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Understanding the adoption of location-based recommendation agents among active users of social networking sites



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ABSTRACT

Nowadays, using increasingly granular data, from real-time location information and detailed demographics to consumers-generated content on the social networking sites (SNSs), businesses are starting to offer precise location-based product recommendation services through mobile devices. Based on the technology acceptance model (TAM), this paper develops a theoretical model to examine the adoption intention of active SNS users toward location-based recommendation agents (LBRAs). The research model was tested by using the Partial Least Squares (PLS) technique. The results show that perceived usefulness, perceived control, and perceived institutional assurance are important in developing adoption intention. Perceived effort saving, special treatment, and social benefit have influences on the adoption intention through the mediating effect of perceived usefulness. Perceived accuracy has direct influence on adoption intention.

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1. Introduction

Recommendation agents (RAs) have the potential to simplify consumers' research and improve decision-making (Xiao & Benbasat, 2007). RAs refer to "software agents that elicit the interests or preferences of individual users for products, either explicitly or implicitly, and make recommendations accordingly" (Xiao & Benbasat, 2007, p.13). RAs have been widely used in the e-commerce context (Sahoo, Singh, & Mukhopadhyay, 2012). In recent years, with the development of social networking sites (SNSs), location-based services (LBSs), and mobile devices, the service scope of RAs has gone from e-commerce to local retail.

Local retail plays an important role in total retail sales (Retailresearch, 2012). In the traditional local retail context, as consumers are bombarded with information and options, they often struggle to find the products that will best meet their needs (Davenport, Mule, & Lucker, 2011). Nowadays, consumers can rely on personalized product recommendation information to make purchase decisions by using location-based recommendation agents (LBRAs). In the LBRA context, using increasingly granular data, from real-time location information and detailed demographics to consumer-generated content on the SNSs, businesses are starting to offer precise location-based product recommendation services through mobile devices. For example, Facebook has started to help companies place relevant, timely mobile advertising by mining and matching consumers' accumulated personal data and real-time location information.

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The consumers' acceptance of LBRAs is important in the survival of location-based product recommendation services. Although certain studies have examined the adoption of LBSs (Gerpott & Berg, 2011; Zhou, 2013) and online RAs (Komiak & Benbasatm, 2006; Lee, Lee, & Sanford, 2010; Qiu & Benbasat, 2010), the adoption of LBRAs in the SNS context has been largely ignored by academic literature. LBRA in the SNS context is different from online RA. Consumers receive recommendation information mainly through mobile phones in LBRA and computers in online RA. The difference between the mobile phone and the computer, such as the size of the screen and its functions, results in dissimilar information presentation formats. This may affect decision-making (Vessey, 1991). As the well running of LBRAs depends on consumer-generated contents on the SNSs, active SNS users are the main users of LBRAs. Therefore, based on the technology acceptance model (TAM), this paper proposes a theoretical model to examine the adoption of LBRAs of active SNS users. The findings can help SNS providers develop more effective mobile advertising.

2. Conceptual framework and hypotheses

LBRAs depend on information technology. TAM is the most employed model in the study of information technology adoption (Yousafzai, Foxall, & Pallister, 2007). According to TAM, users' behavioral intention is determined by perceived usefulness and perceived ease of use, which are determined by external variables (Davis, 1989). In the present study, perceived usefulness of LBRAs can be regarded as driving factor of adoption intention, and the potential benefits (perceived effort saving, perceived accuracy, perceived special treatment, and perceived social benefit) of LBRAs can be regarded as external variables. Thus, the present study employs the TAM to examine the adoption of LBRAs by active SNS users. In addition, considering the control and private risk characteristics of LBRAs, two other driving factors (perceived control and perceived institutional assurance) have been added. Fig. 1 shows the research model.

2.1. Driving factors and adoption intention

In the TAM, perceived usefulness is a strong driving factor of behavioral intentions (Davis, 1989). In the present study, the perception of usefulness of an LBRA by active SNS users is likely to influence adoption intention. Perceived ease of use is the other driving factor in the TAM, which has a less stable effect on individual behavioral intention across studies (Yousafzai et al., 2007). Kowatsch and Maass (2010) have found that perceived ease of use has no significant relation with the intention to use mobile RA. This study excludes the factor of perceived ease of use. Thus, the present study only proposes that perceived usefulness positively affects the adoption intention of LBRA by active SNS users. The hypothesis is this:

H1. Perceived usefulness has a significant influence on the adoption intention of LBRA by active SNS users.

A previous study discovered that perceived control is an important driving factor of behavioral intention (Collier & Sherrell, 2010). With LBRAs, perceived control pertains to the extent to which a consumer believes that he or she has the ability to adapt to and direct the LBRAs to fulfill service needs (Zhu, Nakatabl, Sivakumar, & Grewal, 2013). In order to meet individual needs, customers need to believe that they have the ability to determine the service offering instead of accepting a standardized design of the original service (Collier & Sherrell, 2010). For example, if a consumer does not believe herself can determine the nature of the information flow, the mode and time of information transfer, or the disclosure level of personal information when using an LBRA, she may have no intention to adopt the LBRA. Thus, the present study proposes that perceived control positively affects the adoption intention of LBRA by active SNS users. The hypothesis is this:

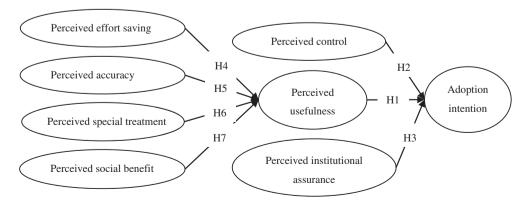


Fig. 1. The research model.

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