Understanding the user resistance of M-banking – for the student group in the context of Bangladesh

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Abstract

This thesis has focused on understanding why m-banking as an innovative banking service have not been accepted and used widely in Bangladesh. The study was conducted upon students who are usually tech-savvy and to comprehend the problem from their perspective. An in-depth literature review was done upon many similar and related topics. 2 research questions were developed and a qualitative approach was taken containing two different methods – semi-structured interviews and focus groups, to explore the reasons why m-banking have been resisted by Bangladeshi students. The results showed concepts/factors ranging from internal competition to lack of legal framework to security issues to inability of minor payments etc. Total of 15 participants were involved in the thesis and an extensive data collection and analysis was conducted to come up with concepts/factors which answered the research questions. The thesis then moved forward to discuss the findings, stating implications, limitations and encouraging potential future research.

Keywords: M-banking, Resistance, Technology diffusion, Students, Bangladesh, Qualitative
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1 Introduction

1.1 Overall introduction & topic justification

The country of Bangladesh, with a population of more than 159 million, is the 8th most populated nation on earth (World Bank, 2014). Albeit a small country, the huge population base of Bangladesh presents an unprecedented opportunity as well as a requirement for the financial services to provide monetary and banking services on a larger scale. As opposed to the massive potential user base, Bangladesh has a mere total of only 56 banks with mainly 6 state-owned commercial banks (SOCBs) & 39 private commercial banks (PCBs) (Bangladesh Bank, 2016). The range of services provided varies among institutions but can be categorized under similar-themed products, services and other miscellaneous banking activities. In order to synchronize itself with the expanding technology and innovative financial services emerging around the globe and mainly in developed countries, Bangladeshi banks have also started to diversify its range of products and services and at the same time, shedding more light into the possibility of expanding its delivery channels. Calisir & Gumssoy (2008) identified the major banking delivery channels to be brick and mortar, ATM, internet banking, phone banking, wireless access protocol (WAP) and electronic fund transfer over point of sale (EFTPOS) (p. 3). Although majority of these channels have been in place for some years, internet banking over PC and mobile phone have been newly introduced in the Bangladeshi banking context. However, an interesting statistic shows that total internet subscribers in Bangladesh amounted to 54 million of which 51 million consists of mobile internet users (BTRC, 2015). This shows the huge popularity of mobile internet, analogous to the 133 million mobile subscribers the country has (BTRC 2015).

This staggering statistics on mobile phone shows the rising potential of mobile banking in order to reach the unbanked population in Bangladesh, where only 13% of the people are banked (Islam, 2013, p. 1). This mismatch provides me with a pivotal position to look into why people are not using mobile banking services to meet their needs. Mallat, Rossi & Tuunainen (2004) points out that WAP-enabled mobile banking allows people to conduct wide range of activities from fund transfer to stock trading to payments (p. 3). Similarly request and control over account movement, payment and administration of the accounts are also the major M-banking use cases (Pousttchi & Schurig, 2004, p. 3). If all such services can be conducted from the grip of one’s wrist then why it has been not widely accepted by the Bangladeshi bank customers is a question worthy of attention. The findings will have significant implication for banks, marketers, commercial organizations, IT designers etc. as more clarification would make their roles clear. A study by Ashraf, Mia & Hasan (2014) found that Bangladeshi customers have ample options while choosing telecom operators as the market is fiercely competitive (pp. 4-5). Coupled with it the 56 existing banks allow customers lot of freedom to choose the services that fit them best. In spite of these options, M-banking has not diffused well into Bangladesh, which hints towards the fact that some other resistance factors might be present that are not being addressed by the relevant stakeholders. A vast amount of existing literature, however, has focused on the adoption of technology in general and M-banking in particular. Thus a study in a developing nation like Bangladesh on the topic of M-banking resistance can be a good starting point towards portraying of why people do not use this service can how can it be made more popular for banking purposes, simultaneously bringing more users under the advantages of financial services. Knowing these resistance factors will also allow important authorities like
Bangladesh Bank and Ministry of Finances to come up with policies to promote M-banking and leverage its benefits for the Bangladeshi people on a national scale.

1.2 Aim and objective

The banking industry in general bears a lot of operating costs in order to serve the customers. Predominantly, Bangladeshi users have been accustomed to going to banks and conducting their banking activities. With the introduction of ATMs, more of these customers now pursue their financial activities there, with still a majority opting to go to banks. All these channels in combination produce a large operating expense for the providers. Akinci, Aksoy & Atilgan (2004) stated that the average transaction cost of a banking activity is usually $1.07, which fell to $0.27 for ATMs and to around $0.1 if provided online (p. 3). This is an encouraging figure for banks to gradually shift their services online and in Bangladesh’s context, provide it over mobile phones as that is where most customers use their internet. This will allow banks to be more flexible and reduce their operating expenditures compared to when they are physically present (Furst, Lang & Nolle, 2000, p. 21). Moreover from a customer’s perspective, m-banking would provide them the freedom of location, benefit of personalization, 24/7 availability and constant connectivity (Tiwari, Buse & Herstatt, 2006, p. 6). Not to mention, it will also curb the customer’s cost in terms of travelling for banking services, time and effort (Laukkanen & Lauronen, 2005, p. 4).

However, in spite of these obvious advantages to customers, why have then the m-banking not taken off among customer in the Bangladeshi market? M-banking can be considered as a technological innovation as it provides a different value proposition (Al-Jabri & Sohail, 2012, p. 2) and every innovation is perceived to be better than its predecessors because it improves user’s experiences in many ways and therefore should be readily accepted (Rogers, 2003, p. 56). Thus even under this proven assumption, m-banking as an innovation has been resisted by the Bangladeshi users. It has only managed to diffuse into handful of customers and so, it is important to shed serious light into this matter and explore the reasons behind this m-banking resistance.

In order to generate material to answer the research question, I will be targeting university students and recent graduate groups. The reason I wish to conduct my thesis on studying the students to understand m-banking resistance is that most of them have their own bank accounts and have been transacting on a regular basis for various reasons. So, it can be said that they are aware of the bank rules, regulations and other available services which can be attained and used. Hence, I can assume that m-banking services must have been marketed to them at least once. Despite of that, majority of them have not adopted m-banking and here lies the interest of this thesis. One of the prime reasons for this is that young population of any country tends to have a lot of access and information to innovation and recent trends (Albarran et al., 2007, p. 6). Young consumer class of any product or service make their own rules of usage and are motivated by factors like social and peer pressure, status, ownership and therefore do a lot of talking to people (Spero & Stone, 2004, pp 1-2).

Based on this aim, I therefore propose the following research questions –

1. Why has m-banking not diffused well into the Bangladeshi market?

2. What are the factors that cause Bangladeshi students to resist m-banking usage?
1.3 Scope

According to statistics, mobile internet users in Bangladesh have been steadily increasing. In December 2013, the figure amounted to 34 million, which rose to 42 million and then to 51 million in 2014 and 2015 respectively (BTRC, 2015). Given the steady rise, it can be expected that this will continue to grow in the coming years as well and thus, a good proportion of the population will come under the coverage of mobile internet. This is a potential opportunity for banks to gain more customers and reduce their cost at the same time. If compared to the other delivery channels, it can be seen that physical presence requires a lot more infrastructural development which takes a very long time. In order to invest into it, lots of bureaucratic requirements have to be met and resources ploughed. Hence this thesis’s scope is particularly focused on the delivery channel of mobile banking, which is very convenient and requires lesser effort and time to develop and implement and also something that can be seen as an innovative service for the users. Nevertheless, exact figures of m-banking subscribers here are not available as there is no online directory which possesses this information, nor are banks too willing to disclose such data for unknown reasons. Another important scope is that this study will focus on the resistance factors of m-banking in particular, a service that is deemed to be innovative. Previous research has prioritized more on the adoption factors of innovation and studied how different policies and strategies should be developed to enhance acceptance of a new product (Brahim, 2015, p. 1). This, as pointed out well by Rogers (2003), is a result of the pro-change bias that exists within the research and business community which always assumes that any change or innovation is for the betterment of users (p. 56). Thus the scope in this study will be different in ways that I will attempt to find out why people are not accepting an innovation, m-banking in my context, as opposed to why they should have to accept. However, it should be pointed out that often acceptance of a product or service comes naturally, since its inception to the market. But also in some cases, adoption of something can take place only after the resistances towards it have been neutralized. So if these resistance factors influencing non-usage can be figured, various strategies, developments and decisions can be made in order to erode that resistance, thereby influencing adoption of m-banking. Hence, as can be seen, this research study has a lot of implications for various important stakeholders.

1.4 Limitation

This study is exploratory in nature and will be very user-centric, attempting to get their point of view. The reason being that, explained more in the methodology part, reasons and factors of resisting m-banking usage vary significantly from person to person. Every subject has a different reality which they have lived and therefore, different experiences to fall back to. So going right into the source ie. potential m-banking users, I expect to find the more accurate reasons that may answer my research questions well. Having said that, other stakeholders like banks, marketers, IT designers would not be involved in this thesis because it may simply expand the scope beyond my given time and resource limit but it surely can have implications and suggestions for them. However, it must be mentioned that the findings of this thesis will have relevance for these stakeholders who can conduct further study or pursue certain implementations. Moreover I would focus on m-banking only as opposed to the other traditional delivery channels of a bank – justification for which has been made earlier.
2 Literature review

For the literature review section, I had conducted an in depth and extensive reading of various research journals and articles in related but diverse topics. The idea was to increase the understanding of the whole research theme and in specific the research questions in regards to previous studies done by experienced and renowned authors. The literature review gave me a solid knowledge of what has been accomplished in this field of m-banking resistance and other closely related theories, frameworks, models that focus on this field. In order to get this rich background, I had downloaded and read journals, conference papers, books and articles from popular databases such as ACM Digital Library, IEEE, Sage, Emerald etc. During the searching process, I had also used various combinations of keywords and terms which allowed me to find the journals that related to my thesis topic. Some of those keywords are m-banking barriers, m-banking resistance, innovation diffusion, technology acceptance, student banking, m-banking & Bangladesh etc. Of course, not all journals that I had reviewed has been included below rather a selection of certain ones that cover the domain of user resistance of m-banking well. Therefore, topics such as security & trust in m-banking, technology acceptance and diffusion models, role of banks and information, resistance to innovation, lifestyle etc. has been the major ones. The year of publication of these articles ranged widely, the oldest being 1989 to the latest being 2016. The reason for the former, for instance, is because the authors of that particular journal have been the first ones to propose resistance theories that have been later used as a foundation in many relevant researches. Hence its inclusion was driven by that high rate of acceptance and usage in other work. Given the exploratory nature of this thesis, articles from diverse journals allowed me to be more open while conducting the research.

2.1 Theory of innovation resistance

To start off I would like to look into one of the most prominent research work done in the field of resistance towards any sort of innovation. Ram & Sheth (1989) are two of the most renowned scholars who have proposed the theory of innovation resistance. They have advocated that resistance towards a new product or service is a natural phenomenon because users always like to maintain their old status quo. Any new innovation can have basically two effects on users – it may disrupt their daily way of doings things and it may be incompatible with user’s prior belief. Based on this, they proposed two broad category of resistance – functional and psychological. The former contains the usage, value and risk barriers whereas the latter tradition and image barriers. The authors then went on to propose few customized marketing activities that can be undertaken to deal with each of these five types of barriers, as they are all different by nature.

In a very recent study conducted by Yu & Chantatub (2016), a quantitative research study was done on the customers of two different countries – Thailand and Taiwan in order to find out mobile banking resistance factors. The study was inspired by the work of Ram & Sheth (1989) where they used the five barriers of functional and psychological resistance to see which ones played the most important influential role. A large survey was conducted and after the analysis, it was found that all of the usage, value, risk and image factors played a significant role in creating resistance towards m-banking use. Only tradition barrier was found to not have any effect. However, the extent of significance did widely differ among Thai and Taiwanese respondents.
Cheng, Lee & Lee (2014), on the other hand, made a similar study in the context of China where they attempted to quantitatively study the user resistance towards m-banking. The research was conducted among students at a university in a particular city. The authors first recognized the fact that not many studies have been done upon this issue and they focused on perceived risk as the major factor behind this resistance. Based on literature review they identified other dependable variables that might affect perceived risk. Factors like social influence and complexity had positive whereas trust had negative effect on perceived risk. Finally, their analysis also discovered that perceived risk has a direct effect on user resistance.

A similar study on innovation resistance in m-banking context was conducted in Finland by Laukkanen et al (2007). This quantitative survey study was conducted on the customers of a large Scandinavian bank and the focus has been shed on mature user segment. The authors have also used the five barriers proposed by Ram & Sheth (1989) as a fundamental aspect of their study and have attempted to see which of those play influential roles in creating resistance towards usage of m-banking. The results showed that value barrier was the most significant barrier for not only mature customer but also younger users. However, the factors that made the mature and young segment different from each other were the risk and image barriers. They were found to be heavily influential among mature customers who think input/output of sensitive data, battery life, loss of PIN codes etc. are fears keeping them away from using m-banking.

In the following year, Laukkanen, Sinkkonen & Laukkanen (2008) further made strides into studying an interesting aspect of consumer resistance to internet banking. Based on the innovation resistance theory suggested by Ram & Sheth (1989), the authors divided the non-users of internet banking into three different groups – postponers, opponents and rejectors. The groups were defined using their resistance characteristics and the research was conducted to understand the nature and extent of rejection behavior among these groups. A quantitative survey was conducted which was followed by statistical analyses. The study concluded that rejectors had the largest resistance towards internet banking, followed by opponents and postponers. Psychological barriers were also more prominent in influencing resistance compared to functional. The implication was that banks and marketers should design customized policies in order to deal with these different types of groups.

### 2.2 Technology resistance

Moving to IT from m-banking, Joseph (2010) focused on the issue of individual resistance towards the generic innovation in the field of technology. The author points out towards PC as a form of innovation that came into being three decades ago and today it is moving more towards mobile phones, PDAs, and into more innovative aspects like P2P and social computing. Therefore the pro-change bias is evident among the IT developers, business and other stakeholders because they assume such innovations will always be accepted by people in due time. Hence, very less light was shed into resistance towards of these IT innovations. She then states that any target group has three types of people – adopters (who readily accept the innovation), non-adopters (who reject to use the innovation) and discontinuers (who initially use it but then abandon using it). Then she posits that functional, psychological and informational barriers cause people to not adopt an IT innovation. Though functional has to do more with the technicalities of the product/service, psychology boosts more usage, risk and emotional reasons. To end, she finally defined active and passive resistance of users – the
former who consciously resists using something new and the latter who is unaware that an innovation even exists.

The aspect of innovation resistance was then studied in the context of payment methods as well by Szmigin & Foxall (1998). In this qualitative study, the authors proposed that there are three major types of resistance and can be classified for any sort of innovation. They are rejection, postponement and opposition. Rejection is defined that the act of complete refusal of the usage of a particular innovation. Postponement is when people act to wait before accepting a new product or service in order to see if anything better comes along and opposition eventually leads to rejection but not before people have actually tried it a couple of times. In this study, the case of credit card and debit card was put in focus and the authors used the Kirton Adaption-Innovation Inventory (KAI). The results presented showed that credit card users were more adaptive, as suggested by Kirton, and that they tend to stick to using the ‘best’ ways possible to suit their daily needs in terms of payment. These ‘best’ ways depended on how the participants exercised their credit card functionalities, policies and used it to their advantages that, in their perception, debit cards were not able to provide. That is why they resisted using it as opposed to accepting it.

2.3 Role of information in m-banking

In regards to the previous studies, a research was done by Kuisma, Laukkanen & Hiltunen (2007) to find the resistance towards internet banking from Finnish customers. The authors targeted a different group of bank users who actually had a valid contract for internet banking but instead preferred to pay their bills by physically going to the ATM machines nearby. Albeit an interesting situation, the reasons would have serious implications on banks. The authors conducted a qualitative means-end approach and used the laddering interview technique in order to get as much insight as possible from the 30 interviewees participating in this study. The results showed that some functional and psychological factors were responsible for this resistance. To state them briefly, factors much as lack of internet connection, usage of self-device, absence of guiding information on how to use the service, fear of information loss over internet, absence of physical receipts and bar code readers etc. played influential roles in causing the resistance towards internet banking.

On a more abstract level, previous studies have proved that information and guidance provided by banks or financial services play a role in reducing resistance to internet banking. Based on this, Laukkanen, Sinkkonen & Laukkanen (2009) conducted a study among some 251 bank customers through postal survey, seeking to find how guidance and information provided by their banks helped them to move closer to using internet banking. Therefore, they suggested a typology of consumer resistance to innovation – non-resistors (people who do not resist using an innovation), functional resistors (people who resist based on usage, value and risk factors), psychological resistors (people resisting on the basis of tradition and image factors) and dual resistors (resistance based on both functional and psychological factors). The authors then developed hypotheses to measure these segments against each other based on information provided to them about internet banking. The results show that customer falling into dual resistor category, apparently are much more dissatisfied with the information provided to them about using internet banking compared to people falling into psychological and non resistor categories. However, there was not much of a difference seen with people falling into functional resistor category.
2.4 Innovation decision model

Talke & Heidenreich (2014) confronted the issue of pro-change bias that exists within the research and business community. They point out that whenever a new product is introduced within the market, it faces considerable amount of resistance from potential customers simply because it’s natural. A successful adoption can only happen if the resistance in the first phase has been overcome. The authors posited two important types of resistance – active and passive. Active resistance, according to the authors, sources from functional and psychological barriers. The former can include factors like trialability, complexity, compatibility, visibility etc whereas latter with norms, usage, social risk barriers etc. Hence, this type of resistance is a conscious judgment made by user to not adopt based on the negative evaluation it. Passive resistance, however, sources from simply people’s inclination to not change and their love for the existing status quo. It can be defined as a resistance that users show even before evaluating an innovation. As it is obvious that a new product might hamper the way they do things or conflicts with their prior belief, the authors mention that it is not surprising. Finally, the authors proposed an integrated innovation decision model where knowledge, persuasion, decision, implementation and confirmation are the steps that a user usually follows to ultimately accept or reject a new product.

2.5 E-lifestyle

Yu, Li & Chantatub (2015) studied resistance towards m-banking from an interesting angle, namely e-lifestyle. They propose that even though lifestyle has been the central focus for a long time within the research community, today’s fast paced environment built around the development and diffusion of ICT requires us to take a step further and study e-lifestyle and its effects. They conducted a study among Thai and Taiwanese respondents to see how their e-lifestyle plays an influential role in resistance towards m-banking in those respective countries. They found that factors like ‘willingness and interest driven lifestyle’, ‘need driven lifestyle’, ‘personal propensity driven lifestyle’ to be stimulating Thai respondents’ e-lifestyle. For Taiwanese respondents, ‘willingness, interest and achievement driven lifestyle’, ‘entertainment and sociability driven lifestyle’ were seen to be the stimulating factors. Finally, their statistical analysis concluded that in Thailand, the e-lifestyle moderated resistance factors like tradition, image and usage towards m-banking whereas in Taiwan, only tradition and usage barriers were moderated by their e-lifestyle.

2.6 Security issues in m-banking

Security can be one of the prime reasons why people might avoid using mobile banking. At least, it can be said so from common knowledge. Weerasinghe, Rakocevic & Rajarajan (2010) therefore based their study on this important factor in the context of m-banking. The authors first identified four existing security issues, as suggested by the mobile banking association, to be the safety of data transmission, control of data and application access, ensuring the integrity of the data and mitigating impact due to loss of a mobile device. In order to address these factors, they proposed a security framework which they claimed to be less user-intrusive, less demanding and quick. They discussed the present identification method and architecture of the mobile-banking system and proposed a new registration, authentication and authorization process. In brief, the new registration system will be based on a security capsule which will use the mobile device PIN and UID. These will be used to authenticate the user through token produced in collaboration among bank and mobile service
providers. The authorization is an extended step which will be required if the user chooses to perform much more sensitive transactions.

From an interesting viewpoint, Polstra (2005) suggested how theft of information can be tackled. He made some important case studies for 4 different companies that had faced stealing of their information, one of which was the prominent Citigroup, the banking giants. Therefore it leads to a practical fit in this study as well because the topic at focus is banking. The author proposes that management should always have 2 weapons to deal with information security through any channel – business policies and technological precautions. It is paramount that today’s management learns from the failures of other companies facing similar problems, re-evaluating their complete business process. This will give them a clear idea regarding the risk and other loopholes that exist within their business and develop quick and effective policies to deal with it. Thus information security should become an integrated business issue first, so that customer can always be comforted through the level of precaution taken through technological aspects.

In the process of talking about security, Peotta et al (2011) classified the various types of security certificates present in current internet banking scenario and then pointed out their vulnerabilities. This study is important for banks and IT designers because of its technical nature and how it affects perception of online banking security and hence its adoption. Out of the many security models, the authors pointed some of them out along with their vulnerabilities. For instance, OTP tokens have passwords that can be captured by social engineering, virtual keyboards where screen- or mouse-loggers can get sensitive information etc. The authors then pointed out two types main attacks as credential theft (where information is captured) and device control (where control of the whole system is taken). Finally they propose some countermeasures in terms of mutual authentication of user and service provider, profile creation to track fraud tendencies, separate channels for authentication and transaction and a history database to study user pattern and activities.

2.7 Technology Acceptance Model (TAM)

Shaikh, Glavee-Geo & Karjaluoto (2015) did a quantitative study regarding the adoption of mobile banking in Pakistan, which is a developing country. The authors have used the two popular models in innovation acceptance research, namely the Technological Acceptance Model (TAM) and the Theory of Planned Behavior (TPB), as a basis of their study. They pointed out that although prior studies have been solely based on one particular model, it will be very interesting to see how these models performed in anticipating m-banking adoption if joined together to form an integrated model. TAM explains factors such as perceived usefulness and perceived ease-of-use which plays a role in comprehending user adoption behavior. On the other hand, TPB was an extension of a previous model names TRA to which the factor of perceived behavior control was added. The authors then conducted statistical analysis on the integrated model and found positive results in regards to anticipating m-banking adoption among consumers. Perceived behavior control was seen to have the most influence and its antecedents such as self-efficacy, regulatory support and technology support played crucial part in understanding the adoption of m-banking in Pakistan.

Gu, Lee & Suh (2009) conducted a study to find out the determinants of behavioral intention towards m-banking. This was stressed by the authors to be important because intention is a significant factor among customers that moderates the usage of a new product or service. Hence, institutions like banks and other financial services have to comprehend how intention
works and which factors play a role behind influencing them in order to position their m-banking services within the market. The authors used the Technology Acceptance Model (TAM) which studies user intention to use a particular technological innovation. The three major factors that make up the model are perceived ease-of-use (how people see the innovation to be easy to use), perceived usefulness (how useful is the innovation in the user’s life) and trust (how trustworthy is it). Gu, Lee & Suh (2009) then went ahead to state hypotheses based on several antecedents that influence these major factors. Finally after statistical analyses, it was found that self-efficacy, which basically defines the confidence of a user to successfully use a new technology, plays the most significant role in effecting perceived ease-of-use. This directly and indirectly also affects perceived usefulness which in turn affects intention to use the new technology. As for trust, structural assurance was found to be the strongest antecedent.

However in her work, Yang (2009) argued that the despite TAM being a popular model in the field of Information System use, it does not really capture the complete picture of why people do not adopt mobile commerce or banking. In that sense, the model is incomplete and there are other ways to actually study the adoption issue. She goes on to state that TAM is based on consumers’ perceptions and therefore, it has to do a lot with intention. Therefore, she proposed to study the actual and true difficulties of users in the context of mobile banking adoption instead of relying on the previous TAM studies where focus was on ease-of-use, usefulness and social norms. Hence, using the Rasch measurement model, Yang (2009) studied individuals through developing surveys that helps understand usage difficulty in performing a task but independent of their ability. Through studying young students in Canada, who are perceived to be technology-savvy in nature, she posited that factors such as reduction in the various transaction service fees and speed of the transaction played a positive role in encouraging the adoption of mobile banking. On the other banks, factors inhibiting such adoption were found to be the safety of the system configuration and basic system fees.

Furthermore, alongside TAM, Bryson et al. (2015) also combined the Theory of Planned Behavior (TPB) and the Unified Theory of Acceptance and Use of Technology (UTAUT) in order to study the factors that influence the users’ intention to use mobile internet banking in India. The three models put together do result in lot of factors that can study the topic effectively. One of the prime reasons the authors have not used just TAM is because, according to them, it only indicates the attitude towards use of mobile banking but not intention. Moreover, their focus was not to validate TAM in this context rather see which factors affect the adoption of m-banking. Therefore, they conducted a survey and studied the factors of attitude towards use, perceived usefulness, perceived ease of use, subjective norm, perceived behavioral control, facilitating condition, perceived security risk and perceived integrity. After testing each hypothesis through statistical measures, only four of these factors were seen to significantly influence m-banking use intention in India – attitude towards use, perceived usefulness, subjective norm and perceived integrity.

### 2.8 Trust and confidence in m-banking

In his study, Egger (2000) pointed towards trust as a vital factor when it comes to customer’s adoption of e-commerce. E-commerce in specific can be conducted over PC, mobile, PDAs etc and thus trust comes into play in all of these modes of usage. He shed focus on the B2C channel where it is important for the benefits to outweigh the negative risks for the users to actually become regular customers. He did point out that previously designing trust factors were left out by HCI developers for improving usability, interactions etc. But the current ICT
environment and its fast-paced development lead to lot of risks for people online which need to be addressed. Therefore the author comes up with a revised model of trust from e-commerce where six major components were identified, which was then categorized under 3 broad terms. They are Pre-purchase knowledge (which assumes users to have an idea of the vendor’s reputation from various sources), Interface properties (boosts familiarity and attitude of the trust design which can be conveyed from the graphic design, usability, navigation etc) and Informational content (which contains the low risk, better transparency and reliable cooperation from the vendor). Based on this the author proposed that focus should be shed on the graphic design, navigation and structure design and content design if trust is to be boosted in e-commerce platforms.

Lee & Benbasat (2003), in their study on m-commerce, pointed out couple of important issues that inhibit users from using mobile based commerce. Despite the obvious advantages, m-commerce has not been diffused among customers to a significant extent. The authors point users’ limited attention span to be a major issue and therefore, proposed that an overhaul of m-commerce interface design should be done in order to eradicate this barrier. They point out a common mistake developers do, which is copying or closely following the existing e-commerce interface and placing it in m-commerce platforms. Regardless of how successful the former has been, for valid reasons, this will not suffice because the mobiles have different screens, size and use. Hence, the authors posited 7 elements of m-commerce interface design which, if implemented, should increase the adoption rate of mobile base commerce. They are context (where the pages are linked well and can be navigated), content (the information, multimedia, offering etc being provided), community (users’ ability to connect to nearly customers), customization (how service are being particularly channeled to a specific user), communication (how the website and the user interacts), connection (linkages between external sites) and commerce (ability to safely pay and conduct purchase/sale).

Realizing the importance of trust in digital environments, Zeng, Zeng & Guo (2005) also conducted a similar study to identify the relationship between risk, trust and its connection to e-commerce. The end result was a trust mechanism proposed by the authors that they hoped would help reduce the customer perception of risk and other problem while using e-commerce platforms in China. They posited that risk is always the prerequisite of trust because if there was never any issues with trade and communication, trust wouldn’t be required in any context. More so in digital environment, where lots of factors are not in the user control, trust is extremely vital to conduct business activities. The authors highlighted that two types of trust exists in an e-commerce context – for technology where technical safety if considered primary and non-technology where more abstract topics come into play like ethics and policy etc. Finally, the authors proposed a trust mechanism where four factors were identified that influence risk and raise trust in an e-commerce settings. They are technical protection like firewalls, encryption etc., national law where the government passes laws regarding online business activities, moral norms through education in ethics and moral behavior and prestige where companies are encouraged to build their reputation as a trusted vendor by leading through examples.

A more particular study was conducted into trust in the context of mobile banking by Kim, Shin & Lee (2009). They mention that the initial trust is an extremely important phase if organizations are to ensure customer adoption of their products or services. As mobile banking is the topic at focus, trust is crucial because information, money, privacy and other vital components are at stake. Thus, the authors conducted a statistical analysis of surveys
they conducted among Korean bank users. They have been actively using bank accounts but do not use mobile banking. In order to study these users, the authors proposed four components of trust – structural assurances (where firms provide guarantees, protection, refunds etc), relative benefits (where the firms provide more value through their offerings as compared to what is existing), personal propensity to trust (how much are people willing to trust the firms) and firm reputation (how well are the firms known for being trustworthy and good). After having developed and tested the hypothesis, the results showed that structural assurances, relative benefits and personal propensity to trust are the most influential factors that moderate the user trust in mobile banking in Korea. Firm reputation however had no significant effect.

From trust, I come into an interesting realm of confidence that was emphasized by Wong & Hsu (2008). Though seemingly similar, the authors here focused on the adoption of mobile commerce through the Technology Acceptance Model (TAM) which focuses on ease of use and usefulness of an innovation in order for it to be accepted. However, they argue that the TAM model, though widely accounted for in adoption literature, is not complete enough to predict adoption behaviors of users. In context for m-commerce, they spoke about the 5-step decision making process customers go through – need recognition, information search, alternative evaluation, actual purchase and post purchase evaluation. In order for this process to be diffused within the users, the adoption of mobile commerce is a pre-requisite. Therefore, the authors proposed a confidence based framework for m-commerce adoption where they extended the TAM to add psychological factors namely, personality-based confidence (the ability of one to trust and have confidence in other parties), history-based confidence (the previous knowledge of the other party that users will be dealing with) and institution-based confidence (having faith in the protection and guarantees of the company). This in combination with ease of use and usefulness factors is more successful in predicting m-commerce adoption behavior of customers.

2.9 Service innovation framework

In an interesting study about M-PESA, a mobile money transfer and payment service launched in Kenya, Wooder & Baker (2012) studied the key lessons that have been learnt from this extremely successful project and how they can be utilized and applied to service innovations those are to come in the future. Kenya, being a developing nation, has a huge population that is outside the folds on financial services. In order to bridge the gap, Sagentia, Vodafone, Safaricom and other companies came together to design and test this project initially and then implement it on a full scale. According to the authors, the whole pilot project was based on a service innovation framework, which guided them towards what needs to be done in order to successfully implement M-PESA. The components of this framework are creating value, delivering value, capturing value, defending value and sustaining value. Ultimately, the authors point out that understanding of user need, keeping the features simple, leaving scope for flexibility within the business model and ensuring user participation are the key takeaways of the implementation of M-PESA.

As can be seen from the above literatures, many of the studies done are based on predetermined resistance and adoption factors from prior research. Though these are important to see which factors play vital roles, my study will be different as I would seek to locate these potential resistance factors from the participants’ comments, discussion and interviews. I believe this process makes the study more personal, allowing lot of space for the participants to say what they truly think are the reasons. In addition to it, I have also not seen any similar
studies being done in the context of Bangladesh, which is in a way surprising because the country has a huge mobile user base with growing mobile internet penetration. It could be highly possible that the resistance factors applicable in other studied countries differ significantly from Bangladesh’s perspective, due to its geographical, cultural geopolitical and demographic difference. Additionally my research work will be different in this way by focusing on young students and recent graduates who are perceived to be technology-driven, a group that has received less attention in the existing m-banking resistance literature. Young users can be valuable change agents and if their resistance factors can be dealt with, they can champion m-banking diffusion into other groups as well.

2.10 Conclusion

In the literature review section, I highlighted a wide range of theories, concepts, framework and factors that are relevant to the study of mobile-banking resistance factors. Given that the topic is dealing with resistance towards a technological innovation here, lot of interesting frameworks like TAM and Service Innovation Model in the context of mobile phones seem quite relevant. Also, important issues like security, trust and confidence also plays a vital role in understanding the usage of mobile phones for banking purposes because it deals with very sensitive aspects like private information and money. Additionally, theories like innovation and technology resistance and interesting issues in the likes of information and e-lifestyle in the context if mobile banking usage gives a well-rounded understanding of the current research happening into the factors of m-banking resistance and also some implications of what is missing in the field.
3 Methodology

In the methodology chapter, I will be covering the technical sides of this thesis in terms of empirical setting, methodology, paradigms, data collections and analysis etc. These provide a solid blueprint of the way which I have to follow in order to find concepts/factors that answer my research questions. In order to go that way, all the subsections below have to be understood and kept in mind during the course of this thesis. These will allow me to stay focused, remain within scope and be consistent throughout the work.

3.1 Research strategy and paradigms

Upon my extensive literature reviews, I have noticed that a wide range of methodology and methods have been used by the authors. Furthermore, I have also taken inspiration from how they have approached their target audience and conducted the study smoothly. The various types of methods that were used by the authors also gave me a good idea about what sort of techniques would match well with my study.

This research’s success lies in the fact that I will be going right to the source, which is the participants, and finding the most relevant resistance factors towards m-banking. As a result, I will be undertaking the qualitative method. Maxwell (2008) pointed out that performing a qualitative research can be justified only if it is compatible with important factors like the research question, goal and the data collection methods (p. 7). Given the study is exploratory in nature and seeks to answer complex humanistic questions like ‘why’ and ‘how’, Marshall (1996) stated that qualitative approach is the most suitable way as it allows space for a lot of comprehension and understanding (p. 1).

Furthermore, qualitative research is also useful in my thesis because the aim is to be exploratory in nature and therefore, try to answer the research questions through the knowledge, experience and reality of the participants. Myers (1997) points out that human are different from the natural world because they have the ability to talk and make sense. When they talk, it also allows the researcher to understand the cultural and social settings within which the participants have lived and grown (p. 3). This adds a valuable dimension to qualitative study because the whole phenomena can now be studied instead of just quantifying it which may allow the data to lose its richness.

Having justified why qualitative study fits this thesis best, I would like to mention 5 inherent components of such types of studies. As stated by Maxwell (2008, p. 3), these 5 steps are:

a) **Goals** – This talks about the importance of the study and why is it being conducted. In addition, it also seeks to know what end results could be expected and why would it be worthy of the reader’s time.

b) **Conceptual framework** – Here the researcher seeks to understand what is going on with the issue that is discussed earlier and what sort of previous theories, studies, literature and research have already been done to address this issue at hand.

c) **Research questions** – This part looks to address exactly what does the researcher want to study. These questions provide a solid guideline to perform he next steps in the research process because it depends on what the questions seek to answer. Moreover, it also gives a
reader overview of the whole work, allowing making an initial understanding of what to expect in the study.

d) Methods – This technical part talks about what techniques and approaches is the researcher going to perform in order to gather data to answer the research questions at hand. Also, it is important to address how the data will be analyzed.

e) Validity – Finally it is important for the researcher to ensure that the data being collected and used are not wrong and are not misinforming readers. So validity checks have to be made through various methods to ensure that authenticity prevails.

From the above list, the goals, conceptual frameworks and research questions have all been mentioned and justified earlier. In this section, I will provide detailed description of the methods and validity strategy that will be included in this thesis and ensure that the overall methodology is of good quality, relevant and productive.

I will be placing this study under the interpretive paradigm. The research here is meant to study reality from the participants’ perspective and find out why m-banking have been resisted by them. This means that realities would most likely be different from person to person and that is mediated by their senses (Scotland, 2012, p. 3), which is a fundamental focus in this particular paradigm. The researcher working under this paradigm always have to access and understand participant’s interpretation and then inject their own subjectivity to draw a conclusion (Walsham, 1995, p. 4). Furthermore, Walsham (2006) provided important suggestions regarding doing interpretive research for new IS researchers. He mentions choosing a style of involvement, attaining access, accumulating field data and etiquettes if working in a different country (p. 2). Keeping this in mind, I would like to choose the role of an outside researcher who would conduct interviews and focus groups and get original views of the participants instead of becoming too invested as it might cause them to hold themselves back. Moreover, according to Walsham (2006), social skills are extremely important in interpretive research and something researchers should always try to develop. (p. 3). Additionally, Walsham’s (2006) advises on knowing the culture, politics, community etc (p. 4) of the country the study will be conducted fits in well with this study because I will be focusing on Bangladeshi students. Hence, pre-knowledge about the country and its context gives me a solid foundation to engage with the participants to gather valuable data. In addition to it, as I will be conducting the data collection from Sweden, my stay in Sweden and awareness of its culture and research practices would really help me to do a good thesis.

3.2 Data collection

The research will be conducted between early March and mid April 2016, as potential participants have some convenient free time during this period to contribute to this study. Primarily the idea is to look to find out why these students have not used m-banking in spite of it being present and what factors resist them from doing so. The student group, in general, is expected to be technology-savvy in nature because of their interest and passion for innovation and newly-introduced products and services. However, it hasn’t been the case in the context of m-banking in Bangladesh, which can also be perceived as a technology innovation. Hence finding those factors will be significant contributions towards this study.

The main pre-requisite would have to be that they have never used mobile banking before to become a part of the study. In addition to it, I would also be looking to access those students
who are Bangladeshi-born and have resided in the country for a long time, regardless of where they are during the time of the study. The idea behind setting these pre-determined factors is to ensure uniformity to a certain extent and maintaining cohesion and relevance to this thesis topic at hand. Therefore as a result, it can be described as purposive sampling because I have a clear idea about which people needs to be accessed in order to answer my research question and where to find them. On the other hand, diversity would also be maintained through participation of Bangladeshi students who study different fields, have different ages and professional aim/background and may reside in different countries at the time of the participation. This will help me find an interest edge and understand factors from various angles, all the while contributing to the research question.

3.3 Interviews

I will use use interviews and focus group techniques in order to complement the paradigm and research method and as methods to collect the data to answer these research questions. Semi-structured interview questions will be developed which will allow the smooth exploration of the research question from various angles, leaving space for extended discussion. Interviews are an integral part of qualitative research because it allows the researcher to gather meaning of the participants’ own experience and belief. Seidman (2013) makes a similar point by saying that the focal point of interview research is the interest the researcher should have in the story of others. Stories come from life experience and could be the valuable source to gather data for studies (p. 5). Technically speaking, however, there are 7 steps provided by Kvale & Brinkmann (2009) that should be adopted in order to successfully conduct a research interview. They are thematizing, designing, interviewing, transcribing, analyzing, verifying and reporting (p. 5). Following these steps, qualitative researchers can ensure that a smooth interview has been conducted and relevant data has been analyzed and collected. There is no strict number of participants that have to be interviewed according to Kvale & Brinkmann (2009). It all depends on the research question, aim and ultimately the researcher. However, on a more general note, a range of 5-25 participants can be interviewed (p. 10).

The interview will be conducted on 12 participants, taking an average of 45 minutes, who were previously informed about this study, its purpose, source and goals. This was done at least one week prior to their mutually-determined interview date. Once they had agreed to take part in it, they were also given another reminder about it couple of days before the interview and what they can expect. All of the participants were Bangladeshi by birth and student or recent graduate by profession, which were pre-requisites for being a part of this research. However, all of them are presently residing outside Sweden and hence, Skype was used as a channel to conduct the interview and make it interactive. A calm and quiet room was chosen with all the required facilities in order to ensure a smooth conversation between the interviewee and me. Initially I had a normal chat in order to break the ice and build a quick rapport. These was an attempt from my side to ensure that the participants have built some sort of communication with me and are willing to open up and answers the questions at hand. I believe this will provide me with the best of the answers possible and assist me in answering my research questions. All the interviews were done smoothly without any withdrawal. In the end, some of the interviewees also commented that they enjoyed it and are open to further interviews if needed.
3.4 Focus group interviews

A focus group will be conducted under proper rules and regulations in order to extract the maximum relevant data for analysis. All required materials like paper, pencil, sound recorder, time tracker, food, gifts (if needed) etc will be arranged in order to create a relaxed and informal environment for the participants. I would like to conduct a face-to-face focus group instead of a computer-mediated or internet-mediated one. Although the difference between these three modes, according to Underhill & Olmsted (2003), is not that significant in terms of the quality, quantity and uniqueness of ideas but computer- or internet-mediated focus groups tend to go more off topic compared to the face-to-face ones (p. 7). It also tends to produce more words, which, I believe will be crucial in my study because it’s a qualitative research and significant expression of participant experience and thoughts through more words is crucial for the success of this study. Kitzinger (1995) provided some insight into how to ensure focus groups being are being conducted the correct way. She emphasizes on the fact that homogeneity of participants can be a good start but it should not limit their diversity. This would provide a rich understanding of people’s shared experiences, offering valuable insight. (p. 2). This also complements my focus group aim as well because I will be ensuring uniformity through the fact that the participants are all Bangladeshi students but at the same time, maintain diversity because these students have studied different courses and worked in different industries previously.

The focus group, taking almost one hour, however was conducted on the Linnaeus University campus. The participants were 3 students who currently studies at the university but previously have been students in Bangladesh. Hence, they were also eligible for taking part in this data collection process of the research thesis. Moreover, I preferred for a face-to-face focus group instead of the one mediated through internet because it’s much more easier when physical interaction is present in a context where lot of thoughts, arguments and even debates arise from the participants at quite random times. Furthermore, other reasons to choose this form of focus group are also justified in the previous section. In order to create a good environment for a discussion, a quite room was chosen with the required materials needed to facilitate the focus group. For instance, a voice recorder, paper, pens, some snacks etc. were few to say the least. Moreover, there was another person who assisted me in the facilitation by taking down small notes during the focus group. He was not a part of the group itself but was present in order to help me moderate and conduct the discussion fruitfully. The voice recordings, after having transcribed, along with the notes that were made were used as the foundation to conduct the data analysis process. Overall the participants said that they enjoyed contributing to the study.

3.5 Data analysis

As I am dealing with qualitative research in this thesis, and through the organizing of interviews and focus groups as modes of the study would result into the culmination of lot of textual data. As a result, the methods of quantitative data analysis would not be applicable here for many obvious reasons. In order to make sure that I perform quality analysis of the data collected, it will be good to follow certain procedures advocated by Lichtman (2013). She provides a very good description of the stages involved in analyzing data after having started with the methods.

It has to be pointed out that both my interviews and focus group will be based on intensive discussion, which will produce lot of words and of course, textual data. The qualitative
method will be applied in both the cases, and therefore the procedure of data analysis would also be the same in both methods. The steps that Lichtman (2013, pp. 11-15) mentions are as follows:

a) **Preparing and organizing your data** – It is usually a good idea to record the conversation and discussion during these methods because it will be nearly impossible to write down all the important points in a fast-paced environment. This also allows the researcher to go back to the data whenever required, making it more convenient. The authors also suggest writing down all these recorded discussion, known as transcribing, in details in a format that can be easily read and understood. It can be in certain MS office software or paper, though the former option is better. If this is chosen, however, it is advised that the researcher saves a copy of it in another drive or physical device in avoid it from getting lost.

b) **Reviewing and recording your thoughts** – The author also proposes that reviewing the recorded or transcribed work time to time can really help the researcher think and focus on the goal to achieve. Also, it helps to locate the type of data or result the researcher is looking for. Making some notes on the new thoughts that just appeared in the researcher’s mind can dating them could also help in the later stages of the analysis.

c) **Coding, categorizing and concepts (The 3Cs)** – Lichtman (2013) six subsidiary steps that are involved in the whole 3C process. They are mentioned as follows:

i) **Initial coding** – During this initial stage, the researcher has to read the phrases or paragraphs thoroughly at a time and represent the whole idea of it through using few words or collection of words. In case working in a MS Word, the comment section can be used to mark the important sections and attach a code to it. Once a section is done, continue the same process for the rest of the transcripts.

ii) **Revising initial coding** – In this stage, the researcher basically improves the initial coding step with more concrete codes. The author advises the researcher to re-read the initial codes and look to remove the ones that are redundant or ones they deem unnecessary. In addition to it, renaming of the initial codes, making synonyms, clarifying terms etc can be done at this stage.

iii) **Initial listing of categories** – After having worked out the codes in the previous step, the author now has to arrange these codes into categories. This means that the spread of codes now has to be brought under seemingly likely topics that describe that group of codes well. It highly depends on what codes are there and therefore no straight-cut categories are available.

iv) **Modifying the initial list** – The iterative process, as the researcher did in step 2, continues here too. The lists of categories are now modified through more revision. New categories can be added whereas some can be subtracted if felt redundant. Two similar looking categories can also be combined for instance. In this way, the list can be made more coherent and relevant to answer the research questions present at hand.

v) **Revisiting categories** – In this step, the author advocates that the researcher goes back to the categories and try to remove anything that is not strictly relevant to the topic or research question at hand. It often might seem that all these categories are
important and hence, disregarding any of it might lessen the quality of the work. Here is where the researcher should apply sounds judgment and strictly decide what is important and what is not.

vi) From categories to concepts – Finally it is where the researcher is needed to define concepts. These are the meanings that one attaches to their data and codes. These concepts are the original findings of the data analysis stage and are a foundation to the overall analysis and discussion part which will follow soon after. There are no certain numbers of concepts that have to be developed but keeping it in the range of 5-7 well-defined ones can do the job. The author says that reading and re-reading the data would help the researcher to make richer meaning of their data and hence, develop good concepts. Another way could be to also take inspiration and information from the literature reviews that have been done earlier to help in this process.

3.6 Validity and reliability

As my thesis involves interviewing students as participants and conducting a focus group, it is highly likely that a lot of data will be produced. These data forms the heart of the research because it would help me analyze them and in turn answer the research questions that have been presented earlier. In order for these data to culminate into authentic and proper results, it is highly important to ensure that it is reliable and valid. Golafshani (2013) pointed out that in qualitative research, is it vital to ensure the trustworthiness of the data being collected and analyzed (p. 7). This will ensure the reliability, which is now becoming more popular within qualitative research, as previously compared to quantitative research. On the other hand, Johnson (1997) came to the conclusion that in order to ensure validity, it is extremely crucial to ensure there is no researcher bias (p. 2). It happens when researchers just find what they want to find and write what they wish to write. This limits the work in many research aspects and hence, limits exploration and understanding of textual data.

Therefore, to ensure validity and reliability, few factors have been pointed out by Shenton (2004) which can help us keep these important issues under check. They are credibility, transferability, dependability and confirmability (p. 2). Below I will discuss how I have attempted to meet these steps in my thesis to ensure the trustworthiness of the study.

a) Credibility – The author points out that, at first step, it is important to ensure the credibility of the data being collected. In other words, the phenomena under study being conducted by the researcher has to be authentic and true in nature so that it presents a clean transparency for the readers and other researchers who may continue to work on it. In my thesis, I will be using triangulation, as proposed by Shenton (2004) and Johnson (1997), as a way to ensure proper credibility of the work. This basically means to cross check information gathered from various sources. If the sources are closely linked to one another, it can be confirmed to be quite credible. Johnson (1997) also posits the likes of data triangulation and method triangulation as components of the wider term of triangulation (p. 2). In my thesis, I will be conducting interviews and focus groups with various students coming from different background and living in different places. Moreover, peer reviews on my thesis would constantly be done by my supervisor and examiner through various meetings and seminars in order to ensure that my study is going in the authentic and valid direction.
b) **Transferability** – Here the author proposes that the work should be possible to be applied to another setting. In this way, the work’s strength can quality can be understood. If it can be justifiably applied to another context, then it means that the work is generally good. However, it can be difficult to actually do this because the possibility of transferability highly depends on the reader. Nevertheless, I have compiled my thesis in a way where all sections have been identified, justified with proper literature backing and detailed information have been presented on methodology, data collection and analysis part. Therefore, I am positive that other readers and researchers can find my work transferable.

c) **Dependability** – The author posits that the research work in question should have the materials to be repeated by someone else. Though this is difficult to ensure as it highly depends on the potential researcher, however, I have detailed out every step that I have taken and backed them up by academic literatures. The work is also supervised by seasoned mentors who have intensive research experience. Therefore, I am positive that the work presented in this thesis could be repeated again any another person or researcher.

d) **Confirmability** – Finally, the author states that it is extremely vital to ensure the outcome result to be free of any bias or partially on the side of the researcher. The actual findings must be presented authentically and is a very important criterion to ensure the reliability and validity of the work. In my thesis, from the very beginning, I have tried to ensure that I do not personally get invested in the interviews and focus group. As an outside researcher, I have only engaged with participants to an extent that allows me to maintain the un-bias nature of my work. Furthermore technically speaking, I have used triangulation as a process to see whether my data and information collected and finally the results produced are in close proximity to each other. Above that, with guidance from my seasoned mentors, I am confident to maintain a neutral position and ensure confirmability.

### 3.7 Ethical consideration

In order to perform qualitative research, it is important for me to take into consideration the various ethical aspects in relation to it. As participants are sharing important insights and information, it is paramount that the researcher has the right set of skills and knowledge in order to handle such studies or else it might harm the participants and wrong results might be culminated (Aguinis & Henle, 2002, p. 51). Thus I will be making sure that the participants are given the proper clarification on the study, the types of data being collected and what will be done with it. Moreover, it has to be ensured that if anyone opts to drop out of the study, they will be free to do so. In addition to it, no extremely sensitive data will be collected that might make the participants uncomfortable. Miller et al (2012) also reiterate that the researcher must negotiate with the participant before starting the study and follow any limit that has been set through mutual discussion (p. 94). Hence, I also plan to sign informed consent forms from the participants, which will clarify the purpose, method and use of the data collected from them. This will help to ensure transparency and agreement from both sides. Overall, I would follow the ethical guidelines to my very best so that all the stakeholders involved are satisfied.

### 3.8 Conclusion

With the analysis completed, I would provide a thorough presentation of the results that have been culminated as a part of the research process. This is where I will show what was explored, how I explored them followed up by an insightful discussion about it. The expected
results are likely to show why students in Bangladesh have not been very keen in adopting the m-banking services despite of it being available in the market. This will be a unique addition to the innovation resistance literature as no prior study, according to my finding, had been conducted in the context of m-banking in Bangladesh with a focus on students, who are actually technology savvy is nature and are expected to be early adopters of a new technology. Apart from that, I will be able to provide some crucial implications for the main stakeholders like banks, IT designers etc. who can use this study to improve their process and policies to stimulate the adoption of m-banking. Few other future research possibilities would also be identified that could be built on this study and conducted to enrich this domain.
4 Empirical Finding and Analysis

In this chapter, I will be presenting the findings that have been collected over the past few weeks. In order to answer the research questions, two methods were used – interviews and focus groups. The methods have produced lot of data that I had to organize and analyze according to the steps mentioned in the previous section. The steps, all qualitative in nature, produced hundreds of codes, which were then categorized into various similar-themed categories. These were then finally transformed into concepts/factors which explained the categories in an effective manner to concretely answer the research questions. Lot of caution was maintained in order to ensure quality work as much as possible through having a sound environment for conducting the methods, ethical declaration to the participants about the purpose of the research and the data, avoiding extremely personal and sensitive questions and the freedom to withdraw participation whenever possible.

I noticed that the interviews and focus groups were reaching a point of saturation where the major issues that are being addressed by the research questions were coming up more frequently during the methods. This was a signal towards the possibility that all the main issues have been pointed out and thus can be used to move forward in the research process. The major concepts/factors that I have worked out, according to each of the question, have been compiled below in tables to make it look more integrated and clean. Beside each concept/factor are the categories which were put together to reach the former. I have also decided to put down the concepts/factors in phrases instead of just a single word because it conveys much more meaning and makes it easier for the reader to comprehend the whole issue at first sight.

4.1 General findings

In my questions, I have tried to capture as much solid information as possible to allow me to present a good demographic picture of the respondents. This is important because it would allow the readers to grasp an understanding of the people who are involved in the study, their background, what they do etc. Such insights can also help the readers to relate back to the concepts/factors that I have found and even apply these research procedures in other similar contexts. It is good to mention that I will henceforth use the total participants number as 15 (12 for interviews and 3 for focus group) and present results accordingly.

One of the questions asked was about the usage of technology in general and is there any sort of technology that the respondents like. A total of 14 participants specifically pointed out smart phone to be their most favorite technology and something that they like using. The area of usage was extremely diverse, from playing games to managing emails to checking weather updates, which showed that they love the numerous functionalities of this particular device. Only one participant stated the preference for laptop over smart phones. Hence, the figure is extremely skewed towards the positive outlook on smart phones.

Talking about their education background, 10 participants mentioned that they are currently pursuing their Masters degree. Majority of them were studying in Bangladesh whereas the remaining of them was studying abroad. 4 participants stated that they recently finished their Bachelors degree and are either looking for job, applying for Masters or have just started working at an entry level position. 1 participant mentioned that he is applying for his PhD outside Bangladesh. These figures go on to show that I have successfully managed to gather
participants within the scope of this thesis, the objective of which is to study Bangladeshi students and their lack of usage of m-banking.

Another question also addressed the different banks which were used by these students up till date. 6 participants stated that they use services of the Dutch Bangla Bank Limited (DBBL), 3 participants said they used the City Bank services, 2 respondents mentioned the use of Marcentile Bank and 1 participant each of Janata Bank, IFIC Bank, Eastern Bank and Islami Bank. Each of them differs significantly from another in terms of how long they have been using their bank account. Hence, I have taken this opportunity to calculate average years of their bank account usage. The result is 3.7 years.

Having collected the bank names, a following question asked them about their satisfaction level of their individual bank services. The results showed that only 4 participants were satisfied with their bank services, 4 participants were clearly not happy about their bank services and remaining 7 of them had a mixed reaction. The reasons varied from person to person but the major talking points included the issues of customer services, presence of bank branches, variety of services etc.

4 main categories appeared when one question asked them about the channels through which they use their banking services. 4 respondents said that they usually use the ATM in order to conduct their withdrawal, deposit and other transactions. 9 participants mentioned that they physically go to the banks and conduct their banking services. Finally 1 participant each mentioned using cheque books and using online banking as their preferred mode of banking. These go on to show that most of the students usually go the physical way of handling their banking activities compared to going digital. And this also reinforces my research questions and justifies my purpose of this thesis.

14 participants stated that they have never used mobile banking before. Only 1 participant said that she tried it just once or twice maximum and not more. Hence, I have decided to include her in the study as well because to be termed as a regular user, one must have to use it much more frequently and that too for a long time. So overall, all the 15 participants have no knowledge of m-banking usage in BD and I will move forward with this final deduction.

Finally, asked whether they would like to use m-banking in the future in Bangladesh, a total of 12 respondents replied positively. They said they are looking forward in excitement about using an m-banking system in their life and how it handles their financial services, given all the required conditions are met. These conditions range from security, trust issues to infrastructure and policy making. Only 3 participants had mixed reaction on whether they would like to use it in the future but did point out that it highly depends on if the m-banking system is reliable and improved enough to be used. Interestingly, no participant said they would not want to use it. This goes on to show the significant potential m-banking has in the future if a good environment for its use can be developed by the relevant authorities.

4.2 Research question 1 – findings and analysis

In Table I, I present the identified concepts or factors related to research question 1. Each concept/factor, as earlier mentioned, is stated in a phrase rather in a single word in order to convey better meaning so that even any non-academic person can read and comprehend the overall idea. The format which I will follow is: -
Research question 1 → findings → analysis of the findings to answer research question 1

I believe such format will make it easier for the reader to propagate through the whole thesis, helping them to focus on one question at a time, read its findings and finally understand the analysis and how it answers the question, supported by various quotations. Also, I have preferred putting the empirical finding and analysis part together in attempts to maintain a better integrity of the writing and reducing redundancies and repetitions. A logical flow will be possible in the proposed format, assisting in maintaining clarity in the writing.

The following is the research question 1, followed by the findings and its analysis.

1. Why has m-banking not diffused well into the Bangladeshi market?

<table>
<thead>
<tr>
<th>Concepts/Factors</th>
<th>Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Influence of BKash system</td>
<td>• SMS-based system</td>
</tr>
<tr>
<td></td>
<td>• Popularity of offline services</td>
</tr>
<tr>
<td></td>
<td>• Dumb phone still in demand</td>
</tr>
<tr>
<td>2. Poor marketing of m-banking</td>
<td>• Low marketing investment</td>
</tr>
<tr>
<td></td>
<td>• Alternate channels popular</td>
</tr>
<tr>
<td></td>
<td>• High focus on other services</td>
</tr>
<tr>
<td>3. Very low merchant acceptance</td>
<td>• Businesses not comfortable with m-banking</td>
</tr>
<tr>
<td></td>
<td>• Change management issues</td>
</tr>
<tr>
<td></td>
<td>• Low confidence of merchants</td>
</tr>
<tr>
<td>4. Poor internet infrastructure</td>
<td>• 3G network still not good</td>
</tr>
<tr>
<td></td>
<td>• Accessibility problem</td>
</tr>
<tr>
<td></td>
<td>• Internet charges and systems are not good</td>
</tr>
<tr>
<td>5. Low literacy on technology</td>
<td>• Poor literacy rate</td>
</tr>
<tr>
<td></td>
<td>• Lack of technology awareness</td>
</tr>
<tr>
<td></td>
<td>• Low education in technology</td>
</tr>
<tr>
<td>6. Lack of faith in banking personnel</td>
<td>• Staffs have access to sensitive information.</td>
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<tr>
<td></td>
<td>• Possibility to steal data</td>
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<tr>
<td></td>
<td>• Lack of transparency of staffs</td>
</tr>
<tr>
<td>7. Poor legal framework</td>
<td>• No cyber laws</td>
</tr>
<tr>
<td></td>
<td>• Digital crimes are not monitored</td>
</tr>
<tr>
<td></td>
<td>• Low protection from government in digital world</td>
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</tbody>
</table>

4.2.1. Influence of BKash system

The BKash system is a very popular payment method which had been launched by BRAC Bank Ltd. in Bangladesh few years back. The way it works is that BKash has lot of verified agents in many locations around the city who have money or credits loaded into their mobile phones. When a person A, for instance, wants to send money to person B, he goes to the agent, pays him the amount he wants to send and the agent tops up the destined mobile phone
with the credit. Person B then can head to any BKash location and take out the money in cash form. What makes it even better is that any individual can own a BKash account and can conduct any transaction through it. All they have to do is get registered into the system at a designation BKash service center. Apart from person-to-person transactions, person-to-organization payment can also be conducted like paying bills, rent etc.

BKash also had the advantage of being early into the payment market in Bangladesh. Given that this form of payment works on any version of phones ranging from dumb to smart, it has successfully captured the market because still a large section of the population do not use smart phones. Apart from that, this system is SMS-based, which makes it technically less complicated compared to smart-phone based mobile banking. Any normal mobile phone user is used to sending SMS and hence, would not have to go through a large learning curve which will be the case with m-banking. Here is a view on this matter from a participant –

“I would say BKash is better, which is offline system, is better because I can just simply feel more comfortable. With an m-banking account you then receive a lot of sms for these transactions” – Participant 2

This statement goes on to show that the BKash system has successfully managed to create the condition where people simply find it more easy to use without any complication attached. This image had allowed BKash to hold on to a big market of transactions which often is also accepted by many shops, outlets and merchants. Given that it just requires a simple registration with negligible amount of cost, more users are inclining towards this system. Apart from that, the BKash system is an offline system which creates another advantage over the m-banking as people, especially ones with very limited income like day-workers, labors etc., would not have to subscribe to internet packages. That is simply because they might not have the luxury to maintain a smart phone and also attain internet data packets. Hence they would prefer going with an option that is easy, cheap and convenient and do not strain their budget. Such flexibility would always beckon people to use the cheaper and easier option, which BKash provides and readily reject the method of modern m-banking.

These reasons in collaboration have created a strong brand for BKash system which people seem to be happy to use. Additionally, if an easier system like this is present, people will most likely reject an innovation simply because they are not used to the way it is supposed to work and not aware of the benefits it possibly brings to the table. As a result of this, m-banking has been missing out on the opportunity to enter into the Bangladeshi market which is pre-dominantly dependant on the BKash system of transactions. Changing a complete usage behavior seems to be a challenge and would take a lot of time and effort on the part of numerous stakeholders, ultimately discouraging its acceptance among the people.

4.2.2. Poor marketing of m-banking

The marketing of m-banking by the banks have been significantly low, as have been found from the collected data. Due to this lack of awareness, people in the Bangladeshi market have not been aware of such services and even if they were, they do not know how to use them or what its positives are. As a result, m-banking has not successfully defused here. Here are some excerpts from the participants –

“Do we have m-banking in BD?... I don’t even know about this” – Participant 13
“...Banks don’t encourage people or advertise their m-banking services too much to the people. Most of the time their brochures or ads are about loans, deposits, insurance and other main services. So you don’t see much of m-banking things” – Participant 6

“May be it is to do with the availability to the people. May be most of the people now have smart phones but they are not really aware of the m-banking service present in our country” – Participant 9

“Awareness and marketing these are issues.” – Participant 15

“...Then heavy marketing is required to spread the advantages of m-banking over other services to the people. They can use billboards, TV ads and other channels and talks about the convenience and also disadvantages to the people.” – Participant 4

As can be seen from the statements above, especially from participant 13 and 15, it’s a quite straightforward problem. They realize well that they were not aware of this service being provided by their banks and hence, have never thought about trying it. On the other hand, participant 6 highlights an important point as to why such marketing has been absent. Banks have loads of other financial services that they provide and have much higher number of customers who use those services. Due to this, a larger proportion of their operating profits come from services such as loans, deposits, insurance etc. It is quite likely that banks, therefore, will spend their marketing investment into sectors that will make them the most money. So it is very common to see heavy marketing on these services and not into something such as m-banking. Though banks realize that m-banking is the way to the future and is a platform to reduce their costs, they are not taking the step forward to go all out into the marketing of this services as they are not confident of its success in the short run. Furthermore, due to the significant level of competition in the financial sector in Bangladesh, short term losses can result into losing out on a lot of customers as the latter have a strong affinity to choose from a large pool of banking services that are convenient and cheaper.

Additionally, other transaction channels like pay order, ATMs or even physically walking to the banks have been quite popular among the Bangladeshi bank customers. As they are accustomed to conducting banking transactions in mostly traditional methods, m-banking have not been able to make a place for itself among that usage behavior. Participant 4 also suggests some options through which banks can market m-banking to their potential customers. Billboards, TV ads etc have been to say the least and this implies towards mass marketing of this service through both physical and electronic media. Many of the participants informed us that they have been however approached by their banks to use m-banking services but that was on a very low scale. It was usually when they visited their banks to conduct transactions, the staffs have normally proposed them to check out their m-banking services but no further attempts were made to actually transform them into potential users. Hence, a lack of interest was also noticed on the bank’s part. This attitude translates into fact that the banks are happy as to how things are running and if anyone additionally wishes to use the m-banking, then it can be a bonus benefit to them. This mentality has marginalized m-banking to the very side whereas the traditional way of conducting financial services remains largely at the central focus. This is also one of the prime reasons why m-banking has not been able to penetrate into the Bangladeshi market.
4.2.3. Very low merchant acceptance

One of the other strong reasons why m-banking has not diffused into the Bangladeshi market is because merchants, institutions and businesses have not taken the step to accept it and use it in their day-to-day transactions and financial activities. A large proportion of the businesses in Bangladesh are quite used to doing work the manual way. These are companies that have not changed much since the digital era and since internet has entered Bangladesh. They have developed a network and work standard in such a way for years that it is difficult to change that now, which would require a lot of effort, time and resources on the company’s part. Then there are another chunk of companies that have embraced technology quite well and integrated them into their work processes since the very inception. This makes their position in the market a bit competitive because they have been trying to serve their customers in a much more efficient and quick manner. In the current times, businesses are realizing that improved and unprecedented ways of conducting financial services could be an effective way to reduce operating costs. However, the issue is that businesses are still stuck with the common and formal method of conducting their process or handling their financial matters. Very less strides have been made to accept new forms of innovation, m-banking in this case, which could be used to handle their transactions. As a result of this, normal users are also not being pressed to accept this m-banking service as well. If the merchants don’t encourage its use by taking it up themselves and making opportunity for their stakeholders to conduct business with them through using it, the clients or normal customers will not use m-banking simply because they don’t see the need for it. Let’s see a few comments below –

“…They need to do more partnerships with merchants and other stores to make it possible…Like my university, only takes pay order or takes cash. So if I needed it, then I would have taken it. But I don’t you see” – Participant 2

“But in Bangladesh, you cant buy so many things online if you think. Like you cant order pizza and pay by m-banking in Bangladesh as an example. So you don’t really need it. Banks will have to take that initiative and the businesses and merchants would also have to take that initiative as well.” – Participant 13

These quotes very clearly states that need of businesses and various other relevant organizations to start using m-banking to conduct their transactions. These institutions can act as very significant change agents because in that case, their clients and customers will be prompted to try it simply because they are now required to do so. The activities can start off with very simple transactions like paying of bills to the distribution authorities, transferring college tuition fees to the university account through m-banking, making payment for home orders to the restaurant’s account etc. Once the small transactions have become popular among users, next steps can be taken to integrate larger and more complicated transactions in to the m-banking system.

Furthermore, another reason that quite apparently has barred m-banking diffusion in Bangladesh is the fear of the change management process. The reason is that companies find the whole changing process a difficult one for lot of reasons – starting from lack of infrastructure to even lack of interest. Though that is not exhaustive, but change management processes usually can be slow and require a lot of attention from the senior management team who has to take the lead and help the innovation become integrated into the company. Placing m-banking into central focus to handle all sorts of financial transactions of the company can face a lot of resistance from within the company itself, despite its advantages being quite
apparent. Hence, management teams may not be too willing to expend time and effort to install m-banking as part of their modernization process and becoming more digital, so to say. If the change process was any easier then, it might have been possible to see gradual changes but suddenly moving to an alternate option for transactions might come as a shock to different people working within the organization. The mentality of ‘just do what is working’ is pretty obvious in the case of these companies. So this is another reason why m-banking has not been readily accepted by them and hence, not diffused into the Bangladeshi market.

4.2.4. Poor internet infrastructure

One of the most important requirements of m-banking usage is the presence of internet connection in the smart phones. For obvious reasons such as connecting to the bank’s private network, maintaining security, authentication and identification process a good internet is a pre-requisite. However in Bangladesh, though 3G is the latest network, internet connections have not been too widespread. Mainly in big cities like Dhaka and Chittagong one would find the presence of a decent level of connection. In the introduction section, I had provided figures that most people in Bangladesh use their internet in their mobile phones. Though this is true, the figure is only around 54 million which is just 1/3rd of the whole country’s population. Hence this regional divide in the penetration of internet is another primary reason why m-banking has no diffused well in the country. People dwelling in major cities receive moderate data package services but once they are out in rural areas or villages, the level of connection significantly drops barring them from using important activities like handling transactions through m-banking. A participant during focus group puts it this way -

“I would also like to add that in Bangladesh still the internet services are not good and proper. And internet is not available to everyone, though we say that we are going toward ‘Digital Bangladesh’... So you will also have to see how are these people actually using mobile internet. It is only for FB purpose. Though I am not student of IT but what I understand for using FB you don’t need that much internet. Even if its very slow, it will still work. But for m-banking, you will need a much better internet connection and slow will not work. Like you are trying to pay someone and if you will have to hold on for 10 min, you wont do it. Its risky and you wont do it.” – Participant 13

This portrays the problem quite well. Internet packet subscribers in Bangladesh usually conduct their social activities through it like Facebook, Instagram, Watsapp. These simple and common apps don’t really require a strong internet connection because users are usually always logged on and are less worried about losing their social information online. Hence in case the connection breaks and shows error, people have alternative ways to access their accounts, for instance through laptops or friend’s mobile phones. But when it comes to using a sensitive m-banking app to access bank details and transactions, users can be very apprehensive about it because they are not very confident of the internet data packets that they use. Other participants put it this way -

“So they don’t do it because they don’t have the internet package for it. Usually people take limited option for data packet and that might not support deeper, more intense apps.” – Participant 2

“And also the m-banking, I mean if it is related to internet a lot then that’s also a problem.” – Participant 8
Hence, it is quite interesting to see that Bangladeshi internet users are fully aware of the fact that the internet infrastructure is not well established everywhere. So if one is not able to use their m-banking at any place and at any time with full stability due to poor internet connections, then it defeats the whole purpose of using this service in the first place. Furthermore, the cost of attaining a good internet data packet is quite high. It might repel off people who extremely limited income and the ones who would even want to try it. Better services come with high price tags and that also adds to the problem of not having a widespread network of good internet connections for people to use sensitive apps regarding m-banking. Hence, it complements the issue of m-banking not diffusing in the Bangladeshi market. However, few years ago the Government of Bangladesh has envisioned the ‘Digital Bangladesh’ aim which will place the nation within the list of technology-developed countries. This can be a starting point for us to see if the overall infrastructure of internet connectivity improves and brings more people under the umbrella of m-banking in particular.

4.2.5. Low literacy on technology

Bangladesh being a developing nation has still to go a long way in order to attain full literacy across the country. A large proportion of the country’s population who are illiterate and among the ones who are officially literate, many of them lack certain knowledge in the field of technology in general. This lack of knowledge can be attributed to low academic education in the field of science and technology and even low practical understanding of how technology works. Many people in Bangladesh who have recently adopted using smart phones or have learnt using other forms of devices such as computers or laptops do not have good confidence in themselves to conduct banking transactions through mobile phone. Moreover, it is quite apparent that many people are also not aware of how banking activities take place and what are the various processes involved, despite of the fact that they probably conduct lot of banking activities physically. As a result of this, it will be quite difficult to relate to banking through mobile devices for apparent reasons, especially when the transactions happen behind the screen and one does not have much control over it physically. Such psychological reasons can also aid to the lack of understanding of technology which leads to the lack of diffusion of m-banking in the country. Here are some excerpts –

“...In Bangladesh many people do not have good smart phones or cannot use smart phones properly. So just because of the lack of these knowledge, many people avoid this service or not aware of the different functionality of the mobile banking. If you wish to use m-banking, then these people need to know how banking works. So that’s one thing.” – Participant 5

“...I want to add that not all users are students. They can be farmers, they are driving rickshaw etc. So they don’t have that level of education. So I know a lot of them using FB even though they are not educated. But for m-banking you will have to have some education. If you don’t have that, then you cant expect those people to use m-banking” - Participant 13

“So that can be one reason...not having like wide knowledge about how to use m-banking in the cell phone.” – Participant 9

These quotes show that technological awareness in Bangladesh is a slow developing process. People do not really take the time and effort to read up on, try and use new and upcoming technologies. Hence that mental blockade exists where they are always uncertain about using something like m-banking service. That is mainly due to the shock of using something completely new and not knowing its consequences. Mainly it comes from the lack of
knowledge because people are not seriously taught about it through means such as books, magazines and newspapers. It is left upon the efforts of the users to learn it themselves, grasp the functionalities and try it out. Such scenario leads to a very slow acceptance of new technologies, especially m-banking in my case. From a similar perspective, the issue of having the academics play a role in the diffusion of m-banking came into discussion. Below is an interesting thought -

“I think the govt. should add this m-banking service in school or colleges or universities through educational chapter or courses. So that will be a good way to educate students and creating further awareness for this service.” – Participant 14

It shows that people realize the importance of being taught about new technologies even at educational institutions. They can be included in chapters, assignments and fun extracurricular activities where students get to learn about and try m-banking. In surroundings where teachers and peer friends are present, the fear of uncertainty of a new technology will diminish, enhancing the acceptance rate and diffusion into the society. Not to mention, educational institutions are where the knowledge comes from initially, only to be improved upon later in their lives by applying them in different contexts. Hence, one of the prime reasons why m-banking has not diffused well in Bangladesh is mainly due to people not effectively knowing how to use this service, what are the dos and don’ts and what are in pros and cons. Lack of such awareness is further preventing people from using it.

4.2.6. Lack of faith in banking personnel

This is one of the most interesting issues pointed out by many of the participants. One of the reasons why m-banking has not diffused into the Bangladeshi market is because the bank users don’t really have faith upon the institutional employees, mainly the ones to manage and control the system. Here are some quotes from the transcripts –

“…I think it has do to do with the people. I mean people who are working with m-banking. Because when many users of m-banking lost their money and after the analysis it came out that some of the employees related to this services were involved in the crime. So its surely a trustworthiness issue. It is also because these people know all the IP address and other server address so if it’s not trustworthy then m-banking will not be safe” – Participant 5

“First of all the banks need to hire expert professionals so that they can design and develop a good and efficient m-banking system for the banks and the users.” – Participant 6

The quotes very clearly states the lack of trust normal users have on the banking personnel who are handling the m-banking services. One of the reasons is that Bangladeshi bank users are very used to physically handling the money. They go to banks quite often to conduct their banking transactions then doing it virtually through internet banking. This happens mainly due to the habituated practice and lack of technology acceptance in these contexts, that too for a long time. Physically handling of their transactions, getting paper receipts for all the work that is done, physically seeing their money being safely stored in lockers etc. give the users a sense of security and safety of their hard-earned money. Hence, now with the proposed advent of m-banking that can virtually complete all transactions through just a few clicks, virtual receipts that show up on the screen and numerical figures that show how much money one has in their accounts would make the users little uncomfortable and make them feel that they do not have much control over their financial matters – simply because they are
not seeing things that happen behind the screen. This usually makes them feel that anyone may be able to just ‘get in’ and steal their money, especially the ones who control the whole system and know very well how much money one has. These people, in other words, are the banking personnel or more precisely, m-banking development and management team. The users are under the perception that these employees have the capacity and accessibility to these sensitive m-banking related information which they can misuse.

This situation is further reinforced by the recent Bangladesh Bank hacking incident that stole million of dollars of national reserve. The onus has fallen on the certain individuals within the Bangladesh Bank who were responsible for the authorization of these money transfers. Without their permission or biometric authentication, such large sum of money would not be possible to move away from the Federal Reserve. Hence, this has created a stir within the financial sector of Bangladesh and normal people have quite seriously taken this issue into consideration. After all, these reserves are formed due to the millions of dollars of remittances that Bangladeshis residents send from abroad. Having this money stolen is something that will not bode well with the normal people, who trust the banks to actually protect their money. As a result of these incidents, the faith in banking personnel has taken further dip and unless some strong counter-steps are taken to improve that image and ensure people that m-banking systems will be safe, I see the diffusion of m-banking to be quite difficult under the present circumstances.

Furthermore, these incidents have clearly indicated that the people at fault are still free and not tried under court of law for the money heist crime. The lack of accountability on the banks for their employees is a shock to the normal people – another reason why they have not been able to trust their employees to handle such sensitive information of m-banking. This gives the users an understanding that financial crimes are not being punished and so, there is no guarantee that if such incidents happen with the m-banking system the money will be found and returned back to their owners alongside trying to culprits at court. So this lack of transparency is an issue that is blocking the diffusion of m-banking in Bangladesh as well.

4.2.7. Poor legal framework

Following up with the problem of untrustworthiness on the banking employees who handle m-banking system and manage all the stored sensitive information, the lack of legal framework has been pointed out as another important issue that has slowed the diffusion of m-banking in Bangladesh. A respondent has put it this way –

“...The fact that in Bangladesh, every second people come up with different ideas to commit fraudulent acts of varying degrees, problems will always be there & with Bangladesh’s lack of legal frameworks, they will mostly go unpunished.” – Participant 12

This goes on to show that Bangladesh has a lot of loopholes in its legal system where people can commit crimes and get away with it. The problem with this issue is further worsened if the digital or cyber crimes that happen in the country are considered. The Bangladeshi government has not yet concretely devised any law that keeps the people safe in terms of any loss that might occur in digital scenarios. M-banking, given its dependence on internet and virtual connection to the bank servers, might face a lot of problems in terms of hacking threats. Such services also don’t allow the people to see their money physically and therefore, having no idea regarding what is happening to it is always a deterrent towards using the service. With the recent advancement in technology and how computing has become cheaper
and more accessible to people in every location, hacking and stealing money online or from secured systems are not far-fetched anymore. As there are no laws to look after these problems, people are naturally repelled from using m-banking.

“I think for the greater interest of the whole economy, govt. should have to come forward and should create some situation so that people are encouraged to show their interest for this service...So from that perspective also the govt. should come forward and develop the infrastructure, create the situation and make them interested.” – Participant 15

“Ya I mean the govt. should give more importance to security.” – Participant 14

As can be seen from the above quotes, a lot of comments have brought the responsibility of the Bangladesh government under light. Thus, it is a common sentiment in the country that the government is not doing enough, at least in the cyber and digital space, to protect people’s assets and money. Due to this particular reason also the banks are not being able to confidently promote their m-banking services because they are aware of the skeptical views that the general populace bears. All these factors add in to the reason why m-banking has not diffused well into the Bangladeshi market.

4.3 Research question 2 – findings and analysis

In Table II, I present the identified concepts or factors related to research question 2. Each concept/factor, as earlier mentioned, is stated in a phrase rather in a single word in order to convey better meaning so that even any non-academic person can read and comprehend the overall idea. The format which I will follow is:

Research question 2 → findings → analysis of the findings to answer research question 2

I believe such format will make it easier for the reader to propagate through the whole thesis, helping them to focus on one question at a time, read its findings and finally understand the analysis and how it answers the question, supported by various quotations. Also, I have preferred putting the empirical finding and analysis part together in attempts to maintain a better integrity of the writing and reducing redundancies and repetitions. A logical flow will be possible in the proposed format, assisting in maintaining clarity in the writing. The follow is the research question 2, followed by the findings and its analysis.

2. What are the factors that cause Bangladeshi students to resist m-banking usage?

<table>
<thead>
<tr>
<th>Concepts/Factors</th>
<th>Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Security problems</td>
<td>• Poor technical safety</td>
</tr>
<tr>
<td></td>
<td>• Vulnerable system</td>
</tr>
<tr>
<td></td>
<td>• Low assurance on security</td>
</tr>
<tr>
<td>2. Lack of trust and awareness</td>
<td>• Unaware of benefits</td>
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<tr>
<td></td>
<td>• High safety issues</td>
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<tr>
<td></td>
<td>• Poor technical preparedness</td>
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<tr>
<td>3. Cultural restrictions</td>
<td>• Family supports students</td>
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<td></td>
<td>• Lack of income</td>
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<td></td>
<td>• Financial issues not handled by</td>
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<tr>
<td>4. Poor student banking regulations</td>
<td>students</td>
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<td>-----------------------------------</td>
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</tr>
<tr>
<td>• High cost</td>
<td></td>
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<td>• Constant salary requirement</td>
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<tr>
<td>• Restricted transaction amount</td>
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</table>

<table>
<thead>
<tr>
<th>5. Inability of minor payments</th>
<th>students</th>
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<tbody>
<tr>
<td>• Large payment possible</td>
<td></td>
</tr>
<tr>
<td>• Students make small payments</td>
<td></td>
</tr>
<tr>
<td>• Not accepted everywhere</td>
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### 4.3.1. Security problems

Majority of the respondents have in many ways pointed out the issue of security in the current m-banking system in Bangladesh. They simply do not have the courage to handle and transact a big chunk of their money through smart phones because the physical movement of money is invisible. This contradicts with their years-old habit of just going to the banks for any personal financial work, which gives a strong feeling of control on their accounts, money and transactions. The advent of m-banking, where process take place virtually, hits back at those old habits and hence make it difficult for users to break their status-quo, come out of their usual way of doing things and accept the new innovative way to bank. One main reason for clinging to that status quo is security because the users do not seem to be confident in the banks’ ability to keep their money safe online. Rather the notion for physically storing and keeping money safe is more widely accepted. Here are a few excerpts from the transcripts –

“Another reason is security. May be there might be security issues like having the transaction done over the app. So taking it as a threat I am not sure if it is really secured or not so that’s why I do not consider using it.” – Participant 9

“Students are not really liable to use m-banking because as I told you that there are threats around security now-a-days...Basically the problem has arisen with the security issues and that’s all” – Participant 7

“I mean you need...security and you need skilled, high technology so that it can make your systems secure.” – Participant 8

As from the comments, it is quite evident that the students usually consider the banks to be very responsible of ensuring security standard of the m-banking system. The banks are the ones that plan, design, develop and implement the system, through their IT teams. As a result, the onus is usually on them in case of anything going wrong. Furthermore, the students who have been conducting banking activities for a very long time are also quite aware of the fact that Bangladeshi banks have not really improved their IT infrastructure and system in the past years. Of course, there have been modifications but it would not be comparable to a European or American bank for example. Hence, there is always a perception that not-so-modern technology used by the local banks will not be able to keep m-banking safe from non-authorized access or criminal activities. This perception is quite strong and adds significantly to the fear of security among the students. Additionally, these young students are well aware of the modern changes in the landscape of technology and therefore, can make an educated assumption regarding the inability of the security infrastructure of the local banks.

Moreover, it has also to do with communication on the banks’ part as well. Following below is an interesting quote from Participant 5 -
“...But the communication and guidelines for using bank account and information about security were not that good.”

“In my upcoming vacation when I am going to Bangladesh I will surely try it. It would be not really for any financial reasons or transactions but its kind of a mix to try and analyze the system and how far it has improved and its problems. So yes I have interest to check it out. Also I want to check how far it has gone in terms of security issues and server issues etc.”

As can be seen above, it is clear that the banks are not taking the issue of communicating the security measures for the m-banking system at hand. It might be possible that they have invested and set up a good infrastructure that ensures financial transaction through smart phones but have not been able to inform the general users about it, especially the students. As students are tech-savvy in nature, such effort to communicate the security standard would actually be welcomed by them as they can understand when the banks are explaining their measures. Furthermore, banks have also never come forward to also allow students to try out the m-banking for free and that too with risk insurance. In such ways, the technical pointers to ensure good security could be shown to them, to be allowed to try and test it and then make a decision for themselves – but such initiative has not been taken. As participant 5’s interest in trying out the app shows, there might be many other similar students who want to actually use it by hand and feel comfortable about the features and other security functions installed by the developers. I understand that this bodes well with the lack of marketing problem that is highlighted in the research question 1, where the banks are paying too much of their marketing attention towards the traditional methods of banking and not m-banking or its security in particular. In order to make the students feel safe about this system, the banks actually have to show them that it is safe and explain the various risk management techniques they have undertaken to keep their money away from potential hacking threats. As discussed in the research question 1, the recent issues of the Bangladesh Bank money heist, which is the central bank of Bangladesh, adds to the very low acceptance of m-banking among students, it is mainly the financial organizations that have the power to change that negative image and prove that adequate steps have been taken to ensure better security measures and safety of the users’ accounts.

4.3.2. Lack of trust and awareness

Following the security problems, the students also seem to be quite low with the level of trust in the m-banking system. The major reason that has come up to be the driving factors behind this is the recent money heist incident at the Bangladesh Bank, which is the central bank of the country. The quote below states the same –

“...Before that people...did trust some of the banks in Bangladesh. But now-a-days the problem is that there are too many hackers and other stuffs that they are really afraid of.” – Participant 7

“...May be students may not rely on the banking system...so trust is an issue.” – Participant 10

“It also seems to have ways where you can break it easily and so chances of you being ending up losing some cash to someone who has better technology or ways to bypass the system. This has created a lack of trust in it.” – Participant 8
As it can be seen, the hacking incidents in Bangladesh have made the people, especially student who understand the nature of technology in general, more skeptical about the m-banking system. If secured systems like the ones in the Bangladesh Bank can be hacked, then banking through normal smart phones is surely more widely prone to these attacks. Banks have also not taken enough steps to gain the trust of the users. This also plays into the hand of slow acceptance of m-banking. Bangladesh Bank has not yet been able to try the culprits and re-design the whole security measure of the remaining Federal Reserve money. If actions as such are not taken, users will not be convinced to use m-banking in regard to the existing vulnerability issues. Trust, as I have found, also relates to the previous experience students seem to have with other similar m–banking system. Below is a quote –

“First of all I am not sure if the technology is advanced enough. But I did use m-banking when I was in the UK but in Bangladesh local banks I am not too sure if the quality of the service is good. I don’t actually find it trustworthy and not really convenient to use. Main thing is that I don’t find it reliable.” – Participant 6

With prior exposure to m-banking, usually for a very short stint, a very interesting yet valid comparison can be made by students to argue that the system in Bangladesh are not that convenient and reliable to use. These difference in quality and trust factors make them not use m-banking in Bangladesh because they have the perception that it won’t be able to match up to the standard of the m-banking services in another country. So it is also a matter of lack of confidence in the local system and how things are run differently. Furthermore, as earlier discussed in the issue of lack of faith in personnel, the trust factor also takes a dip simply because users find the people handling the system as unreliable. Though one can argue that banks follow a standard procedure to hire employees but that is not enough to reaffirm to the users that they will be honest in all means. To add to the issue, there is no moderating authority in the middle that oversees these appointments and ensures that the process has been transparent and integrity has been maintained. Hence it is normal for the users to not have that trust in the people managing the m-banking system.

“I also think banks should be more flexible about it and as they said before, they will have to have more marketing for this. I mean they will have to let people know about the pros of this m-banking service as there are many people in Bangladesh still who are not aware of this service.” – Participant 13

On top of this, banks also have not been successful in propagating the benefits that result from the usage of m-banking. Alongside obvious advantages such as 24/7 availability and freedom of location, there are other positives too that might work well to attract students to this system. The banks till now have focused most of their efforts in getting and retaining users into other financial services that they provide and so less importance have been given to m-banking. If they are adamant to reduce operating cost and raising profits, transitioning to the wider usage m-banking system is of paramount importance. This will allow banks to curb their physical operations where they are not needed, employ appropriate number of employees to get the job done and transform many of their important services to be adaptable on mobile phones. With that vision in mind, the banks need to make efforts to create further awareness of this system, teach the students how they can benefit and at the same time, understand what the users need in terms of functionality and features requirements. It is also important for the banks to understand which will be the right places to approach students and how to approach them. Here is a suggestion –
“I think the banks should go to the students first and let them know about their service to offer it. I think it’s a matter of making people aware first about all the benefits that they would be getting from this service. That is the best way to make the service popular. Although I don’t know how difficult it is from m-banking perspective, I mean what type of software and procedure are there and other things that are involved. So as a student, I would want the banks to make me aware of them first and then other things can follow.” – Participant 15

In addition to the poor awareness issue, there has always been anti-marketing against innovations such as m-banking through smart phones. In Bangladesh, there are certain numbers of groups who oppose the injection on such service into the market. They can be mainly organization or rival companies who already have an established business ecosystem that runs through other channels or the SMS-based system called BKash. Also, there are companies who are directly and indirectly related to the alternates of m-banking. Growing popularity of this service can be a sign of warning for their business as they may lose out on customers and have to relinquish market share. Participant 15 again puts this into perspective in an interesting way –

“And there is always rumors in Bangladesh and it’s a very good place to spread one so we are not aware. It may be a propaganda of the competitors who are against m-banking. They always spread rumors like its not secured, its difficult, you have lot of issues etc. So this issue can cause people to stay away.”

“The oppositions are spreading lot of lies and propaganda that the banking system is not secured and it will definitely take time but somehow, the authorities like govt., telecom providers, finance ministry etc. all have to come forward to make people convinced that they are safe.”

Hence it can be seen that negative marketing has been silently playing a part in the lack of trust and awareness issue as well. Users, especially students, have been swayed away by these criticisms so they have not really taken the step to actually try out m-banking service or champion it to others who are not aware of this too. These negative marketing has had a double effect and so the relevant authorities have to put in lot of planning and execution, with the help of the local government authorities, to sort this out and create a positive image of m-banking and how it can make lives convenient for students and other normal users.

4.3.3. Cultural restrictions

From most of the responses, cultural restrictions have been seen to be a prominent reason why m-banking has not been accepted by students in Bangladesh. Predominantly Bangladesh has been a very conservative country with almost everyone following a religion, around 95% of which are Muslims. So in many ways the country has been following its own way of doing things and not influenced much by the western or European world. This spreads across all spheres of life from home to office, academics to work, history to traditions, rituals to practices etc. Additionally Bangladesh has a very collective society where the decisions, thoughts and opinions of close ones are quite important when it comes to doing something. May it be personal or professional space, people usually tend to seek advice from seniors, ride on their experience, respect their instructions and execute as told. Such togetherness forms a very strong foundation for the Bangladeshi society. The reason why I mention this is that such scenarios play an extremely important role in people’s lives when it comes to making a decision regarding anything.
Nevertheless, this plays a vital role in the acceptance of m-banking in the country, especially on the part of students. Parents or elder ones of each family are seen to take responsibilities of the dependant ones, in regards to living, finances, well-being etc. They always pay for what their young ones need because they take it as their duty. It usually comes out from their position of being a senior member of the family and therefore, the other members are expected to respect that and live along. However, as parents or elder ones pay for everything that a student needs ranging from their pocket money, living expenses, education etc., the students therefore don’t need to start using m-banking simply because there is no need of it. They are always given cash money in their hand for whatever the reason might be and they are expected to carry it out and inform their parents or elder ones of it being completed. So there are factors of dependency and accountability of what the young students can do with the money that is given to them. As a result of this, a very private and independent system like m-banking will not fit into their way of life because it might go against how things have been going in their family for years. Here are some excerpts from the transcripts below –

“The thing is that students don’t really have responsibilities of money transaction...I can say that almost 90% of them are dependent on their parents for these money aspects. My dad usually send me like 3 times per month but someone might send for like just 1 time. So at max there can be only 3-4 transactions a student might have which is quite less. So its usually the family that is responsible for students’ financial issues.” – Participant 1

“One of the factors is that, as a student you dont really get to do the transactions yourself and that you are also not too accustomed to it. Most of the time the parents pay for your money, give you cash and even if you need to use it, they do it manually.” – Participant 6

“Yes there are certain factors that hold students back from using m-banking. Some factors are: ...Parents do not inspire to use it.” – Participant 11

“In Bangladesh so far I know the students...we receive money from our parents and it is not by banks and most of it was by cash. It was mainly for monthly expenses and other things. So they are not used to it.” – Participant 15

As can be seen above, parents usually pay a significant role in taking care of all the expenses of their children, regardless of their age, which creates a culture of dependence on the parents. Hence, students don’t really have the scope to use m-banking because they carry out specific tasks instructed to them by their parents, the money for which is also given to them by their parents and so, a service like m-banking which gives one the flexibility to transact anything from anywhere, using it 24/7 and saving time is not really required in the first place. Moreover, as a participant above mentioned, the parents themselves don’t use m-banking, which if they did, might have influenced their children or dependent ones to use it as well. But due to the lack of participation from parents, the students do not also have the audacity to go beyond their parents’ financial practices and try it out themselves. That is the cultural restriction which is holding back the diffusion of m-banking service among students.

Another very important cultural factor is that students are not expected to work while they are pursuing their studies. In Bangladesh, it is a very common practice of the parents to be extremely serious about their children’s education at all levels. From school to university and also beyond, parents oversee their children’s academic progress and do whatever it takes to ensure its continuation. Hence, university-going students also do not usually get the
permission to work while they study, even though they are fully capable of and this in turn still keeps them financially dependent on their family. The parents are mostly under the impression that working while studying will hamper their academic progress which will distort their future possibility of getting a good career and of course tarnish their image in society. Furthermore, parents want to ensure that their children do not do anything wrong, fall in bad company or go into wrong channels and so there is a lot of control they exert on the financial independence of their children. They always tend to keep tracks of where their children spend, how they spend it and what they spend on. As a result of all this cultural reasons, it makes more sense to complete ones university degree, attain a certain level of maturity in terms of handling money and then start working towards a career. Since the students do not work while they are still studying, they do not have the privilege to earn their own money and spend it according to their will and therefore, something like an m-banking do not come into the picture. Here are few comments on this issue –

“*In Bangladesh’s context, you don’t see students working while they are studying. Even if they work, you usually see other people like parents and relatives providing them for their tuitions. This is actually more popular thing to do. I have been to Norway once where I saw students working in different places but that isn’t the case here. So I would say that they don’t need an m-banking account and that is not really in our culture here as well in a way if you see.*” – Participant 2

“*Students are with limited finances and they do not have or use much money from their living expenses payment as you know.*” – Participant 5

As can be seen from above, the culture of not working while studying has been one of the main reasons behind students’ continued dependence on their parents for financial reasons. Such cultural trend will be hard to go against but there are always exceptions. There have been some cases in where students do get to work while they are studying but that may be mainly due to the family’s inability to pay for their expenses. Lot of limited earning families face this problem and often might be obliged to send their young ones to go work but even in that case, the use of m-banking would always appear as a luxury service to them because survival instinct comes into play on their minds. Moreover the money that they would make will be mainly needed to meet their necessary expenses and not be spent behind attaining a smart phone and maintaining an internet package and do financial transactions the modern way. It simply would not suit their standard, way of life and their immediate needs. So all in all, these reasons sum up why cultural restriction is one of the most significant reasons why students don’t use m-banking.

4.3.4. Poor student banking regulations

There are couple of reasons that put up this point as a significant one. First of all, the banks in Bangladesh are not really accustomed to catering their services for students in general. The services they provide have lots to do with normal banking customers who are laborers, working professionals, businessperson and people who are well established in society. Students don’t really fall into any of those categories and hence have to comply with lot of rules, regulations and policies that were setup for non-students in the first place. One such factor is the cost of maintaining an m-banking account. Usually Bangladeshi banks charge a certain amount as a service fee which is deducted as part of maintaining that account. Though there is nothing wrong in it and almost all the banks do so, but the amount charged are usually targeted to those major groups of users who are established in their lives and are not
studying. Hence they can afford to pay those charges as opposed to their income but students would find this amount to be quite big if seen from the perspective of that limited financial availability I spoke about earlier. This applies to the m-banking case as well because there will be charges students have to pay if they use it. So as they do not have that amount of money to use for them, it would not make sense for them to actually acquire m-banking service and use it. These charges are quite expensive for students because they do not have much anyway. Here is a quote about it –

“Normally in Bangladesh for instance students get 5000-8000 taka per month in general from their families. So if they need to pay 500-1000 taka just for bank charges then it’s not going to work out.” – Participant 13

“Even DBBL has this type of services like 500 taka charged in order to open a bank /ac if you are a student.” – Participant 14

The above excerpts show that comparatively a high amount of charges are made by banks to open the normal bank and m-banking accounts. It must, however, be kept in mind that the above figures are not exhaustive and vary significantly from student to student. They are presented by quoting the participant and just gives an idea about how the charges work. As these costs are proportionally higher compared to what students actually get from their parents to spend, the m-banking usage therefore has not taken off simply due to how expensive it is to maintain from a student’s perspective.

Another very similar issue related to the high cost is that students in Bangladesh mostly don’t work while they are pursuing their studies. I have discussed this in details in the cultural restriction issue earlier but the whole point is that the m-banking policy in Bangladesh is not tailored for students who do not have an income. The banks require the students to have a constant level of salary or income in order to open such accounts else they might not be able to maintain it and there will be very less to no use of it. Absence of a constant inflow of income disallows the students from not being able to open m-banking accounts, simply because they do not earn. This is also pointed out below by Participant 3 –

“...The policy for opening m-banking a/c for students is quite difficult. You usually have to show a certain amount of deposit or further, even a continuous income in order to get permission for that account.”

“Moreover, if you look at the user base in Bangladesh and the people who have the capacity to actually have income and open accounts, they are usually senior or experienced citizens they often don’t use technology much or m-banking in particular...Then, the young population are quite tech savvy but for those policy restriction and conditions from banks they cannot actually open one.”

If the banks can take steps to make it easy for students to attain m-banking accounts, then I can expect a positive increase in diffusion of the service. They have to understand and judge the student’s financial conditions and develop relaxed policies and regulations which do not repel them away. In this way the diffusion pattern can be changed for a start.
4.3.5. Inability of minor payments

Another reason quite relevant to the previous issues of high cost and lack of working opportunity is the inability of the m-banking service to be able to allow small payments. The m-banking that exists in the country and from the small amount of people who have used it state that only certain amount of transactions are allowed to be carried out through m-banking. Any amount below that level will not be authorized through m-banking. One of the primary reasons is that there are costs involved per transactions that the system owner, or the banks in this case, have to pay. Whenever someone make a payment or conducts a transaction a cost is incurred similar to the costs that incur when payment is made by cards at different stores. As a result, banks would find it expensive to authorize small and minor payments. On the other hand, students are the big majority that usually makes small payments. That can be eating while hanging out with friends, going to cinema, travelling to another location etc. Regardless of the case, they would not be transacting a big sum of money and that is exactly what goes against the policy of the banks. As a result, such functionalities which allow making small payments are not really involved in the m-banking system, further discouraging students from accepting it and using it. Here are some comments on this issue –

“I think things need to pick up in a way that it facilitates small transaction. If you only talk about big sum, like 10000 taka, its not actually for feasible for students. It’s not marketable that way. If I can pay for my meals and small expenses then as a student I would be interested.” – Participant 2

“There are lot of students who will use m-banking is its made a bit more convenient like recharging money into mobile through their m-banking etc. These types of small services will get more students.” – Participant 4

“These are a group that would like to just spend their money and not use m-banking. They would just like to spend here and there and whenever they feel like. So they don’t really keep their money in banks and hence go for m-banking.” – Participant 7

As can be seen from the above excerpts, students therefore want to pay small amounts simply because they do not have a job of their own and their parents always give them a limited amount for their expenditure. So assuming that they will be allowed to spend it as they like without much accountability, they would still do it by cash simply because the m-banking functionalities are not designed to allow minor payments. This issue in turn is reinforced by the other businesses, stores, merchants who do not accept m-banking payments due to the high cost per transaction as was earlier mentioned. These businesses therefore play another significant role in the slow acceptance of m-banking by the students. Owing to the fact that they are not encouraging small payments, the banks also follow the same footsteps where they think it’s no use to allow small payments through their accounts because no merchants are willing to welcome it anyway. Hence this cycle continues and students don’t find any cue or strong reason to accept it and use it, leading to the continuation of the resistance.

Apart from these concepts/factors that answer the research question, I have also come across couple of unique factors that were presented by the participants and were also evident from the data analysis stage. The factors are different in ways that they can likely fit both the research questions and explains them from a very different angle. They are as follows: -
Mugging problem – In Bangladeshi streets, usually there are a lot of small, minor crimes. Though this can be common to many metropolitan cities around the world, the frequency in Dhaka, the capital city of Bangladesh for instance, is quite high. Usually, the muggers and small criminals target young office or university going people who have the tendency to carry smart phones more so than the older group. These smart phones can be expensive with lot of functionalities and if sold in black market, would fetch a good sum. These incidents usually take place in quite corners or dark streets and literally during anytime of the day. However, if one is careful and avoid such places, such unfortunate incidents can be avoided. Nevertheless, this is a problem that has been persisting for years now and therefore explains why one would not be willing to keep sensitive details and data on their phones. If m-banking apps are present then naturally, many would want to keep those confidential login details on the phone somewhere safe which they can access whenever they need instead of writing them down on paper and carrying it everywhere. Under these circumstances, if the mobile phone gets mugged then these information would fall into unauthorized hands and can be misused by anyone. Another closely related problem with this is the possibility of identity theft. Students and other people often keep a lot of personal information saved on their phones which can readily be accessed if it falls into wrong hands. With these information, certain people can pose to be the original owner and perform illegal activities through their banking details. So as it can be seen, there is no clear cut solution to this problem as it exists and will probably continue to exist for years to come. Hence, even though students use smart phones, they would not want to get into the deeper trouble of losing their banking details or other sensitive data related to m-banking through getting their phones mugged. Thus this acts as a barrier.

Absence of partnership with e-commerce industry – E-commerce industry in Bangladesh is on the rise now. With the gradual development of the infrastructure and flexible policies by the various state authorities, many opportunities are arising for people to start off their own business online. New entrepreneurs are coming up with their new ideas, which are nurtured and funded by relevant authorities and business incubators. E-commerce has been gaining this unprecedented popularity because it is comparatively easier to start up in terms of time, money and effort than physical businesses. The regulations are also much more relaxed in their case which makes it easy for aspiring young entrepreneurs to enter the scene. However, with this rise, there is a significant opportunity for the buyers to purchase products online with ease. They can be at their home, offices and cars and still surf these sites and find what they want. This allows for a massive prospect for the banks to sign deals with these sites to make payment possible through m-banking. Usually, they have normal payment gateways where payments are made through entering the details of credit or debit cards. In addition to it now, the possibility of m-banking payment to make these purchases mean all the required work can be completed in one single platform at a much lesser time. Therefore, the lacking of such initiative from banks are blocking off the opportunity for people to actually use the m-banking service and see its benefit for themselves. If there is no adequate incentive for students and other mobile phone users to use m-banking, then they would simply not take the step by themselves. Moreover, it would also be a good opportunity for the banks to find partnership opportunities with these e-commerce firms and generate a new source of revenue and also support mutual growth. Hence, this factor can be a useful way to increase m-banking acceptance in Bangladesh.

Getting help from close-ones – This is another interesting point that came up during the two methods conducted and also during the data analysis phase. Some of the participants mentioned that their families or they themselves often ‘outsource’ help in a way as someone does the financial work for them. This often happens through a known person or house-help
who is quite reliable and trusted by the family members. As they are mostly busy in their own daily life and schedule, they hand over the banking work or other financial-related activities, which requires lot of time and physical presence at the bank location, to someone they completely know and trust. This is mainly so that they can focus their time in other activities. Such person can be a close friend, personal assistant, house-help, relative etc. They are usually authorized by the user to the banks and hence are permitted to carry out the work that is entrusted to them. Furthermore, if required, they are often given a small payment for their help. If a closer look is taken, it is again the factor of trust and reliability in action in this context as well. As a result, services like m-banking are not readily used because people already tend to have some sort of help in assisting with their banking transactions, which are quite reliable and they can easily hold them accountable if something goes wrong. The small payments that they receive can be seen similar to the cost of maintenance of an m-banking and so both can be seen interchangeably. In Bangladesh’s case, the help is preferred more than using an unknown technology simply out of the fear of uncertainty. Therefore such prevalent practices are also barring m-banking services from diffusing into the country.

4.4 Conclusion

In the conclusion of this section, I want to point out that I have presented the empirical finding of the interview and focus group methods here. A description was given about the methods, how I went about it and what are the data that was collected. This gives the readers a good overview of the situations the participants were in and what happened as a result of that participation. Then I have also provided some personal data about who the participants were, what they do currently, the education that they have pursued and couple of information regarding their banks, bank accounts and service experience. This provides the readers with a picture of the respondent’s background and their interaction with banking services in general. After that I have taken the opportunity to design the presentation of the findings and its analysis in a way that I believe will suit the readers well through uniformity and cohesiveness. Hence, the research question 1 was mentioned first, the concept/factor findings related to this question were presented in a table and then followed by the analysis of those concepts/factors one by one, supported by quotes from the participants. The same procedure was followed for research question 2 as well to maintain smoothness in the writing. The analysis was done with the best of my abilities, backed by various quotes and information found during the data collection phase. Overall, the concepts/factors that were found answering both the questions were seen to be quite related to each other. That is the nature of the study, exploratory in my case, which allows participants to express various views differently, resulting in a wide range of categories and concepts/factors. These were quite clearly presented, in a phrase instead of a single word, in order to ensure that non-academic readers can find it easy to understand the findings without having to read the whole thesis or understand the underlying literature or methods.
5 Discussions

In this chapter, I will be discussing the various concepts/factors that were presented and analyzed in the previous sections in terms of the different literature reviews that have been done previously. The literature reviews will be used to shed further light into the concepts/factors and discuss it from various other angles. The discussion would include these concepts/factors that has been proved and presented before by researchers, which ones were uncommon etc. Furthermore, some other unusual concepts/factors were also found during the data analysis phase which rather fits both the research questions but at the same time, were quite uncommon. So they have been discussed separately. Additionally, I would discuss them in order to give a wider view of the work I have done and to also cover interesting insights that have not been discussed before in the course of this thesis. Firstly, I would present the concepts/factors of the first research questions and then for the second research question, in order as it was presented in the last section.

Influence of BKash system in the Bangladeshi market has been presented as one of the reason why m-banking has not diffused into the Bangladeshi market. The idea of this system can be presented in the form of a competition within the market. BKash had the advantage of an early mover where they had a very big and eager population to capture for a service that they have not used before. This, combined with the simplistic approach of making BKash service available on even dumb phones, was marketed in such a way that it created a bond between people living in cities and villages who can send money to each other within minutes. This very well tapped into the emotions of the Bangladeshi people, to whom family bonding matters a lot. This service was promoted in such a way that it showed that people working in big cities can instantly send money to their parents and family back home in villages, without any worries. Marketing this as a safe way to send money to any part of the country saved the people a lot of effort of doing it through posts and other expensive services. Added to it, the network of BKash agents in the country has been pretty diverse and therefore, it was very easy for users to access this service. Therefore, this approach worked charms and hence, it has been having a strong hold on the Bangladeshi market ever since. In my literature review, the factor of competition from alternate service has not been highlighted by researchers but instead Calisir & Gumussoy (2008) went close to identifying the various channels a bank has in order to conduct its business. Internet banking was one of the channels and they had studied how it was more popular in comparison to other methods from the perspective of young consumers in Turkey. The results showed that internet banking ranked well among the others services but still had a long way to go in order to overtake the traditional ways. Hence, the finding of the influence of a mobile payment service as an alternative to m-banking can be a new avenue for research, encouraging further research into seeing how present non m-banking services are keeping the latter out of market.

Poor marketing of m-banking is another factor that has held back its penetration into the Bangladeshi market. As I had discussed earlier, the banks like to channel their various promotion methods and marketing budget into services that have maintained most of their customers and as a result, less importance is given to the m-banking service. From common knowledge, marketing plays an important role into making consumers accept and try a new innovative service that is intended to make their lives easier. Ram & Sheth (1989), in their study, had also identified the two different types of resistance consumers have towards innovation in general. They are functional and psychological. Although the authors have not included poor marketing into either of the two barriers, I would like to propose that it fits to help sort both the functional and psychological issues. The reason is that marketing, if done
in the right way, has the power to change negative perceptions into positive and hence fight any sort of psychological resistance consumers might have. Additionally, technical barriers such as usage and value can also be eradicated if a particular service can be promoted the right way to the consumers. They can have doubts regarding the what, how and when of this service and educating them through interactive marketing activities can be an efficient way to solve that problem. So poor marketing of m-banking in Bangladesh fits in well to explain the barriers that Ram and Sheth (1989) had proposed. The various authorities involved such as banks, developers and marketing teams should sketch a concrete plan to conduct a strong marketing dive throughout the country to make m-banking more popular.

Moving on to the next reason, I analyzed how low acceptance of m-banking by various businesses, institutions and merchants are hampering the penetration of m-banking in Bangladesh. The main reasons were related to change and its consequences on the business. I had discussed that a large ecosystem already exists that is being used to conduct banking transactions by the businesses in Bangladesh. A new service, especially in the lines of m-banking, can act as a sudden disruption to their year-long practices and therefore result in prominent resistance from the stakeholders. The two main types of resistance was discussed by Talke & Heidenreich (2014) in their work where they proposed an Innovation Decision Model which are collection of steps that users usually follow before they accept or reject an innovative service. Active and passive resistance were presented as central concepts where the former meant that users reject anything new after properly learning about it. So it is done consciously. The latter, however, shows that users are in love with their status quo and simply do not want to change regardless of the benefits the innovation may provide. The innovation decision model included steps of knowledge, persuasion, decision, implementation and confirmation which a user goes through before they accept or discard a product. I would like to argue that in Bangladesh’s case, the resistance is more on the active side because businesses are aware of the m-banking services provided by the banks and must have been calculative enough to see that it would help them reduce their cost in the long run. They must have also tested them out on a small scale to see if it will be a feasible option from an overall perspective. Hence, the knowledge of the service was present on their part which makes it an active resistance. However, the continued unwillingness to change due to the uncertainty of its success and effectiveness is causing the lack of acceptance among the merchants. Therefore, it is more of an educated and learnt judgment on behalf of the businesses rather than blind resistance that has no concrete foundation. Therefore, this can be a matter of interest to the relevant authorities dealing with m-banking to see how such resistance can be eradicated.

Poor internet infrastructure has been presented earlier by me as another important factor which has hampered the diffusion of m-banking into the Bangladeshi market. For this particular service, a smart phone is required and alongside it internet connection in order to be able to facilitate any banking transactions at any place, at any time. However, the internet infrastructure in Bangladesh is not strong as often users face difficulties in getting 3G networks or similar ones in order to use various other applications on their phone. Although, less sensitive apps such as gaming, social media etc. still has the possibility to run on low internet connectivity, more serious activity such as conducting banking transactions online require a strong network of internet presence in smart phones. Users will be swayed away if they have to wait long minutes in order for their transaction to carry out. This issue was also found through the study of Kuisma, Laukkanen & Hiltunen (2007) where the point was to study why internet banking has been resisted by the Finnish bank customers. The results showed that lack of internet services and loss of information over internet while doing
transactions was one of the major reasons. However, it can be argued that Finnish and Bangladeshi citizens have significantly different level of experience when it comes to using the internet, with the former leading the world in digitalization and fast internet speed. Nevertheless, the whole idea of using m-banking revolving around having a good presence of internet structure is itself a factor that resists its usage. Not to mention that in Bangladesh, the internet services have not reached a certain level where it can be used without having breakdowns and uncertainties. Furthermore, if users wish to use it anyway, good mobile internet packets usually come with a hefty price tag which might not be very attractive to ones with low level of income. This creates a lot of divide and looking into the Bangladeshi demographics, a huge chunk of the population belongs to the middle class with limited income. So attaining such services is always a debatable matter for them. Therefore, these reasons have not allowed m-banking to be accepted by the users in the Bangladeshi market.

Another issue that was found to have a strong impact on the diffusion of m-banking in Bangladesh was the low literacy on technology of the consumers. Lack of knowledge creates a big barrier between potential users and the innovative technology because the former simply does not really know how to use the latter. In the context of Bangladesh, this reason can be attributed to the low level of education of a large chunk of the population. No or less education will create significant lack of interest as well because potential users would not have the know-how of the technology at hand. This will also create a lack of confidence among the consumers, which will further lead them away from using m-banking. Not having confidence in one self to use a particular technology is also found to be a significant reason to acceptance of technology by various researchers. Shaikh, Glavee-Geo & Karjaluoto (2015) in their study of accepting mobile banking in Pakistan came to a similar conclusion. By definition, self-efficacy is the confidence one has in its abilities to successfully use a particular technology. In the Technology Acceptance Model (TAM) they had used, it came out to be the most important antecedent to the most influential factor of perceived behavioral control. Furthermore, in their study of identifying the different intentions that influence the use of m-banking, Gu, Lee & Suh (2009) found that perceived ease-of-use which shows how much the potential users see the new technology to be easy to use is significantly influenced by the confidence of the users in their own ability to use them – in other words, self-efficacy. Having said that, I would argue that education is a vital driver of self-efficacy which equips users with the understanding and proficiency to use and accept technology to suit their lifestyle and need. Without it, they will not grow the skill that is required to operate a technical service like m-banking. Above that, knowledge of how banking operations work behind the scene, how are transactions carried out on mobile phone and its difference with physical transactions etc. are quite important. Furthermore, I would like to also point out that information and guidance from banks also play a role in helping people accept m-banking, apart from having the required knowledge and education. Precise supervision of the banks to help users learn and use m-banking technology can also be quite useful. Laukkanen, Sinkkonen & Laukkanen (2009), in their study also reflected on how guidance and information from banks affect the various types of resistors. Although this is beyond the scope of my thesis, but the categories include non-resistors, functional-resistors, psychological-resistors and dual-resistors. The dual-resistors were seen to be the unhappier with the level of support provided by the banks compared to the others. Putting the Bangladeshi consumers in these categories can be another thesis in itself but the idea of guidance and information to teach users about technology and helping them using it is what is important for this research. The banks must take a closer look into this.
The factor of lack of faith in banking personnel has been a very distinctive finding during the data analysis. In my previous literature reviews and readings, I have not noticed any result that has to do with absence of trust in the people working in banks. During the analysis, I had pointed out that mainly the personnel who are dealing with m-banking directly are at focus here. These may include the m-banking development and maintenance team, managers, IT staffs who have access to sensitive banking details of others etc. Although quite rare, but such lack of faith in banking employees shows that the institutions have failed to create a system of trust between the financial organizations and the customers. To make things worse, the recent Bangladesh Bank, which is the Central Bank of the country, hacking incident has reinforced that lack of faith further. The government and other relevant authorities have not been able to track the culprits and try them under law for stealing millions of dollars sent by thousands of non-resident Bangladeshis. Lack of such initiative will do no good for the people and their lack of trust in the banking sector and employees. This lack of trust also explains why majority of the Bangladeshi population still prefer the traditional way of conducting their banking transactions for instance, ATMs and physically going to banks. Such actions allow them to feel a control over their financial situation and visually see what happens with their money. As this is not the case when it comes to m-banking, people tend to stay away from it as a respect to that control they wish to have. In my research, I have not seen any literature talking about lack of faith in banking professionals as a reason of not accepting m-banking. It could be possible that it is distinct to Bangladesh’s case only but it is worthy of future consideration and research. Hence, this finding has been something new and further research is required to see how significant of an issue it actually is.

Finally for research question 1, the last finding has been poor legal framework in the context of Bangladesh. As earlier mentioned, incidence such as the Bangladesh Bank hacking has not been successfully investigated and criminals have not yet been pursued yet. Such conditions show that the legal infrastructure in the country is quite poor when it comes to protecting the customers from financial crime and scam. However, it is not that the judiciary system is inactive in Bangladesh. It is present and has been trying its best to maintain the law of the country as much as possible. But certain crimes related to financial organizations are often influenced by external parties and powerful sections on the government. To speak factually, Bangladesh is a heavily politically-motivated country. They have lot of parties in the government and the people in power often have the leeway to do crimes and illegal activities. As they usually have the backing of the government and other influential stakeholders, these incidents go unnoticed, uninformed and unpunished. In previous times as well, there has been many cases related to bank scams, stealing, debts crimes etc. Very few of them, if not all, have been investigated and ever lesser have been successfully completed through trying the culprits involved. Therefore, under these circumstances it is difficult to gain the faith of the customers to try out m-banking. Apart from this, Bangladesh also has poor cyber law that protects people from digital theft and crime. Zeng, Zeng & Guo (2005) also found that trust in m-banking is influenced by four factors, one of which is national laws by the government to secure online financial and business activities. The context here was of China but is also similar to the findings of Kim, Shin & Lee (2009) in Korea where structural assurances by the authorities and businesses harbored trust and reduced risk of using m-banking from people’s perspective. This goes hand in hand with the situation in Bangladesh as well where the legal structure regarding online banking activities are not well monitored or protected by the government. These literatures stress that it is of paramount importance that the state authorities come forward to pass bills and policies that keep the users safe from any sort of problems. As that has been lacking in Bangladesh, the m-banking have not been able to diffuse well among the people.
Moving on to the concepts/factors for the second research questions, the most important issue pointed out was the security problems that exist within the context of m-banking in Bangladesh. The students here, who are usually tech savvy in nature, have pointed out that security features are not too convincing for them and as a result, it keeps them away from using m-banking. The security problems usually exist in many layers from technical components to outlook of the interface. However, regardless of which layer is spoken about the general perception of the security condition are not too positive. Weerasinghe, Rakocевич & Rajarajan (2010) in their detailed study into the security options within m-banking options proposed a new authentication and authorization process using a security capsule. They studied the current standards and suggested an improvement of it and can be a good indication for the banks in Bangladesh to see into the possibility of these new security proposals to make their m-banking operations safer. The existing security of the m-banking system is quite traditional with few step authentication processes, which might be risky if third-parties get hold of certain login information. Hence, there has to be few layers of extra protection that users have to go through before getting access to the banking information. The authors’ proposed procedure can be a guideline out of the many that are out there. Apart from taking technical precautions, Polstra (2005) also suggested that companies have to restructure their business policies regarding security of their financial assets. As m-banking conducts transaction in the virtual realm, banks have to come up with business strategies that involve the concern of security from the very first step of the development process. In that way, the designers, developers and managers have to be trained to take care of the security issues that linger around the system. A socio-organizational approach can be the new way to go about it where equal importance is given to the people and technology to deal with security threats. In Bangladesh’s case, such effort is likely to convince people of the improving security standard of the m-banking system, more so because previously I have discussed how they lack faith on the banking personnel and these extensive actions may work to change that image and induce more trust in the system.

The presence of security issues also results into the lack of trust and awareness one has in the m-banking system. The students in Bangladesh are also not an exception. In simple terms, they do not have faith in the components and features of the m-banking system because there is a strong perception that such systems are not up to the required standard in Bangladesh. There are lots of loopholes that hackers and other unauthorized intruders can exploit in order to gain access to these sensitive banking data of the customers. Trust itself is a very abstract concept and can be defined in many ways but the overall idea remains same. During my literature review, I found Egger (2000) advocating that trust is a very important issue when it comes to using e-commerce. It can be used on various platforms like mobile phones, laptops, PDAs etc. but given it involves sensitive activities like online payments, he suggested precise factors like pre-purchase knowledge, interface properties and informational content can promote the level of trust in e-commerce. He proposed that the onus is on the HCI developers to ensure these factors are involved into the design and can therefore be a cue to the development teams in Bangladeshi banks to take these suggestions into consideration. I would also like to mention that Ram & Sheth’s (1989) psychological barrier which includes the image barrier is also of interest here. As earlier discussed, students in Bangladesh have the perception that the m-banking service in the country is comparably poor to the ones in western or European world, simply due to the image of their superior advancement. It is difficult to deal with such barriers because it is intangible in nature and varies widely from person to person. Hence a clear cut marketing or technical solution will not suffice. It would take time to clear that image out of their mind and build a positive one. Furthermore, I would
like to bring in the interesting study on e-lifestyle by Yu, Li & Chantatub (2015). The authors identified reasons that inhibit young users from using m-banking and how their e-lifestyle moderates these reasons. As I am talking about young students in Bangladesh, this study could be of interest. For instance in Thailand, they found e-lifestyle to be moderating image barriers – the barrier which is also applicable for the students in Bangladesh. The e-lifestyle for Thai respondents, however, included factors like ‘willingness and interest driven lifestyle’, ‘need driven lifestyle’, ‘personal propensity driven lifestyle’ etc. Hence it could be of serious interest to study and see which factors stimulate the e-lifestyle of the Bangladeshi students. If that can be identified, then banks and other relevant stakeholders can get on the field to use them and reduce their lack of trust in the m-banking system and in turn, increase its diffusion among the students.

Cultural restrictions came out as a very unique point that, according to the data analysis, explains why students are resistant towards using m-banking services in Bangladesh. As I have mentioned in details earlier, it’s due to the family restrictions and cultural practices that do not give a lot of freedom to students to do their own financial activities. Lack of independence leads to dependency on the seniors in the family and especially in Bangladeshi society, it is seen as extremely common. Hence, students always get a limited amount of money from their parents for which they also have a lot of accountability. I can propose that Ram & Sheth’s (1989) tradition barrier, which falls under the psychological category, comes quite close to explaining this. Usually, it is very difficult to alter and re-write tradition in a society, which has been followed for ages now. It usually roots from history and is strengthened by practices of that society. Moreover, Bangladesh being a Muslim-majority country, the environment is very conservative and students are expected to listen and respect what their parents and elder ones instruct, which is also reinstated in the Islamic religion. Tradition is also related to the people that live around us and by whom everyone is influenced. The authors also argue that societal pressure is a factor that also shapes traditional barrier. If a student does not see another student use m-banking in this case, it is highly unlikely that they will use it either. Peer influence therefore also forms a component of the cultural issue because even other students are also bound by the same regulation and restrictions. As a result, very less people are seen to champion this m-banking into the society and make it more acceptable. So it can be seen that lot of factors come into play here to explain why culture is a vital issue that bars the diffusion of m-banking among students in Bangladesh.

The next issue found out was the poor student banking regulations that exist within the country. The banks have not made it easy for the students to use m-banking with such strict and unplanned policies at place. The requirement of having continuous salary in order to maintain m-banking account is a mismatched policy because majority of the students in Bangladeshi do not work while they study. The small proportion which does however, does not earn enough to reach that level of being permitted to use m-banking account. Here I would like to bring in the issue of cultural restriction as well, discussed above. The banks have to take into consideration of how the lifestyle is for students and what are the restrictions that they are bound by before rolling out a strategy. It is also surprising that being local Bangladeshi banks they have not taken this issue into consideration, who are expected to know how different the context is for students. As a result, the regulations have not been changed for the students. From the transcripts, one participant interestingly highlighted that previously the banks in Bangladesh had launched a ‘1 taka bank account’ campaign for the poor farmers in the country, to facilitate having a bank account for them. The program worked very well and could be a shining example of how customized strategies could really
help banks attract students towards the use of m-banking. Yang’s (2009) study on Canadian students also found that reducing basic system fees for instance will be a way to reduce their resistance of using m-banking. Usually in Canada, the culture and work environment is different from that of Bangladesh. Students usually work and study and have a certain level of income. In spite of that, the author found that fees to use m-banking is working rather negatively towards its acceptance. From that perspective, it will also be quite valid in context of Bangladesh because students don’t even get to work here. So it is a factor banks have to take into consideration. Hence, it could be through reducing the acquiring cost, easing the salary requirements, free trials with zero risk policy etc. In this way, students would feel to be at central focus of the banks and other important stakeholders and in turn, may raise the initial usage and finally acceptance of the m-banking services.

Inability of minor payments was found to be the final reason of why m-banking had not been readily accepted by students in Bangladesh. For the sake of argument, let’s consider that Bangladeshi students have access to a certain level of income for them to attain the m-banking service and use it where they need. Furthermore, let’s also consider that the cultural restrictions have been eased and students can now do a lot of transactions independently by themselves. But despite of it, the issue of not being able to make small or minor payments through m-banking is a serious problem. The banks in Bangladesh do incur costs for m-banking usage and transactions and therefore, it is logical for them to allow only larger payments or decent enough ones to cover for their costs. As a result of this, the banks do not involve functionalities that facilitate small payments that usually suits students like paying for meals, snacks, mobile recharge transfer etc. Absence of these options is also stopping students from using the m-banking service. This bodes in quite well with Lee & Benbasat’s (2003) study on why people don’t use mobile commerce or banking. They came up with 7 factors that would help people get more inclined towards using mobile related services. One of the 7 factors was customization - how service is being particularly channeled to a specific user. This clearly shows that the banks must have a plan to tailor the offering of their m-banking functionalities according to the audience they are targeting. Such has not been the case with the local banks in Bangladesh as they have chosen a ‘one fits all’ strategy. As a result, mainly it becomes more suited to elder people with careers and money or people from other sectors of the economy. Students become a minority and thus, the m-banking service does not get well diffused into this group.
6 Conclusion and limitation

I have started with the introduction to Bangladesh and its present scenario in the context of financial institutions and mobile banking. With some concrete facts and figures, I have managed to show why mobile banking, which is not so popular there, can be an important topic for research in Bangladesh. Then I moved to the topic justification where it is clearly outlined as to why this research carries weight and is of importance to the readers and other researchers. Based on that, I had proposed two research questions which I believe captures the whole m-banking resistance scenario well. The first question aims to understand why m-banking in general has not been well accepted in the Bangladeshi market. There are lots of factors which came up and explained the overall reasons for this low diffusion. Following up to it, was the question to see why in particular, Bangladeshi students have resisted the usage of m-banking – which is the more central focus of this thesis. These research questions aim to capture the whole essence of the research where resistance to m-banking is the primary point of focus. It has been broken down mainly to understand the underlying connection between the reasons who that it may explain one another. Students are usually very tech-savvy in nature and therefore, this thesis becomes of high interest as it seeks to understand why, in spite of that characteristic, have m-banking not been well accepted by them. Next was the methodology section where I had outlined the whole backbone on this research as to the type of research used, the methods involved, the data analysis procedures and how to come up with the concepts/factors.

After extensive data analysis, I had finally come up with the concepts/factors that related to the two research questions. In the first research question, concepts/factors such as influence of the offline BKash system, low marketing of m-banking, poor merchant acceptance, lack of proper internet infrastructure, lack of knowledge on technology, low faith in banking personnel and poor legal framework explained why m-banking had not diffused well into the Bangladeshi market. This provided a solid foundation to understand the more specific second question where security problems, poor trust and awareness, cultural constraints, poor student banking regulations and the inability of minor payments showed by students were not into using m-banking. For instance, poor merchant acceptance specifically explained why inability of minor payments was a problem because no one was willing to use m-banking as a payment channel and hence banks were also not obliged to include the functionalities of making small payments in the m-banking service. Poor marketing of m-banking also reinforced the trust and awareness issues students had with the service as no effort was made to convince them that m-banking can be trustworthy with lot of positive benefits. So all in all, the two research questions cover the main focus to understand which resistance factors hold students back from using m-banking in Bangladesh. The concepts/factors also answer the research questions well and following the steps mentioned in the methodology section, I had also reached a certain saturation point where the same issues were coming up repeatedly in both the methods. Hence, I was assured that the main concepts/factors have been all pointed out and they were strong enough to be individually analyzed, discussed and argued upon in details.

Followed by empirical finding and analysis, I did a detailed discussion of these concepts/factors on the basis of the literature reviews and discussed them from various angles, similarities, differences etc. Finally, I had presented the implication of this research and stated why it could be of relevance to some important stakeholders, who are involved with m-banking services in Bangladesh and how they can use this to further dig into the resistance issues of students and work to sort it out. Once a trend can be set through these
young students, more people will likely follow as these students can work as change agents themselves. Then I have stated some limitations of this thesis and provided suggestions for further research that can be conducted by interested academics, students and authorities.

This research, however, is not free of limitations. There are couple of issues that I would like to point out which I believe have been cause of the limitations.

Firstly, this being a qualitative research where the focus was to explore an issue at hand, could be a cause of limitation. Though qualitative research produces a lot of data and allows a very deep insight into the topics at hand to uncover new concepts/factors, it also involves to an extent the researcher’s subjectivity and bias as well. I have tried my utmost to keep this research as much free as possible from any partiality and influence from my inner knowledge and experience in these fields, in addition to the fact that I am myself a student and originally come from Bangladesh – a group that been the central focus of this research. Therefore, I have tried my best to follow the qualitative research procedures, guided by my supervisor, and keep this limitation to the very minimum.

Secondly, the sample size and audience of this research could be another source of limitation. I have involved 15 people in total, 12 in interviews and 3 in focus groups, to find the concepts/factors that address the research questions. Though I have previously proven that this can be a valid figure for a qualitative research, a larger participant pool would always be a positive and add more weight to the findings of the research. Moreover, it could also be possible that couple of new concepts/factors and interesting points would emerge due to the involvement of more students. Additionally, this research was primarily intended to study the resistance factors of m-banking among students. The set of audience is very limited in that way. There are other people in Bangladesh who are very eligible to use m-banking or simply love to use technology. They can be the working population, the businesspeople, housewives and mothers, the mature and aged people etc. Thus, there could be a very significant possibility of the resistance factors changing based of these different target audiences. Therefore, focusing on a single section of the country, ie. students can be also seen as a limitation.

Thirdly, almost all the students who have participated in this research have in some way either studied or lived in Dhaka, which is the capital city of Bangladesh. Being a metropolitan city, Dhaka boosts a huge chunk of the whole Bangladeshi population, also being known as one of the most densities city in the whole world. The living conditions, priorities, income, lifestyle, habits etc. are also quite different from the other cities and regions in Bangladesh. As a result, the type of resistance factors found through this research could be highly influenced by those reasons and thus project one side of the coin. This could be seen as a limitation as well and if I had carried out this study with participants from cities like Chittagong and Sylhet which are the next most popular cities after Dhaka or even involved students who come from rural regions of the country, the resistance factors could have been different based on their experience, knowledge and background.
7 Implication

This research will be quite useful to relevant people and authorities that are involved with the development and implementation of m-banking in Bangladesh. From the concepts/factors that I have discussed earlier in order to answer the two research questions, it could be noticed that many authorities have been mentioned throughout which plays an important role in this field. Furthermore, to understand the resistance of usage of m-banking in Bangladesh is of paramount importance if banks are to move towards digitalization and reduce significant proportion of their cost by gradually withdrawing physical presence such as having bank branches, ATMs, agents etc. Comprehending this resistance would allow not only banks but others to adopt m-banking services and reap the benefits it has to provide. In order to facilitate adoption, resistance has to be met and nullified. This was the main purpose of this study where major resistance factors have been found and explored from various angles. I hope this may provide significant implication to relevant authorities such as –

**Banks** – They are the major player in this field. M-banking is a supplementary service of the Bangladeshi banks which they provide to support some of the financial activities and transactions performed by the customers, regardless of location and time. They are the main hosts and maintainer of this service. Though these banks, that are local, have been operating well in other services, their initiative regarding the m-banking is lacking. There are certain vital and valid reasons behind this which I have found through the course of this research. They were discussed in details in the analysis and discussion part. For banks, particularly, this research could be of serious interest because it would help them understand the reasons why their service is not being accepted well by the Bangladeshi customers, mainly the students who are quite young and are usually fond of using innovative and new technological solutions. This would help the m-banking employees and managers along with the top management of the banks to see the mistakes in their planning and execution of the m-banking strategy and restructure them considering the concepts/factors presented here. These factors why Bangladesh has not been a welcoming market for m-banking and why students have not adopted them would give the banks proper insights into identifying the crucial areas that needs to be addressed with priority. The top management then would have a good picture of the various resources required and funding needed in order to drive the m-banking service and raise its diffusion and acceptance among not only Bangladeshi students, but also the general masses. Required collaboration could also be fostered and carried out with other businesses, organizations and entities that deal with mobile technology in Bangladesh. Lessons can also be taken from other foreign banks in different countries and see how have they strategized the successful acceptance of m-banking in their countries and among their students. Hence, the onus is high on the banks and I hope this research can give them a good starting point to delve further into the matter and raise acceptance of m-banking.

**IT Developers** – They are likely the second most important stakeholders in the area of m-banking. They may be independent developers working in a separate organization or they may be the ones employed by the banks within their development team. The IT developers do majority of the technical work starting from planning and analysis to maintenance and evaluation and iterate the process unless the service has reached an optimal stage. As these people are generally educated and skilled within the field of mobile technology development, app development, system architecture, security, server maintenance and many more, they are very well poised to structure their development in such a way that fits the requirements and also reduces the significant resistance that exist. The concepts/factors which came up during the research such as security, trust, hacking threat etc. can be dealt with quite efficiently if IT
developers design and implement the service in such a way that ensures 100% security and installs functionalities and components that gains the trust of the users. These have to be present within the m-banking service and shown to the users by actually allowing them to test it for free. Learning and knowing by doing can be an effective way to gain customer confidence when it comes to sensitive issues such as security and trust. If required, the banks and other employers of these responsible IT developers could arrange training and workshop for them locally and abroad in order to gain further exposure in this field, learn about the new upcoming technology and how to ensure usability, satisfaction and at the same time security and trust in the system. Hence, they will be at a central focus to reduce these resistances.

**Government** – From the various concepts/factors that I have discussed above, the government appears to be another important player that can help the diffusion of m-banking in Bangladesh. Though the government is not directly involved in the development and implementation of such a service, but they are certainly in a well-poised position to create that environment and context for businesses, banks and normal customers to freely use the m-banking services without any uncertainty and negative consequences. For instance, developing the right set of laws for mobile technology services, passing bills that take into consideration cyber and digital crimes done on the internet, rules for fines and punishment and protection or guarantee of the customers’ money that will be transacted through m-banking services etc. Such initiatives could convince the students and other users that the government, which is the highest authority in a country, is taking steps to enrich the overall experience of the m-banking usage. This would go very well to instill confidence among the users that a powerful authority now has stepped in to ensure the overall wellness of financial transactions being done over the internet. From the perspective of the government, such moves would also give them a good oversight over the various financial transactions being done throughout the country from mobiles phones and other online channels, which may help them to identify crimes, frauds and suspicious financial activities as well. Hence, such collaboration would reduce or at least, pose a significant threat towards entities looking to conduct illicit activities such as hacking, ensuring safety and security in a way. Hence, this research could be a good read for relevant government authorities such as Ministry of Finance or Ministry of Science and Technology to understand these resistance factors and act accordingly to solve the ones that concern them.

**Businesses and merchants** – There are implications for various local and international businesses as well as small to medium-sized merchants in Bangladesh. This research gives a good picture of the current situation of m-banking in the country and how businesses and merchants play an active role in its resistance. From the concepts/factors found and discussed previously, I have explained how their lack of participation in the usage of m-banking has been hampering its acceptance in Bangladesh. Though this research is not directly targeted towards businesses and merchants, they can find inspiration of how a potential service such as m-banking can be exploited in Bangladesh in order to increase revenue and curtail costs. Especially here, thanks to the large population, the competition is extremely high due to high demand in various sectors of the economy. So businesses and merchants, in order to capture larger market share, can make it possible for customers to transact through m-banking by modifying their payment policies and system. Alongside the recent boom of e-commerce in Bangladesh, if such businesses wish to go online and reach customers at any place and anytime, facilitating purchasing and then paying through m-banking could significantly reduce their cost and also give customers the feeling of personalized service. This can foster further collaboration with banks and other technology vendors in order to create a sound ecosystem of m-banking payment, encouraging the students and other customers to accept
and use them too. Businesses can reinforce the whole diffusion process because they would now be obliging the customers, through their change in payment methods and policies, to use m-banking as a more efficient and quick way to make transactions to them. With this need at hand, students and other users would have to pay through m-banking in order to comply with the newly constructed regulations, thus breaking certain resistances previously discussed.

Marketers – This research also has implications for marketers of the m-banking services. These personnel may be from separate marketing agencies or working in banks within their marketing and advertising team. While explaining my concepts/factors, I did point out how lack of proper targeted marketing has been aiding the problem of m-banking resistance. If students and customers are not made aware of the immediate and long term benefits the usage of m-banking can bring and are told how safety and security features have been incorporated in them, then they would not even be making the effort to try it out. Therefore, this research of mine would give a good foundation for marketers to understand the factors that have been playing a role in creating a resistance for usage. Culture and awareness issues are few to say the least. The marketers could then develop unique marketing campaigns and advertisements in order to entice students and make them try out the m-banking service. Such campaigns can be of various types and lengths but this research could be used to identify those key resistance factors that the marketers might have been missing till now. Addressing them would reinforce and restructure their whole marketing strategy, working towards reducing the resistances.

Academics – This thesis can also have important implications to various researchers and academicians due to its space in the field of m-banking resistance. Previous published literatures have not been too much in quantity as compared to the literatures of acceptance and diffusion of m-banking. Hence, the thesis can be an addition to the former in order to provide a few more avenues for more insightful research. For instance, my target audience was Bangladeshi students and about their lack of usage of m-banking. Some interesting issues such as lack of merchant acceptance, poor student banking regulations etc. can be subject to further research and studies. Moreover, different types of other methods could be used to see if these issues recur or find ways to solve them through, for instance, inspiration cards, storytelling, future workshops etc. In case of quantitative research, different other statistical models could be used to reaffirm these concepts/factors and learn more about how to go about solving them. Additionally, this thesis may also encourage researchers to study in the context of Bangladesh, a country where not much has been focused on in terms of m-banking because it is a developing country. But given its huge population and improving infrastructure, Bangladesh can surely be a country of interest just like neighboring India and China.
8 Research contribution

The research in the field of technology and innovation resistance, in particularly m-banking, has not been that widely conducted. More focus and interest has been shown in the areas of acceptance of technology and innovation, mainly due to the pro-change bias that exist within the research community. It is believed that all innovations are an improvement compared to their predecessors and therefore, consumers should readily be accepting it for their own betterment and ease. As a result, huge amount of research has been done to see which factors make consumers accept an innovation rather than to see the other side of the coin – which factors actually resist users from using a technology. Hence, my aim was to tap into this not-so-common area of research and make a contribution.

From my extensive literature reviews, I have not come across any research which has been done about m-banking resistance in the context of Bangladesh. Most of the related work has been carried out in developed countries or highly-developing countries. Therefore, conducting this thesis on a developing third-world nation which boosts a massive population is an aspect of my contribution. In addition to it, my research revolves around students, who are tech-savvy in nature, and to see why such an enthusiastic group do not use m-banking, which is a newly introduced innovative service that has been launched in Bangladesh. Previous related studies did shed focus on different segments of the economy, including young people, but user resistance studies of Bangladeshi students were not available. I also believe that my contribution is towards the various stakeholders that I have pointed out in the implication section. These entities could use this research as a sound starting point to look into issues that have not been addressed so far by existing literature. For instance, concepts/factors such as cultural restrictions and lack of faith in banking personnel are quite unique and have been hardly found and analyzed in other researches. Therefore, these finding could open new avenues for them to plan for, implement and counter the resistance that exist regarding m-banking among the students in particular and consumers in general.
9 Future research

Following my focus on Bangladeshi students, future research can take into consideration the group of the working population which is very relevant to this study. As one of the concepts/factors found in this thesis is the factor of cultural restrictions on student working, it will be very interesting to see how that resistance landscape changes when these students graduate and enter professional lives and are regularly earning money. A focus on this would mean readily tapping into the biggest proportion of the Bangladeshi population, making its findings very important to relevant stakeholders. Furthermore, research could also be done based on the gender. Though I have not taken that into consideration here but it could be a quite relevant research as the m-banking resistance factors may vary quite significantly and visibly between the Bangladeshi male and female population. However, I strongly recommend that any sort of prejudice or stereotype should be kept away from this type of research because Bangladesh is a conservative country and is strongly bound by culture, society and religion. Therefore, one should keep an open mind while looking into this specific context. In addition, another possibility of future research could be to see how the mature segment of the Bangladeshi population reacts to the usage of m-banking. It is a quite common misconception that matured and older people are not very technology savvy but I strongly believe that they can actually be a vital target audience simply because they have the financial capability to conduct major and regular transaction for many reasons. Also owing to the fact that m-banking frees them from location and time restrictions, this particular segment could be of even more relevance as they may prefer doing transactions at their leisure and from their home. Moreover, based on the literature review that I have done, I would also like to suggest the possibility of dividing the Bangladeshi population into various resistance segments like postponers, opponents and rejectors stated by Laukkanen, Sinkkonen & Laukkanen (2008) or adopters, non-adopters and discontinuers as proposed by Joseph (2010) to see which type of audience fits in which section and what difference do they have when it comes to m-banking usage resistance. This will give a lot of in depth insight to the stakeholders related to m-banking and help them reduce these resistances through various implementations.

Apart from the above mentioned possibilities in future research, it is also important to point out that the concepts/factors that have been found in both the research questions are also each worthy of separate research focus. All the analyzed and discussed concepts/factors can in itself be a topic of study done by researchers, for instance, comparing cultural restrictions hampering m-banking across various countries, factors that facilitate merchants’ and businesses’ acceptance of m-banking, developing adequate student banking regulations etc. There can be many more depending on the researchers’ interest and domain of specialization. Further research into these concepts/factors individually would, I believe, be a fruitful effort because it will help the research community attain more in depth understanding of m-banking resistance and how to go about in order to reduce it.
References


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Appendix 1

Informed consent

Hello. My name is M. Redwan Hasan. I am working on a Degree project in Informatics at Master Level. This is a consent form of your participation in this project.

The aim of this thesis is to study why new technologies which are introduced to the people are often resisted by them. The existing notion that every innovation should be accepted by consumers is challenged here and the focus is to see why resistance towards the use of mobile banking is present. This research would take place in the context of my homeland, Bangladesh, and my participant audience will be students who have previously studied or are studying in the country. This study would provide implications for many important stakeholders like banks, IT developers, government and work as a foundation to come up with strategies to counter this resistance and raise diffusion of m-banking among students.

I am a student of Information Systems, Master Programme at Linnaeus University and I am fully responsible for doing this research. You can contact me by email (mh223hu@student.lnu.se) or on a mobile phone (+46 72 999 3676) to ask any questions. We appreciate that you are willing to participate in our research. Before we start with the interview/focus group it is important to reassure you that you have following rights:

1. Your participation is entirely voluntary.
2. You can withdraw at any time without giving a reason.
3. You are free to refuse to answer any question at any time.
4. Your name will not be used in the thesis and all information will be kept strictly confidential.

I completely understand that you might face certain discomfort during the participation as the thesis has to do with mobile banking, hence you might have to answer regarding bank information, how do you use it, different types of transaction you undertake etc. But I can assure that nothing very sensitive would need to be mentioned that may hamper your privacy or compromise important details.

Please sign this document to show that you were informed about your rights and are fully aware of my research plan, aim and objective.

Participant’s signature: __________________________ Date: __________________________

Participant’s name (in CAPITALS)

Researcher’s signature: __________________________ Date: __________________________

I would like to receive the final version of this thesis. (circle one)

YES    NO
Appendix 2

Linnaeus University
Sweden

Declaration – Submission of the Thesis

This form should be included in the thesis. Before you sign please see http://refweb.lnu.se/english/what-is-plagiarism/where you found information about plagiarism and check also the Harvard System of referencing. http://libweb.ungliu.se/referencing/harvard.htm

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Did you write the thesis alone or in cooperation with someone? Tick one of the boxes

- [ ] I am the sole author of the thesis.
- [ ] The thesis is co-authored with other students, and together we are responsible for the entire project.
- [ ] The project report is co-authored with other students, and I am responsible for part of it. The parts I am responsible for are specified in the project report.

I declare that in my/our thesis, I

1: did not re-use my previous work without referring to it
2: did not use others work without referring to their work (e.g. course literature, scientific publications, other types of articles, web sites or lecture material)
3: used the references and quotes in a proper way
4: included all references and resources in a reference list

I am aware that not citing and using references in a correct way may be considered as plagiarism.

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Appendix 3

Interview/Focus group questions

1. Please tell us a bit about yourself and your background.

2. What are you currently doing?

3. Do you have any sort of particular technology that you like?

4. What do you think about the use of technology in daily life?

5. Do you have a bank A/C? If yes, where and how long have you been using it?

6. Are you satisfied with their service?

7. How usually do you conduct your banking transactions?

8. Have you ever tried m-banking in Bangladesh? Please explain.

9. Do you ever plan to use m-banking in Bangladesh in the future? Please explain.

10. Do you think there are certain factors that hold students back from using m-banking in Bangladesh?

11. Are you aware of students who use m-banking in Bangladesh? Do you know why?

12. Why do you think m-banking has not yet taken off in Bangladesh, despite of its obvious advantages?

13. What factors do you suggest would help m-banking become more popular in Bangladesh?

14. What do you think can Bangladeshi banks do to raise usage of m-banking in the country?

15. Have any banks ever approached you to convince you to use m-banking?

16. What is your general view about m-banking in Bangladesh, especially from the perspective of students?

17. How do you see the future of m-banking in Bangladesh?

18. Would you like to add any other comments?