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Perceived risk influence on dual-route information adoption processes on travel websites☆

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ABSTRACT

This article investigates how perceived risk (PR) affects individual information adoption processes on travel websites. The study integrates perceived travel risk into an information adoption model which draws from the elaboration likelihood model, a dual-process theory of persuasion. The final sample consists of 212 successful questionnaires. The study uses structural equation modeling to evaluate the conceptual model and hierarchical regression analysis to test the moderating effects. The results show that argument quality (a central route) and source credibility (a peripheral route) effectively persuade customers to adopt information on travel websites via perceived usefulness (PU). Findings suggest that perceived risk significantly increases information adoption intention directly and via perceived information usefulness indirectly, and has a great moderating effect on the peripheral route. The results from reanalysis of the data using fsQCA (fuzzy-set qualitative comparative analysis) determine that the combination of PR and PU is sufficient for information adoption intention.

1. Introduction

Which elements persuade individuals to adopt information from travel websites? This issue is of great interest for researchers and practitioners because of today's rapidly advancing technology and growing development of the Internet (Ho, Kauffman, & Liang, 2007, p. 237). For example, travel website provides and shares sufficient travel-related information to help travel planning. This information includes frequent data updates, offering of sufficient information for pre-visit destination travel planning, real-time information services, and interactive communication (Frías, Rodríguez, & Castañeda, 2008). Individual perception of performance and effectiveness gains from using information on travel websites may attract customers to navigate the site (Chang, Yu, & Lu, 2015; Law, Leung, & Wong, 2004), and further persuade visitors to buy travel products. Realizing consumer information-adopting behavior on travel websites, the tourism industry can share appropriate information and deliver new and more flexible business processes to develop effective marketing strategies and achieve some great success (Frías et al., 2008).

To better understand the individual information adoption process on travel websites, researchers and practitioners need to be aware of informational influence patterns that determine what types of information may effectively motivate customers in information adoption processes (Correa, Hinsley, & de Zúñiga, 2010). They also need to identify the variations in influence patterns across individual characteristics. Under the considerable travel uncertainty about negative/undesirable outcomes in a tour, individual perceived travel risk is a major concern in motivating information adoption on travel websites (Nysveen, 2003).

Perceived travel risk (called perceived risk for short) refers to potential tourists' perception about the risk of possible uncertain negative/undesirable outcomes from travel to exist (Sönmez & Graefe, 1998). These undesirable outcomes "might signify anything from a disappointing travel experience (psychological risk) to a serious threat to the traveler's health or life (health, physical, or terrorism risk)" (Sönmez & Graefe, 1998, p. 172). Individual risk perception results in anxiety and stimulates the development of risk-reducing strategies, such as searching for and acquiring information (Taylor, 1974). Many tourism studies report that individual perceived risk differs in searches for information (Fuchs & Reichel, 2006; Money & Crotts, 2003), and that is germane to individual information adoption and purchase decisions (Money & Crotts, 2003; Tang, Jang, & Morrison, 2012). However, the understanding of perceived risk's effect on individual information adoption processes on travel websites remains scant. This article attempts to fill in this gap.

Concerned with the perceived travel risk, this study investigates individual information adoption on travel websites. The research integrates the travel risk concern into an information adoption model (Sussman & Siegal, 2003), which draws from the elaboration likelihood model (ELM). The research questions are as follows.

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RQ1: How are individuals persuaded to adopt information from travel websites?

RQ2: Do the informational influence processes vary across an individual travel risk perception? If so, how is this done?

Accordingly, the study presents and examines eleven hypotheses according to the proposed research model, and tests the hypotheses applying structural equation modeling (SEM) and fuzzy-set qualitative comparative analysis (fsQCA) to a questionnaire survey data set to answer each of these questions.

2. Theoretical background and hypothesis development

2.1. Elaboration likelihood model

The elaboration likelihood model, developed by Petty and Cacioppo (1980, 1986), is a dual process model of information influence. This model states individual attitude change based on two qualitatively distinct routes to persuasion, a central route and a peripheral route to persuasion. (1) The central route occurs when people carefully and thoughtfully consider the issue-relevant arguments presented. Argument quality (central cues), including relevance, timeliness, completeness, and accuracy (Bhattacherjee & Sanford, 2006; Sussman & Siegal, 2003), significantly affects information adoption on the central route. (2) The peripheral route occurs "as a result of some simple cues" (Petty & Cacipoppo, 1986, p. 125) rather than from critically analyzing issue-relevant information. Simple cues such as source credibility (Sussman & Siegal, 2003) have an important effect on information adoption on the peripheral route.

"High levels of elaboration likelihood represent a central route to influence" (Sussman & Siegal, 2003, p. 50), whereas low levels of elaboration likelihood result in a peripheral route. The determinants of the levels of elaboration likelihood may be the individual motivation and ability (elaboration motivation and ability), such as the issue involvement (Petty & Cacioppo, 1986; Sussman & Siegal, 2003), personal responsibility (Petty & Cacioppo, 1986), individual expertise, and individual knowledge (Sussman & Siegal, 2003). Argument quality has a greater effect on information adopting intention for people with high levels of elaboration likelihood, such as stronger motivation and greater ability. The peripheral cues have a major effect on information adopting intention for people with low elaboration motivation and ability (Petty & Cacioppo, 1986; Sussman & Siegal, 2003). Bhattacherjee and Sanford (2006) further identify the central route to "have a longer-term impact on user acceptance decisions" than the peripheral route.

Prior research employs dual-process informational influence to better explain individual attitudes toward behavioral intention, as in the study on knowledge transfer using computer-mediated communication (Sussman & Siegal, 2003), in a study related to online opinion seeking (Tang et al., 2012; Zhang & Watts, 2008), in research on new information technology acceptance (Angst & Agarwal, 2009; Bhattacherjee & Sanford, 2006), in a study on understanding user's initial trust in mobile banking (Zhou, 2012), and in research on the message diffusion in social media marketing (Chang et al., 2015).

Sussman and Siegal propose an information adoption model by integrating the technology acceptance model (TAM) (Davis, Bagozzi, & Warshaw, 1989) with the ELM. TAM posits that attitude and individual internal belief of perceived usefulness jointly determine individual behavior intention. Sussman and Siegal's (2003) study focuses on the route from perceived usefulness to behavior intention. They aim to investigate how computer-mediated communication influences consultants to adopt information from knowledge transfer though computer-mediated communication. The results empirically support the following claims. (1) Perceived information usefulness successfully serves a mediating role in informational influence process. (2) Elaboration likelihood plays a significant moderating role on the relationships between informational variables (argument quality and source credibility) and perceived usefulness.

2.2. Research model and hypothesis development

The ELM provides the theoretical basis "for systematically studying alternative informational influence processes, their effects, and moderating factors" (Bhattacherjee & Sanford, 2006, p. 810). Perceived travel risk results from much uncertainty about negative/undesirable outcomes in a tour (Money & Crotts, 2003). Individual risk perception results in anxiety and motivates the development of risk-reducing strategies, such as searching for information (Taylor, 1974). Regarding the perceived travel risk, what types of information may effectively motivate potential tourists in information adoption processes on travel websites? To answer this question, this article integrates perceived travel risk into Sussman and Siegal's information adoption model based on the ELM, to propose a research model as appearing in Fig. 1. The following section frames the hypotheses.

2.2.1. Information usefulness and adoption intention

Sussman and Siegal's (2003) information adoption model accounts for an informational influence with a mediator of individual perceived information usefulness, with information adoption as the potential outcome of this process. Informational influence is "the process which individuals undergo as they assess the validity of new information" (Ferran & Watts, 2008, p. 1568). Perceived usefulness is "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis et al., 1989). Information adoption is "the extent to which people accept content that they are presented with as meaningful, after assessing its validity" (Zhang & Watts, 2008). According to TAM, the usefulness perception—people's perceive system to benefit their task performance will increase individual intention to use system. Sussman and Siegal's model proves that perceived information usefulness induces people to adopt information. That is, when people believe that the information is useful and helpful for their decision-making, they will have greater intention of accepting the information. On travel websites, this article therefore hypothesizes:

H1. The perceived usefulness of information has a positive effect on information adoption intention-to-buy.

2.2.2. Informational variables and perceived information usefulness

According to the ELM, argument quality and source credibility are two qualitatively distinct informational variables which may persuade individuals to adopt information. Ferran and Watts (2008, p. 1568) define argument quality as "the factor in which information recipients base their validity assessments during systematic proceedings." Argument quality refers to "the persuasive strength of arguments embedded in an informational message" (Bhattacherjee & Sanford, 2006, p. 811). The components of information arguments include relevance, timeliness, accuracy, and comprehensiveness (Sussman & Siegal, 2003). 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). Peripheral clues (such as source credibility) "persuade people who lack motivation or ability" (Chang et al., 2015 p. 778).

"ELM suggests that argument quality and peripheral cues are directly related to attitude and belief change" (Bhattacherjee & Sanford, 2006, p. 811). Numerous empirical results demonstrate that both argument quality and source credibility positively influence information adoption via individual belief of perceived usefulness (Bhattacherjee & Sanford, 2006; Sussman & Siegal, 2003). Hence:

H2. The argument quality of informational messages has a positive effect on the perceived usefulness of information.

H3. The source credibility of informational messages has a positive effect on the perceived usefulness of information.