

# Chapter 5

## SMS Banking:

### An Exploratory Investigation of the Factors Influencing Future Use

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#### ABSTRACT

*Mobile banking is a mobile service that allows the user to perform banking transactions using a mobile handheld device and a mobile service known as short text messaging (SMS). Deploying an expanded Technology Acceptance Model (TAM), this study aims to identify the factors that influence the customer's decision to use SMS banking. Findings from relevant literature and outcomes of the analysis of qualitative data were gathered through focus group discussions to build a model, and a survey was conducted to explore the model with respect to individuals' behaviour when considering using SMS banking. Findings show that service quality, as well as the degree of customers' awareness about the service, influence participants' perceptions about the usefulness of SMS banking and their intentions to use and adopt the service in the future.*

#### INTRODUCTION

Mobile banking is a mobile commerce (mCommerce) service offered to bank customers who are also mobile network subscribers or casual mobile network users. Mobile banking may be viewed as a

subset of electronic banking, with users connecting to their bank via a mobile device such as a mobile phone. Mobile banking transactions may include operations such as account balance checking, fund transfer, paying for goods and services, among others. With mobile banking customers can access their bank anywhere and anytime – limited only by the coverage provided by the mobile network.

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Thus mobile banking adds value to customers by supporting their mobile lifestyle and is believed to have the potential to expand significantly in the future (Barnes & Corbitt, 2003; Mallat, Rossi, & Tuunainen, 2004; Kim, Shin, & Lee, 2009) despite its relatively slow growth so far (Pousttchi & Schurig, 2004).

Several mobile data technologies may be used to offer mobile banking services. Short Text Messaging (SMS) banking is able to support only a relatively simple set of banking transactions (e.g., account balance checking). The more powerful mobile Internet banking allows customers to access electronic banking Web sites via a mobile browser and performs a wider range of transactions including funds transfer and payment. However, SMS banking is convenient, time-saving and easy to use (Mallat et al., 2004; Venkatesh, Ramesh, & Massey, 2003). More recently the SMS technology has been used in the so-called 'embedded' mobile banking solutions (e.g., a mobile device with a built-in chipset where a specially written banking application is stored). With an embedded solution customers may use either SMS or the Internet as a communication channel while the stored application provides authentication and encryption services (Kim et al., 2009; Pousttchi & Schurig, 2004).

The study presented here focuses on SMS banking, which in New Zealand is the only mobile banking service deployed commercially. The objective of the study is contribute to the understanding of why SMS banking is not used widely despite the fact that in New Zealand SMS is the most popular mobile data technology for both private and formal business communication (Hudson, 2008). The study investigates the following main research question: What factors may motivate bank customers to accept and use the SMS banking services offered by their bank? The outcomes of the work may provide grounds for recommendations about the future development of mobile banking services.

The rest of the article is organised as follows: The next section summarises briefly some relevant literature findings related to mobile banking adoption and outlines the research approach of the study. The two sections following introduce a model expanding the Technology Acceptance Model (TAM) (Davis, 1989) and present the findings of the empirical study. The last two sections discuss the results, analyse their implications and conclude the article with suggestions for further work.

## BACKGROUND AND APPROACH

A number of well known adoption models have been adapted and used to study user intentions and behaviour with respect to mobile services. For example TAM - originally proposed to be used in organizational context has been extended and applied in empirical studies investigating user acceptance of SMS as a commercial service (Yan, Gong, & Thong, 2006). Luarn and Lin (2005) based their work on TAM and on Ajzen's (1991) Theory of Planned Behaviour (TPB), and included in their model perceived credibility as defined in Wang, Wang, Lin, and Tang (2003), perceived self-efficacy (Agarwal, Sambamurthy, & Stair, 2000; Chau, 2001; Hong, Thong, Wong, & Tam, 2001; Johnson & Marakas, 2000), and perceived financial cost (Mathieson, Peacock, & Chin, 2001; Nysveen, Pedersen, & Thorbjørnsen, 2005). In Kleijnen, Wetzels, and Ruyter's (2004) study perceived cost, system quality and social influence were considered as antecedents of attitude (a predictor of the intention to use). Also used in prior work was Rogers' (1995) Diffusion of Innovation Theory (DIT) (e.g., Suoranta, 2003). Reviewing these and other sources on mobile banking adoption and related literature on mobile services adoption allows us to identify five groups of factors that may influence the adoption of a mobile service, and may be therefore relevant to this study: security, risk

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