

EXPLORING MACRO-LEVEL FACTORS IN M-BANKING ADOPTION FOR RURAL SMES IN BAGLADESH FROM THE BANK'S PERSPECTIVE: A FOCUS GROUP STUDY

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Abstract

There is relatively little known about the m-banking use by the rural small and medium enterprises (SMEs) in Bangladesh. This research fills the gap by presenting the key advantages of using m-banking by the rural SMEs that a bank can offer in Bangladesh. The research also reports on the critical country-level factors, organizational success factors and obstacles in m-banking adoption for rural SMEs. A focus group was interviewed and the data were analysed using NVivo9. The findings indicate that improved banking facility, an opportunity to create employment in rural area, easy settlement of trade between SMEs, better cash management are some important advantages of m-banking for the rural SMEs. Technology and human resource capabilities of the banks together with the development of mobile infrastructure are some influential factors in m-banking development in Bangladesh. This paper also identifies engagement with the SMEs as an important organizational factor in m-banking diffusion for rural SME that have been rarely identified in prior literature. However, the major constraints are the operational constraints such as cash management, policy and regulation and administrative obstacles. Recommendation for a business version m-banking, joint advertisement by the banks and mobile telecom organisations and a regional m-banking platform are also new knowledge in m-banking research. This is one of the few papers from the perspective of a bank, since most of the literature approaches the matter from the consumer standpoint. The outcomes and results of this research will be of potential value to the government, banks and mobile telecommunications in accelerating the development of m-banking in Bangladesh and in other developing countries.

Keywords:

M-banking framework, M-banking macro-level factors M-banking country-level factors, M-banking organizational-factors, Country studies

1 INTRODUCTION

Small and Medium Enterprises (SMEs) are very important in Bangladesh, an agriculture based country in Southeast Asia. SMEs provide the second source of livelihood in Bangladesh, after farming (Ardic et al. 2012; Davis et al. 2010). SMEs have been playing a pivotal role in fostering economic growth, sustaining global economic recovery, reducing poverty, and industrializing since the independence of Bangladesh in 1976 (Khan et al. 2012). In the future, to achieve the committed Millennium Development Goals (MDG) of 2015, the development process of Bangladesh must strive towards the improvement of SMEs, especially the rural SMEs (Mahmuda et al. 2010).

Though the significance of the SMEs in Bangladeshi economy has been recognized in all the five-year development plans in Bangladesh, the sector received very little banking supports from the traditional bricks-and-mortar banks (Ardic et al. 2012; Khan et al. 2012). SME banking is provided by the government banks, private banks and micro-financers in Bangladesh. However, the traditional banks require the client to provide identification and business documents to open an account. But the informal nature of SME business and sometimes the inability to supply business documents put SMEs at a disadvantage in the formal banking system (Khan et al. 2012). Moreover, SMEs are not attractive clientele to the traditional banks because of their low capitalization, insufficient assets and their inability to comply with collateral requirements. The rural SME banking situation is even more severe. Rural SMEs can only bank with the government banks but government banks are less SME focused. Thus, like many developing countries, Bangladeshi SMEs are unbanked or deprived of sophisticated banking facilities.

However, some research studies have suggested that SMEs banking constraints in the developing countries can be improved using mobile banking (m-banking) (Bångens & Söderberg 2011; Higgins et al. 2012; Kumar et al. 2011). These studies have suggested SMEs in Uganda (Ndiwalana et al. 2009), Tanzania (Bångens & Söderberg 2011) and Kenya (Mas & N'gweno 2012) have benefitted substantially from using m-banking. M-banking in these countries is used in SMEs to pay suppliers, receive customer deposit and to settle trades with whole sellers (Ndiwalana et al. 2009). These studies suggest that the banks can target SME owners as a user group since the SMEs number of retail payments is surprisingly high. M-banking, therefore, is now at the centre of intense national interest for SMEs banking in countries like South Africa, Kenya, Philippines, India and more recently, in Bangladesh.

Despite the huge potential of m-banking for SMEs, in Bangladesh most of the m-banking studies are conducted from the person-to-person usage perspective. SMEs usage of m-banking has been completely ignored. This is the main motivation to conduct this research. The knowledge gained from other countries m-banking studies on SMEs cannot be applied in Bangladeshi context, as SMEs are different from country to country (Higgins et al. 2012). Moreover, the business environment, banking and transaction system of the SMEs in Bangladesh may be not same to other developing countries.

Another rationale for undertaking such a study is, current m-banking research in Bangladesh tends to under-estimate the true extent of complex adoption actors by providing only survey based micro-level customer perspective research (Ahmed et al. 2011; Dewan & Dewan 2009; Rahman 2012). Currently there is no research that discusses macro-level m-banking factors, such as organizational factors, country-level factors and obstacles in implementing m-banking. But researchers, such as Duncombe and Boateng (2009) and Weber and Darbellay (2010) have suggested considering both micro- and macro-level perspectives in m-banking implementation. Thus Bangladesh is probably one of the countries with the greatest need of research attention.

This study investigates m-banking advantages for the rural SMEs, macro-level organisational and country-level factors and obstacles in m-banking implementation in Bangladesh. The research is from the m-banking provider's perspective. The research uses information from a focus group consists of top managers of SMEs and m-banking service in a reputable Bangladeshi bank. The paper shows that,

from a bank's point of view, m-banking is a suitable banking system for rural SMEs in Bangladesh. This research also presents, currently Bangladesh is positioned perfect for m-banking development because of the central bank's decision to implement m-banking. However, to be successful banks need to create a clear vision of their m-banking initiative at a strategic level. The banks should treat it as a business critical rather than simply a technical or operational issue. Top management support, IT competency, engagement with the target markets are some organisational success factors in m-banking which came out of this study. However, impediments in offering m-banking for rural SMEs are SMEs' limited knowledge of the potential of mobile phones, operational obstacle in m-banking, m-banking agent management and competition from illegal money transfer systems in rural areas of Bangladesh.

This study makes several contributions. First, for the first time a research analyses m-banking advantages for SMEs from a bank's perspective. Second, the research is one of the few works to explore organisational and country-level factors that impact m-banking adoption. Third, rather than using surveys where m-banking research is controlled by several cognitive factors; this research uses an exploratory approach to uncover latent but unknown macro-level factors. Fourth, the paper identifies engagement with the SMEs as an important organizational factor in m-banking diffusion for rural SME that has rarely been identified in the literature. Recommendations for a business version m-banking, joint advertisement by the banks and MOTs and a regional m-banking platform are also new in m-banking research. We are unaware of any similar studies. Lastly, the research is being undertaken at the right time to support the national policies, such as the Millennium Development Goal 2015 and the National IT Policy 2009.

2 LITERATURE REVIEW

M-banking can be defined as an application that allows users to complete banking transactions using the Short Message Service (SMS). Over the last ten years, m-banking has gained great interest in the research community worldwide as it is expected to have an impact for developing countries. Scholars suggest that for developing countries, m-banking can reduce 'walking many kilometres for the banking' (Medhi et al. 2009) and m-banking is a panacea for the poor (Aker & Mbiti 2010; Dunmcombe & Boateng 2009). M-banking has the potential to offer low cost virtual bank accounts to the large number of unbanked individuals worldwide (Bangens & Soderberg 2008; Dolan 2009; Medhi et al. 2009), to women living at the bottom of the society (Chavan et al. 2009), to the farmers (Kirui 2010) and to the SMEs (Bangens & Söderberg 2011).

Nevertheless, the extant literature on m-banking has focused on m-banking advantages for person-to-person use, whereas research analysing m-banking use by SMEs' remains inadequate. Recently some m-banking studies have focused on SMEs (Bangens & Söderberg 2011; Higgins et al. 2012; Kirui et al. 2010; Kirui et al. 2012; Kumar et al. 2011). These studies have focused m-banking use in the SMEs, instead of considering m-banking only for personal use. The researchers of the studies are convinced that m-banking has the potential to offer low cost virtual bank accounts to the large number of unbanked SMEs (Bangens & Söderberg 2011; Higgins et al. 2012; Kumar et al. 2011; Lahiri et al. 2009). Primarily, SMEs in India, Kenya and Tanzania have received most of the attention by the m-banking researchers. These studies meticulously analyze various payment systems between SMEs to SMEs, SMEs to customers and customers to SMEs in developing countries and answers, how the business version of m-banking should be developed?

Micro-level customer perspective studies and macro-level organisational and country-level perspectives are two major dimensions in m-banking research. Over the last ten years, a wide spectrum of m-banking frameworks has emerged in various countries which are built on micro level and macro-level factors (Bankole & Cloete 2011; Daud et al. 2011; Jia-bao 2011; Kadušić et al. 2011; Ratten 2011; Shen et al. 2010). These frameworks include consumer, technical, social, and security perspectives and apply Information Systems (IS) adoption theories to explain the individual's preference and reaction, such as the classic Diffusion of Innovations Theory (Roger 1995), Technology Acceptance Model (TAM) and the extended TAM (Davis 1989), the Theory of Planned Behaviour (TPB) and the Unified

Theory of Acceptance and Use of Technology (UTAUT) by (Venkatesh et al. 2003), and Planned Behaviour theory (Taylor & Todd 1995).

Apart from customer perspective factors, macro-level factors also impact positively or negatively on the implementation of m-banking (Duncombe & Boateng 2009; Weber & Darbellay 2010). The macro-level factors are from the organizational perspectives and from the country-level perspectives. Researchers suggest the organisation structure, the firm's culture, management style and brand image can promote m-banking development (Duncombe & Boateng 2009; Saleem & Rashid 2011; Weber & Darbellay 2010). Country-level factors are banking policy, IT regulations, national level policies such as new account opening procedures, the national payment system, m-banking transaction policy, e-signature policy and e-commerce policies (Ivatury & Mas 2008; Weber & Darbellay 2010). Thus macro-level studies have become a contemporary phenomenon in m-banking research studies. This is because, to be successful for the SMEs, m-banking service needs a favourable macro-level organisational and a country-level environment to operate.

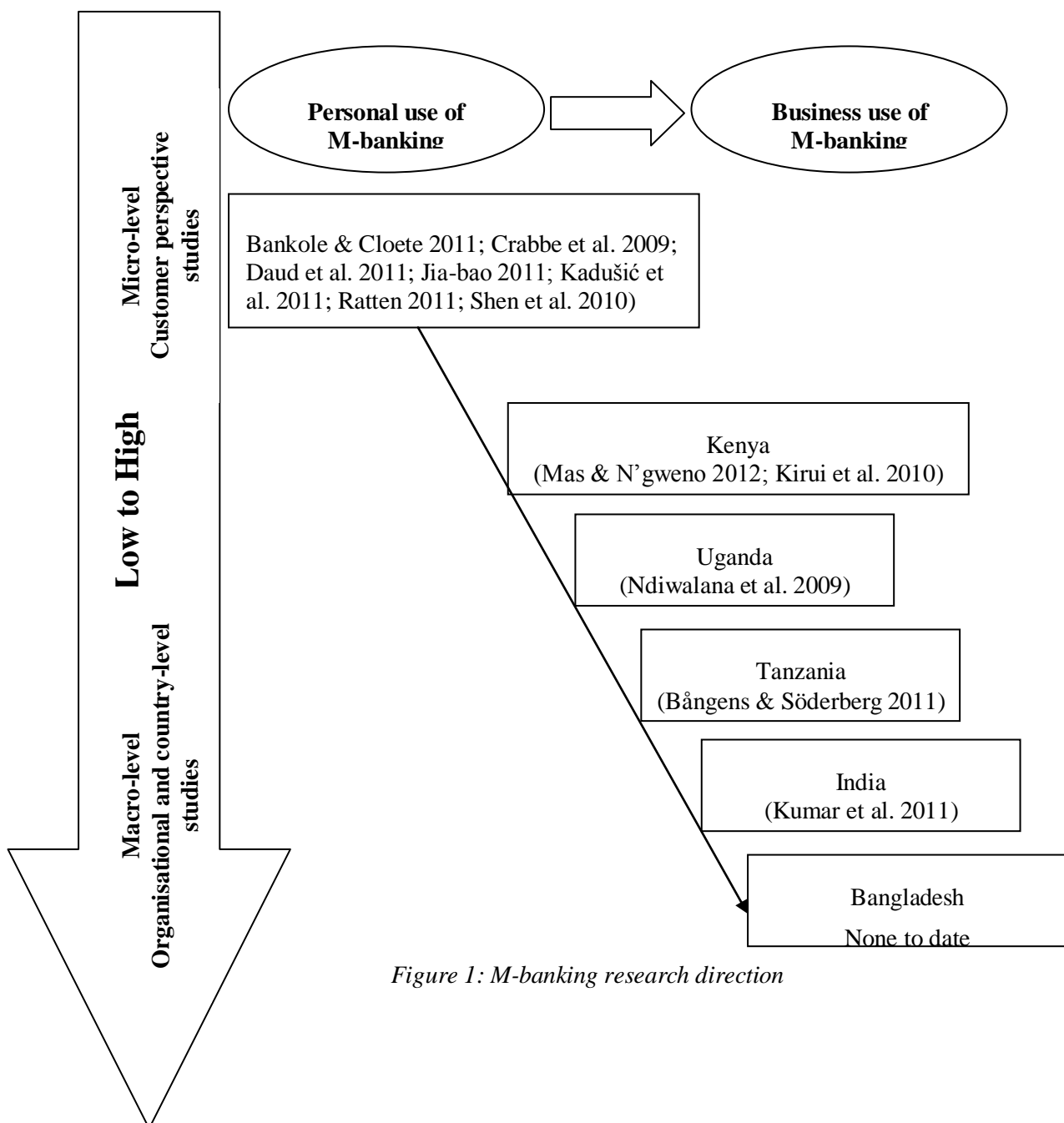


Figure 1: M-banking research direction

Recently, there has been a growing impetus in Bangladesh towards the adoption of m-banking. Furthermore, the latest initiative of the Central Bank's to offer banking service to the unbanked population has also sparked the impetus towards m-banking adoption. Private Banks such as Trust bank, Dutch Bangla Bank, and BRAC bank have come forward in the implementation of m-banking. In fact with 75 million mobile phone users, 99% of the population living within the mobile network and 45% unbanked population (BTCL 2013); Bangladesh is an attractive place for m-banking. M-banking was first introduced as the Short Message Service (SMS) banking by the private banks in Bangladesh. The early m-banking service had very limited functionality, such as viewing one's own account details, balance and mini statement. However, with the deregulation of policy on 29th November 2009, current m-banking services in Bangladesh offer cash-in, cash-out, fund transfer for merchant payment, salary disbursement and utility payments (Rahman 2012).

Like many other underdeveloped countries, Bangladesh has also become an attractive place for m-banking research. However, Bangladeshi m-banking research studies are dominated by the customer perspective adoption studies (Ahmed et al. 2011; Dewan & Dewan 2009). These studies are mainly conducted in big cities and conducted from person-to-person usage. Most of the customer perspective research studies report that consumers are favourable to m-banking in Bangladesh (Ahmed et al. 2011; Dewan & Dewan 2009). On another dimension, the macro-level m-banking research studies in Bangladesh mainly examine the national payment system, the m-banking regulation and m-banking transaction policy in the country (Sultana 2009). The studies report that the Central Bank and the government are supporting the banks and MTOs' the m-banking implementation by introducing new regulations related to m-banking and re-forming the banking policy. However, it remains to be investigated, how macro-level factors impact on m-banking adoption for SMEs in Bangladesh. M-banking service is new in Bangladesh and still in its infancy, leaving a great deal of room for development.

3 RESEARCH FRAMEOWRK

The following sections will form the theoretical foundation for this research.

3.1 Advantages of using m-banking by the rural SMEs

In Bangladesh, SMEs are defined as the businesses having assets of 15 to 200 million Taka (Bangladeshi currency) and/or a maximum 150 employees. SMEs in most countries, because there are small, always receive small support and favourable banking facilities (Ardic et al. 2012). SMEs banking involvement is rooted in both loan and deposit relationships with banks. In most cases, the deposit relationship usually proceeds to the loan relationship. SMEs need banking to pay suppliers, receive customer deposit and to settle trades with whole sellers. SMEs that need to buy raw materials from the city-based whole-sellers are more bank oriented than the others (Khan et al. 2012).

Anecdotal evidence confirms that in some countries, SMEs use of m-banking is more than the national average of personal use (Higgins et al. 2012) and larger enterprise use (Ndiwalana et al. 2009). Various benefits are reported by the SMEs of using m-banking, such as security, efficiency, and time saving quality of m-banking. M-banking also fosters SME's business by speeding up transactions, quick ordering and arranging shipments. The most interesting contribution of SMEs m-banking use is the adoption of the service in the supply chain of SME business. This record keeping feature of m-banking is also useful in accounting, SMES business management, and for the credit reference bureaus. However these advantages are documented from a SME's perspective. To date, no research from Bangladesh or other parts of the world have collected data from a bank's perspective. In a country like Bangladesh where SME provides the second source of income and the only option in the non-harvest season, no research answered the question:

- 1. What benefits a bank can offer to rural SMEs by using m-banking in Bangladesh?*

3.2 Macro and organisational success factors in providing m-banking to rural SMEs

Organisational and macro-level factors are expected to promote positively the implementation of m-banking (Duncombe & Boateng 2009; Weber & Darbellay 2010). The organisation structure, the firms' culture, management style and brand image can promote m-banking development (Duncombe & Boateng 2009; Saleem & Rashid 2011; Weber & Darbellay 2010). More instructively, perhaps, San Martin et al. (2012) findings show that firm's activity and technological competence affect the growth of m-commerce. With regard to m-banking banks equipped with sophisticated ICT, endowed with MTO infrastructure and employing IT professional that have knowledge of m-banking should be expected to outperform in m-banking adoption.

M-banking also requires 'enabling' regulations to build customer trust and confidence on m-banking service. M-banking inherits the risk alike of traditional banking. Therefore the adopters have a fiduciary responsibility towards the providers and clients. Customers demand safe, affordable m-banking that is based on convincing regulatory framework (Ivatury & Mas 2008). Data security of the customers, consumer protection standards and financial integrity of the m-banking providers are some customer perspective concerns in m-banking (Weber & Darbellay 2010). Regulations are important for the m-banking providers too, so that providers have a confidence to invest in the resources necessary. National level policies such as new account opening procedures, national payment system, m-banking transaction policy, e-signature policy, e-commerce policies etc. are also important to grow m-banking in a country (Ivatury & Mas 2008). The rising concerns of attack over the network, mobile virus, fraudulent activities, customer identification in m-banking, financial integrity of its clients and their transactions, money-laundering, terrorism or criminal activities are some legal aspects that need to illustrate in m-banking regulations to gain customers' trust (Weber & Darbellay 2010).

Although some research attempted to identify the organisational and country-level factors, most of the studies focus on the consumers' standpoint (Saleem & Rashid 2011). Fewer research have attempted to the matter from the manager's perspective of a bank. The most dominant data collection strategy in the macro-level m-banking research is by using a prepared questionnaire. The questionnaire includes popular adoption factors derived from current m-banking literature. It is a conservative approach, as it limits the list of true adoption factors. M-banking research into a new market can generate new knowledge of complex factors. Research should be more exploratory by nature to uncover the latent factors in the new markets, such as Bangladesh.

2. *What are the organisational and country-level factors that can have an impact on providing m-banking to rural SMEs in Bangladesh?*

3.3 Obstacles in m-banking implementation for rural SMEs

Apart from customer perspective cognitive barriers, there are supply side barriers too. The supply side obstacles consist of banks, MTOs and mobile device's limitations (Laukkanen & Kiviniemi 2010; Luo et al. 2012). The limitations of mobile networks and mobile devices are two supply-side barriers identified in m-banking research. Slow network, poorly performing user interface and high price of SMS make the serviced unattractive to the users and fail to meet performance-to-price. Previous research explores that supply side barriers such as lack of banking information, incomplete product range make the service unsuitable, especially for the unbanked (Laukkanen & Kiviniemi 2010). Operational barriers such as managerial problems, cash management also play negatively in m-banking adoption. However, research studies on m-banking adoption barriers have received inadequate attention. Thus, this research poses a research question:

3. *What are the barriers in implementing m-banking for banks?*

3.4 Recommendations in m-banking adoption for rural SMEs

M-banking is an innovation, thus knowledge sharing and communication between the stakeholders have been essential in m-banking adoption in Bangladesh. Knowledge sharing becomes important to understand deeply the human and social perspectives of the users. Social practice and contextual norms greatly influence the money management and financial activities (Medhi et al. 2009). Banks, research institutes and government should find the actual banking needs of the target markets and communicate to the implementers. Most successful m-banking such as M-PESA in Kenya also collaborated with research institute like FinMark Trust (Jenkins 2008). However, only a handful studies has investigated the recommendations, particularly from the implementers perspective. This research thus seeks to investigate:

4. *What are the banks recommendations in m-banking adoption for rural SMEs in Bangladesh?*

4 RESEARCH METHODOLOGY

This research employed an exploratory approach using a focus group. A focus group is advisable when existing knowledge of a subject is unfamiliar, inadequate and research is conducted under limited theoretical supports (Powel & Single, 1996). The focus group employed in this research was from a private bank. That bank is an SME focused bank and was an early adopter of m-banking in Bangladesh.

4.1 Selecting the bank and gaining access to the bank

In this research, all Bangladeshi banks' websites were checked to identify the banks that have a strong emphasis on SMEs and m-banking. After the identification, the researcher approached several banks for access, however only one bank agreed to participate in the research. Before agreeing, the bank's management wanted a presentation on the research. After the presentation, the bank positively agreed to participate in the research. Being an SME-oriented bank, it was a good source of SME related knowledge, such as SMEs' business, SME/banking relation and SMEs' banking needs. Moreover, being a m-banking implementer, the bank had practical knowledge on m-banking advantages for SMEs, organisational and country-level factors and the obstacles in m-banking.

4.2 Selecting the members of the focus group

The focus group participants were selected based on their insights, experiences and thoughts, which are valuable for the research (Yin 2011). The bank management first nominated the members and then the researcher finalized the selection of representatives based on their experiences and work expertise. At last in total 8 officers were included in the focus group. The number was chosen not only because they would give enough information for the research but also the numbers were enjoyable to run and manage the focus group. Moreover, setting them up was not bedevilled by any logistic problem. Figure 2 summarizes the focus group participants' details.

4.3 Focus group discussion instrument and pre-test of questions

This research employed a semi-structured interview for it's built in flexibility and ability to capture versatile array of information (Powell & Single 1996). The semi-structured interview approach guided the focus group without limiting the discussions and allowed the participants to express themselves openly in their own words. The questions did not have any prescribed answer and thus could explore the issue widely, in-fact some of the information was unexpected. However, after the answer received closed questions was asked to make his position and response more accurate (Yin (2011).

Participant's Code	Department and designation	Job responsibility	Experience
Participant 1	Head of IT and m-banking	Leading the IT/m-banking department, stakeholder management, software/hardware management, and policy development.	20+ years
Participant 2	Head of m-money and m-salary	Managing m-salary and m-money section, participate in policy and regulatory development.	20+ years
Participant 3	SME banking (Loan manager)	Approve, disburse and manage SME loan, manage SME account, participate in policy development.	12+ years
Participant 4	SME banking (Administration)	Working with SMEs, provide training, disburse loan and manage loan, participate in policy development.	8+ years
Participant 5	Technical / IT Implementation	Manage IT and m-banking system, and communicate with the MTOs if any issues arise; participate in IT policy development.	10+ years
Participant 6	Technical / IT Implementation	Install, update and manage IT and m-banking system, and communicate with the MTOs if any issues arise.	7+ years
Participant 7	Technical / IT Implementation	Install, update and manage IT and m-banking system, and communicate with the MTOs if any issues arise.	4+ years
Participant 8	Technical / IT support	Support IT and m-banking, backup data, upgrade hardware and communicate with the customers	6+ years

Figure 2: Focus group participants' expertise

The interview instruments were tested with a small group (3 members) before the actual focus group study. The purpose was to reduce ambiguity, to see if the questions were capturing the required phenomenon and to identify questions that produce the most useful spread of information, as a way of standardizing the questions. The group was made of one SME expert and two IT experts.

4.4 Focus group discussion process

The researcher made phone calls to each of the focus group participants after the final selection of the personnel. The researcher introduced himself and briefed about the research. Yin (2011) advises to spend some times with the participants before the interview started. This is particularly true in Bangladesh where social conversation and interaction help to build a rapport. These informal conversations make the participants at ease and more aware of the research. Also the researcher answered any question of the participants to establish the clarity. When the participants were confident they were informed about the venue and the time of the discussion. The venue was carefully selected where privacy was afforded and where the participants were not pre-occupied (Yin 2011). In this case, the venue was a room in the head office of the bank's IT department.

Before the focus group started, the participants were briefed about the research. All of the members were given the background information about the research. A consent form that highlighted the research policy, interview recording procedures, privacy of the participants and complaints were provided. The participants were encouraged to read the consent form and to ask any question they had. Once all the participants expressed their understanding and accepted to take part in the focus group, they were asked to sign the consent form. Then the actual interview started.

The focus group session was two hours long. The questions prepared earlier by the researcher were used to go deeper into the discursive structures that frame the world of m-banking for the SMEs in Bangladesh. The discussions were open and uninhibited; the researcher asked a question and encouraged the participants to answer. The discussions used a guided and instructional discussion as a means of generating rich details of the m-banking experience (Powel & Single, 1996). A focus group has different dynamics than the interview and discussion. In this research the researcher managed the dynamics of the focus group and the researcher played a non-judgmental (Powel & Single, 1996; Yin 2011) role. A focus group provides the consensus on a topic. It jogs the person's memory. However, group thinking can be a problem if participants hesitate to express their own views. There is a

precaution that focus group may provide superficial information if participants do not involve in depth discussion (Powel & Single, 1996) as interaction is the central part of the focus group. The responses were audio recorded with their permission. The researcher also noted nonverbal responses such as body language and facial expressions as these can provide important aspect to research (Powel & Single, 1996). At the end of the interview the participants were given the contact details of the researcher and the research supervisor in case the participants wanted to contact for any reasons.

5 FOCUS GROUP STUDY RESULT

Data analysis in this research involved making sense out of the focus group data that the researcher collected in the field (Yin 2011). The data analysis in this research used NVivo9. The raw data was classified and coded using the preliminary list of variables that emerged from the research questions. Moreover, the transcribed focus group discussion was also reviewed for potential conceptual category. These coded data were also regrouped where necessary. The research results and major themes are as below:

5.1 Advantages of using m-banking by the rural SMEs

According to participant 4, the rural SMEs conduct banking mainly with the national banks and post offices in Bangladesh. He also informed that besides banks, rural SMEs also maintain banking with the NGOs and informal banking, such as illegal micro-credit, the local moneylender. The rural SMEs owners maintain bank accounts for both personal and business use. Cash deposit, withdraw and loan repayments are some common banking services they use. Some also use telegraphic money transfer (TT), demand draft (DD) and long term savings. The focus group participants pointed to some advantages of m-banking for rural SMEs as below:

5.1.1 Improved banking system for rural SMEs

According to all the participants of the focus group, there is a huge number of unbanked SMEs in rural Bangladesh. M-banking offers a potential solution for the millions of SMEs in rural Bangladesh that have a mobile phone, yet remain excluded from the financial mainstream. Some SMEs may also shift from using illegal banking to legal banking. The SMEs demand of quick money transfer, instant availability of the fund and the flexibility of banking also can be provided, according to participant 3 and 4. Traders can deposit funds overnight for safe keeping. The SME specialist made his comment on this particular point by saying:

“Rural SMEs are normally run by one person; banking in office hours is difficult to manage. Moreover, formal banking is time consuming and does not allow transaction whenever required. This constraint forces them to keep their money under the pillow. M-banking will give the flexibility to do banking anytime and anywhere.”

Another SME senior staff added to the picture by stating that:

“SME owners think if he put the money in the bank, next day when the money will require in Naraygonj in a deal, it might be time consuming to withdraw the money again. They do not have enough cash to deposit the money for even 1 day as they are going to use the money the next day.”

Participant 8 added SMEs m-banking use will save some time for them, which is used in travelling to city for banking. M-banking can also assist female entrepreneurs, as going out for banking for females is not easy in Bangladeshi culture. But using m-banking, females can do banking living inside the house.

5.1.2 The opportunity to offer private bank's service to rural SMEs

Private banks (PBs) are more SME focused than the Public banks in Bangladesh. Moreover, International donors and the government provide loans through them. But PBs are city based. According to the Head of IT,

“It is our structural constraint that we (banks) cannot operate in the rural areas, but using m-banking we can bring the services to the doorstep of the rural customers”.

According to participant 3, the opportunity will allow banks to develop a close relation with the rural SMEs. Banks can identify well-performing SMEs and finance for enterprise growth. At the national level, SMEs' m-banking use can create better financial transparency in Bangladesh. SMEs can bring a good amount of ideal money to the national banking channel.”

5.1.3 The opportunity to create employment by the bank

The m-banking head of the focus group added that m-banking would create job opportunities as the service requires pay points to operate. Educated villagers can work at the pay point and this can be a direct benefit of m-banking in rural SMEs.

5.1.4 Improved rural-urban SME business

In Bangladesh reliable money transfer was an obstacle to rural-urban SME supply chain. Especially the fishermen, farmers and vegetable growers had no other options without selling their product only in the local market. But now, rural SMEs have the opportunity to sell the products to city based big buyer, as buyers can transfer money to rural SMEs using m-banking, the participant 3 informed the author. To add to the advantages, as one IT executive noted to the author:

“M-banking allows rural SMEs easy settlement of business transactions for raw materials from the suppliers. The suppliers prefer direct money transfer rather than a personal cheque since cheque take more than two days to clear. Other methods of money transfers such as post-office transfer, telegraphic transfer and demand draft issued by the bank are costly and time consuming for SMEs.”

5.1.5 Better control of finance of SME

Participant 3, the SME expert, added an important advantage of m-banking use by the rural SMEs:

“I have seen many SMEs collapsed as the owner could not maintain the cash of the business. As SMEs leave on the cash economy, owners always have the money in their access. Sometimes SMEs owners misused the money or were forced to spend by their wives, family member or friends. But m-banking can give them proper control of the cash; even m-banking can hide their wealth.”

5.2 Macro and organisational favourable factors

Some organisational and country-level success factors foster m-banking adoption for the rural SMEs in Bangladesh, according to the focus group participants. Below are some highlights:

5.2.1 Ready infrastructure

A ready mobile telephone infrastructure covering nearly 99% villages, continuous reduction of mobile phones price/ SMS cost and increasing popularity of m-commerce are some contextual factor for m-banking growth in Bangladesh. Participant 8 supported by saying:

“Our mobile phone network reached the last mile of the village. Earlier, the education department has circulated public examination results using SMS to the student. These all actually promoted us to adopt m-banking for the rural users”

5.2.2 The central bank's initiatives

Recently the central bank initiated a project to offer banking service to the unbanked population, such as farmers and SMEs. This project actually forced city-based banks to establish branchless banking in the rural areas using m-banking. Moreover, the government, the central bank had shown great interest in creating policy and procedures for m-banking in Bangladesh, the participant 7 informed.

5.2.3 Creating focus on m-banking

The focus group participants informed that the bank placed m-banking around its policy makers' objectives. The top management supported the project and aligned with the organizational objectives. The participant 1, m-banking head informed the author that, instead of integrating m-banking with the mainstream channel, the bank attempted the service as a standalone channel. This allows creating a special focus to the rural SMEs segment. The standalone approach enabled the bank to create a new vision and business model for m-banking, adapt the organization to the new requirements of the m-banking systems. The project started with new focus, people, process and structure.

5.2.4 Engagement with the SMEs

The focus group participants, especially the participant 4 considered the bank's involvement with the SMEs had increased the proposition to adopt m-banking for the rural SMEs. He supported with his statement:

"We serve more SMEs than a non-SME bank. We have more interaction with them, which provides us more knowledge about SMEs. So we are better positioned to design an SME version m-banking. We know better what are the needs of SMEs in credit, fund transfer, fund encashment."

5.2.5 IT competency of the bank

The bank started IT usage by installing computers for the front desk tellers. The primary purpose was ledger maintenance, cash management and cash dispenser etc. Later the bank adopted ATM, off line transaction processing and inter-bank fund transfer facility. The latest services offered using IT are real time online banking, electronic fund transfer, centralized processing, website and m-banking. The systematic integration of computing system provided the bank a sophisticated level of IT competency. This factor, according to the participant 1 is an organisational capability of the bank if offers m-banking for the rural SMEs.

5.2.6 SMEs competency

Huge diffusion of mobile phones among SME owners and SMEs' higher banking literacy can be some critical success factors in m-banking adoption for the rural SMEs in Bangladesh. Previous experience of sending and receiving money using air time recharge also can create some interest in SMEs to use the service. Participant 8 commented:

"They might have no education at all but they know various banking terms. They learn these in their profession. So it is not hard to teach them how to do banking using a mobile phone. Even if they do not know they will learn it from someone, the way they have learned mobile phone operating,"

5.3 Obstacles in m-banking implementation

The following obstacles have been identified as existing within m-banking adoption in Bangladesh. So, consequently the obstacles can inhibit the incorporation of m-banking by the SMEs.

5.3.1 MTOs reluctance to make partnership with banks

Not all the MTOs are coming forward in M-banking adoption. MTOs prefer big banks only since small and niche banks are not an attractive partner in m-banking adoption. Participant 1 considers this as an impediment in offering m-banking to rural SMEs

"We only made an agreement with one MTO. Some of the MTOs did not agree to make partnership with us. MTOs limited cooperation thus can prevent some SMEs to use our service."

5.3.2 Operational obstacle

The post-implementation obstacles revolve around the operational issues in m-banking. According to the mobile money head,

“The main problem is the money management in the system. Cash transfer between the agents and the bank has become an increasing issue in m-banking. Sometimes, an agent become empty of cash and another agent is overflowing with money. Now we have to transfer cash between them. How the physical money will be transferred to another pay point or after the business hours how the additional money will be taken to the main bank is a challenge for us. The agent cannot take this large deposit to his home neither will it bring any profits.... as the money should be taken to the bank.”

5.3.3 M-banking agent management

In the case of rural area, the problem is more severe as not adequate security is available to make the m-banking cash safer. As banks are employing more agents, a new challenge for the bankers is to ascertain the agents' integrity and professionalism. Fake currency, money laundering, illegal money transfers are also common in Bangladesh. It is a problem for the implementer to monitor the agents continuously.

5.3.4 SME's limited knowledge of technology

Though mobile phone diffusion is very high among SMEs, even in the rural area, SMEs may not have enough technical skills to operate m-banking, especially in the rural area. One participant was quoted as saying:

“The limited technical knowledge can hinder old and illiterate SMEs in using m-banking. In pilot studies of m-banking, we found semi-literate consumers had more problems with m-banking use.”

5.3.5 SMEs' shared phone usage

Participant 4 pointed shared mobile phone usage as an obstacle by saying:

“When I inform SMEs about the m-banking, some of them are concerned about the sharing phone. They suspect, as their phone is a shared phone, that others may know their bank details. Despite our explanation on the matter, some of the SMEs still do not convince.”

5.3.6 Conceptual understanding of banking using a mobile phone

The new mobile phone users in Bangladesh might find difficulties in understanding how a mobile phone can store money? Moreover, some new migrants to the formal banking channel might have problems understanding the banking system using a mobile phone. They imagine unexpected problems that may arise in future. Participant 1, 3 and 6 have expressed the obstacle in this research.

5.3.7 Competition with illegal money transfer

The focus group participants considered illegal money transfer in rural Bangladesh as an obstacle in m-banking adoption for SMEs. Participant 6 commented:

“SMEs have been using local money lending system and micro-credit system for a long time. As SMEs are not always successful in receiving loans, they maintain a relationship with the informal banking. SMEs have an established relation to the illegal system. Now m-banking, being a new system may face competition from these parties.”

5.4 Recommendations

Various recommendations have emerged from the participants with regard to the m-banking adoption:

- First of all, all focus group participants emphasized on an SME version m-banking. Furthermore, the m-banking account should be integrated with other bank accounts of the SME customers. The money transferred by m-banking should be available to use instantly by the SMEs. The SME expert supported by saying:
“We have to remember a business account is used differently than a personal account. SMEs are different from an individual person.”
- The head of IT emphasized that Since MTOs are very conservative in selecting partnering banks; government should make proper policy for the partnership. The policy should also indicate the duties of all parties involved in the system to ensure a win-win situation for all stakeholders.
- Interoperability in m-banking service is required as multiple SIM usage is very common in Bangladesh. The m-banking provider banks should be asked to make partnership with all existing MTOs, so that customers can perform banking even they change their mobile network service.
- The government should implement an SMS price policy to make the service attractive to the SMEs.
- The dispute resolution should be quick. Government should also look after the security issues and monitor the security systems of the m-banking providers. The mobile money head commented:
“This is growing market, if a customer loses his money, it will spread all around and it will hard to develop the market”.
- Participants also suggested that pay points agents have to be educated and knowledgeable on product, network and infrastructure. They also should be given enough remuneration to make them happy and enthusiastic. Participant 5 commented
“We have to work with the pay point agents as they are at the root level of operation. We will have to realize them their responsibility as a banking agent because it is not easy to become the agent of a bank and do the transaction, there is greater responsibility in these tasks.”
- To date all the banks advertise the advertisements separately. Participants suggest that the banks and Telco’s should deliver the advertisement jointly. Even they suggest government can advertise about the service as the government has more acceptance than the banks or MTOs. Customers have to be motivated and organization should create awareness. However, the participants agreed that a special focus on the poor and illiterate people should be given. The participant 2 commented
“As this service is allowing to reach the poor people, and they are very simple and do not know much about the systems, we must make sure they are not cheated. And their interest is well taken care”.
- Lastly, a recommendation for an international or at least Southeast Asian m-banking platform that will enable SMEs to trade with nearest countries, such as India, Pakistan or Nepal.

6 DISCUSSIONS

This paper examined the potential use of m-banking by the rural SMEs in Bangladesh. The findings are summarized in Figure 3. The focus group participants confirmed that there is a good number of unbanked rural SMEs in Bangladesh. The finding substantiates Ahad et al. (2012) and Rahman et al (2012) research those reported of huge unbanked individuals in rural Bangladesh. However, m-banking has the potential to appear as a suitable banking system for rural SMEs in Bangladesh. Other forms of electronic banking such as ATM and e-banking are difficult to establish in rural contexts of Bangladesh. ATM is costly and requires additional expenses. E-banking requires the computer and Internet, which is costly too. Moreover knowledge of the computer is required. But m-banking is a possible answer for huge illiterate and semi-literate SMEs owners and managers.

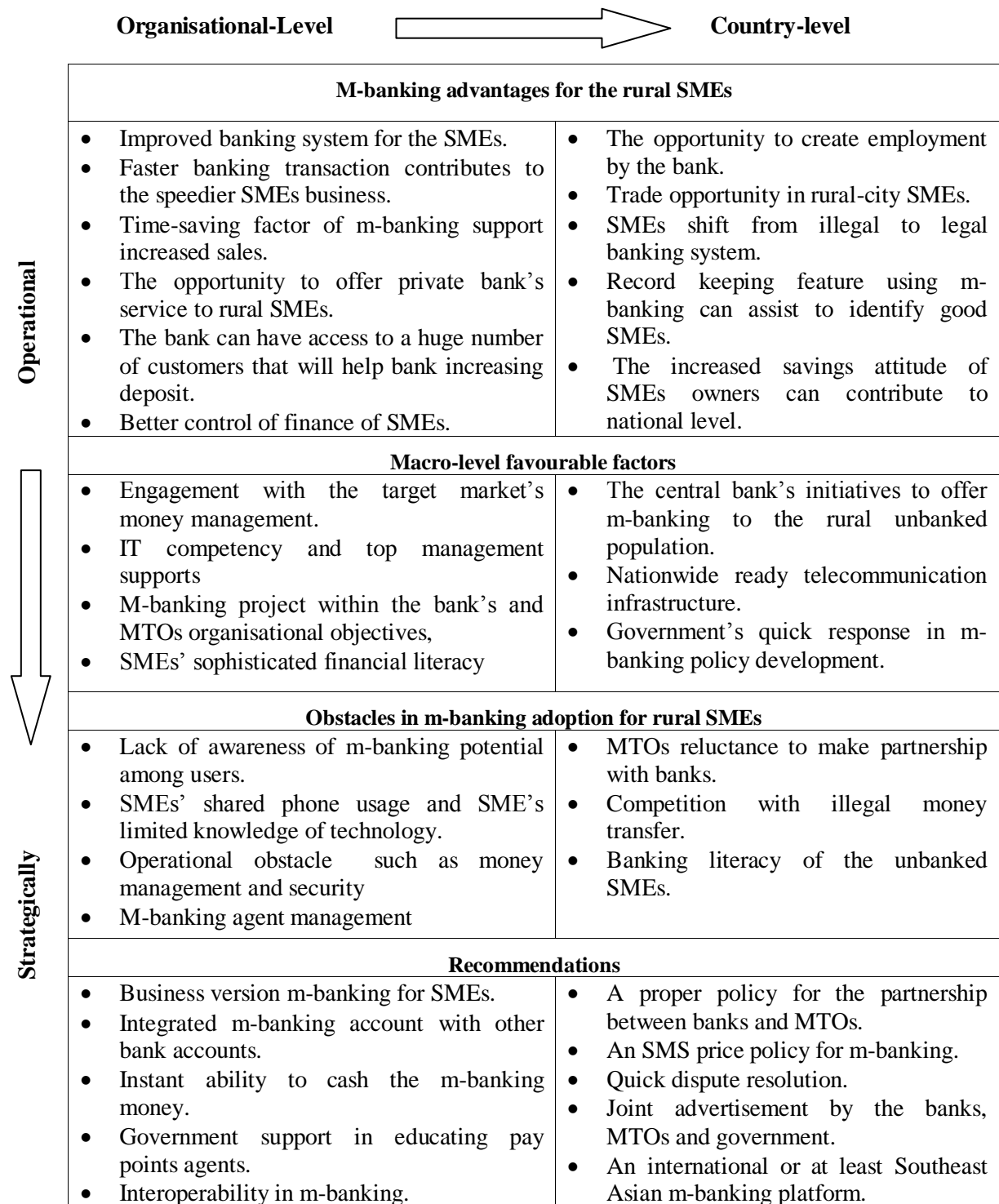


Figure 3: M-banking factors based on the focus group

The key advantages of m-banking for rural SMEs can be summed up as follows: instant and real time transaction, long distance transaction ability, speedier logistics and consequently faster delivery, increased savings attitude, record keeping ability, trade opportunity in rural-city SMEs. The findings

indicate that m-banking's time-saving factor can support increased sales and more efficient management. SMEs constant battle against poor liquidity can be supported by m-banking usage. Bångens and Söderberg (2011) also report liquidity improvements of Tanzanian SMEs by using m-Banking. Freeing up of a scarce business resources (in this case business cash), also directly promotes an increased turnover. This service also gives incentives to the banks, MTOs and government. The bank can have access to a huge number of customers that will help bank increasing deposit. The bank can identify good SMEs and help in growing the SME. Despite their level of education, most SMEs owners and managers are believed to be able to use m-banking.

A ready-made mobile technology infrastructure, central bank's initiatives to offer m-banking to the rural unbanked population and government's quick response in m-banking policy development are some country-level supporting factors for m-banking. M-banking project within the bank's organisational objectives, IT competency and top management supports are some organisational capabilities in offering m-banking for the rural SMEs. SMEs' sophisticated financial literacy is another enabling factor in the m-banking adoption. Research studies also suggest there is empirical evidence of a potential link between financial literacy and electronic banking (Servon & Kaestner 2008). Furthermore, clients' low levels of literacy, lack of familiarity with technology, and limited exposure to financial products are challenges for many financial institutions when dealing with m-banking (Kendall et al. 2011). Engagement with the target market is another critical success factor in m-banking adoption. The findings actually supports (Medhi et al. 2009) that knowledge on target market's money management and requirement is an important enabler for the m-banking providers.

However, to be successful, the barriers such as operational obstacles, money management and security need to be removed. M-banking providers should focus to increase awareness, technical skills and banking literacy of the rural SMEs. Government has to implement the right policy to control illegal money transfer, which seems to be an obstacle in m-banking development. Some of the mobile banking customers, especially in the developing countries, are new to the banking system. Studies are crucial to understand their abilities, communication habits and usability concerns. Designing effective mobile banking services is vital in the adoption (Medhi et al. 2009).

The recommendation to establish a business version of m-banking that addresses the specific needs of SMEs is essential for SMEs m-banking use. Other recommendations of the focus group, such as SMS pricing security, pay point management, joint advertisement by the banks Telco's and possibly government should be considered by the regulatory developers. The tendency and preference to make partnership with only big and successful bank and MTO is creating the market monopoly and difficult for smaller and new banks. Government and policy makers should focus on this issue. Smart regulations are required to protect existing players and allow new ones to flourish. More policies on dispute resolution, security for customers and m-banking agents are required. Another important suggestion for an international or at least Southeast Asian m-banking platform should be considered. The harmonised m-banking platform will enable SMEs to trade with its neighbour countries, such as India, Pakistan or Nepal.

7 EXPECTED CONTRIBUTIONS

This research offers various significant values to the rural SMEs, banks, MTOs and government in developing countries in general, and particularly in Bangladesh. Therefore, the practical and theoretical significances of the research are categorized as national, organizational and individual level. These are as below:

7.1 National Level

This research contributes greatly to the national concern in Bangladesh of how to make full use m-banking for the unbanked individuals and SMEs? Therefore, the research is being undertaken at the right time as m-banking has been a national interest in Bangladesh. Furthermore, Bangladesh has exciting and motivating plans and goals; such as Millennium development goals 2015 and the National IT Policy 2009. The research is expected to support the national policies undertaken in Bangladesh, especially the Central Bank's plan of using m-banking in facilitating banking advancements for the rural development. Lastly, the outcomes of this research can significantly help Bangladeshi government and NGOs in formulating better policies for banking development. Following the outcomes of this research, developing countries which have similar socioeconomic conditions may also receive useful knowledge from this study when developing m-banking for the rural unbanked population.

7.2 Organizational Level

This research is significant to the SMEs, banks, MTOs and Bangladeshi government as these organizations are the primary beneficiaries of the research. The significances are outlined as below:

- Since banking is one of the main obstacles of SMEs in developing countries, specifically in Bangladesh, this research provides macro-level insights to m-banking development, particularly for the rural SMEs.
- This research answers how a bank can implement m-banking to provide better banking facilities to the rural SMEs. Furthermore, the findings of this research can assist banks to redefine their banking business model regarding the remote customers. The findings from this research should help the banks to plan their strategies in reaching remote customers and in accelerating m-banking development.
- M-banking is a new topic in Bangladesh. The practical value of this research is that, the research can assist m-banking policy makers such as the government and the Central bank in introducing and formulating better m-banking policy. Moreover, the results of the research could be used in encouraging banks that do not have m-banking, to implement m-banking, in improving m-banking of the banks and in enhancing the quality of the service.

7.3 Individual Level

The outcomes of this research will be of potential value in increasing m-banking awareness in Bangladesh, especially among the SME owners and managers. SME owners and managers can get information about m-banking potential for business use. From a practical perspective, the bank management may require information about what macro-level factors impact on the m-banking adoption for rural SMEs. This research can help the bank managers to identify factors and determinants that influence the adoption of m-banking. The m-banking policy makers and the MTOs management should find valuable information related to m-banking implementations.

8 LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Future research can take this study further by addressing several limitations of this study. The main limitation in the study concerns the small sample size, although in our defence we might point to the difficulty involved in interviewing bankers with m-banking and SMEs knowledge in Bangladesh. Future research can take this investigation further by drawing research subjects from a more diverse population.

The research only considered institutional and country-level factors from the supplier side. However, this research does not claim that the factors identified in this research are the only macro-level determinants in m-banking adoption in Bangladesh. Future research should include customer

perspective factors on these research questions and include other research questions such as the demands of the potential users of m-banking.

Furthermore, in the future, this m-banking research should integrate the consumer view with factors derived from mobile technology providers, banking organizations, and regulatory perspectives. More information about macro-level factors from the government and central bank's policy makers would be desirable and further research is planned to address these issues.

The data was collected from only one bank, thus the research may not represent the whole of Bangladesh. Future research can collect information from more banks. The study was conducted only on the SMEs at a particular point in time: thus a longitudinal study or research with a different population may provide more insights into user behaviour. Finally, further research could use a larger sample size studying other countries with a higher level of introduction of m-banking for banks or repeating the study as soon as the level of introduction of m-banking increases in Bangladesh.

9 CONCLUSION

This research examined SMEs banking activities by the SMEs experts in a bank and found that SMEs banking can easily be managed by m-banking. The study also revealed the macro-level factors from the bank's perspectives. However, the benefits and advantages should be advertised to the SMEs through a common platform consisting of bank, MTOs and government. Findings from the study suggest that Bangladesh is best positioned for the uptake of m-banking services today. Though generalizations cannot be made from a single bank, the lesson learnt by a m-banking implementer is that, it is firstly important to consider m-banking as a parallel channel to offer banking services to the rural SMEs in Bangladesh. However, a bank needs to understand SMEs' clear purpose. A bank with an existing physical presence should use the branches as potential advisory centres to educate and encourage SMEs about m-banking. The government's attempt to build a regional m-banking platform with other neighbouring countries, such as India, Pakistan, and Nepal etc. will assist SMEs to do business with other countries' SMEs.

The research findings of this study not only address the call for adopting m-banking for the rural SMEs in Bangladesh but also enhance our understanding of macro-level m-banking factors. Collectively, these findings illustrate the potential role of m-banking, particularly for the rural SMEs. Furthermore, the study sets a starting point for future research to further explore the effect of macro-level factors in m-banking adoption. The merit of this research lies in presenting, for the first time, a macro-level m-banking discussion for rural SMEs in Bangladesh. It has important implications in providing useful insights into human behavioural and motivational factors that affect attitudes towards the adoption of m-banking in developing countries.

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