and latter stages of technology usage (Mou, Shin, & Cohen, 2016). Buapromme and Polyarot (2016) reported that perceived usefulness has significant impact on consumers’ intention to purchase traceable meat. In other study, both perceived ease of use and perceived usefulness influence student’s behavioral intention to adopt the e-portfolio (F. Abdullah et al., 2016).

In the context of online booking, perceived usefulness refers to the Internet users feeling that using online booking is useful in making online reservations or online payments. Perceived usefulness can be one of the determinants to predict whether or not they will use online booking (Agag & El-Masry, 2016; Kucukusta, Law, Besbes, & Leghoerel, 2015; Özbek et al., 2015). The effect of perceived usefulness of the online booking technology on usage intention is more than the effect of perceived ease of use (Kucukusta et al., 2015). Thus, the scholar suggested that functionality, efficiency and effectiveness of the online booking technology are more important than its ease of use. In contrast, perceived ease of use has no significant effect on perceived usefulness (Pai & Yeh, 2014). Hence, we offer the following propositions:

**Proposition 9.** Perceived usefulness is antecedent of online booking intention.

**DISCUSSION**

**Implications for Theory and Practice**

This paper proposes a conceptual framework to enhance existing body of knowledge by considering the potential role of website interactivity dimensions as the external factors in TAM, customized for assessing online hotel booking adoption. Specifically, interactivity was defined in term of website user perception and conceptualized into three core dimensions, namely, 1) two-way communication, 2) responsiveness, and 3) user control. The effects of these dimensions on perceived ease of use and perceived usefulness, and in turn, online booking intention through individual hotel website were also supported by a few empirical findings but in different study context.

From a theoretical point of view, this work contributes to online marketing scholars by providing an initial understanding of the consequences of website interactivity, especially to what extent each interactivity dimension influences ease of use and usefulness perceptions. This study frames the two-way communication, responsiveness, and active control dimensions as first order constructs, instead of second order construct as reported by (Coursaris & Sung, 2012).

Hoteliers not only need to have potential customers to visit their own website, they also need a website that can influence customers to finally book their stays via the website instead of booking through other channels. From the practical perspective, the conceptual framework can be useful to hoteliers who own official websites. Direct booking could be enhanced if hoteliers have clear understanding on the role of website interactivity on hotel
customers booking intention. Hotel marketers could properly manage the interactivity features and attributes of their hotel website. As a result, they could reduce their dependency on OTAs like Agoda.com, Booking.com, and Hotels.com.

**Future Research Directions**

In closing, this paper proposes a conceptual framework to enhance online booking adoption in the context of hotel booking website. We offered support for the potential effects of website interactivity on perceptions of ease of use, usefulness, and finally online booking intention. Future studies could extend the framework by integrating it with potential moderators in relation to cultural diversity of the online web browsers, technology readiness and habits.

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