Towards an Egyptian Mobile Banking Era

Rehaballah El Badrawy¹, Rasha Abd El Aziz¹ and Meer Hamza²

¹. Business Information Systems Department, Arab Academy for Science and Technology, Alexandria 21311, Egypt
². Graduate School of Business, Arab Academy for Science and Technology, Alexandria 21311, Egypt

Received: October 17, 2012 / Accepted: November 12, 2012 / Published: November 25, 2012.

Abstract: Banks have moved towards technology-based customer services such as mobile banking (m-banking); as an alternative to traditional inter-personal services. However, M-banking still faces resistance that may hamper customers’ adoption in Egypt. Following a mixed method approach, this study involves two main phases. First, a quantitative Consumer survey is conducted in the form of 350 structured questionnaires to identify the main barriers towards m-banking. Then, decision makers in 5 different public and private banks are interviewed in order to find similarities and difference, and identify service providers’ roles regarding these barriers. Questionnaire data was statistically analysed using independent T-Test, Chi-squares, frequencies and cross tabulations, while interview data was interpretively analysed. Results enabled the researchers to identify the risk, usage, and tradition as the most m-banking barriers that discourage m-banking adoption in Egypt as seen by the two main players.

Key words: Mobile banking, internet banking, consumer resistance, adoption barriers.

1. Introduction

During the last decade, the rapid development of communication and networks has pushed service providers including financial institutions to search new ways of delivering services such as m-banking [1]. Mobile devices are becoming a common way of accessing the web; as they permit accessing information anytime from anywhere. The advancement of mobile devices, the expanded coverage of mobile telecommunications infrastructure, inexpensive and durable mobile devices has enabled flexible web browsing [2].

Banking is a leading sector in the Egyptian industry. Like most service providers, banks have realized the importance of investing in technology, to control cost, attract customers, and fulfill customers’ needs for convenience and technical innovation [3]. In Egypt there is a great opportunity to expand in retail banking activities due to the rapid development of telecommunications and IT networks [4], besides the great dispersion of mobile phones [5] and the availability of alternative payment methods such as credit cards and the significant unbanked population [4-6].

However, despite this optimistic prediction, the innovation adoption process imposes change on the consumer, and resistance to change is a normal consumer response to innovations [7]. Current mobile networks and devices have some usage limitations such as the size of small screens, non-traditional input methods, and navigational difficulties [2]. Moreover, perceived financial cost [8] perceived complexity [9], and security issues [2-8] are among the greatest concerns in the adoption of mobile banking services. By using the theory of innovation resistance in terms of five barriers, namely usage, value, risk, tradition, and image as a framework [7]. Thus, the aim of this study is to investigate the market status for mobile banking in Egypt, to segment Egyptian banking customers on the basis of their intentions to adopt m-banking services and to identify the main barriers affect or investigate consumers’ resistance to m-banking in Egypt.

Corresponding author: Rasha Abd El Aziz, assistant professor, Ph.D., research fields: e-commerce, management information systems and business information systems. E-mail: rashaayo@gmail.com.
Research studies have not paid enough attention to examining the motivations and objectives of banks in adopting m-banking services in Egypt. Therefore, this study explores the current situation of financial institutions towards their intentions to offer the m-banking services in Egypt, reasons of delay, customers’ characteristics that have the intention to adopt this service and the main consumer barriers toward the adoption of this service. It also tries to identify the factors that mainly affect or determine consumers’ resistance to m-banking in Egypt and whether these factors differ among different types of non-adopters (Postponers, Opponents and Rejectors).

The paper is organized as follows: Section 2 introduces the mobile banking concept; section 3 presents the consumer resistance to innovation theory; section 4 discusses the current situation of mobile banking in Egypt; section 5 presents the research methodology including a quantitative consumer survey and a set of qualitative interviews with financial institutions, and finally section 6 provides conclusions.

2. Mobile Banking

M-banking refers to the execution of financial services using mobile communication techniques together with mobile devices [10]. M-banking allows customers to check account balances, transfer funds and access many other banking products and services from anywhere, at any time. Banks all over the world have started to use Mobile phone as a new channel to attract new customers.

According to Yankee group, the number of m-banking users will be between 500 million and 1.1 billion m-banking users globally by 2015 [11]. Developing countries have also started to realize m-banking and have already started adopting it such as the United Arab Emirates (UAE), South Africa, Kenya, and Botswana [12].

A number of empirical studies have investigated customer perception and acceptance of Internet and m-banking services [13-14]. Other studies have concentrated on consumer motives; acceptance of techno-based banking services [15], its benefits, and consumers’ attitudes towards online banking [16]. Research has also addressed time of adoption, adopter categories, the rate of innovation diffusion, consumers’ usage, attitudes and behaviours towards online and m-banking with special emphasis on demographics [16-17].

3. Consumer Resistance to Innovation

Consumer resistance to innovations has been described through different barriers that prevent the adoption of an innovation. It consists of Usage; value and risk barriers represent functional barriers, whereas tradition and image barriers refer to psychological barriers. Functional barriers are likely to arise if consumers perceive considerable changes from adopting an innovation, while psychological barriers are often caused by conflict with consumers’ prior beliefs [7].

Usage barrier is mostly related to the usability; including complexity and ease-of-use of an innovation [18-20]. In m-banking services, consumers have reported inconvenience due to the small keyboard and tiny display of the device. On the other hand, the value barrier is based on the economic value of an innovation, and refers to the low-to-price compared to its alternative products. Although m-banking might be perceived to be expensive, it was found that some of the m-banking services increase customers’ feeling of control over their financial affairs [21].

Risk barrier refers to the degree of potential risks an innovation may require. Gerrard et al., 2006 [21] found that risk is the main factor that explains why consumers do not use Internet banking. On the other side, Traditional barrier generally involve the changes an innovation may cause in daily routines, it is a preference for products and behaviours that already exist over novel ones, lack of human interaction may actually be a source of dissatisfaction in Internet
financial services [22-23].

The image barrier is associated with different types of anxiety towards computers [24], or technology itself, referring to consumers’ negative state of mind about technology tools [25]. Fain and Roberts [26] stated that the image barrier in online banking emerges from a negative hard-to-use image of computers and the Internet. This may also be the case in m-banking today as some consumers may perceive the mobile technology to be too difficult to use and therefore instantly form a negative image of the service related to the technology.

Many researchers have noticed that consumers react in less enthusiastic way even for successful new products [25]. This less enthusiasm is often termed as consumers' resistance. Consumers’ resistance plays an important role in the success of innovation, as it can certainly inhibit or delay the consumer adoption, and has been termed as one of the major causes for market failure of innovations [7].

Resistance leads consumer’s response towards three forms, it may take the form of direct rejection, postponement or opposition [27-28].

Postponement occurs when consumers delay the adoption of an innovation. It simply “refers to pushing the adoption decision to future” [29]. Even though the innovation may be acceptable to them, but usually it is caused by situational factors, such as waiting for the right time to become capable, or to make sure the product works effectively. Postponement may take the form of acceptance or rejection after a certain time period [27].

Opposition refers to “protesting the innovation or searching for further information after the trial” [29]. It is a kind of rejection, but the consumer is willing to test/check the innovation before finally rejecting it. The causes of opposition vary and can be many, e.g., habit resistance, situational factors, and consumers’ cognitive style might direct them to reject innovations [28]. Most importantly, an opposition might lead the consumers to search for adequate information, which can direct them to acceptance.

Rejection is the most extreme form of resistance [28]. When a mass of consumers reject an innovation, manufacturers usually change or iterate/modify it appropriately and then re-introduce it in the market. Rejection may occur if the innovation does not offer any valuable advantage, is complex or risky, etc. [27]. Rejection can be of two types, passive and active rejection. Passive rejection occurs when the innovation is never really adopted or implemented, and active rejection occurs when the innovation has been considered but later rejected [30].

4. M-Banking in Egypt

Egypt has a great potential to expand in mobile banking activities due to the great dissemination rate of handsets whereas the total number of mobile subscribers has already reached 77.76 million in July 2011 [5]. Besides, the availability of alternative payment methods such as credit cards, the rapid development of telecommunications and IT networks. Finally the significant unbanked population, with only 10% of the population holding bank accounts highlights the role of mobile banking in Egypt [31].

There are currently 39 banks in Egypt, 5 public and 34 private banks. As early as 2000, 19 out of a total of 39 banks (58%) were offering Internet banking services [32]. Yet, Internet banking services have not taken off in Egypt because of low rates Internet penetration. According to the Ministry of Communication and Information Technology (MCIT), the number of Internet users in Egypt is 26.54 million, however 10 million already access the Internet through mobile. Therefore, there is an upward trend in the Egyptian mobile usage [5].

Furthermore, 90% of the telecom providers’ revenue in Egypt is obtained from voice services. Accordingly, Telecom operators are now trying to target, acquire and retain subscribers by offering new services such as m-banking service [33]. In 2009, Egypt’s central bank has finalized the regulatory framework for m-banking.
Towards an Egyptian Mobile Banking Era

Telecom operators such as Mobinil and Vodafone have already partnered with local banks. Not to mention that currently, in some Egyptian banks, customers can now pay for their mobile bills using their phones via SMS.

5. Research Design

The research design of this study involves two major phases. In the first phase, a quantitative Consumer survey is conducted in the form of a questionnaire to identify the main barriers towards adopting m-banking in Egypt. Then, phase two involves semi-structured interviews with bank to detect the level of Internet and m-banking penetration in these banks, gain insight into the factors that delay or prevent banks from adopting m-banking services, and finally to explore the appropriate strategies that enables the successful m-banking adoption in the Egyptian context.

5.1 Questionnaire Design

In this study, random probability sampling technique was used where all the elements/cases/individuals in the targeted population have the same probabilities of being chosen. The survey was administered both electronically and in person in order to increase the diversity of respondents, increase the number of returned questionnaires, and increase the geographical accessibility.

The questionnaire contains 20 items measuring Usage, Value, Risk, Tradition and Image barriers. These items were derived from prior Internet and m-banking studies. A five-level Likert scale ranging from totally agree (1) to totally disagree (5) was used in all statements. The questionnaire also includes questions relating to socio-demographics (gender, age, income, and education), previous experience of online banking services and the use of mobile devices to access the Internet.

350 questionnaires were distributed both electronically and in person over respondents from Alexandria and Cairo; however only 229 valid questionnaires were returned of whom 195 respondents (86%) do not have the intention to adopt m-banking while only 34 respondents (14%) have the intention to adopt m-banking but after being launched and tested for some time.

Statistical tests have been applied to assess whether the distributions of results differ significantly from results that might have arisen by chance. Differences in resistance between adopter and rejectors were tested using independent T-Test in order to know the main reasons of non-adoption for each group. Thereafter, cross tabulations were used to determine if and how the segments differed in demographics and previous experience of respondents towards resistance decision and resistance barriers.

The proportion of male and female respondents was almost equally split in this survey. The respondents were 106 males (46.3%) and 123 females (53.7%). The majority of the respondents were in the 26-40 age group (63.3%). Population studied comprised Masters and PhD students, and University level with frequency distributions of 25 % and 61 %, respectively. Salaried employees comprised the majority group (53.3%).

In addition, 151 (39.7%) will intend to adopt the m-banking in Egypt, however, 138 (36.3%) intend to use the service but not decided when (opponents), 57 (15%) will not intend to use it at all (rejectors) and 34 (8.9%) were intending to adopt the service within a year (postponers).

5.2 Questionnaire Results

A reliability analysis was conducted and the Cronbach’s alpha scores indicated adequate reliability levels in usage (0.842), value (0.778), risk (0.848), image (0.637) and tradition (0.609) barriers.

The results indicate that the percentage of male and female who are not willing to adopt m-banking service was almost the same with 45.9 % and 54.1 % respectively. The age of 26 to 40 years is less likely to adopt m-banking (54.1%). The study discovered that the majority of desired adopters are postgraduates or
graduates.

The descriptive statistics and independent T-Test statistic tests indicated that the risk barrier is the most intense barrier to m-banking adoption among other barriers and the usage barrier is the second strongest followed by the tradition barrier. The image barrier received the lowest mean score and is considered the weakest barrier to m-banking adoption.

H01: There is no significant difference among postponers, opponents and rejectors with respect to usage barrier. Chi-square = 45.435 (df = 4, sig. = 0.000), with this result a significant difference was found, enabling the rejection of the null hypothesis. Kruskal-Wallis H test =26.690 (df = 2, sig. = 0.000) again a significant difference was found, enabling rejection of the null hypothesis one more time. The interpretation is that the three non-adopter groups differ significantly with respect to the usage barrier. This proves that the usage barrier seem to have different impacts on the three non-adopter groups.

H02: There is no significant difference between postponers, opponents and rejectors with respect to value barrier. Chi-square = 45.957 (df = 4, sig. = 0.000) and a significant difference found between these sets, enabling also the rejection of the null hypothesis. Kruskal-Wallis H test =34.515 (df = 2, sig. = 0.000) and a significant difference found between these sets, enabling rejection of the null hypothesis too. The results show that the three non-adopter groups also differ significantly with respect to the value barrier.

H03: There is no significant difference between postponers, opponents and rejectors with respect to risk barrier. Chi-square = 6.342 (df = 4, sig. = 0.175) and a non-significant difference found between these sets, consequently the null hypothesis was failed to reject it. The Kruskal-Wallis H test =5.824 (df = 2, sig. = 0.054) also show non-significant difference found between these sets and the null hypothesis was failed to reject too. The results show that the three non-adopter groups did not differ significantly with respect to the Risk barrier.

H04: There is no significant difference between postponers, opponents and rejectors with respect to image barrier. Chi-square = 10.000 (df = 4, sig. = 0.04) and a significant difference found between these sets, enabling rejection of the null hypothesis. Kruskal-Wallis H test =7.024 (df = 2, sig. = 0.03) and a significant difference found between these sets, enabling rejection of the null hypothesis too. The results show that the three non-adopter groups differ significantly with respect to the image barrier.

H05: There is no significant difference between postponers, opponents and rejectors with respect to tradition barrier. Chi-square = 5.555 (df = 4, sig. = 0.325) and a non-significant difference found between these sets, consequently the null hypothesis was failed to reject it. The Kruskal-Wallis H test =4.022 (df = 2, sig. = 0.134) also show non-significant difference found between these sets and the null hypothesis was failed to reject too. The results show that the three non-adopter groups did not differ significantly with respect to the tradition barrier.

A closer look at the results reveals that the greatest concern is the risk to transmit or store banking transaction data, or the poor reliability of the connection. Apart from the risk barrier, customers do have doubts that m-banking would enhance their ability to control their financial affairs. Unawareness is another key issue where although customers might have heard of m-banking, they are not fully aware of the services it provides or how to use it. Moreover, most customers think that m-banking is hard to use and it will not be easy to remember the steps to do transactions. Finally, some customers still prefer to visit the bank in person.

5.3 Interview Design

For the purpose of present study, the sample size consists of 6 banks, as the interviews were made to 2 out of the three main public banks in Egypt namely National Bank of Egypt, BanqueMisr and owned the biggest Egyptian market share, in addition to another 4
interviews were conducted to Arab and foreign bank managers namely ARAB bank, National Société Générale Bank (NSGB), BNP Paribas bank and HSBC bank.

5.3.1 The Case of Private Banks (HSBC, NSGB, BNP Paribas and Arab Bank)

HSBC (The Hong kong and Shanghai Banking Corporation), NSGB (National Société Générale Bank), BNP (Banque Nationale de Paris) Paribas and Arab Bank are considered among the largest multinational banks operating in Egypt providing a comprehensive range of financial services covering Internet Banking, Phone Banking, SMS Banking and ATM Banking. Banks studied do not offer m-banking services except for the Arab bank; where the service was discontinued five years ago. This was due to the fact that the service was not widely accepted by the banks’ customers and employees.

In general, the number of Internet banking adopters is relatively small, ranging from 5% to 40% of their customer base, except for the HSBC bank, where the number of users exceeds 70% of the total customers base.

Most of Internet banking users in all banks are business owners, or high-post employees. From the managers’ point of view, the level of education and technology usage experience are the main factors that affect the decision of adoption of Internet banking services. Younger customers agree to adopt than older customers. However, some older customers that are interested in technology and have good computer experience are keen to use online services due to convenience received.

Concerning barriers to Internet banking services, tradition, risk and usage barriers can be perceived as the highest barriers. Despite the fees customers have to pay if they withdraw cash from any branch, some customers still like to chat with the bank teller and find personal customer services more pleasant than self-service alternatives.

In addition, many customers believed that online banking services is not secure; especially when conducting transactions or transmitting information related to banking transactions. Most bank customers think that Internet banking is hard to use as they have to go through complicated steps and need sophisticated equipment in order to be able to use this service.

Furthermore, most of the banks except for the HSBC, adopt an outdated system where customers have to wait from 24 to 48 hours until the money transferred appears in their account. This delay may be considered as a major barrier towards Internet banking services.

Banks have tried a variety of strategies to overcome these barriers. Although most banks realise the Internet banking benefits, they still charge a monthly fee for using this service. They also do not provide user training or allow practicing the actual use of the service except HSBC bank, where employees assist customers in establishing Internet banking accounts, and highlight the value and convenience obtained when using this service. HSBC allows this trial service free of charge for one month, so customers would have a better chance to feel the ease and convenience of use while at the same time learning more about the high security techniques used.

Regarding m-banking service, they were not offered by all banks except for the Arab bank that has offered m-banking services only to check balance accounts. Then, the service was discontinued due to many reasons. Firstly, restrictive and complex procedures; especially that this service is not supported by all telecom firms, and customers may need to change their SIM card to be able to get the service. Additionally, bank employees lack technical expertise, and accordingly have rejected to assist customers and did not promote the service.

The majority of banks except for the Arab bank stated that they would adopt the before the end of the next year (2013); especially as many customers have already requested this service. The Arab bank on the other hand seem reluctant to re-adopt m-banking until more banks take the imitative, procedures to adopt
become simpler, telecom firms co-operate, and bank employees get the required training to provide the service.

HSBC bank is the only bank that has taken actual steps toward adopting the service, as the interviewee stated “The system is already developed, and now we are in the testing phase” and regarding the actual expected delivery time, he stated that this should be “by June 2012”.

Finally, all banks predict that the number of mobile adopters would exceed twice the number of Internet adopters in less than one year.

5.3.2 The Case of Public Banks (National Bank of Egypt and BanqueMisr)

National Bank of Egypt (NBE) and BanqueMisr are the two main public banks in Egypt, with the largest customer base and market share. They apply a variety of direct banking services including informative Internet Banking, Phone Banking, SMS Banking and ATM Banking. These banks have outdated back-office systems.

Public sector banks resist the idea of offering full service Internet banking, as they believe that only less than 10% of their customers would actually use the full features and that most users rely on phone banking services instead. Yet, not offering informative Internet banking services would create a negative image about the quality and variety of their financial services they provide. Consequently, whether it would be used by their customers or not, public banks felt a stress to provide the latest financial products and services in order to give their customers a wider range of choices and thereby promote customer retention. Concerning m-banking, no plans to offer this kind of service by the bank in the near future.

6. Conclusions

The current Internet and m-banking market in Egypt was found to be relatively small. With regards to consumers’ barriers to Internet and m-banking, perceived risk was found to be the most important factor that discourages adoption of the service. Consumers tend to have low confidence towards Internet and m-banking due to the fear of fraud. The findings also showed that respondents believe that Internet m-banking is not easy to use, and that non-users of Internet banking tend to have no prior experience with computers or with new technology such as mobile phones. The tradition barrier is also regarded as one of the major barriers, where consumers in Egypt seem less affected by technology advancement, and that old beliefs of cash-carry banking might have been considered as main causes.

Regarding the customer groups, we can find that the postponers who intend to adopt m-banking within a year are less resistant to the service. However, they seem to perceive some risk mainly concerning transmitting and storing information related to banking transactions. On the other hand, opponents who intend to adopt m-banking in the future but did not decide when, not only share the postponers’ concerns regarding m-banking risks but are also having value doubts, where they are not sure that m-banking will improve the control of financial accounts. Finally, rejectors who have no intention to adopt m-banking are the most challenging customers to be convinced of the potential benefits, usefulness, ease of use, positive image and high security of m-banking. This was particularly clear where high resistance regarding all barriers, was reported. However, it seems that functional barriers were more important than psychological barriers as risk and usage barrier scored the highest value followed by the value barrier.

Therefore, as in HSBC bank, by focusing on security issues for Internet banking, and by raising consumer awareness of computer and new technological skills would be an effective way to overcome these barriers. Thus, an appropriate way for bank marketers to approach customers could be via face-to-face communication and educational techniques, which could enable a demonstration of how the service could be used and allow practicing the actual use of the
Towards an Egyptian Mobile Banking Era

service. Doing this, customers would have a better chance to realize the ease and convenience of use while at the same time learn more about the high security techniques used.

Thus, in order to ensure the m-banking success, bankers should focus on security issues, and on raising consumer awareness and acceptance of new technology-based banking services more, through advertising and promotion rather than word-of-mouth communication.

On the other hand, to accelerate the banks’ decision to adopt mobile banking, m-banking procedures should be simplified, and made easier to adopt. Moreover, more cooperation from telecom firms is highly needed in order to decrease the cost fees that customers, which would in turn help engage more customers in this service. Finally, bank employees should have the required knowledge and training on the system to promote the service and better assist customers.

References


