

PROBLEMS AND PROSPECTS OF MOBILE BANKING IN BANGLADESH

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ABSTRACT

The main objective of the study is to find out the problem and prospect of mobile banking in Bangladesh. For this research primary data were used. This study adopts with descriptive in nature. Total respondents were 120 within that 61 % respondents think it saves time than traditional banking, the highest number of respondents use mobile banking for 'Air-time top-up' service, that is 21%, out of 120 respondents 56% replied it is less costlier than traditional banking, 100% respondents did agree that it is speedy, and 38% respondents are upper class. Although this concept is new in Bangladesh but its potentiality is high. From this research, other researchers and policy makers will get an insight about the problems and prospects of mobile banking in Bangladesh.

Keywords: Problem, prospect, Mobile banking.

INTRODUCTION:

E-business has been continuously growing as a new industry during the last decade (Van Hoeck, 2001). The banking industry has been leading this trend in recent years, and now all banking transactions completing through internet applications is sometimes called e-banking (Boss et al., 2000; Smith, 2006; Hwang et al., 2007; Shin, 2008). E-banking has revolutionized the way business is transacted by globalizing the business enterprise. E-banking technologies have proliferated in recent years, and the availability of a wide range of products has led to increasing adoption among consumers. These technologies include direct deposit, computer banking, stored value cards, and debit cards (Servon and Kaestner, 2008).

Consumers are attracted to these technologies because of convenience, increasing ease of use, and in some instances cost savings (Anguelov et al., 2004). E-banking has been viewed as an upgrading from previous electronic delivery systems to open new business opportunities for the banking industry (Ebling, 2001).

www.wikipedia.com defines cellular phone as: The Cellular telephone (commonly "mobile phone" or "cell phone" or "hand phone") is a long-range, portable electronic device used for mobile communication. (www.enterpriseinnovation.net)

For the past two decades, the banking sector has chosen a new service channel based on the progress of information technology – internet to respond to the changes in customer preferences and needs, increasing competition from non-banks, changes in demographic and social trends, and government deregulations of the financial service sector (Byers and Lederer, 2001). In the search for sustainable competitive advantages in the technological financial service industry, banks have acknowledged the value to differentiate themselves from other financial institutions through new service distribution channels (Daniel, 1999).

In addition, customer's transaction and communication abilities have been improved by the developments of information technology. Information technology enabled electronic channels to perform many banking functions that would traditionally be carried out over the counter (Giannakoudi, 1999). The rise of electronic payments media such as debit and credit cards has caused the value of paid in the USA to fall to – from about \$49 billion in 1995 to about \$42 billion in 2002 (Gerdes and Walton, 2002).

The use of paper cheques has been supplemented step-by-step with e-cheques (i.e., electronic images) allowing banks to have more storage capacity, reduce costs, and improve Furthermore customer services (Rose and Hudgins, 2005).

A more recent e-banking development is wireless internet applications of banking sometimes called m-banking (mobile banking) (Choi et al., 2006; Scornavacca and Hoehle, 2007). With the combination of two most recent technological advancements – internet and mobile phone, a new service (mobile data service) is thus enabled and the first such wireless internet commercial transaction is performed by the banking industry (Barnes and Corbitt, 2003). It is believed that m-banking will provide another new channel for banking services, especially for certain remote areas where online internet is still unavailable. Strategic implications and customer perception of m-banking services are explored (Laukkanen and Lauronen, 2005) with a focus on the consumer value creation and a better understanding about the customer-perceived value of m-banking services. For instance, mobile internet service has been quite popular in Japan (over 60 millions users in 2003) especially for those young and single (i.e., unmarried) consumers (Scornavacca and Barnes, 2004).

Due to the widespread use of computer technologies in almost all aspects of life, organizations that are connected to the Internet started extending their services to their customers to include new applications and services that satisfy their customers' desires to make better businesses. One of these emerging applications is mobile banking. The term mobile banking (or m-banking) describes the banking services that the user can perform via a mobile device ubiquitously at anytime and from anywhere. In order for users to access their accounts, they need a mobile device and network connectivity. Therefore, sitting in front of a computer is not a requirement anymore; accessing accounts can occur while users are waiting their turn at the dentist clinic or relaxing at the beach! (Al-Akhras and Qwasmi, 2011).

Sylvie and Xiaoyan investigate the market status for online/mobile banking in China. With the recent and forecasted high growth of Chinese electronic banking, it has the potential to develop into a world-scale internet economy and requires examination.

The results showed Chinese online and mobile bank users were predominantly males, not necessarily young and highly educated, in contrast with the electronic bank users in the West. The issue of security was found to be the most important factor that motivated Chinese consumer adoption of online banking. Main barriers to online banking were the perception of risks, computer and technological skills and Chinese traditional cash-carry banking culture. The barriers to mobile banking adoption were lack of awareness and understanding of the benefits provided by mobile banking (Laforet, 2005).

Telecommunications companies world-wide are developing 3G mobile phones and applications. In the UK, mobile banking is considered to be one of the most value-added and important mobile services available.

However, the adoption rate of using 3G mobile phones for financial services is yet to be determined. The current research examined both innovative attributes and customers' perceived risk in order to understand customers' behavior and motivation toward this innovation. It has advanced the theoretical frameworks of innovation and customers' risk perception as new attributes and risk dimensions were identified. The findings provide banking executives with a better understanding of what are the perceived advantages and disadvantages of 3G mobile banking services, helping them to plan marketing strategies and promotion approaches for 3G mobile banking services in the future (Morna 2003).

According to Jim Bruene (2006), 'online banking is the best thing to happen to personal finance management since the invention of the paper statement. In many countries, half or more of online users routinely visit their bank to check account activities, verify deposits, and just see if everything is in order'. According to a report by Mintel International Group Ltd (June 1, 2006), the forces driving the growth of the Internet-increased broadband access, new innovations that provide a secure environment, and the coming-of-age of more tech-savvy people will combine to propel online banking as well. Mintel expects that online banking will continue to grow and become more profitable for financial institutions, particularly as the Internet matures and subsequent generations become more technologically literate. Factors impacting online banking include the trend within the industry and the socioeconomic forces behind changing demographics (www.marketresearch.com).

Mobile Banking is a financial transaction conducted by logging on to a bank's website using a cell phone, such as viewing account balances, making transfers between accounts, or paying bills. This can be conducted through the internet browser on the phone, through a program downloaded from your bank, or by text-message (SMS). (Malik Abdul, Saif Kamran and Usman Tahir: "EMERGING TRENDS IN IT")

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. (Yu Shi: "Factors influencing the use of Mobile Banking: The case of SMS based Mobile Banking") His study identifies and investigates the factors which influence customers' decision to use a specific form of mobile banking, and specifically focuses on the evaluation of SMS-based mobile banking in the context of New Zealand. His research model includes the basic concepts of the Technology Acceptance Model (TAM), as well as some constructs derived through a focus group discussion. The model is tested to determine its predictive power with respect to individual's behavior when considering the use of SMS-based mobile banking. The results of the data analysis contribute to the body of knowledge in the area by demonstrating that context specific factors such as service quality and service awareness are influencing user perceptions about the usefulness of SMS mobile banking which in turn affect intention to use and adoption. Secondly, his study demonstrates, on the example of SMS-based mobile banking; how a hybrid approach involving qualitative data collection and a subsequent quantitative survey can help investigate how user perceptions about usefulness and ease of use are formed. Although the study has its limitations, the implications of the results allow providing practical recommendations to the banking industry, and directions for further work.

The telecommunications industry worldwide has scrambled to bring what is available to networked computers to mobile devices (Schofield & Kubin 2002). Presently, the use of electronic banking is considerably high and as more and more users sign up for electronic-banking, the maturity as regards remote banking (i.e. banking outside the banking hall) is on the increase.

With electronic banking, users can now conveniently carry out banking transactions, but this convenience cannot be achieved if the user does not have access to the internet, hence, in other words, the user cannot carry out a banking transaction while waiting for a bus, or perhaps while having lunch in a restaurant. With m-banking, convenience can be achieved 24hrs a day. This is because a user has access to his mobile phone all day, at all times. So, to effectively achieve a truly convenient banking mode, a truly mobile mode of banking has to be explored, hence the need for m-banking (Andrew, 2009)

The convergence of the Internet and mobile networks creates new opportunities and applications. Treating mobile business as simply an extension to the traditional web could result in missing out unique differentiated qualities for new value-added possibilities. Mobile Banking is considered to be one of the most value-added and important mobile service available. Arcraf's current research examined technological changes in mobile networks and innovative attributes of Mobile Internet. It has advanced the theoretical framework of innovation in service to develop a customer centric analysis of m banking value proposition. His article goes on to discuss critical factors in the diffusion of m Banking and explores reasons of failure and further prospects of success. (Ayadi, 2005).

According to Rasheda Sultana, across the developing countries, millions of people rely on informal economic activity and local level networks to earn their living. Most of these populations are from bottom of pyramid and they don't have access to basic financial services/banks as access to them is costly and very limited. However, the outstanding growth of mobile sector worldwide has created a unique opportunity to provide social and financial services over the mobile network. With over 4 billion mobile cellular subscriptions worldwide, mobile network has the ability to immediately offer mobile banking to 61% of the world population.(Sultana, 2009)

With the improvement of mobile technologies and devices, banking users are able to conduct banking services at anyplace and at anytime. Recently, many banks in the world have provided mobile access to financial information. The reason to understand what factors contribute to users' intention to use mobile banking is important issue of research. The researcher's purpose is to examine and validate determinants of users' intention to mobile banking. He used a structural equation modeling (SEM) to test the causalities in the proposed model. The results indicated strong support for the validity of proposed model with 72.2% of the variance in behavioral intention to mobile banking. His study found that self-efficacy was the strongest antecedent of perceived ease-of-use, which directly and indirectly affected behavioral intention through perceived usefulness in mobile banking. Structural assurances are the strongest antecedent of trust, which could increase behavioral intention of mobile banking. This research verified the effect of perceived usefulness, trust and perceived ease-of-use on behavioral intention in mobile banking. The results have several implications for mobile banking managers. (Gu Ja, 2009).

According to some researchers, the mobile payment services markets are currently under transition with a history of numerous tried and failed solutions, and a future of promising but yet uncertain possibilities with potential new technology innovations. At this point of the development, the researchers take a look at the current state of the mobile payment services market from a literature review perspective. They review prior literature on mobile payments, analyze the various factors that impact mobile payment services markets, and suggest directions for future research in this still emerging field. Consumer perspective of mobile payments as well as technical security and trust are best covered by contemporary research. The impacts of social and cultural factors on mobile payments, as well as comparisons between mobile and traditional payment services are entirely uninvestigated issues.(Dahlberg Tomi,Mallat Niina ,Ondrus Jan and Zmijewska Agnieszka: Past, present and future of mobile payments research: A literature review, Volume 7, Issue 2, Summer 2008, Pages 165-181).

Although millions of dollars have been spent on building mobile banking systems, reports on mobile banking show that potential users may not be using the systems, despite their availability. Thus, research is needed to identify the factors determining users' acceptance of mobile banking. While there has been considerable research on the technology acceptance model (TAM) that predicts whether individuals will accept and voluntarily use information systems, limitations of the TAM include the omission of an important trust-based construct in the context of electronic/mobile commerce, and the assumption that there are no barriers preventing an individual from using an IS if he or she chooses to do so. Based on literature relating to the theory of planned behavior (TPB) and the TAM, this study extends the applicability of the TAM in a mobile banking context, by adding one trust-based construct ("perceived credibility") and two resource-based constructs ("perceived self-efficacy" and "perceived financial cost") to the model, while paying careful attention to the placing of these constructs in the TAM's existing nomological structure (Luarn, 2005).

Mobile banking is growing at a remarkable speed around the world. In the process it is creating considerable uncertainty about the appropriate regulatory response to this newly emerging service. Researcher sets out a framework for considering the design of regulation of mobile banking. Since it lies at the interface between financial services and telecoms, mobile banking also raises competition policy and interoperability issues that are discussed in his paper. Finally, by unbundling payments services into its component parts, mobile banking provides important lessons for the design of financial regulation more generally in developed as well as developing economies.(Klein Michael,Mayer Colin: Mobile banking and financial inclusion : the regulatory lessons, 01 May 2011).

The use of mobile phones in order to effectuate banking transactions is bound to increase in a significant way in the near future. This growth in mobile financial services not only depends on technological advances, but also on consumer confidence in the provided services. Mobile financial services can be divided into mobile banking and mobile payment; therefore, legal certainty must be established as to what supervisory regime applies to the various activities involving banks and non-banks. Mobile banking activities fall within the scope of the banking business, and oversight is provided by the competent financial market authority for prudential supervision, if the definition of banking activities encompasses all relevant mobile banking activities. Furthermore, legal aspects also play a role in the evolution of mobile banking as far as the need to enhance customer trust in the offered services is concerned. Major issues arise in relation to data security and consumer protection. Moreover, the

outsourcing of certain key activities to mobile operators deserves further attention, as mobile operators can, under specific circumstances, become deeply involved in mobile banking. (Weber, 2010).

New electronic channels are replacing the more traditional ones. Mobile devices represent the recent development in electronic service distribution. An exploratory study was conducted on experienced electronic banking customers by using a qualitative in-depth interviewing method. The findings increase the understanding of customer-perceived value and value creation on the basis of attributes of mobile services and customer-perceived disadvantages of mobile phones in electronic banking context. The findings allow practitioners to improve their services and marketing strategies and pass on information to the academics about interesting future research areas (Laukkanen, 2005).

In Bangladesh, the expansion of e-banking is beset with several infrastructural, institutional, and regulatory constraints such as inadequate availability of reliable and secure telecommunication infrastructure, absence of a backbone network connecting the whole country, poor ICT penetration in the banking sector, lack of skilled manpower and training facilities, absence of supportive policies, guidelines, rules and regulations relating to e-transactions and the like. Despite the constraints, efforts by the Bangladesh Bank in modernizing the country's payment system and commitment by the government in building 'Digital Bangladesh' have brought competition among the scheduled banks to improve banking services and rapidly adopt e-banking on a wider scale. This note provides a critical overview on development of e-banking in Bangladesh and future prospects for better understanding the issue that includes concept of e-banking, present status of scheduled banks in adopting e-banking services, and prospects of e-banking in Bangladesh on the basis of current trend in developing the ICT infrastructure in the country as well as ICT penetration in the banking sector that follows some policy suggestions for BB, Govt. of Bangladesh and scheduled banks so that optimum benefit through e-banking may be obtained.

OBJECTIVES OF THE STUDY:

- To identify prospect of mobile banking in Bangladesh;
- To detect problems of mobile banking in Bangladesh;
- To make suggestions on the basis of findings

METHODOLOGY:

Methodology is a system of broad principle or rule from which specific methods or procedures may be derived to interpret or solve different problems within the scope of a particular discipline. Methodology is not a formula but set of practices. The study was conducted to identify the problems and prospects of mobile banking in Bangladesh. Necessary data were collected from different ages of people and analyzed in terms of the objectives set for the study. This study was based on field level data. There are several methods of collecting this basic information. The data for this study were collected by the survey method. Survey is a research technique in which information is gathered from a sample of people by use of a questionnaire or interview. The word "survey" refers to a method of study in which an overall picture of a given universe is obtained by systematic collection of all available data on the subject. It is a method of data collection based on communication with a representative sample of individuals. The main reasons why the survey method is preferred to cost:

- Survey through sacrificing a certain details, enables quick investigation of a large number case.
- Survey entails much less cost
- Surveys provide quick, less expensive, efficient

LOCATION/GEOGRAPHIC COVERAGE:

The study has been conducted in different area of Dhaka city such as Sher-e-Bangla Nagar, Mirpur, Tejgaon, Dhanmondi, Tejkunipara, Mogbagar, Monipuripara, University, collage, and many houses.

TYPES OF RESPONDENTS:

This research includes all types of people mostly selected different age, sex, and occupation people.

RESEARCH DESIGN:

Mobile banking is a new technology for all people in Bangladesh. In this country, most of the people use traditional banking system. People are afraid of using mobile banking because they cannot feel it trust worthy. In our country, most of the customers are influenced by advertisement. In recent period, customers become

more conscious about their savings. Marketers use these strategies for selling their products. Different banks advertise about mobile banking to give information about it to all the people in the country. This study has researched the consumer perception on mobile banking based on the above dimensions. The study involved a field survey conducted across different places in Dhaka, Bangladesh. The respondents were approached at home, university, collage etc. It was felt that the survey will give the correct result. The respondents were administered a structured questionnaire. The responses were recorded using a set of 15 statements. These statements were derived from the literature survey. They were finalized based on the discussion with some respondents. Responses were also sought regarding customers' preference behavior. The research is exploratory in nature. Other relevant issues regarding the research are briefly presented below:

SOURCES OF DATA:

Both primary and secondary sources were used for the research purpose. Secondary data were used for providing the theoretical background to the research problem. The secondary data sources were-journal, books, internet etc. Primary data was collected through household survey by using appropriate research instrument. In the primary data collection procedure every individual respondent has been considered as potential respondent in the research.

QUESTIONNAIRE TYPE AND RESPONSES:

The questionnaire was starting with some introductory questions such as name, age, occupation, education, income and address. These questions provide the basic information about respondents. These types of questions make respondents comfortable to respond the study.

There are 15 questions in this questionnaire. The respondents were asked the questions to know their knowledge and perception about mobile banking like "Have you ever heard about mobile banking?", "Do you think you should use it?", "Do you think mobile banking is trust worthy?" etc.

SAMPLING METHOD:

The basic sampling procedure for the study was convenience with cluster sampling. I have made the decision to carry out 120 respondents in different areas in Dhaka city.

RESEARCH INSTRUMENTS:

Information was collected through interviewer administered questionnaire method and through different secondary media. The questionnaire contains several questions for different respondents.

PERIOD OF DATA COLLECTION:

Data were collected by the researcher himself through personal interviews with the respondents.

DATA COLLECTION AND ACCURACY OF DATA:

Generally most of the people are not interested to give time to answer a questionnaire. So it was very difficult to collect actual data because the information of the respondents was collected by approaching them to answer the question. To overcome this problem, all possible efforts were made by the researcher himself to ensure the collection of reasonably accurate information from the respondents. So, it has not been possible to apply any other method of investigation. Survey method has the advantage that it facilitates quick investigation and involves higher cost. In order to collect relevant information before taking interview, the whole academic purpose of the study was clearly explained and made clear to the respondents. The researcher himself collected the relevant data from the respondents through face to face interview. Data collected were checked and verified in the field for accuracy and consistency.

RESULT AND FINDINGS:

Basically the research was of descriptive in nature. Qualitative data are analyzed critically using judgment. Several statistical and analytical methods and tools were used for analyzing the gathered data from the survey. Column chart has been used as graphical tools to show the analysis of data. The package used in the study was: Microsoft Word, Microsoft Excel

HEARD ABOUT MOBILE BANKING:

Mobile banking is a new technology in Bangladesh which started from 31st March 2011. Dutch Bangla Bank Limited pioneered in mobile banking services in Bangladesh. Most people heard about it but not have a clear idea. According to my survey almost 94% people heard about mobile banking and 6% haven't heard about mobile banking.

INTEREST TO USE:

Many people heard about mobile banking. But they yet have not felt that they should use it as they are happy to use traditional banking system. Some people feel interest to use it. About 55% people feel they should use it and 45% people haven't feel to use mobile banking according to the survey.

TAKES TIME BY MOBILE BANKING THAN TRADITIONAL BANKING:

Mobile banking is real time on-line banking. As it is on-line banking it takes less time than traditional banking. It will make access to banking and advanced payment, transactions at affordable cost People have not to wait by standing in a long line which is happen in traditional banking system. But some people think it takes higher time and some people think it takes same time as traditional banking. According to the research only 5% people think it takes higher time, 34% people think it takes the same time and 61% people think it takes lower time than traditional banking system.

TIME SAVING:

Mobile banking is available anytime, anywhere throughout the country. So it can save one's time. But all people not think the same. About 70% respondents think that mobile banking can save their time, where as 30% think it cannot save time.

COST:

It is convenient, affordable and it is much more effective in developing savings habits, it will make access to banking and advanced payment transactions at affordable cost. All people know that its cost is not higher than traditional banking. Around 56% respondents say its cost is lower, 20% say same and 24% say it is affordable than traditional banking. . A positive aspect of mobile phones is that mobile networks can reach remote areas at low cost.

TRUST WORTHY:

It is much safer and safeguard against fraudulent transactions. One can trust mobile banking as traditional banking system. It has secured pin code which is known by the user, and also has a check digit without it no one can deposit money. But in Bangladesh traditional branch-based banking remains the most widely adopted method of conducting banking transaction. The poor often have greater familiarity and trust with mobile phone companies than formal banking institutions. Furthermore a mobile handset can easily be adapted to handle banking transactions. But it is not commonly known by all. From the survey it is found that 63% respondents think mobile banking is trust worthy and 37% respondents feel it is not trust worthy.

USE:

It is much more effective in developing savings habits. Its using system is also easy. Anyone can use it. Poor people are often not considered viable customers by the formal financial sector as their transaction sizes are small, and many live in remote areas beyond the reach of banks branch networks. Informal banking services such as microfinance and village savings and loan associations remain limited in their reach. So, mobile banking system develops to bring poor people into banking system. 83% respondents face or heard no problem to use mobile banking. But 17% respondents heard or face problems to use it like-sometimes transaction do not reach at time, cannot operate it easily as traditional banking, not trust worthy.

PROSPECT OF MOBILE BANKING IN BANGLADESH:

Mobile Banking is a Banking process without bank branch which provides financial services to unbaked communities efficiently and at affordable cost. The aim of the service is to bring more people under the umbrella of banking service. Bangladesh Bank governor Dr Atiur Rahman inaugurated the service through

deposit and withdrawal of money from two banking outlets in the city. Government thinks it has a great prospect as it is a new technology in digital Bangladesh. But in Bangladesh many people think traditionally, because they cannot think it has any facility to use mobile banking. 69% people feel mobile banking has prospect in Bangladesh whereas 31% think it has no prospect in Bangladesh as many people will not feel interest or have belief on mobile banking.

SUGGESTION TO OTHER TO USE THE SYSTEM:

55% feel interest to use mobile banking but most people do not want to give suggestion to other to use it. As it is a new method of banking people haven't 100% faith on it. So, people don't want to take any risk by giving suggestion to use it. 68% respondents say they do not want to give suggestion and 32% respondents say they want to give suggestion to use mobile banking.

MAKE LIFE EASIER:

Mobile banking is real time on-line banking, available anytime, anywhere throughout the country, it is convenient, affordable and secure, it is much more effective in developing savings habits, it will make access to banking and advanced payment transactions at affordable cost, it is much safer, speedy and safeguard against fraudulent transactions. All of the characteristics of mobile banking make life easier. But 43% respondents feel it will not make life easier as it may not be trust worthy, but 57% respondents feel the facility which mobile banking give will make life easier.

SECURITY:

In mobile banking a confidential pin code is used by the user. PIN ensures security of money and protects fraudulent transactions. So mobile banking is fully secured. It also believed by 70% respondents, but about 30% respondents say it is not secured as they cannot fully trust on online banking than traditional banking system.

SPEEDY PROCESS:

One benefit of mobile banking is a very speedy process. Transaction can be done anytime anywhere quickly in less time. So 100% people believe that it is a speedy process.

CLASS OF PEOPLE:

Mobile banking started with the idea to bring the poor under the umbrella of banking sector especially rural poor as there are not much bank facilities, also there savings is low so they feel shy to go to bank. But according to my survey 38% respondents feel upper class, 21% respondents feel middle class people can use mobile banking. But 41% respondents say mobile banking can be used by all class of people.

PROBLEMS ENCOUNTERED IN COLLECTING DATA:

The researcher had to face the following problems in collecting data from the respondents:

- i. Generally most of the respondents have not enough idea about mobile banking. So it was very difficult to collect actual data. Because the information of the respondents was supplied from their idea.
- ii. Most of the respondents were not fully use mobile banking which caused another problem to data collection to the researcher.
- iii. Sometimes respondent could not answer to questions accurately and to the point.
- iv. The respondents were usually remaining busy with their work. So, the researcher had to visit some of them even at the work place and researcher sometimes had to pay more time to meet the respondents.
- v. Most of the respondents did not feel comfortable to answer questions. So researcher had to pay more time to gain their confidence.

CONCLUSION:

Some policy Implications, Mohammad Mizanur Raman,(www.ampublisher.com) Mobile Phone Banking offers the potential to extend low cost virtual bank accounts to a large number of currently un-banked individuals worldwide. Change is being driven by falling costs of mobile phones including airtime, by competition and by the ability of electronic banking solutions to offer customers an enhanced range of services at a very low cost. Text-a-payment (TAP) builds upon the familiarity and comfort that people around the world have with sending text messages via their mobile phone. Instead of traveling to the bank to make their loan payment, clients can

now text their loan payment directly to the bank; saving them both travel time and money. This is also beneficial for the bank, since they can increase their outreach to rural areas while reducing their costs. (Catching the Technology Wave: Mobile Phone Banking and Text-a-Payment in the Philippines, John Owens, Anna Bantug Herrera, www.bwtp.org) M-Banking technology has become one of the most familiar banking features throughout the world. Nowadays millions of inhabitants of Bangladesh are within a network through mobile network coverage. But in the commercial sectors like banking, m-Commerce technology has not been adopted broadly yet. In context of Bangladesh where almost 95% of geographical areas including Chittagong Hill tract region is under cellular coverage and having sufficiency in Internet infrastructure in remote regions, m-Banking via mobile phones can be the right choice for the promising banking sector. Considering m-Commerce and m-Banking perspective in Bangladesh, a Push Pull services offering SMS (Short Messaging Service) based m-Banking system has been proposed which is able to provide several essential banking services only by sending SMS to bank server from any remote location. This proposed system is divided into five major phases: Interfacing Module, SMS Technology Adoption Module, SMS Banking Registration Module, Push Pull m-Banking Services Generation Module, and Modified Data Failover Module. This push-pull services specified system facilitates bank customers by carrying out real time m-Banking utilities by categorizing services into five major on the basis of their homogeneity. They are Broadcast, Scheduling, Event, and Enquiry and m-Commerce services. Fifteen push pull services underlying these categories are implemented in this proposed system which are most desired to customers. The proposed system not only brings banking transaction in hand's grip but also makes it easier, robust and flexible with highest security. Moreover, modified data failover algorithm handles unexpected SMS server failure with any congestion or service request loss. At last, after evaluating each module of our proposed system a satisfactory accuracy rate 94.95% has been obtained.

APPENDIX: 1

TABLE NO. 1

Characteristic	Respondents	Percentage
1. What do you think how much time mobile banking takes than traditional system?		
a. Higher	6	5%
b. Lower	73	61%
c. Same	41	34%
Total	120	100%

Source: field Study.

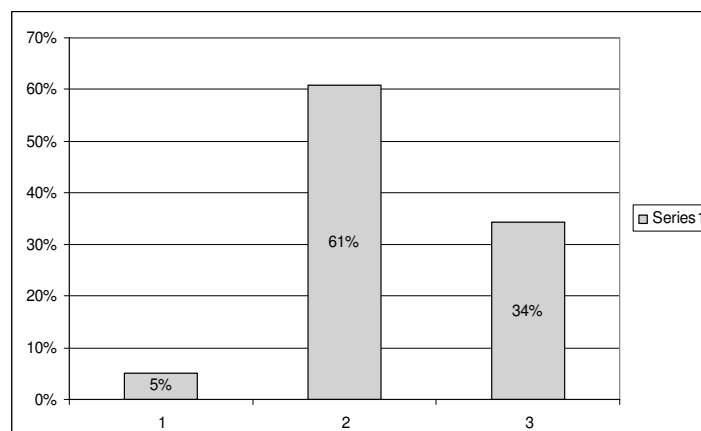


TABLE NO. 2

Characteristics	Respondents	Percentage
1. Do you use any mobile banking service?		
a. Customer registration	21	12%
b. Cash in	0	0%
c. Cash out	0	0%
d. Merchant payment	0	0%

e. Utility payment	37	20%
f. Salary disbursement	0	0%
g. Foreign remittance	13	7%
h. Air-time top-up	38	21%
i. Fund transfer	12	7%
j. None	60	33%
Total	181	

Source: field study.

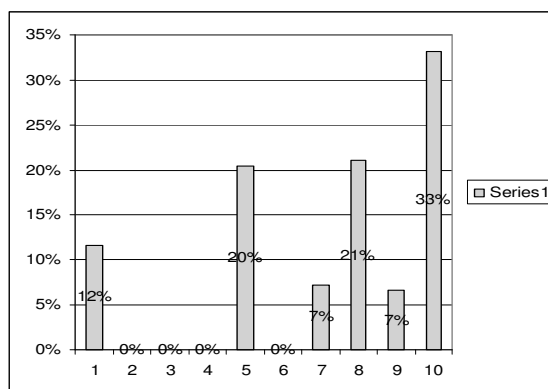


TABLE NO. 3

Characteristics	Respondents	Percentage
What do you think about the cost of mobile banking than traditional banking?		
a. Higher	0	0%
b. Lower	67	56%
c. Same	24	20%
d. Affordable	29	24%
Total	120	

Source: field study.

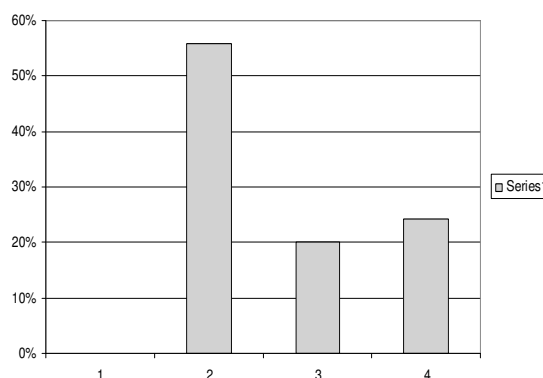


TABLE NO. 4

Characteristics	Respondents	Percentage
1. What do you think? It is-		
a. Speedy process	120	100%
b. Slow process	0	0%
Total	120	

Source: field study.

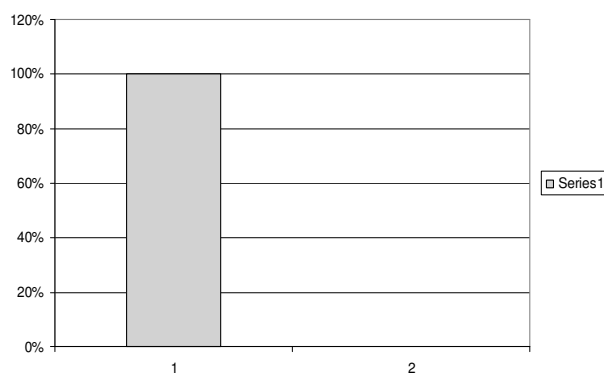
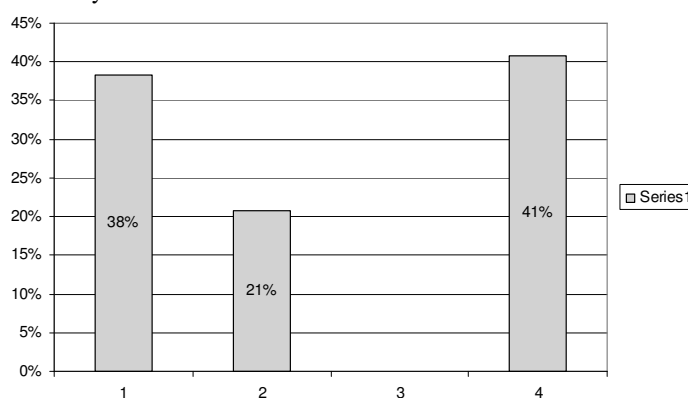


TABLE NO. 5

Characteristics	Respondents	Percentage
1. Which class of people can use mobile banking?		
a. Upper	46	38%
b. Middle	25	21%
c. Poor	0	0%
d. All	49	41%
Total	120	

Source: field study.



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