ABSTRACT

The aim of this research is to examine the inhibitors and drives of mobile commerce (m-commerce) adoption. Drawing upon the social exchange theory, a research model is developed. The research model will be empirically tested by using survey data. If our findings confirm the conceptualization of the research model, we expect that users’ perceived exchange benefits in terms of perceived value added and usefulness are the drivers of m-commerce adoption and that their perceived exchange costs in terms of security and privacy concerns hinder their intention to conduct m-commerce.

KEYWORDS: Mobile commerce, Privacy concerns, Security concerns, Social exchange theory, Perceived Values

INTRODUCTION

In spite of great penetration of mobile devices worldwide, mobile commerce (m-commerce) was projected to account for only 7% of Internet sales by 2016 (Forrester, 2011). It seems that users are still very hesitant to engage in m-commerce. Privacy and security concerns might be barriers since mobile computing tends to and is able to collect more personal data from users, and in general is more subject to security risks. The unique features of mobile computing cause different and situational privacy concerns in addition to general privacy concerns among users. Users have also expressed that security and privacy issues regarding mobile computing are a deterrent factor for their mobile shopping (SAP, 2013). However, little research has studied situational privacy concerns with a contextual emphasis on m-commerce while exceptions exist (e.g. Li et al. 2010). Moreover, past research in IS has studied users’ security perceptions and behaviors in the general context of the Internet (Chen & Zahedi, 2009). Little research has focused on both users’ security and privacy concerns in the context of m-commerce.

Furthermore, consumers are fundamentally self-interested and value-driven. They make using vs. not using or adopting vs. not adopting decisions based on trade-offs between rewards and costs (Zeithaml, 1988). When conducting m-commerce, while users have to bear probably more privacy and security risks, they enjoy values and conveniences from mobile computing. Thus we posit that users’ decision on m-commerce is based on the “calculus” of rewards and costs, according to the social exchange theory (Blau, 1964; Homans, 1958).
To fill the above mentioned research gaps, this study draws upon the social exchange theory (Blau, 1964; Homans, 1958) to develop a research model in which users’ reward and cost perceptions as well as the consequent impacts of those perceptions are examined. The relationships between the general privacy concerns and situational privacy concerns are also investigated.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Social Exchange Theory

The Social Exchange Theory (SET) defines social exchange as the exchange of tangible or intangible activities between parties based on trade-offs of rewards and costs (Blau, 1964). The parties involved in the exchange have no contractual obligations. Instead, the parties expect reciprocal benefits while calculating the costs they have to pay for the exchange (Blau, 1964; Homans, 1958). According to the SET, in marketplaces, consumers make various consumption choices and decisions based on trade-offs of rewards and costs (Blau, 1964; Homans, 1958). In IS field, the SET has been applied to studies in different exchange contexts. For example, Turel et al. (2010) examined the impact of the perceived exchange values on consumers’ adoption of hedonic digital artifacts. However, past research has disproportionally focused on the impacts of rewards when adopting the SET, while cost perceptions such as privacy and security concerns may play a deterrent role in consumers’ decisions on e-commerce in general and m-commerce in particular. Thus in this study, we adopted the SET to develop an integrated model in which both users’ perceptions of exchange rewards and costs in m-commerce are examined.

General and Situational Privacy Concerns in M-commerce

A large body of research in IS has examined privacy issues in various contexts. Most studies focused on general security concerns based on the conceptualization of Smith et al. (1996) (e.g. Xu et al., 2009), which is not specific to the context of a study (Li et al., 2010). Smith et al. (1996) identified individual’s concerns for privacy with four dimensions: collection, errors, secondary use, and unauthorized access. In the mobile environment, since the openness of the platform adds greater risk for privacy violation, it is understandable that people would demand more privacy protection. So, providing users with information about how their personal data are used and addressing their privacy concerns have become even more critical in their intention to conduct m-commerce (Dai et al. 2010). Past studies (e.g. Li et al., 2010; Xu et al., 2009) have found general privacy concerns play an important role in mobile services and m-commerce adoption behaviors.

While general privacy concerns are important as a determinant of various privacy related attitudes and behaviors, situational privacy concerns are distinct concepts pertaining to a specific situation or domain (Li et al. 2010). Situational privacy concerns have a contextual emphasis and can “unravel the intricacies of privacy concerns” (Li et al. 2010, p. 62). In the domain of mobile computing, the mobile technology provides the capability of tracking users’ specific location at a specific moment and linking collected data to the specific individual, causing users’ situational privacy concerns.

Thus, more and more companies use location-based services (LBS) to promote and sell their products and services via mobile devices. LBS can locate a person and use the location to present customized location-based services, and store the location information and forward such information to third parties (Xu et al., 2009). Moreover, mobile computing can link an
identifier of a person to the collected personal information. As a result, companies can collect and utilize such information at micro, individual level (Earp et al., 2005). Furthermore, many m-commerce activities can be conducted via mobile apps which are a very convenient platform for m-commerce vendors to collect additional, various types of information from users and transfer such information to third parties for various reasons. Thus we argue that users’ situational privacy concerns increase their general, overall privacy concerns which, as an exchange cost, in turn negatively impact their intention to adopt m-commerce. Hence,

H1. Location tracking positively impacts users’ privacy concerns in m-commerce.

H2. Personalized use of personal information positively impacts users’ privacy concerns in m-commerce.

H3. Types of personal information collected positively impact users’ privacy concerns in m-commerce.

H4: Information transferring positively impacts users’ privacy concerns in m-commerce.

H5. Users’ privacy concerns negatively impact their intention to conduct m-commerce.

Security Concerns in M-commerce

Recent studies pointed out that users’ security perceptions, such as security concerns, have significant influence on their behavioral intention. For example, past research has found that security concerns along with other factors such as security countermeasure response efficacy increased users’ threat avoidance behaviors (Chen & Zahedi, 2009).

Security breaches can put users’ personal and financial information in a great danger. Consequently, users may suffer identify theft and financial loss later on. Security concerns can paralyze consumers and thus fundamentally change their attitudes and beliefs (Chellappa, 2002; SAP, 2013). IS research has recognized the relationship between users’ security concerns and their attitudes towards e-commerce (Furnell & Karweni, 1999). Based on the SET, we argue that security concerns as an exchange cost in m-commerce decrease users’ intention to conduct m-commerce. Hence,

H6. Users’ security concerns negatively impact their intention to conduct m-commerce.

Exchange Benefits in M-commerce

The SET indicates that it is rational that consumers choose and buy what they feel worthy (Zeithaml, 1988). Unlike economic exchange, social exchange emphasizes intangible, subjective benefits from the perspective of human perception (Blau, 1964; Homans, 1958). Thus the SET posits that in a social exchange, people attempt to maximize their rewards and minimize their costs in order to pursue the largest net reward (Blau, 1964; Homans, 1958). Past IS research has long recognized that perceived usefulness is a key subjective benefit perceived by users when adopting an IS technology (Davis et al., 1989). Moreover, mobile devices provide mobility and convenience to users. With mobile devices, users can access the Internet and conduct m-commerce anytime and anyplace at will, thus providing additional values/benefits to users (Lu et al., 2003). Thus we hypothesize,
H7. Users’ perceived usefulness positively impact their intention to conduct m-commerce.

H8. Users’ perceived value added positively impacts their intention to conduct m-commerce.

RESEARCH METHOD

This study will apply survey methodology to empirically test the research model and hypotheses. A survey instrument was developed based on an extensive literature review and instrument development guidelines suggested by IS literature. Most measurement items were adopted and adapted from literature. A 7-point Likert scale ranging from ‘strongly disagree’ to ‘strongly agree’ was used for each item in the instrument except for those demographic items. The items used to measure consumers’ privacy concerns and types of information were adapted from Smith et al. (1996) and Stewart and Segars (2002). The items for location tracking, personalized use of personal information, and information transferring were adapted from Kaasinen (2003) and Earp et al. (2005). The items for security concerns were adapted from Chellappa (2002). The items to measure perceived usefulness were adapted from Davis et al. (1989) and the items to measure perceived value added were adapted from Siau et al. (2001). The items for attitudes towards m-commerce were adapted from Bagozzi et al. (1992). Finally, the items to measure intention to conduct m-commerce were based on the literature and developed by this study. All measurement items were reflective and multi-item scales were used to ensure the reliability and validity of the measurement. Demographic items were also added in the survey questionnaire.

CONCLUSION

Drawing upon the social exchange theory (SET), we developed the research model in which users’ perceptions on the exchange benefits and costs in m-commerce and the consequent effects of such perceptions on users’ intention to conduct m-commerce were examined. In addition, the research also integrated both privacy concerns and security concerns in the research model while accounting for the effects of situational privacy concerns specific to the context of m-commerce. Users’ value perceptions specific to the context of m-commerce were also accounted in the research model.

Our research has both theoretical and practical contributions and implications if the empirical data confirm our research model. Theoretically, this research advances our understanding of m-commerce behavior by proposing the research model in which influencing factors of m-commerce use comprise a set of beliefs in exchange benefits and costs. Moreover, our model provides insight into users’ complex decision-making process in m-commerce and the relative strength of the inhibitors and the drivers in m-commerce. Another significant contribution of this study is that unlike many other studies on privacy concerns in the IS field, our study integrates both privacy and security concerns into the research model.

This study is also important for practitioners in m-commerce. To conduct m-commerce, practitioners must exercise clear policies that state how the information is used and protected to alleviate users’ privacy and security concerns. On the other hand, practitioners in m-commerce should focus more on tangible and intangible benefits of their mobile products and services, since perceptions on values and usefulness are the key drives in m-commerce. Furthermore, the current study may serve as a theoretical benchmark for practitioners in m-commerce to evaluate their quality and functionality of the m-commerce products/services and the effectiveness of their practice on informing privacy and security.


