How locus of control shapes intention to reuse mobile apps for making hotel reservations: Evidence from chinese consumers

Lawrence Hoc Nang Fong [a, *], Long Wai. Lam [a], Rob Law [b]

[a] Faculty of Business Administration, University of Macau, Avenida da Universidade, Taipa, Macau SAR, China
[b] School of Hotel and Tourism Management, The Hong Kong Polytechnic University, 17 Science Museum Road, TST East, Kowloon, Hong Kong SAR, China

H I G H L I G H T S

- Robustness of UTAUT is confirmed in reusing mobile apps to make hotel reservations.
- Perceived risk is negatively associated with reuse intention.
- Control by powerful others predicts reuse intention via facilitating conditions.
- Internal control predicts reuse intention via effort expectancy.
- External control predicts reuse intention via effort expectancy and risk.

A R T I C L E   I N F O

A B S T R A C T

This study unveils the cognitive mechanism that locus of control (LOC) dimensions (internal control, chance control, and control by powerful others) predict intention to reuse mobile apps for making hotel reservations. The predictions are assumed through the unified theory of acceptance and use of technology (UTAUT) anchors and perceived risk. Drawn from an online survey with 457 Chinese participants, results show direct positive predictions of intention to reuse from UTAUT anchors including performance expectancy, effort expectancy, social influence, and facilitating conditions. Perceived risk also negatively predicts intention. Effort expectancy mediates the links between internal/chance control and intention, whereas perceived risk mediates only the latter link. Facilitating conditions mediate the relationship between control by powerful others and intention. This study contributes to existing research by distinguishing the mechanisms that underpin LOC dimensions and technology re-adoption. Practitioners are recommended to improve booking apps by addressing the concerns of users with different LOC.

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1. Introduction

Mobile phones are used for more than mere interpersonal communication. A large number of mobile apps are available for users to download for free or at minimal cost. Recent years have witnessed a proliferation of hoteliers and online travel agents (OTAs) developing mobile apps for reservation. Mobile apps present a new channel for hoteliers and OTAs to increase sales, considering that the per-capita rate of smartphone ownership is even higher than that of personal computer ownership

(Heggestuen, 2013). Consumers' use of these apps is also increasing significantly, and the boom is particularly apparent in China. Statistics show that Chinese tourists' use of mobile apps for travel planning and booking surged from 17% in 2014 to 50% in 2015 (Hotels.com, 2016). In light of the large number of Chinese outbound tourists (UNWTO., 2016) and the expansion of the smartphone market in China (Statista, 2016), Chinese tourists' use of hotel reservation apps appears promising. Global tourism practitioners are adjusting their strategies to tap the largest share of the Chinese market. Currently, increasing their market share by offering a pleasant booking experience to mobile users, who will then use the apps frequently in the future, is imperative for hoteliers and OTAs. However, little is known about what drives consumers' intention to continue using mobile apps for making hotel

reservations (henceforth "intention to reuse"). In the present research, we examine whether locus of control (LOC), defined as the belief of whether the control of an event is internalized or externalized (Rotter, 1966), influences Chinese consumers' intention to reuse.

This study investigates LOC for two reasons. First, among the individuals' dispositional factors, LOC has been shown to be an effective and consistent predictor of attitude, emotion, and behavior (Thomas, Kelly, & Eby, 2006). However, knowledge about its effect on consumer behavior in tourism is limited (Madrigal, 1995; Walmsley & Jenkins, 1991). The robustness of LOC effect in tourism context has yet to be demonstrated. Second, given that individuals' dispositional factors are highly significant antecedents of technology adoption and use (McElroy, Hendrickson, Townsend, & DeMarie, 2007), particularly in the tourism context (Casaló, Flavián, & Guinalíu, 2010; Lee, Qu, & Kim, 2007; Lu, Mao, Wang, & Hu, 2015), furthering the understanding of the relationship between LOC and technology adoption is important. These two voids in the tourism literature urge this study to examine the influence of LOC on intention to reuse mobile apps for making hotel reservations.

Although LOC greatly affects technology adoption (Li, Lepp, & Barkley, 2015), the cognitive mechanism that links LOC and technology adoption also requires exploration. A substantial body of literature pertinent to the cognitive factors that dictate technology adoption exists, but these factors were scattered until the development of Venkatesh, Morris, Davis, and Davis' (2003) framework of the unified theory of acceptance and use of technology (UTAUT). This comprehensive and parsimonious framework proposes that technology adoption and re-adoption are influenced by four cognitive factors: performance expectancy, effort expectancy, social influence, and facilitating conditions (henceforth "UTAUT anchors"). Since its emergence, UTAUT has been empirically tested across domains (Kijsanayotin, Pannarunothai, & Speedie, 2009; Morosan & DeFranco, 2016; Zhou, Lu, & Wang, 2010). Other scholarly attempts focused on extending the framework by examining the moderators of when the UTAUT anchors exert the most influence (San Martín & Herrero, 2012; Tai & Ku, 2013; Yu, 2012). Nevertheless, knowledge on the antecedents of these anchors is relatively scant. In this study, we propose LOC as an antecedent of UTAUT, which, to our best knowledge, has not been examined in the literature. Our study clarifies the cognitive mechanism that connects LOC and intention to reuse and addresses the core research question: How does LOC shape intention to reuse?

Our study also contributes to the existing research by distinguishing the effects of the three dimensions of LOC (internal control, chance control, and control by powerful others) (Levenson, 1973a) and shows which dimensions account for intention to reuse mobile apps through their proposed mediators. Specifically, *internal control* refers to the belief that events/outcomes are determined by effort, ability, and skill. By contrast, *chance control* denotes the belief that events/outcomes rest upon luck, fate, and chance. *Control by powerful others* pertains to the belief that achievement of events/outcomes has to rely on supporting and facilitating others (e.g., experts). As our context involves the use of mobile apps to reserve hotels, we also introduced perceived risk, an essential factor in mobile consumption (Martins, Oliveira, & Popovič, 2014; Slade, Dwivedi, Piercy, & Williams, 2015), as an additional mediator in our model. Doing so provides additional theoretical insights into the connection between LOC and technology re-adoption.

The objectives of this study are threefold. First, UTAUT is revisited to explain the intention to reuse mobile apps for making hotel reservations. Second, the effect of perceived risk on intention to reuse is analyzed. Third, the cognitive components that mediate LOC and intention to reuse are identified and examined. In the next

section, we present a critical review of the literature related to UTAUT, perceived risk, and LOC, which are the essential theoretical components for developing the conceptual framework of this study.

2. Theoretical background

2.1. UTAUT

A plethora of studies about technology acceptance (or adoption) have been documented. Various theories and frameworks have been proposed, including the technology acceptance model (Davis, 1989), innovation diffusion theory (Moore & Benbasat, 1991), model of personal computing utilization (Thompson, Higgins, & Howell, 1991), and mixed model of technology acceptance model, and theory of planned behavior (Taylor & Todd, 1995). Although these frameworks offer significant insights into innovation and technology adoption, a coherent framework that can improve the understanding of organizational and individual adoption of technology is needed. For this reason, Venkatesh, Morris, Davis, and Davis (2003) developed UTAUT, which explains the initial and repeated adoption of technology (Venkatesh, Thong, & Xu, 2012).

The sophistication of UTAUT has led to its proliferation in studies over the past decade across domains, such as adoption of mobile banking (Zhou et al., 2010), mobile payment (Slade et al., 2015), and health information technology (Kijsanayotin et al., 2009). UTAUT has also been used in the tourism and hospitality literature in studies concerning online purchases for rural tourism (San Martín & Herrero, 2012), online purchases of air tickets (Escobar-Rodríguez & Carvajal-Trujillo, 2014), and use of mobile payment systems in hotels (Morosan & DeFranco, 2016). Yet, research is lacking on the use of UTAUT to explain mobile hotel reservation, which is a promising trend in the travel industry (Ozturk, Bilgihan, Nusair, & Okumus, 2016; Wang & Wang, 2010). To contribute to the existing research on tourism and hospitality, the robustness of UTAUT in an unexplored domain—repeated use of mobile apps for making hotel reservations—needs to be validated.

UTAUT features four core anchors (i.e., predictors of technology adoption), namely, *performance expectancy*, *effort expectancy*, *social influence*, and *facilitating conditions* (Venkatesh et al., 2003). In the present research, *performance expectancy* represents the extent to which a person perceives that mobile apps improve the performance of making hotel reservations. The prevalence of smartphones directs online hotel booking from websites to mobile apps. If customers find that mobile apps perform better, then they may prefer using apps to websites in the future. *Effort expectancy* refers to the perceived ease of using apps for making hotel reservations. A user-friendly platform streamlines user experience (Kim, Kim, & Wachter, 2013), which fosters repeated use of the apps. *Social influence* refers to the extent to which a person's use of apps for making hotel reservations is influenced by important others. This construct resonates with the social norm construct in the theory of planned behavior (Venkatesh et al., 2003). Individuals tend to comply with the opinions and behavior of other important persons; hence, the influence of others on repeated use of apps is tenable. Finally, *facilitating conditions* refer to an individual's perception that he/she possesses the necessary resources and support to complete hotel reservations using mobile apps. This construct is also interpreted as the constraints (e.g., lack of necessary technology and technical support) that users encounter when using technology (Walton & Miller, 1995). The constraints (i.e., poor facilitating conditions) seal the negative evaluations of the experience in users' minds and hinder their intention to reuse. On the basis of these conceptions, the following hypotheses are developed: