

Factors Influencing Mobile Banking Adoption in Kurunegala District

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Abstract: Many banks in Sri Lanka are starting to offer banking services through mobile phones. However, not many studies investigate the factors that may help the bankers to design mobile services, which are suitable for and adoptable by bank customers. This study fills this gap and examines a number of factors affecting the mobile banking adoption. Using Diffusion of Innovation as a baseline theory, a convenient sample of 40 actual mobile banking customers was selected from four commercial banks in Kurunegala District. Data are obtained by using self-administrated questionnaire and analyzed with the use of SPSS V 21. It is found that perceived usefulness, perceived risk, and compatibility have impact on M-banking adoption. Contrary to the findings in extant literature, social influences have no significant effect on adoption. The findings of this study will have practical implications for banking industry in Sri Lanka. It is recommended that, commercial banks should demonstrate to their customers the advantage they are bound to have by adopting and using mobile banking over using conservative banking methods. It is also advisable to examine the effects of mobile banking on profitability of commercial banks in Sri Lanka.

Keywords: Mobile Banking, Perceived Usefulness, Perceived Risk, Compatibility and Adoption

1 Introduction

M-banking services created a new, convenient and fast delivery channel for customers to enjoy banking services from anywhere, anytime. Mobile banking is defined as “a channel whereby the customer interacts with a bank via mobile device, such as mobile phone and Personal Digital Assistant (PDA)” [1]. “Mobile Banking refers to provision and availability of banking and financial services with the help of mobile telecommunication devices. The scope of offered services may include facilities to conduct bank and stock market transactions, to administer accounts and to access customized information.” In other words, mobile banking offers the possibility to use e-banking (electronic banking or internet banking) services via a mobile phone. However, the major difference between an electronic and mobile transaction, highlighted by the prefixes “e” and “m”, is that electronic banking offers “anytime access”, while mobile banking offers “anytime and anywhere access” for business transactions. Therefore, customers using mobile banking have a greater flexibility than users of electronic banking [2].

Mobile banking is an application of mobile computing which provides customers with the support needed to be able to bank anywhere, anytime using a mobile handheld device and a mobile service such as text messaging (SMS). Mobile banking removes space and

time limitations from banking activities such as checking account balances, or transferring money from one account to another. In recent research and studies it was found that while mobile banking and more specifically SMS-based mobile banking applications have become popular in some countries and regions, they were still not widely used. With the recently quick growth in the market of 4G smart mobile phones, the wireless service delivery channel becomes a promising alternative for firms to create commercial opportunities. However, despite many wireless commercial services increase quickly, the use of mobile banking service is much lower than expected [3] and still used, [4] and the market of mobile banking still remains very small in comparing to the whole banking transactions [5], [6], [7]. That is, the widespread adoption and large usage of cell phones did not reflect on the adoption and usage of mobile banking, although mobile banking perhaps was the first commercial mobile service [8] and first introduced in the early 2000s through short messaging service and wireless access protocol [9].

Mobile banking services provide time liberty, expediency and swiftness to customers, along with cost savings. Mobile banking delivered prospects for banks to enlarge market diffusion through mobile services [10]. Mobile phones became a tool for everyday use, which created an opportunity for the evolution of banking services to reach the previously under banked/ unbanked population [11].

2 Problem Statement

Mobile banking has been in use since early 2000s in many parts of the world. Indeed, European banks started using the service in 1999 upon the launch of smart phones. In Sri Lanka, almost all commercial banks have embraced the service. It is documented that mobile banking is associated with many benefits which include reduced time of transaction and the need for physical bank branches. Against this backdrop, however, it is observed that, there have been conspicuous challenges that have limited the adoption and use of the mobile banking. This is evidenced by the fact that the use of mobile banking services is much lower than initially anticipated and still underused, and the mobile banking market still remains very small when compared to the entire banking transactions. It is further observed that the widespread adoption and large usage of cellular phones did not translate to adoption and usage of mobile banking. Failure of sufficient adoption and use of mobile banking services by commercial banks' customers is bound deny customers the objected benefits (in terms of portability, labor free, reduced cost, convenience, wider customer reach, high security level, and accessibility) as noted earlier noted. On the other hand, given that banks introduce this service with one of the key objectives being to cut down on costs by reducing the number of physical branches and human resources, when the service fails to be adopted and used, they are bound to lose on the afforested benefits; instead they are likely to incur huge losses associated with the costs of initiating mobile banking.

3 Objectives of the Study

The overall objective of the study was to determine factors affecting adoption of mobile banking technology in Kurunegala District. This study was guided by the following specific objectives to establish:

- The relationship between perceived usefulness (PU) and adoption of Mobile banking technology.
- The relationship between social influences (SI) and adoption of Mobile banking technology.
- The relationship between perceived risk (PR) and adoption of Mobile banking technology.
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4 Literature Review

The use of mobile phones has facilitated the expansion of markets, social business, and public services in both developing and developed countries [12]. Claims that rapid advances in mobile technologies have made M-banking increasingly important in financial services [13]. The use of M-banking offers a way of lowering the cost of moving money from place to place [14]. At the same time it brings more users into contact with formal financial services [15].

The scope of this study is to cover the main constructs derived from Technology Acceptance Model (TAM) [16] including intention to adopt mobile banking services, perceived usefulness, and perceived ease of use. After critically reviewing the literature that pertain the developments in Pakistan mobile banking situation some important information we gathered, which is the context of this study. The variables perceived risk and social influence are added to TAM in order to develop a research model to probe variables affecting adoption of mobile banking in Sri Lanka. Here we explore previous researches and got some details that is mentioned one by one including mobile banking concept.

5 Methodology

5.1 Conceptual Framework

The fig.1 illustrates the conceptual framework developed for the study based on the literature review.

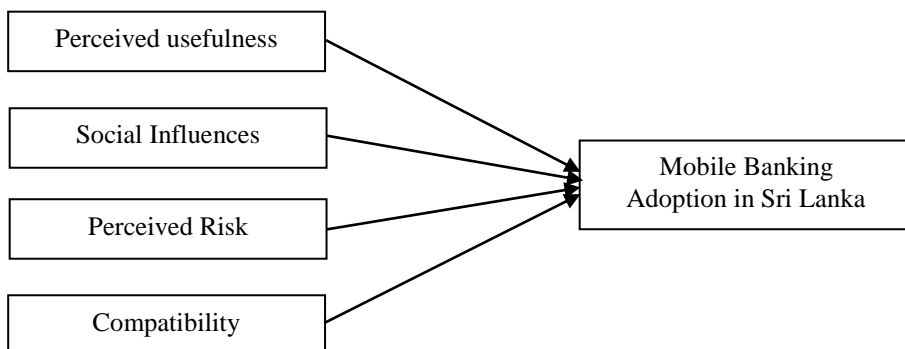


Fig. 1. Conceptual Framework

Perceived Usefulness

Perceived usefulness is one of the fundamental elements of TAM. Perceived usefulness is defined as “the degree to which a person believes that using a particular system would enhance his or her job performance” [16]. Perceived usefulness is strongly associated with productivity. It suggests that using computers in the workplace would increase user’s productivity, improve job performance, and enhance job effectiveness and usefulness. Earlier studies have shown that there is a positive relationship between perceived usefulness and intention to use [7]; reflects consumer’s perceived usefulness influence intention to use M-commerce in Singapore. Similarly, in the online context, the positive effect of perceived usefulness on behavioral intentions to use the online retailer has been supported by scholars [13]. [17] Pointed out that perceived usefulness is the primary antecedent of intention to use online retailer and its website. These studies confirm the important effect of perceived usefulness in understanding individual responses to information technology. Therefore, it is highly predictable that people use mobile services because they find it useful.

H0 1: There is no relationship between perceived usefulness (PU) and adoption of Mobile banking technology.

Perceived Risk:

The theory of perceived risk has been applied by [18] of which defined perceived risk as “the user’s subjective expectation of suffering a loss in pursuit of a desired outcome”. When customers are uncertain about product quality, brand and online services, they may worry about an unjustified delay in product delivery, providing payment without receiving the product and other illegal activities and fraud. Perceived risk was first introduced in marketing research as an external variable in the study of innovation diffusion and adoption contends that the speed of adoption is negatively related to the level of perceived risk [19]. The Perceived Risk surrounding an innovation might cause a potential adopter to postpone the decision to either adopt or reject the adoption. Introduced risk as an additional measurement in IT adoption. The importance of perceived risk has also been examined in IS research, especially in internet banking literature [20]. Confirmed security concerns are a burning issue for financial transaction done over the internet [21].

H0 2: There is no relationship between social influences (SI) and adoption of Mobile banking technology.

Social Influence

Social influence as the level to which a person perceives that essential others believe he/she should exercise the technology [22]. Surveyed 681 Singaporean consumers and concluded that perceived usefulness, social norms and risks were three crucial factors influencing the adoption of mobile banking [23]. In an investigation of 158 customers from a major bank in Malaysia, empirically established that person aim to use mobile banking was significantly affected by community nearby them [24]. Similarly, exposed that individual’s decisions to accept mobile commerce services were inclined by acquaintances and family members [25]. The empirical research conducted by in Taiwan by sampling 441 respondents, the most significant predictor was social influence, in the individual intention to adopt mobile banking. Social Influence has a positive influence on explaining entrepreneurs’ Behavioral Intention to use computerized accounting system [26]. This suggests that Social Influence

becomes more significant and important when individuals have limited experience of information technology [27].

H0 3: There is no relationship between perceived risk (PR) and adoption of Mobile banking technology.

Compatibility

Compatibility is an important aspect of innovation that can be defined as the extent to which a new service is consistent with users' existing values, beliefs, previous experiences, habits [17]. Innovations conforming to an individual user's lifestyle will result in a faster rate of adoption [28]. Compatibility has thus been integrated into the TAM model in the context of a virtual store, m-payment [17] and m-commerce. Research has shown that compatibility will lead to higher perceived ease of use as less effort is required [29].

H0 4: There is no relationship between perceived compatibility (PC) and adoption of Mobile banking technology.

6 Sample and Sampling Procedures

The study focused on bank customers within Kurunegala District. Four commercial banks were purposively selected for this study, namely People's bank, Bank of Ceylon, Commercial bank and Sampath bank. A convenient sample of 40 customers was selected.

7 Validity and Reliability of the Instruments

The questionnaire was pilot tested to ensure that the items in the questionnaire are clear and appropriate. Literatures recommend Pre-testing of research instruments before use in research. A pilot study for a sample of 10 bank customers were carried out to test the reliability of the instruments. The Cronbach's Alpha value is .867. The information collected was used to further improve on the questionnaires.

8 Data Collection and Data Analysis

Data were collected by using questionnaires and analyzed using both descriptive and inferential statistics. Measures of central tendency we used for descriptive statistics. The researcher used Statistical Package for Social Sciences (SPSS) Version 21.0.

9 Result and Discussion

Perceived Usefulness (PU): The respondents' response on Perceived usefulness of mobile banking is shown evident that the respondents generally agreed (mean=4.64) that mobile

banking enables them to accomplish their tasks more quickly, it is generally advantageous, it makes it easier for them to carry out their tasks and it is useful.

Social Influences (SI): The results of descriptive statistics on social influences shows (mean=1.96), interactions with mobile banking does not require others' influence may be familiar people, important people and most of the people.

Perceived Risk (PR): The respondents generally agreed (mean=2.1) that mobile banking services may not perform well because of network problems. Indeed, network problem is a common of occurrence that interrupts mobile transactions.

Compatibility (C): The respondents' response on compatibility of mobile banking is shown evident that the respondents generally agreed (mean=4.11) that mobile banking enables them to accomplish their tasks compatibly.

This research was conducted to identify factors that act as drivers for mobile banking adoption. The results showed that of the four hypotheses tested, three of them were supported. The critical factors included perceived usefulness and compatibility. Furthermore, the causal relationships among the variables that determine mobile banking adoption were also examined.

10 Hypotheses Test

In this study we had four hypotheses H01, H02, H03 and H04 to test. These are discussed below.

First hypothesis: *H01*: There is no relationship between perceived usefulness (PU) and adoption of Mobile banking technology. We fail to accept ($p=0.001<0.05$) the null hypothesis H01. Hence PU has a significant relationship with adoption of mobile banking. Further the coefficient of PU is 0.695 which is positive; implying that PU has positively affects adoption of M-banking.

Second hypothesis: *H02*: There is no relationship between social influences and adoption of Mobile banking technology. Since the p- value for is $p=0.71>0.05$, we fail to reject the null hypothesis H02. This implies that there is no relationship between social influences and adoptions of Mobile banking technology.

Third hypothesis: *H03*: There is no relationship between perceived risk (PR) and adoption of Mobile banking technology. We fail to accept ($p=0.001<0.05$) the null hypothesis H03. Hence PR has a significantly relationship with adoption of mobile banking. Further the coefficient of PR is -0.681 which is negative; implying that PR has negatively affects adoption of M-banking.

Fourth hypothesis: *H04*: There is no relationship between compatibility (C) and adoption of Mobile banking technology. We fail to accept ($p=0.003<0.05$) the null hypothesis H01. Hence C has a significant relationship with adoption of mobile banking. Further the coefficient of C is 0.771 which is positive; implying that compatibility has positively affects adoption of M-banking.

11 Conclusion

In this study we aimed at achieving four objectives. Regarding the first objective, results from the descriptive analysis show that majority of respondents agreed with the statement that mobile banking is useful. This is confirmed by the results that revealed that PU had a

positive significant influence on adoption of mobile banking. The findings of this study are almost consistent with the findings of previous research conducted in other countries including South Africa and Malaysia.

Regarding the second objective, the findings indicate that there is no significant relationship between social influences and adoption of Mobile banking technology. For the third objective, the findings revealed that perceived risk inverse significant influence on adoption of Mobile banking technology. The respondents also agreed with the statements that mobile banking lacks security and takes a lot of time to learn. For the final objective, the findings revealed that compatibility has positive significant influence on adoption of mobile banking.

From the results, it can be concluded that PU is the most significant factor affecting adoption of M-banking technology. It is therefore, important for M-banking service providers to emphasize the benefits of M-banking technology to bank customers. It can also be concluded that PR hinders majority of bank customers from adopting it. M-banking service providers and stakeholders involved in this area should ensure security measures are enforced.

12 Limitations of the study

There are several limitations in this study. Firstly, the survey is expected to conduct in Kurunegala District and the data collected from 40 M-banking customers in Commercial Banks. So the results may not be generalized and inapplicable to other Districts and the banks of the country. Secondly, the effects of demographic variables such as age, gender on adoption of mobile banking will be not intensively explored. This phenomenon may require further investigation on a wider scale. The banks are scattered around the Kurunegala area and residents in Kurunegala have the access to banking facility within a short time period. So it would be of interest to explore the geographical effect, such as in rural areas where it takes much longer and is more costly to access the nearest banking facilities.

12 Recommendations

After reviewing the findings of this study, there are several important implications recommended for banks, service developers and software engineers in order to provide better strategic insight to design and implement mobile banking services that yield higher consumer acceptance in Sri Lanka. As PU, PR and compatibility were found to be the factors that influence consumers' behavior intention in adopting mobile banking, service developers and software engineers should focus on the development of mobile banking facilities. This can be achieved by developing better functions in terms of flexibility, security and accessibility features to enhance consumers' confidence to adopt mobile banking services.

1) It is important for customers to be trained on the requirements of mobile banking since customers are not quite sure of whether it requires training or not.

2) There is need to address security issues associated with Mobile banking technology so as to ensure success of Mobile banking technology. More specifically, the issues that need to be addressed concerning perceived risk include performance of mobile banking because of network problems.

3) The banks should explain to customers how they can get back their cash in case of they lose money while using M-banking technology due to careless mistakes such as wrong input of account number or amount of money. They expressed fear that they would not get compensation from banks when errors occur.

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