

CHAPTER 3

THEORETICAL FRAMEWORK

3.1 Introduction

This chapter discusses the theoretical model developed for the present study, based on the gaps identified from the literature review in the previous chapter. Previous studies on mobile banking adoption pointed out the need to develop a robust and integrated model, that explains more variance and better predictive power of the behavior intention to use mobile banking (Laurin & Lin, 2005; Wessel & Drennan, 2010; Dasgupta et al, 2011). Mobile banking is a new technology channel to the banking customers. Hence, it is important to understand their perception towards this technology, by studying the intention towards using mobile banking. This research study proposes to integrate the best-known elements of technology adoption models in a research model, to predict the intention to use mobile banking. It specifies an integrated model, that incorporates the relationship of the factors in order to provide a comprehensive representation of the posited influences of these constructs on customers' intention to use mobile banking services.

This study looks into the phenomenon of technology adoption for mobile banking users and identifies potential factors that nurture positive intentions toward mobile banking usage. The study identifies the major determinants of mobile banking adoption, which leads to the acceptance of mobile banking in India.

The present study also developed a research framework to understand the factors which contribute to the current internet banking users' perceptions towards mobile banking in India. During this research study stage, mobile banking usage was at a nascent stage, whereas internet banking is already established as an electronic channel. Many studies were already identified that attracting and retaining customers is largely depended on the quality of service delivered, which leads to the measurement of service quality (Jayawardhena, 2004; Siu & Mou, 2005; Herington & Weaven, 2009). For this purpose, the study determines the service quality attributes, and measures the customer satisfaction of internet banking. The study also determines the current internet banking consumer's intention to use mobile banking. Research constructs formulated for the present study are discussed below.

3.2 Factors affecting Mobile Banking Adoption

3.2.1 Dependent Variable- Behavioral Intention

Fishbein and Ajzen (1975) defined behavioral intention as “the strength of one’s intention to perform a specified behavior”. Based on the theories such as TRA, TPB, and TAM the behavioral intention found to have an influence on the actual behavior. If the intention is stronger to engage in a behavior, the more likely, it affects the actual behavior (Ajzen, 1991).

The attitude construct is not included in this study since past studies found that it has a weak mediating effect on intention, and it does not directly influence the intention (Davis et al, 1989; Venkatesh et al, 2003). Many studies in IS proven that behavioral intention significantly influenced the actual use of technology (Davis et al., 1989; Taylor & Todd, 1995; Venkatesh & Davis, 2000; Venkatesh & Speier, 1999; Crabbe et al, 2009; Yuen et al, 2010; Sripalawat et al, 2011).

3.2.2 Independent Variables

The independent variables/factors which are used in this study to measure the intention to use mobile banking include perceived ease of use, computer self-efficacy, social influence, perceived cost, trust, and security.

3.2.2.1 Perceived Ease of Use (PEOU)

Perceived ease of use is defined by Davis (1989) as “the degree to which a person believes that using a particular system would be free of effort”. Perceived ease of use is the extent to which a customer believes that a system is easy to learn or to use. This construct is similar to the complexity construct used in the IDT (Rogers, 1995). If the mobile banking service is easy to learn and use, it will positively influence the customer to use this service. In mobile banking, many factors can increase the complexity such as navigation problems, small-screen size, transaction issues, etc.

Prior study in user acceptance of various information systems such as online banking (Wang et al, 2003), e-commerce (Gefen et al; 2003), m-commerce (Wang et al, 2006; Wei, Marthandan, & Chong, 2009), mobile internet (Cheong & Park, 2005; Hong et al, 2006; Liu & Li, 2010), 3G (Kuo & Yen, 2009; Chong et al, 2010), and mobile banking (Luarn & Lin,

2005) has already identified that PEOU is an important determinant of adoption. The construct perceived ease of use is adapted in this model, since it will be valid in the study of customer acceptance of mobile banking.

3.2.2.2 Social Influence (SI)

The Theory of Reasoned Action (TRA) and its extensions (Fishbein & Ajzen, 1975) specifies that human behavior is preceded by intentions, which are formed based on the individual's attitude towards the behavior and on perceived subjective norms. Venkatesh et al (2003) represents subjective norms as social influence, which is derived from the theories such as TRA, TPB, DTPB, TAM2, C-TAM-TPB, MPCU, and image in IDT. Social influence refers to an individual's perception of other people's opinions on if he/ she should perform a particular behavior. Social influence is of two types: mass media and interpersonal influence (Rogers, 1995). Mass media influence comes from newspapers, magazines, radio, television, and the Internet. Interpersonal influence captures the individual's perceptions of the influence of significant others (e.g., family, peers, authority figures, and friends). Prior studies on mobile banking adoption showed the relationship between social influence and intention to use mobile banking (Laukkanen et al, 2007; Amin et al, 2008; Riquelme & Rios, 2010; Puschel et al, 2010; Sripalawat et al, 2011; Dasgupta et al, 2011).

3.2.2.3 Computer Self-Efficacy (CSE)

The origin of self-efficacy is from the Social Cognitive Theory (SCT) (Bandura, 1986). Self-efficacy expectation is the “conviction that one can successfully execute the behavior required to produce the outcomes” (Bandura, 1977). “Expectations of self-efficacy determines whether coping behavior will be initiated; how much effort will be expended, and how long it will be sustained in the face of obstacles and aversive experiences” (Bandura, 1977). Self-efficacy belief is extended in IS research, referred as computer self-efficacy (CSE) defined as one’s perception of his or her ability to use a computer (Compeau & Higgins, 1995). Many studies in IS literature already examined the importance of computer self-efficacy (Matheison, 1991; Agarwal & Prasad, 1999; Compeau & Higgins, 1995). In the context of mobile banking, if the customer believes that they have the required knowledge, skill or ability to operate mobile banking, then there is a higher chance to attempt the service. Past studies have shown that, there exists empirical evidence of a causal link

between perceived ease of use and self-efficacy (Venkatesh & Davis, 1996; Agarwal et al, 2000; Luarn & Lin, 2005; Wang et al, 2006; Sripalawat et al, 2011).

3.2.2.4 Perceived Financial Cost

The cost incurred in conducting mobile banking, is one of the reasons that could slow down the adoption of mobile banking. In mobile commerce context, the cost has been found as a major barrier of adoption (Wu & Wang, 2005; Khalifa & Shen, 2008; Wang et al, 2006; Wei, et al, 2009). The cost incurred includes initial purchase price, equipment cost, subscription charges and transaction cost. Perceived financial cost is the extent to which a person believes that using mobile banking would be costlier (Luarn & Lin, 2005). Prior studies empirically proved the negative relationship between perceived financial cost and behavioral intention to use mobile banking (Kleijnen et al, 2004; Luarn & Lin, 2005; Sripalawat et al, 2011; Yu, 2012).

3.2.2.5 Security

Security is a major concern when conducting financial transactions through electronic channels. It can be one of the major barriers to the adoption of mobile banking since personal or financial information can be exposed and used for fraudulent activities. Existing literature on internet banking already showed the influence of security in online banking adoption (Sathye, 1999; Wang et al, 2003; White & Nteli, 2004; Pikkarainen et al, 2004; Cheng et al, 2006; Amin, 2007). Kalakota and Whinston (1997) defined security as “ a threat which creates circumstances, condition, or event with the potential to cause economic hardship to data or network resources in the form of destruction, disclosure, modification of data, denial of service and/or fraud, waste, and abuse”. Similar to online banking, mobile banking also involves greater uncertainty and risk to the customer. In the mobile/wireless environment, security can be categorized as mobile payment enabling application security, network security and device security (Song, 2001; Misra & Wickamasinghe, 2004). The major security factors which are required for the successful mobile financial transaction are identified as confidentiality, authentication, integrity, authorization and non-repudiation (Pousttchi & Wiedemann, 2003; Varshney, 2003). Linking more and more mobile communication networks together into a global meta-network will make security and trust relationships a key issue for the success of mobile commerce (Hampe & Swatman, 2000).

Prior studies already emphasized the need to study the impact of security challenges on mobile banking adoption (Laforet & Li, 2005; Zarifopoulos & Economides, 2009). Trust is enhanced by the security mechanisms provided in the mobile banking services. Customers will be more likely to trust the new service if adequate security is provided to their transaction data.

3.2.2.6 Trust

Trust is a multidisciplinary construct is defined in many disciplines ranging from business to psychology, and the perspectives are different in different disciplines (Doney & Cannon, 1997; Jarvenpaa et al, 2000; Gefen et al, 2003; Pavlou, 2003). Trust can be defined as the willingness to make one vulnerable to actions taken by the trusted party based on the feeling of confidence or assurance (Gefen, 2000). Mayer et al (1995) defined trust as “trustor’s intention to take a risk and proposed the trustor’s perception about a trustee’s characteristics”. The construct trust is multidimensional and context specific. With the development of e-commerce, the interpersonal business relationships take place in cyberspace than traditional off-line settings, which brings much uncertainty and risk. In this scenario, many studies were conducted in e-commerce for the conceptualization and formation of trust (Lee & Turban, 2001; Tan & Thoen, 2001; Pavlou & Gefen, 2004; Cheung & Lee, 2006).

The multi-dimensional trust scale developed by Mayer et al (1995) and McKnight et al (2002) were considered the most recognized models in e-commerce literature. Mayer et al (1995) defined trust as “trustor’s intention to take a risk and proposed the trustor’s perception about a trustee’s characteristics”. McKnight et al (2002) defined trust as trusting beliefs and trusting intention. Trusting belief is a simple mental process of evaluation of the trustee’s characteristics such as person’s feelings or perceptions about anything. The trusting attitude is a state of preparedness or readiness for attention or action. McKnight et al (2002) defined trusting belief as “a person’s belief that the other person is benevolent, competent, honest, or predictable in a situation. McKnight et al (2002) defined trusting intention as trustor’s willingness to depend on a trustee in a given situation.

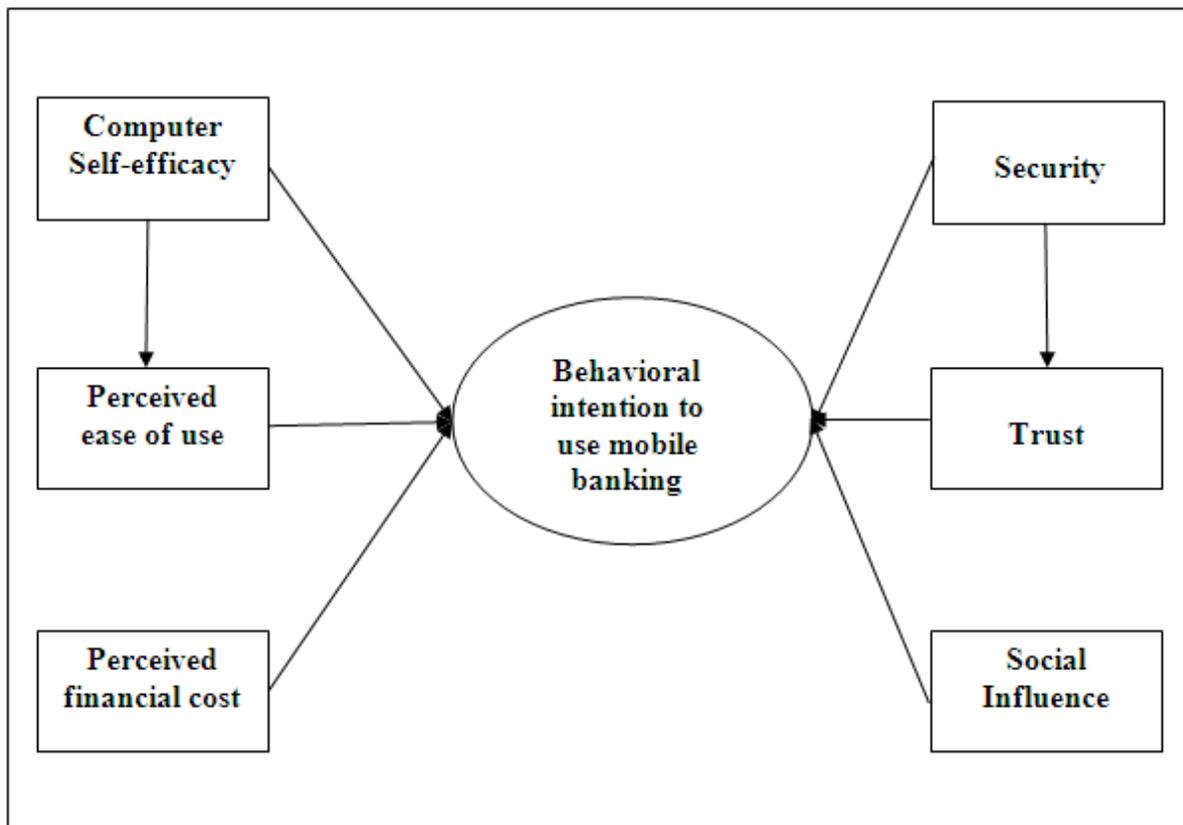
Trust plays a major role in the adoption of mobile banking, since it helps the customers overcome the fears of security/privacy risks and fraudulent activities, which take place in the mobile environment. Masrek et al (2012) defined trust in mobile banking as “the belief that

allows individuals to willingly become vulnerable to the bank, the telecommunication provider, and the mobile technology after having the banks, and the telecommunication provider's characteristic embedded in the technology artefacts".

3.3 Theoretical Model of Consumer Adoption of Mobile Banking

Drawing on the existing body of literature, it identifies six constructs, which posit to have an influence on intention to use mobile banking (FIGURE 3.1). The independent variables/factors which are used in this study include perceived ease of use, computer self-efficacy, social influence, perceived cost, trust, and security.

FIGURE 3.1: PROPOSED THEORETICAL MODEL



The research model developed for the present study derived the constructs from the existing technology adoption models such as Technology Acceptance Model (TAM) (Davis, 1989), Decomposed Theory of Planned Behavior (DTPB) (Taylor & Todd, 1995), and Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al, 2003). The study

added the constructs such as trust, security, and perceived cost, which are relevant to understand the mobile banking acceptance.

3.4 Internet Banking

The research study also identifies the current internet banking customers' perception about the quality of online banking services, and measures their satisfaction towards internet banking services. The study identifies the dimensions which measure the e-service quality of internet banking in India. The study also identifies the relation between customer satisfaction of internet banking and intention to use mobile banking.

3.4.1 E-service quality of Internet Banking

Service quality is conceptualized by Parasuraman et al (1988) as the difference between the customer expectations and perceptions of the service quality. Santos (2003) conceptualized e-service quality as, consumer's overall assessment and judgment of the excellence and quality of e-services in the virtual environment. In this study, the e-service quality of internet banking is measured using the dimension access, web interface, attention, and credibility of Jayawardhena (2004) scale, which is a modified version of original SERVQUAL (Parasuraman et al, 1988) scale. Access is defined as “it empowers customers to utilize the service through a number of points of entry and the ability to carry out a wide range of transactions”. The web interface is defined as “maintenance of a web site that enhances the overall browsing experience of customers”. Attention is referred as “provision of an accurate, personalized service to customers”. Credibility refers as “delivering the promised service to customers at all times”. Existing studies have used similar constructs to study the e-service quality of internet banking (Yang et al, 2004; Khan et al, 2009; Santouridis et al, 2009; Ho & Lin, 2010).

3.4.2 Customer Satisfaction of Internet Banking

Satisfaction according to Oliver (1997) perspective is “an ongoing evaluation of the surprise inherent in a product acquisition and/or consumption experience”. Anderson & Srinivasan (2003) defined e-satisfaction as “the contentment of the customer with respect to his or her prior purchasing experience with a given electronic-commerce firm”. In the IS research

Delone and McLean (2003) defined user satisfaction as “it covers the entire customer experience cycle from information retrieval through purchase, payment, receipt, and service”.

3.4.3 Relationship with E-Service quality and Customer Satisfaction of Internet Banking

Existing studies have found that there is a positive relation between service quality and satisfaction (Cronin & Taylor, 1992; Zeithaml et al, 2002; Collier & Bienstock, 2006; Cristobal et al, 2007; Carlson & O'Cass, 2010; Saunders & Petzer, 2010). Prior research has proven that customer perceptions of service quality and satisfaction positively influence behavior intention (Bitner, 1990; Zeithmal et al, 1996; Lee & Lin, 2005; Kuo et al, 2009; Kassim & Abdullah, 2010; Carlson & O'Cass, 2010). The positive or negative consumer perceptions of e-service quality of internet banking led to satisfaction (or dissatisfaction) with the internet banking services provided by the banks. Past studies of internet banking empirically proved that the customers' overall satisfaction of internet banking depends upon the quality of internet banking services provided to the customers (Han & Baek, 2004; Herington & Weaven, 2009; Luc et al, 2011).

3.4.4 Relationship with Customer Satisfaction of Internet Banking and Behavioral Intention to use Mobile Banking

According to the theory of reasoned action (TRA) proposed by Ajzen and Fishbein (1980) intention is considered to be the strongest predictor of behavior. Behavioral intention is a critical metric of the success of a new information system or the service it enables (Lee & Lin, 2005; Hu et al, 2009). Carlson & O'Cass (2010) suggests that the customer satisfaction of a service is strongly associated with positive behavioral intentions towards the same service provider. Existing studies found that satisfied customers are likely to re-purchase goods or services at the same firm and in the case of e-retailing or online shopping; it means revisiting the website, and recommending the site to others (Zeithmal et al, 1996; Collier & Bienstock, 2006; Cristobal et al, 2007). The satisfaction and usage link are empirically validated with prior work on user behavior in the IS research (Wang, 2003; Lin & Wang, 2006; Wang, 2008). Bringing up this into the context of mobile banking adoption, it can be argued that the existing internet banking customers who are satisfied with the services will be

likely to stick to the existing bank and exhibit positive behavioral intentions towards using mobile banking services.

In order to understand the consumer adoption of mobile banking in India, the study identified the factors which determine the intention to use mobile banking and proposed a theoretical model which captures the significant effects of all these factors on intention to use mobile banking.

The study also determines the e-service quality dimensions of internet banking and measures the relationship between these e-service quality dimensions and customer satisfaction of internet banking. The study also proposes the relationship between customer satisfaction of internet banking and their behavioral intention to use mobile banking.