

CHAPTER THREE

DETERMINANTS OF MOBILE BANKING USAGE: EVIDENCE FROM THE PEOPLE'S BANK - AVISSAWELLA BRANCH

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Abstract

Advancements in information technology has created significant and reimbursed growth in the banking industry. With that, mobile banking services have been carried out with the concept of the "bank on your hand." Thus, the main objective of this paper is to investigate the determinants of online mobile usage in people's bank, Avissawella branch.. This study was conducted on a questionnaire based on the Technology Acceptance Model and Theory of Plan Behavior. Questionnaires were distributed to the costumers who have used the bank's mobile banking service using the convenience sampling technique. A total of 155 completed questionnaires were received. The results shows that demographic factors, namely age, education, and occupation, are significantly impacted on Mobile banking usage. Subsequently, the variables, namely attitude, perceived usefulness, behavioral control, perceived ease of use, and subjective norm, are significant in this phenomenon. Finally, the study confirms that the attitude, subjective norms, and perceived behavioral control variables are lined with behavioral plan theory.

Keywords: Technology Acceptance Model, Theory of Plan Behavior, Mobile Banking, Mobile Banking Usage

1. Introduction

Developments in information technology have a massive effect on the banking sector, creating continually ever more flexible payment methods and user-friendly banking services. Since the 1980s, major technology-enhanced products and services, from automated teller machines (ATMs) to mobile banking, have become available everywhere 24/7 (Sangle & Awasthi, 2011). The rapid growth of mobile technology and the ever-growing ubiquity of mobile devices over the years have resulted in mobile banking

evolving from a simple information delivery channel to a comprehensive banking transaction channel (Dandeniya, 2014).

Banking and finance companies now pay attention to mobile banking, especially when maintaining customer relationships (Riivari, 2005). The ability to identify a customer's most pressing need at a given moment is one of the promising propositions of mobile banking, and the challenge nowise to deliver services according to consumers' perception of value and trust (KPMG International, 2009). Today, mobile banking applications are evolving as a new retail channel for banks. Mobile banking is a focal point of growth strategies for the banking and mobile carrier industries (Goswami and Raghavendran, 2009). Banks provide a combination of payments, banking, real-time two-way data transmission, and global access to financial information and services through mobile banking applications (Boyd & Jacob, 2007). It is now taken for granted that the mobile phone as a channel for service consumption offers massive potential in banking (Laukkanen and Lauronen, 2005).

From all of the findings, we can see that mobile banking is also one of the fastest-growing banking practices nowadays. It is vital to extend this new banking feature to clients to maximize both clients and service providers (Qureshi, Zafar & Khan, 2008). In Sri Lanka context, banking services on the mobile channel were launched a few years ago. According to the Mobile Payment report in Sri Lanka: Market Demand Assessment (Lovelock, 2013), mobile services operators served 22.4 million subscribers. On the other hand, bank account ownership in Sri Lanka is 88.2%, and from that, the mobile banking usage of Sri Lanka is only 7.2%. So, the use of such services has not reached the desired level yet. It becomes more important to look for the factors operating on the consumer's side.

People's bank is a state-owned commercial bank in Sri Lanka. The bank has 347 local branches and 387 Service Centers with 450+ own ATMs. The bank offers both Retail and Corporate Banking services, including Online Banking and Mobile Banking. Among those, all branches and networks, People's bank in Avissawella keeps rank at 34th by showing the highest profit margin.

Through a personalized USSD information portal at Dialog, Mobitel, or Etisalat SIM inserted mobile phone, a People's Bank customer can also now access their account-related banking activities free of charge. Despite that, in the People's Bank, Avissawella branch, long queues can be seen in the counters daily for settling just a simple transaction like a

balance inquiry. Most customers still question about their balance from the counters. It motivates to study the factors those impact to the use of mobile banking.

Although the bank has 80326 active saving accounts, only 2003 customers had got registered with the Mobile banking services. Information technology (IT) acceptance has been the subject of much research in the past two decades. Similarly, Mobile banking acceptance has received a particular attention in academic studies. Several research types on Mobile banking were carried out whereby the technology acceptance model has received more attention. Davis (1989) developed the Technology Acceptance Model, according to which "users' adaptation of a computer system" depends on their "behavioral intention to use." TAM has been tested in many global studies by different authors. When considering the Sri Lankan context, enough research has not been carried out. Further, the People's bank has also not been researched yet by using TAM and TPB. Observing such facts motivates to address the following research question; **“What are the factors influencing Mobile banking usage?”**

The present study intends to accomplish the objective of the factors influencing Mobile banking usages such as Attitude, Perceived ease of use, Perceived Usefulness, Behavioral Control, and Subjective Norms on mobile banking usage. By identifying effective factors in using mobile banking, the bank can save costs, reach new segments of the population, achieve efficiency, and enhance the bank's reputation. It can provide a better customer service and satisfaction. Findings are useful to professionals in the banking sector, especially for developers of such information systems and the strategy makers, towards taking the banking services to a level commonly applicable in the developed world today. Banks can benefit with much lower operating costs by offering mobile banking services, which require less staff and fewer physical branches. Subsequently, the study is significant to branch to identify the weak points of the banking environment and improve performance. Further, this study's findings will help the banking sector to assess the impact of information technology and formulate appropriate strategies for building customer loyalty, enabling them to retain customers.

2. Literature Review

Mobile banking or M-banking is the act of performing online financial transactions by using mobile telecommunication devices such as mobile phones or tablets (Forrester: Mobile Banking, n.d.) Users can access non-financial and financial services such as

account management, balance inquiry, transference, bill payment, PIN change, and checkbook requests through mobile banking (Dahlberg *et al.*, 2008; Luarn and Lin, 2005; Shaikh and Karjaluo, 2015). The emergence and widespread of third-generation mobile communication technologies have laid a solid foundation for mobile commerce's rapid growth (Akturan & Tezcan, 2012). Ubiquity, flexibility, interactivity, and accessibility proved the possibility of mobile banking as a popular medium for consumers to make their banking transactions. Those are useful as a powerful marketing tool for bank retailers to interact with their consumers (Cheah *et al.*, 2011; Schierholz *et al.*, 2007). According to the findings, mobile banking is also one of the fastest-growing banking practices nowadays. It is vital to extend this new banking feature to clients to maximize both clients and service providers (Qureshi, Zafar & Khan, 2008). Mobile banking is seen to become a popular banking channel among consumers and the most typical application in mobile commerce (Liu *et al.*, 2009)

Technology Acceptance Model

In 1989 Davis introduced the technology acceptance model (TAM), and it is used for modeling user acceptance of information systems. TAM's goal is to explain the determinants of computer acceptance (Davis *et al.*, 1989). The TAM has been extensively used as the theoretical basis for many empirical studies of user technology acceptance and has significantly contributed to understanding users' acceptance of information systems /information technology (Taylor & Todd, 1995; Venkatesh & Davis, 2000). Davis and Venkatesh (1996), Gefen and Straub (2000), Al-Gahtani (2001) actual behavior in any system is determined by the perceived usefulness (PU) and the perceived ease of use (PEOU) relating to the attitude toward using that relates to intention and finally to behavior (Pikkarainen *et al.*, 2004). According to the TAM, these two beliefs are primarily significant for computer acceptance (Pikkarainen *et al.*, 2004). TAM proposed by Davis (1989) is an extension of the Theory of Reasoned Action (TRA) and the Theory of Planned Behaviour (TPB) (Aderonke & Charles, 2010). (TAM) is a perfect model which shows how users accept and use a technology (Jalal, Marzooq & Nabi, 2011). TAM has become popular among researchers because of its prudence approach and recent empirical support (Lallmahamood, 2007). Numerous empirical studies have found that TAM consistently explains a substantial proportion of the variance (typically about 40%) in usage behaviour and intentions (Venkatesh & Davis, 2000).

TAM was developed based on organizational settings (Davis, 1989; Venkatesh and Davis, 2000). The management bore the cost of mandatory adaptation and adaptation of traditional technology by individual employees studied. According to (Sangle and Awasthi, 2011), mobile banking applications are for technology users and service consumers. The individuals themselves bear the cost of voluntary adaptation and usage (Kim *et al.*, 2007). The disregard to assess the barriers to use the information system (in this case, the mobile banking application) and service consumer aspect of the individual take less likelihood of TAM reflecting mobile banking adaptation (Luarn and Lin, 2005).

Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) was proposed by Ajzen (1985) as an extension of TRA (Fishbein and Ajzen, 1975) for situations where people do not have complete control over their behavior (Hernandez & Mazzon, 2007). The theory of planned behavior (TPB) assumes that behavior is determined by an intention to perform the behavior (Liao, *et al.* 1999). TPB adds a determinant to the behavioral intention and the attitude towards behavior constructs which is the perceived behavioral control. This construct reflects how people perceive their behavior's internal and external limitations (Hernandez & Mazzon, 2006). In more formal terms, it refers to how easy or difficult people believe it would be to perform certain behaviors (Ajzen, 1985) (as cited in Hernandez & Mazzon, 2006). In TPB, behavior itself is a function of both the behavioral intention and the perceived behavioral control. Behavioral intention, in turn, is influenced by the attitude towards behavior, the subjective norm, and the perceived behavioral control. The determinants of intention (attitude, subjective norm, and perceived behavioral control) are established by the structure of the underlying (attitudinal, normative, and control) beliefs (Hernandez & Mazzon, 2006) adaptation of an innovation.

Perceived Ease of Use

Perceived ease of use refers to “the degree to which the prospective user expects the target system to be free of effort” (Davis *et al.*, 1989, p. 985). Ease-of-use becomes a key acceptance driver of mobile applications with technical limitations (Venkatesh, 2000). Perceived ease of use has been used in many types of research to determine the probability of adopting an online system and user perceptions of system use (Alsajjan and Dennis, 2010; Teo *et al.*, 1999)

Perceived Usefulness

People tend to use an application to the extent they believe it will aid their performance (Aderonke& Charles, 2010). Davis defined PU as “the degree to which a person believes that using a particular system would enhance person’s performance” (as cited in Pakkarainen et al., 2004). The perception of usefulness is formed in interaction with other individuals and a system (Venkatesh and Davis, 2000). Eriksson, Kerem & Nilson (2005) defined perceived usefulness as the subjective probability that using the technology would improve how a user could complete a given task. (Koenig-Lewis et al. (2010) found that compatibility, perceived usefulness, and risk are the significant indicators for adopting mobile banking services.

Attitude

Attitude is defined as an individual’s positive and negative feelings (evaluative effect) towards performing a target behavior (Fishbein&Ajzen, 1975). "According to Ajzen and Fishbein (1980) shows people form beliefs about an object by associating it with various characteristics, qualities, and attributes. These beliefs acquire positive or negative attitudes toward that object depending on whether they associate it with positive or negative characteristics. These beliefs may be achieved by direct observation, obtaining information from outside sources, or generated through an inference process. Some can be beliefs persist, and others do not. Many existing studies in the context of e-business have found that an individual's attitude directly and significantly influences behavioral intention to use a particular e-business application (George, 2002; Gribbins *et al.*, 2003; Moon and Kim, 2001). Attitude significantly affects intention to the usage of mobile banking (Puschel *et al.* 2010).

Behavioral control

Perceived behavioral control is defined as an individual's confidence that a person can perform the behavior (Ajzen, 2006). Ajzen (1987, 1991) and Ajzen and Madden (1986) developed the TRA further into TPB by adding a new determinant of behavioral intention: behavioral control, which is based on Bandura’s concept of self-efficacy. Factors such as skills, abilities, time, and requisite information play a significant role in predicting and performing the behavior. Many studies in the Internet banking domain have supported the significant and positive effect of perceived behavioral control on an individual's behavioral intention (e.g., Al-Majali and Nik Mat, 2010; Jaruwachirathanakul and Fink, 2005; MdNor

and Pearson, 2006). Previous research regarding online technology adaptation suggests perceived behavioral control is an excellent predictor of usage intention (Choi and Geistfeld, 2004; George, 2002; Klein and Ford, 2003).

Subjective Norms

Subjective norms are defined as individual's perceptions of whether people who are essential to a person think that they should or should not perform the behavior in question (Ajzen & Fishbein, 1980). Subjective norm is determined by the total set of accessible normative beliefs considering essential referents' expectations (Ajzen, 1991). Subjective norms influence the behavioral choices of the Person (Doll and Ajzen, 1992). Empirical research also suggests that subjective norms positively affect e-payment and internet banking adaptation (Gu et al., 2009; Kleijnen *et al.*, 2004; Lin *et al.*, 2020; Chan and Lu, 2004; Puschel *et al.*, 2010).

3. Methodology

Research methodology defines the systematic and scientific procedures used to arrive at the results and findings for a study against which knowledge claims are evaluated (Nachmias *et al.*, 1996). A methodology is therefore shaped by the perspective of the researcher's chooses to approach the study.

Operationalization of Demographic Variables

In this study, both males and females were used as the group. The gender of the respondent is measured by using a single question of two possible answers, which are naturally segmented as "Male" and "Female." The respondent's age is categorized into four levels; below 18-30, 31-40, 41-50, above 51. Occupation of the respondents was categorized into three categories Student, self-employed, salaried. The respondents' level of education was categorized into five categories; No formal education, Up to Grade Eight, Passed GCE (O/L), Passed GCE (A/L), Completed the first degree, and Completed post-graduate degree and above.

Operationalization of Independent Variable

Dimension	Indicator	Source	Measurement
Attitude	Using mobile banking will save me time Using mobile banking will be secure. Using mobile banking will save me money. Using mobile banking will be good for me.	Wu and Chen (2005), Cheng <i>et al.</i> (2006) and Lai and Li (2005)	Likert Scale
Perceived Ease of Use	Learning to use mobile banking is easy. It is easy to use mobile banking. Overall, using mobile banking is easy.	Cheng <i>et al.</i> (2006) and Curran and Meuter (2005)	Likert Scale
Perceived usefulness	Mobile banking improves my work and life efficiency mobile banking allows me to acquire the information I need easily	Cheng <i>et al.</i> (2006) and Curran and Meuter (2005)	Likert Scale
Overall, mobile banking is useful.			
Dimension	Indicator	Source	Measurement
Behavioral control	I am able to use mobile banking without help. Using mobile banking would be entirely within my control. I have the resources, knowledge, and ability to use mobile banking.	Ho and Ko (2008) and Wu and Chen (2005)	Likert Scale
Subjective Norm	My close friends think that I can use mobile banking. My close friends think that I should use mobile banking. My close friends think that I must use mobile banking.	CETSCALE(Sangle & Awasthi, 2011)	Likert Scale

Operationalization Dependent Variable

Dimension	Indicator	Source	Measurement
Mobile banking usage	I will adopt mobile banking as soon as possible. I intend to use mobile banking in the future. I will regularly use mobile banking in the future.	Ho and Ko (2008) and Hsu and Chiu (2004)	Likert Scale

Source: Developed by researchers

Research Design

The research design is a procedural plan which is used to answer the research questions accurately, objectively, economically, and with validity (Kumar, 1999). A descriptive cross-sectional research design was used in the study. The study was cross-sectional because the data was only collected on one occasion and therefore represented a snapshot of the respondents' responses at that specific point in time. The study is also descriptive since it focused on establishing the what, when, where, how, and why of consumer expectation from mobile services. Moreover, this can be classified as a single cross-sectional analysis, as the only a single sample has been used.

Study Setting

The study is conducted in a natural (field) environment with minimum interference by the researcher with the normal flow of procedures related to the researching environment. Here, the researcher collects data through a questionnaire, focus group, and in-depth interview from the respondents to understand what constitutes the primary concern when the customer uses mobile banking services and What factors can be identified as the guiding force for making better mobile CRM services in banking.

Sample Design

According to (Sekaran 2009), the level of aggregation of the data collected during the subsequent data analysis stages can be defined as the study's unit of analysis. Therefore, the analysis unit specifies whether the information is collected about individuals, households, organizations, geographical areas, or subjects. This research unit of analysis is an individual who is buying saving products in the People's bank in Avissawella and from whom have no mobile banking service period of August 2017. The study population can

be defined as the Consumers of the Avissawella people's bank that brought Avissawella people's bank's saving product. From whom did not have mobile banking service in August 2017 belong to all the age categories. Total 2003 customers are included in the population. Non-probability sampling was selected because it will be straightforward to find the relevant sample. It will be easy to access, minimum resources, and so on. Sekaran (2003), as cited in (Haque *et al.* 2015), suggested that the sample size should be more than 30 samples and should be less than 500 samples as the appropriate size of the sample size for most of the research projects. According to this rule, the sample size was fixed to 155 people belonging to all age categories. These people are buying saving products in the People's bank in Avissawella and had no mobile banking service in August 2017. The study collected the data from the people buying saving products in the People's bank in Avissawella. A structured questionnaire has been employed to collect primary data from the respondents. Data were collected from sample elements by distributing the questionnaire through internet questionnaire forms and email and filling the hard copies.

4. Analysis and Discussion

Reliability Estimate

Cronbach's Alpha value (Nunnally & Bernstein, 1994) is calculated to test the instrument's internal consistency reliability. Reliability coefficient as Cronbach's Alpha coefficient shows the average correlation among items that include under a variable. The result of the reliability analysis is shown in Table 2. Since all the values are greater than 0.7, the questionnaire can be considered a reliable one.

Table 1: Test of reliability

Variable	Cronbach's Alpha Value
Attitude	.951
Perceived ease of use	.970
Perceived usefulness	.898
Behavioral control	.846
Subjective norm	.862
Mobile banking adaptation	.864

Validity Estimate

In order to test the external validity of the measures, the KMO test was used. To meet the validity of the scales, the KMO Test value should be greater than 0.5 (Field, 2009)

Table 2: Test of Validity

Variable	No of Item	KMO
Attitude	4	.868
Perceived ease of use	3	.780
Perceived usefulness	3	.710
Behavioral control	3	.681
Subjective norm	3	.661
Mobile banking adaptation	3	.654

The results show that the KMO measure of all variable is grater than 0 .5. It indicates the adequacy of the sample size to generalize the findings to the population.

Interpreting the results from Pearson Chi-Square Tests

The results generated from Pearson Chi-Square Tests are shown in Table 3. It shows a significant association between Mobile banking usage and Age, Occupation, Education, Attitudes, Perceived Ease of Use, Perceived Usefulness, Behavioral Control, and Subjective Norms except for Gender.

Table 3: Pearson Chi-Square Tests

Variable	Value	df	Asymp.Sig.(2-sided)
Gender	12.855	12	.380
Age	1.266E2	36	.000
Occupation	1.266E2	36	.000
Education	1.398E2	48	.000
Attitudes	2.922E2	60	.000
Perceived Ease of Use	2.185E2	48	.000
Perceived Usefulness	2.186E2	48	.000
Behavioral Control	2.073E2	48	.000
Subjective Norms	1.885E2	36	.000

Source; Survey data (2017)

The results indicate that Attitude significantly affects mobile banking usage in the People's Bank Avissawella branch. It is similar to the finding of (Aboelmaged and Gebba, 2013). In consistent with finding of Kazi and Mannan (2013) and Makanyeza (2017), the study finds that Perceived Usefulness' significantly affects the mobile banking usage in the People's Bank Avissawella branch. This study proved that Behavioral control significantly affects on the mobile banking usage in the People's Bank, Avissawella branch. It is similar to the study conducted by (Aboelmaged and Gebba, 2013). This study found that perceived ease of use significantly affects the mobile banking usage in the People's Bank, Avissawella branch. It is against (Kazi and Mannan,2013). Also, this study shows that Subjective norms significantly affects the mobile banking usage in the People's Bank, Avissawella branch. The findings of this study are dissimilar to the study conducted by (Aboelmaged and Gebba, 2013).

5. Conclusion

The primary objective of this study is to investigate the factors that affect usage of mobile banking based on technology acceptance model and theory of planned behavior. The result of the analysis conveys a message that demographic factors, such as Age, Education, and Occupation are significantly influenced on the Mobile banking usage but Gender is not impact on this phenomenon. In addition, it gives a message that Attitudes, Perceived Ease of Use, Perceived Usefulness, Behavioral Control and, Subjective Norms significantly affect on the mobile banking services in this bank. The study results imply that the existing system of the People's Bank-Avissawella should be developed in several steps. The bank can promote mobile banking applications through the Above the Line (ATL) and Below the Line (BTL), to change people's attitudes. The bank staff of Avissawella are not actively engaged in promoting mobile banking services to their customers.. Staff is mostly busy with the day-to-day schedules. So, the customers should be informed about mobile banking, specially the customers of the young age category. Mobile banking applications should be recommended to be attached to the new saving account with an open mandate. Attractive leaflets should be prepared including the benefits of mobile banking specially showing "cost free" and how it enhances their life performances should be known by the customer. Some customers do not like to change their mobile service provider. They consider it the most useful one. Therefore, not only limited mobile banking application of

the Mobitel, Dialog and Etisalat service providers but also the bank should capture all other mobile service providers.

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