Mobile Banking Adoption in the United States: A Structural Equation Modeling Analysis

Michel N. Engwanda, Jones International University, Centennial, CO, USA

ABSTRACT

Mobile banking penetration has been relatively low even though smartphones are the most dominant forms of mobile computing in the United States. This quantitative correlational study is focused on how consumers’ perceptions affect their intention to use mobile banking in the United States. Among U.S. consumers with smartphones, Internet access, and a bank account; 68% used Internet, 33% used telephone-based banking, and only 21% engaged in some type of mobile banking activities in 2011. The web-based survey used in this study was derived from the technology acceptance model extended by the innovation diffusion theory. Data were collected by e-mail from a random sample of 398 people in the United States. The structural equation modeling (SEM) technique was used to analyze data. The results indicated that, perceived compatibility, credibility, and costs were the significant predictors of mobile banking adoption in the United States.

Keywords: Banking Channels, E-Banking, E-Business, Electronic Banking, Electronic Business, M-Banking, Mobile Banking, Smartphone Banking, Technology Adoption

INTRODUCTION

The proliferation of new information and communication technologies within the financial industry has transformed the way banks deliver services to their consumers (Hoehle, Scornavacca, & Huff, 2012). The combination of wireless technology and mobile devices via the wireless infrastructure has reshaped the financial services delivery and consumption (Singh, Srivastava, & Srivastava, 2010). The mobile technologies creation is linked to the Apple Corporation’s technological creation of the iPhone and the rapid growth of Android phones based on Google’s operating system (Dasgupta, Paul & Fuloria, 2011).

The evolution of mobile technology revolutionized the financial industry. Mobile devices have become so ubiquitous that they transformed the way consumers interact with their financial institutions (Luo, Li, Zhang, & Shim, 2010). Mobile banking (m-banking) refers to the ability to use a mobile device to conduct financial transactions such as account balance inquiries, transfers, bill payments and other financial management without temporal and spatial constraints (Cruz, Neto, Muñoz-Gallego, & Laukkunan, 2010). The majority of
consumers resist adopting m-banking; therefore, it is necessary to understand what prevents them from adopting m-banking (Koenig-Lewis, Palmer & Moll, 2010).

A report by the U.S. Federal Reserve Board of Governors (2012) revealed that 87% of the U.S. population had mobile phones, and 44% of those were Internet-enabled smartphones. The problem addressed was that, among U.S. consumers with smartphones, Internet access, and a bank account, 68% used Internet, 33% used telephone-based banking, and only 21% engaged in some m-banking activities in 2011 (U.S. Federal Reserve Board of Governors, 2012). The purpose of this quantitative correlational study was to test the relationships between the factors influencing m-banking adoption (independent variables) and the action to adopt m-banking (dependent variable).

BACKGROUND

Past studies (e.g., Dimitriadis & Kyrezis, 2010; Sripalawat, Thongmak, & Ngramyarn, 2011) have shown that the m-banking delivery channel had a relatively low penetration rate because most consumers did not adopt it (Shen, Huang, Chu & Hsu, 2010). In order to overcome consumers’ resistance, financial institutions need to identify the source of that resistance, and develop strategies to overcome it (Laukkanen & Kiviniemi, 2010). The report by the U.S. Federal Reserve Board of Governors (2012) revealed that mobile phone usage was highest among younger people, minorities, and low-income individuals who were more likely to be unbanked or under-banked. Hence, m-banking has the potential to expand financial access to underserved populations in the United States.

Although smartphones are the most dominant forms of mobile computing in the United States, m-banking adoption penetration rate is still low.

LITERATURE REVIEW

M-banking technology has brought in a paradigm shift in banking operations (Palani & Yasodha, 2012). The literature shows that scholars used numerous theories and conceptual framework to study m-banking adoption in various countries. Lee and Chung (2009) used Hofstede’s cultural dimensions and the bass diffusion model to examine cultural differences of mobile phone adoption in South Korea and the United States. They concluded that in individualistic cultures such as the United States, people sought information on their own from direct and formal sources, whereas in collectivistic cultures such as South Korea, people relied on other-like-minded individuals who previously used the technology to decide on the adoption. Dinev et al. (2006) used the privacy calculus theory to conduct a cross-cultural study between the United States and Italy. They found that compared to Americans, Italians had a lower propensity to trust, lower institutional trust, and a higher perceived risk (Dinev et al., 2006).

Among competing theoretical frameworks, the technology acceptance model (TAM) was found to be more appropriate for this study. TAM was extended by innovation diffusion theory (IDT). Researchers in previous studies (i.e., Koenig-Lewis et al., 2010; Kim, Shin & Lee, 2009; Shan & Lu, 2009) found that extended TAM constructs had correlations with m-banking adoption in other countries. Koenig-Lewis et al. (2010) found that compared to predictors such as perceived usefulness and perceived risk, perceived compatibility had a stronger effect on the m-banking adoption among young Germans. The trust factors plays a critical role on consumers’ positive perception about m-banking (Shan & Lu, 2009).

In their study, Dasgupta et al., (2011) concluded that most extended TAM factors (i.e., perceived value, self-efficacy, credibility, and tradition) had significant positive impact on m-banking adoption in Romania. Kim and Kang
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