Chapter 17

The Impact of Technology Anxiety on the Use of Mobile Financial Applications

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ABSTRACT

Mobile Commerce activities will not expand without the proper support of mobile financial applications (MFA), including mobile banking, mobile brokerage service, mobile money transfer, and mobile micropayments. MFA is expected to have a great impact on the future of mobile commerce industries and makes purchasing activities more flexible and convenient, also creating new markets. However, despite the advent of these MFA technologies and the availability of various mobile services, the adoption of mobile financial applications across the globe is still relatively low. In this regard, this study investigates the role of technology anxiety (TA) in the adoption of MFA and resolves the discrepancy between the apparent interest in and low adoption of MFA. The results of a broad survey of 595 mobile payment users in Korea indicate TA negatively moderates the influence of intention on actual usage in addition to the direct negative influence on intention to use MFA. Also, the author found that TA significantly differs depending on the frequency of use and gender. However, contrary to a common notion that older people are more anxious in context to new technologies, TA has been found to be higher among young people.

INTRODUCTION

The convergence of mobile devices and wireless technologies in the last decade has brought a new type of technology-aided commerce, called mobile commerce (m-commerce). M-commerce refers to any transaction with a monetary value - either direct or indirect - that is conducted over a wireless telecommunication network (Barnes, 2002) and is gaining rapid popularity across the globe. As e-commerce’s next evolutionary stage, m-commerce has opened up new business opportunities in business-to-consumer (B2C) activities in addition to extending current operations in e-commerce and traditional brick and mortar businesses (Lee et al., 2003; Varshney & Vetter,
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2002). M-commerce also provides customers with the anytime-anywhere connectivity of wireless device, which provides unique experiences and services (Figge, 2004; Zwass, 2003). Recently, in addition to the traditional voice and data-centric services, various m-commerce services, including mobile advertising, proactive service management, location-based services, mobile auction, mobile entertainment services, and wireless data center applications have emerged and are expected to attract more customers to the m-commerce market.

However, m-commerce activities will not expand without the proper support of mobile financial applications (MFA). MFA include mobile banking, mobile brokerage service, mobile money transfer, and mobile micro-payments which can enable a mobile device to become a business tool, replacing ATMs, and credit cards (Mallat et al., 2004; Varshney & Vetter, 2002). MFA not only makes purchasing activities more flexible and convenient, but also creates unimagined new markets. Thus, the use of MFA is expected to have a great impact on the future of mobile commerce industries. However, despite the advent of these advanced MFA technologies, and despite the availability of various mobile services, the adoption of mobile financial applications across the globe is still relatively low, and its growth appears much slower than anticipated (Mallat et al., 2004).

Many studies have supported that negative perceptions reside longer in users’ memory and have more powerful effects on consequent variables such as intention and usage than positive perceptions (Baumeister et al., 2001; Hackbarth et al., 2003). Technology anxiety (TA) is one of frequently cited negative beliefs in prior studies, and it is defined as an individual’s tendency to be uneasy, apprehensive, or fearful about the current or future use of a technology (Parasuraman & Igbaria, 1990). A significant body of research in IS has highlighted the importance of TA by demonstrating its influence on intention (Hackbarth et al., 2003; Verplanken et al., 1997) and on IT adoption (Meuter et al., 2003; Parasuraman & Igbaria, 1990). The purpose of this study is to investigate the role of technology anxiety (TA) in adoption of mobile financial applications and to resolve the discrepancy between the apparent interest in and low adoption of MFA.

LITERATURE REVIEW

Mobile Financial Applications

Mobile Payment

Mobile payment and mobile banking services are two of the most important mobile financial applications (MFA) (See Figure 1). Mobile payment (m-
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