

FACTORS AFFECTING UTILIZATION OF MOBILE BANKING IN SELECTED BANKS IN THIKA TOWN, KENYA

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ABSTRACT

Mobile banking applications have become increasingly popular in theory in emerging markets, particularly as a result of the success of initiatives such as SMART Money in the Philippines. In Kenya, there are an estimated twenty million customers with cellular phones. This is about two times larger than the banked population, and offers a significant opportunity for banks to use mobile phone networks to deploy banking solutions. The objective of the study is to determine the effect of network coverage, cost, security and handset use on utilization of mobile banking in Thika Town. The research design for this study is the explorative survey design. The study was conducted in Thika with a target population of 228 workers in selected banks. Data was collected using semi-structured questionnaires. The sampling design for the study was stratified random sampling. Data was analyzed using Statistical Package for Social Sciences (SPSS). The study revealed that mobile banking has been embraced by many people and most of them were satisfied with the different services that this service provides. Some concerns about security were cited by the respondents. Awareness creation should be enhanced so that more and more people can embrace the mobile banking. Banks should ensure that the different services that are provided within the mobile banking are secure to improve their level of satisfaction. The different risks that have identified should be checked and proper measures taken to eliminate them.

Key words: Mobile banking; Security; Internet; Bank; Customer awareness.

1.0. INTRODUCTION

1.1. Background of the study.

1.1.1. Historical developments of mobile banking.

The revolution of mobile commerce can be attributed to the popular ownership and use of mobile, personal programmable communication devices, like mobile phones and Personal Digital Assistants like laptops, iPods and palm tops among other emerging communication gadgets. Mohammed (2008). Mobile commerce solutions have been around for over a decade, but their potential as a means of financial inclusion was only explored in 2004 when GCASH was introduced in the Philippines to transfer money and pay utility bills using airtime credits. These devices are effective for authorizing and managing payment and banking transactions, offering security and convenience advantages compared to online payment via PCs. Mobile banking requires a customer to have only a mobile phone, Mohr (2005) unlike the internet banking where a PC is required. The rapid development of information technology has affected the banking industry globally. An impact of information technology in the banking sector is the introduction of mobile banking. Earlier studies have shown the usefulness of mobile banking in facilitating the financial transactions between banks and their customers, Luarn (2005). Kleijnen et al. (2004) found perceived usefulness to be less significant in explaining the utilisation of mobile financial services. On the other hand, Lin (2005) concluded that perceived usefulness is a significant factor in mobile banking. Mattila (2003) found security to be a very significant factor in utilisation of mobile banking.

Tiwari and Buse (2007) asserts that many western research entities still stick to the thought that mobile usage remains the preserve of the somewhat well off. Wallage (2005) argues that the big benefit for mobile banking in African countries is that a good number of those players have little or no existing business in Africa, and see mobile banking as an opening rather than a threat, to their business models. Ultimately, by incorporating mobile banking into an existing marketing strategy for the ATM channel, the ability to enhance the user experience at each touch point provides institutions with greater opportunities for cross-selling, potential cost savings and increased customer retention. There is also a growing partnership in financial institution and non-financial service providers where consumers use services such as M-banking can transact and clear utility bills through shared banks' platforms. It had been projected that more than 32 million households globally will bank online by 2003, Simpson (2002). According to Juniper (2010), the number of mobile phone subscribers who use their devices to conduct mobile banking and payments transactions is expected to reach more than 150 million globally by 2011. While this type of momentum encourages financial institutions (FIs) to offer mobile banking services, it's important that they consider mobile banking as an extension of existing self-service channel strategies. By harnessing technology already in use at the automated teller machine (ATM) channel, FIs can leverage mobile banking as a way to enhance the customer experience by providing one-to one marketing communications, personalized security preferences and optimal channel integration Banks and other financial institutions have moved to e-banking in their efforts to cut costs while maintaining reliable customer service, Kolodinsky et al (2001). However, as the industry embraces these new opportunities they have to contend with issues and face challenges that arise in the context of banking risks. As such, an innovative and proactive approach to risk management which is vital as banks move into the new territory, Pennathur (2001). The strategic choice that a bank makes in response to these issues and challenges will determine the future of m-banking and the degree of effectiveness it realizes in its context. Results from various studies have shown that m-banking is the way

forward in reducing costs and remaining competitive in comparison with conventional banking practices. The main question would be how to establish it without severe organizational problems. In Kenya, no specific study has been done to establish the factors that hinder successful utilization of Mobile Banking in the banking sector.

1.1.2. Mobile banking in Kenya

Mobile banking started with the creation of services by banks which could be accessed through the mobile phone. These facilities aimed to enable customers' access information relating to their accounts. Subsequent innovations like the Safaricom's M-pesa and Zain's Zap have seen the mobile banking phenomena continue to grow steadily. Mobile banking takes several dimensions of execution all representing a new distribution channel that allows financial institutions and other commercial actors to offer financial services outside traditional bank premises. Njenga (2008) asserts that the transformational mobile banking is made available by mobile phone service providers as part of their value added services. It is embedded among other services within the service providers menu. The perceived difference between mobile service providers mainly lies on the quality and scope of services as well as the pricing strategy. The mobile banking services are available to mobile phone users of the two major mobile service providers namely Safaricom and Zain. Safaricom's service is branded "Mpesa" and Zain's service goes by the "Zap" brand name which has been already introduced.

Agents decide on the most strategic points to locate their service outlets. This highly differs from the conventional banking systems whereby banks will only be located in major urban centers. A Central Bank of Kenya survey sets the number of conventional branches at 876 only 1424 ATM machines in total CBK (2008) implying that within the short duration of operation the M-banking outlets have tripled that of traditional banks. Safaricom M-Pesa teamed up with Equity Bank, Africa's leading microfinance bank, to launch a pioneering new product M-Kesho. M-Kesho is a novel system that allows mobile users to actually earn interest through their Mpesa Equity bank savings accounts. Users can not only deposit and withdraw money, with M-Pesa, but also access a host of services that are traditionally reserved for the well-off such as M-Kesho. A Kenyan farmer can now check his account balance, receive pre-qualified personal accident insurance, or apply for short-term loans all without having to trek miles to their nearest bank branch. There have been several innovations and hugely successful new services such as M-Pesa from Safaricom, Equity Agency banking, Pesa Pap from family Bank, Yu Cash from Yu company, and Zap from Zain in Kenya that have been utilized by citizens to receive and send money from their phones, CBK (2008).

1.1.3. Position of mobile banking in Kenya

About 80% of Kenyan populations have mobile phones Porteous (2006). This encourages many Kenyans to access mobile banking. Auxiliary services availability in the form and time vendors are also a factor of concern. This is so because mobile banking services largely ride on the back of other services of mobile operators. Most agents happen to be air time distributors or retail outlets for handsets. Few Kenyans who do not have mobile phones find it difficult to access mobile banking hence this leads to low utilization of mobile banking services in the country. Kenyan consumption is characterized by multiple strategies, implying that M banking service will be utilized for any need depending on the ability to pay at a given instance. To realize the full benefits afforded by M-banking it's imperative to move beyond the traditional and limited approaches and instead explore innovative and value oriented application. Focus should be on patterns that play a role towards economic advancement of users.

Njenga (2008) further notes that a clear majority of regular M-banking users are low and average income earners. These categories also happen to hold the higher percentage of people without possession of traditional bank accounts. On this account users perceive the M-banking service as a complete substitute to flexible bank accounts which can be accessed any time. This negates the argument of mobile service providers, who in an effort to circumvent certain regulatory requirements front these facilities. Though the average mobile phone balances may be seen as low, the fact that there are balances is sufficient to prove the case that there's storage. This can be perceived as acceptance of deposits, a domain of legally established banks. Overall there's a significant indication of the high value placed on the convenience associated with the use of mobile money services. Concentration of M-banking is evidently heavier in urban settings. Universal access in rural areas is faced with numerous challenges including how to manage the float (Cash) in light of prospected demand. Access becomes a serious issue of concern in some other underdeveloped regions where network coverage is poor. Operators have tended to focus mainly on the densely populated economic zones. With the latest government move to encourage operators to develop services in the rural areas, with promises to support these efforts, it is reasonable to expect a better environment for mobile activities.

1.2. Problem Statement.

Over the past five years, banks in Kenya have invested heavily on mobile banking Porteous (2008), these include finances , introduction of seamless ICT based models linked to such intermediaries, manpower to facilitate the utilization of IT on large scale and use of IT for credit information and efficient credit delivery Usha (2008) .The purpose of the investment was to take care of the unbanked population that was using mobile services like M-pesa and Zap, provided by Safaricom and Zain respectively. Considerable effort has been made by banks to improve on their channels and profitability. However, it is worth noting that mobile banking utilization is below expectation. Mobile banking has been slow to pick because of lack of interest from the general public, due to ignorance or technophobia; many clients still opt for more cumbersome and costly methods of banking such as queuing for services in the banking hall. Thus the bank workers are still experiencing overload of repetitive and cumbersome work from the lengthy long queues. The workers take too much time trying to serve their many customers instead of attending to other duties, Brown (2003). A number of studies have been done on mobile banking in the banking industry, for instance, Polasik (2008) asserts that mobile banking has the potential to be transformational owing to various facts like existing infrastructure and target markets but there is no study in Kenya that has looked at the factors that hinder full utilization of mobile banking in Kenya. Thus, it is against this background that the researcher studied factors affecting the utilization of mobile banking in selected banks in Thika Town, Kenya.

1.3. Objectives of the Study.

The general objective of the study was to assess the factors affecting utilization of mobile banking in selected banks in Thika Town, Kenya.

2.0 LITERATURE REVIEW

2.1 Theoretical framework

2.1.1 Mobile banking Business Theories

Existing Payment Mechanisms Theory

The role of existing mediated transfers and other financial services also deserves scrutiny. A large proportion of the volume of m-transactions may reflect existing transactional relationships, shifted over to the new channels. This is not to say that a shift is not itself valuable. There are significant benefits of cost, reliability, safety, flexibility and immediacy associated with m-banking and m-payments systems. However, it is important for industry researchers and policymakers to understand the transactional networks and behaviors that already exist. An antecedent to this argument comes from the microfinance sector arguing that it is no longer acceptable for prospective providers not to inform themselves of what their future clients are already doing and what services they appear to need, Ruthven (2002)

The Social Embeddedness of Economic Transactions Theory

There is litany of social/contextual influences on m-banking/m-payments use both macro-level cultural factors and micro-level, locally-negotiated norms in families and among peers particularly about money are at play Zelizer (1994). For example, respondents in focus groups we conducted in Manila Donner (2007) explained that, while they would certainly transfer money to a family member, they would not do so to an acquaintance. Technically, the actions are the same but socially, they are miles apart.

Practitioners and policymakers are already concerned about validating m-transactions under conditions of sharing behavior, in which two people use the same handset. On the other hand, others suggest that m-banking/m-payments systems may alter patterns of money sharing within families by giving women greater autonomy and control over household savings Reijswoud (2007).

2.1.2 Mobile banking business models

A wide spectrum of Mobile/branchless banking models is evolving Bangko (2004). However, no matter what business model, if mobile banking is being used to attract low-income populations in often rural locations, the business model will depend on banking agents, i.e. retail or postal outlets that process financial transactions on behalf telcos or banks. The banking agent is an important part of the mobile banking business model since customer care, service quality, and cash management will depend on them Porteous (2008). Many telcos will work through their local airtime resellers. However, banks in Colombia, Brazil, Peru, and other markets use pharmacies, bakeries, etc. These models differ primarily on the establishment of the relationship between account opening, deposit taking and lending to the end customer, the Bank or the Non Bank Telecommunication Company Tiwari (2007). Another difference lies in the nature of agency agreement between bank and the Non-Bank. Models of branchless banking as classified by Welman (2001) into three broad categories included:

- i. Bank Focused
- ii. Bank-Led
- iii. Nonbank-Led

2.2. Empirical studies on challenges of utilisation of mobile banking.

2.2.1. Costs.

Price of a technology is an important factor that influences the utilisation of the technology. In times of increased competition, a distribution channel must organize business processes efficiently so as to reduce distribution costs. In Mobile Banking there are three costs: normal costs associated with mobile phone providers' activities, the bank cost and charges and the cellular phone cost. The cost of mobile devices though a one off cost, makes Mobile Banking as costly as other banking. If the cost of mobile devices is very high, this discourages account holders from acquiring them hence impeding the utilization of Mobile Banking services, Chavidi *et al* (2004). With the GPRS, the costs advantage is that the subscriber pays for the volume of the transmitted data and not the time required in the process, Toh (2002) making it the first technology that can not only enable but also promote mobile banking. For instance, in Philippines, domestic and international remittances offer a large market given the large volume transacted and relative low cost of using SMS based mobile phone banking applications as compared to the high cost of current banking and remittance company alternatives, Agabin (2007).

In Germany, findings by Tiwari and Buse (2007), found out that Mobile Payment is preferred primarily for smaller amounts. To further lower the cost of mobile banking the researchers argue that banks can increase the volume of utilization to enjoy economies of scale. The dilemma however is that banks on the other hand demand lower tariffs from the mobile phone network providers in order to increase the volume. As Donner and Tellez (2008), puts it, some forms of impact are already evident: to transfer funds at a distance, especially small amounts of money, mobile banking/m-payments methods are generally less expensive than many of the banking channel alternatives available to poor households. Assuming behaviours of the people do not change and mobile banking users send the same amount of money to the same people with the same frequency, a positive impact would be retention by households of a higher proportion of the money by paying lower fees. In addition to cost-saving, the choice of the word unbanked is evidence of an assumption underpinning much of the policy-makers' and development communities' interest in the technology. The assumption is that households that currently have no access to financial services will benefit accessing them, Ivatury and Pickens (2006).

Mohamed and Kathy (2008) conclude that price is perceived to be the most important consequence of m-commerce utilisation compared to convenience, security, privacy and efficiency. As a result, Mobile Banking providers need to pay particular attention to their pricing strategy with the objective to uneven the potential factors that encourage or discourage its utilisation. Affordability in mobile banking varies by number, size and type of transactions.

Affordable mobile banking often results in indirect impacts like increased incomes, increased family savings rates, and resilience to financial shocks resulting in a change in a family's dynamics on saving and sharing, Reijswoud (2007). People could stay away from their homes longer to make more money to send back home in the form of remittances, Donner and Tellez, (2008). According to Ivatury (2004), using mobile phone technology for micro finance reduces transaction costs considerably, while expanding outreach to rural areas.

Rather than travel to the bank to make their loan payment, clients can text their loan payment directly to the bank; saving travel time and money. This can also benefit the bank if it increases its outreach to rural areas while reducing its costs. However, costs can be driven out of reach of the poor if regulatory requirements like the Anti Money Laundering rules are not adjusted to permit remote account opening with KYC checks performed by agents and do not take into account the limited formal documentation normally available to low-income clients, Mortimer (2007). A major utilization obstacle is the high charges levied by the Mobile Phone Providers. It would be possible for the regulators to set maximum prices for quota volumes of SMS and other mobile messaging systems which are dedicated to mobile banking systems, Reijswoud & Weir (2007). As these new low-cost (or even zero-cost) mobile banking services emerge, a way for the existing players to keep them out of the game will be to make inter-bank ICT systems unaffordable and/or too complex to be participated in. Regulators can have a role in controlling or eliminating that tendency by setting maximum charges and on insisting on simple but secure interoperability standards, Delgado and Kleijnen (2004).

2.2.2. Security.

Security risk has two main elements. First, perceived risk grounded in concerns with regard to the technical performance or functional reliability of the service delivery system. Second, perceived security risk may be associated with concerns about personal security and privacy, Mohamed and Kathy (2008). Technology use is predicated on a perception, assumption that the service delivery system will perform to the satisfaction of the user in terms of functioning reliably and providing the requisite personal assurance. In purchase decision making processes, consumers mainly consider security risk associated with the acquisition of a service or product. Generally, consumers attach more risk to intangibles as compared to physical goods. Experience and use diminish the perceived risk associated with utilization of a new product or service. Thus, the history of consumers' usage of mobile communications services is taken to be a useful criterion for segmenting a market by innovativeness categories, Munnukka (2005).

In summary, these finding suggests that mobile phone banking must be secure. For instance, when one loses the handset, loss of service must have limited impact where the service could support a remote locking feature embedded in the software client that prevents a lost phone from accessing the customers account. Data integrity against unauthorized modification must be provided. In addition, data transmission must be secure and application and data access must be controlled. Therefore security or lack thereof must be addressed in order to encourage the utilization of mobile banking. The study sought to establish whether this holds true for the Kenyan market.

2.2.3. Customer awareness.

Issues surrounding mobile security, mobile phone devices operations and the pricing structure exponentially increasing complexities in the mobile banking channel. Although complexity and compatibility are closely related, the distinction can be made that complexity has more to do with real skills and abilities, whereas compatibility reflects attitudes towards innovations and technology in general ,Eriksson, Kerem and Nilsson (2008). The technology channel that a bank uses to roll out its mobile banking can be sophisticated to the level of discouraging potential adopters. Mobile banking employs any of the four technologies namely; the IVR, SMS, WAP and SMAC. Technical complexity is a major factor in any decision-making about the launch of new, innovative services like Mobile Banking, Tiwari and Buse (2007). If a banks customer is not using Mobile banking, it could be because their mobile phone is not easy to operate or the commands are too complex due to their limitations which diminish the usability and user-friendliness of mobile technologies,

Siau et al (2004). Other typical limitations include small displays and keypads, limited transmission speed and memory, and short battery life. Illiterate persons would be unable to utilize any text message services. A solution in India that is being developed would utilize numeric messages rather than alphabetic text, with different codes for different transactions Donner (2007).

When paying bills electronically, a client enters passwords and access codes in order to log into the service. Thereafter, the customer needs to punch in the account numbers, index numbers, the sums and due dates. This complicated the process and such a complexity may lead to inconvenience and lead to increase the feeling of uncertainty in service consumption, Laukkanen (2007). In the case of the mobile phone, the small screen with small amount of information makes the device very difficult to use in some services like funds transfer. Previous research conducted in the USA has shown that complexity in technology has a negative connection with the use of internet banking, Kolodinsky, Hogarth and Hilbert (2004). If a consumer perceives mobile banking to be relatively easy to use and understand, he will be more willing to use mobile banking. By designing in simplicity, a good mobile banking application understands and works with the limitations of a given mobile phone. Generalized solutions, such as those based on WAP browsers, can suffer from poor implementations and interfaces, resulting in a slow and cumbersome experience.

Brown *et al* (2003) pointed out that customers with greater mobile phone experience are more likely to use mobile phone banking. Some people can be faced with the challenge of utilizing text messages services therefore an SMS based mobile banking would be too complicated for them. A secure mobile banking infrastructure may require security for hand set, security for the application running on the device, authentication of the device with the service provider before initiating a transaction, these include username and password to authenticate the customer, encryption of the data being transmitted over the air, and lastly encryption of the data that will be stored in the handset for later review by the customer. Clearly, it is a complex process especially to many technologically illiterate Kenyans. This is what this study is set out to explore.

3.0 RESEARCH METHODOLOGY

3.1. Research design

The research design adopted in the study was the descriptive design. The descriptive design is appropriate where the researcher is fairly knowledgeable about the key aspects of a phenomenon but has little knowledge, if any, regarding their characteristics, nature or details. The objective of the study was to learn the who, what, when, where and how of a topic. The purpose of the study was to describe the characteristics of relevant groups, to estimate the percentages of units in a specified population exhibiting certain behaviour, to determine the perception of product characteristics, to determine the relationship between variables and to make some specific predictions, Sekaram (2003).

3.2. Population of the study.

The population for the study comprised of 228 workers in the 6 banks in Thika Town, Kenya (Appendix iii). These are the only banks registered by the Central Bank of Kenya, CBK Annual Report (2009). The study focused response from employees of the bank working at supervisory level and above in operation department.

3.3. Sampling Technique and Sample Size.

The sampling technique of the study was stratified random sampling. The technique was chosen because there may be identifiable subgroups of elements within the population that may be expected to have different

parameters on the variable of interest; Sekaram (2003).The sample size of the study targeted 98 employees who responded to the questionnaire as representatives of the population in the banks. The following formula from Kothari (2008) was used;-

$$n = \frac{z^2 \cdot p \cdot q}{e^2}$$

Where

n is the sample size estimated, z is the value of standard variate at a given confidence level ,p is sample proportion and q is 1-p,e is acceptable error. Given that we intended to be 90% confident in getting better results from my study. The formula below was used to calculated the required sample size of the study

$$n = \frac{1.65^2 * 0.9 * (1-0.9)}{0.05^2} \\ = 98.$$

The study used stratified random sampling to issue questionnaires to relevant respondents in operation department Kothari, (2008).

The sample size from each bank was calculated using the method below

Sample=Population of a bank/Total population*Total sample.

Table 3.1 Population and Sample size

| Staff Members' in the Branches. | Population | Sample |
|----------------------------------|------------|--------|
| Equity(Two Branches) | 77 | 33 |
| Family Finance | 32 | 14 |
| Kenya Commercial Bank | 46 | 20 |
| Cooperative Bank Of Kenya | 23 | 10 |
| Barclays Bank Of Kenya | 26 | 11 |
| Standard Chartered Bank Of Kenya | 24 | 10 |
| Total | 228 | 98 |

3.4. Data collection instruments

The study required the use of both primary and secondary data. Primary data was obtained through the use of questionnaires, which had both structured and unstructured questions (Appendix II).Questionnaires make it possible to reach the expected population and thus the results can be made more dependable and reliable, respondents who are not easily approachable can be reached conveniently whereas those who have adequate time to give well thought out answers, Kothari (2008). This made it possible to obtain all the relevant information. In some cases open-ended questions was used. This gives the respondent freedom of expression and permitted a greater depth of response since they were not tied up to the views of the researcher. In most cases closed ended questions were used. The secondary data was obtained from the Kenya Institute of Bankers reports and individual bank's website for the past five years.

3.5. Data Analysis Procedures

The data analysis procedures in the study was editing of raw data, coding of responses, classification according to class intervals and tabulation, Kothari(2008).The two types of data obtained were primary and secondary data .Quantitative data was analyzed using descriptive statistics; the mean, mode, median and standard deviation. This included use of frequency tables, cumulative tables, percentages and ranks, and t-tests. These data was then presented by way of tables, bar charts and pie charts. SPSS software was used to analyze the data.

4.0 RESULTS AND DISCUSSIONS

4.1 Name of Organization

Table 4.1 Name of Organization

| Banks | Frequency | Percent |
|-----------------------|-----------|---------|
| Barclays | 11 | 11.2 |
| Co-operative | 10 | 10.2 |
| Equity | 33 | 33.7 |
| Family | 14 | 14.3 |
| Kenya Commercial Bank | 20 | 20.4 |
| Standard Chartered | 10 | 10.2 |
| Total | 98 | 100.0 |

This result shows the organizations that responded in the study. About, 11.2% of the respondents were from Barclays bank, 10.2% from Co-operative, 33.7% from Equity, 14.3% from Family, 20.4% from Kenya Commercial Bank and 10.2% from Standard Chartered Bank.

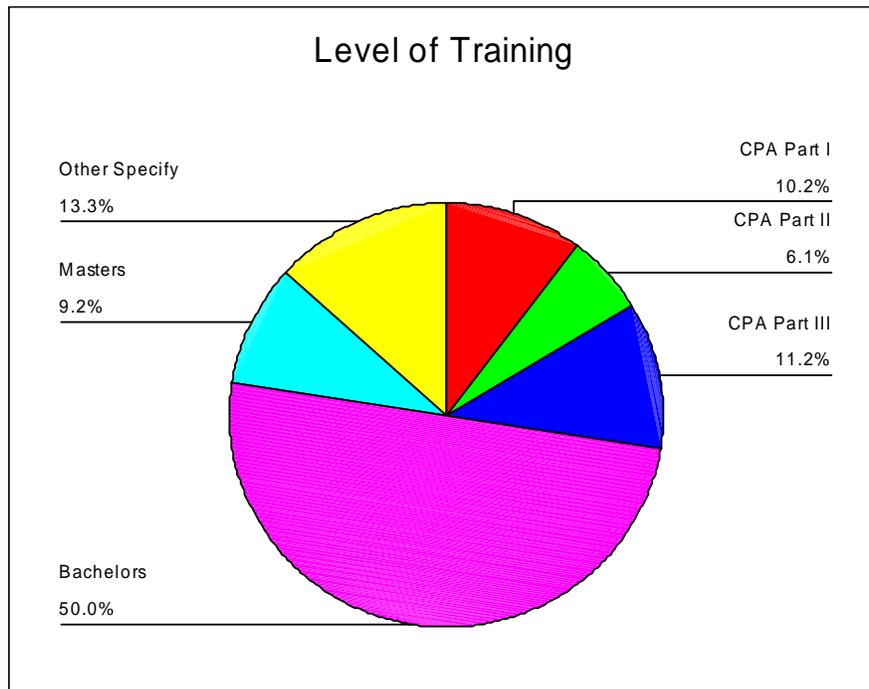
4.2 Position Held by the Respondent

Table 4.2 Position held by the Respondent

| Positions | Frequency | Percent |
|-----------------------|-----------|---------|
| Manager | 33 | 33.7 |
| Assistant Managers | 5 | 5.1 |
| Customer Advisors | 10 | 10.2 |
| Financial Consultants | 1 | 1.0 |
| Accounts Operations | 7 | 7.1 |
| Market Supervisors | 41 | 41.8 |
| Cash managers | 1 | 1.0 |
| Total | 98 | 100.0 |

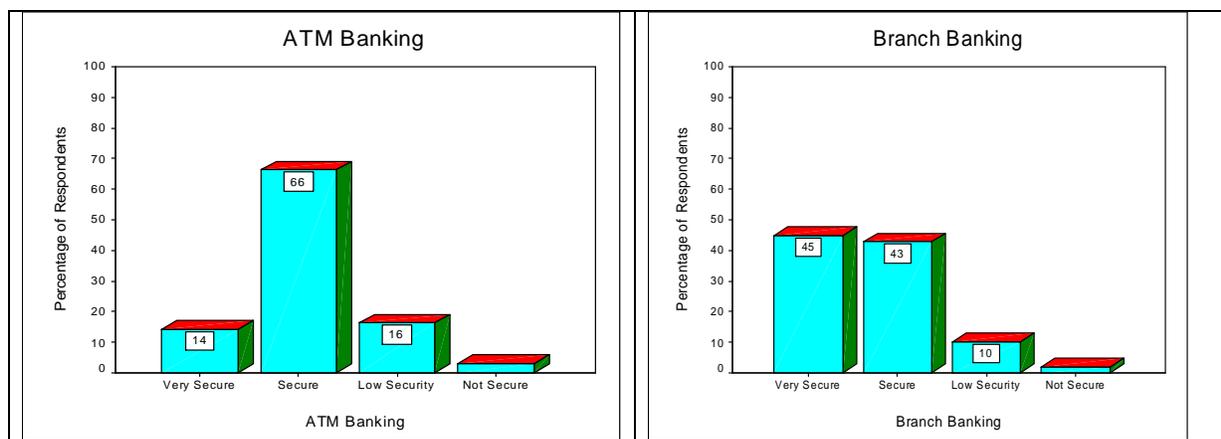
With regard to the different positions that the respondents held, 33.7% of them were managers in the different branches in the various banks, 5.1% were assistant managers, 10.2% were customer advisors, 1.0% were financial consultants, 7.1% were in the accounts operations department, 41.8% were marketing supervisors while 1.0% were cash managers.

4.3 Level of Training



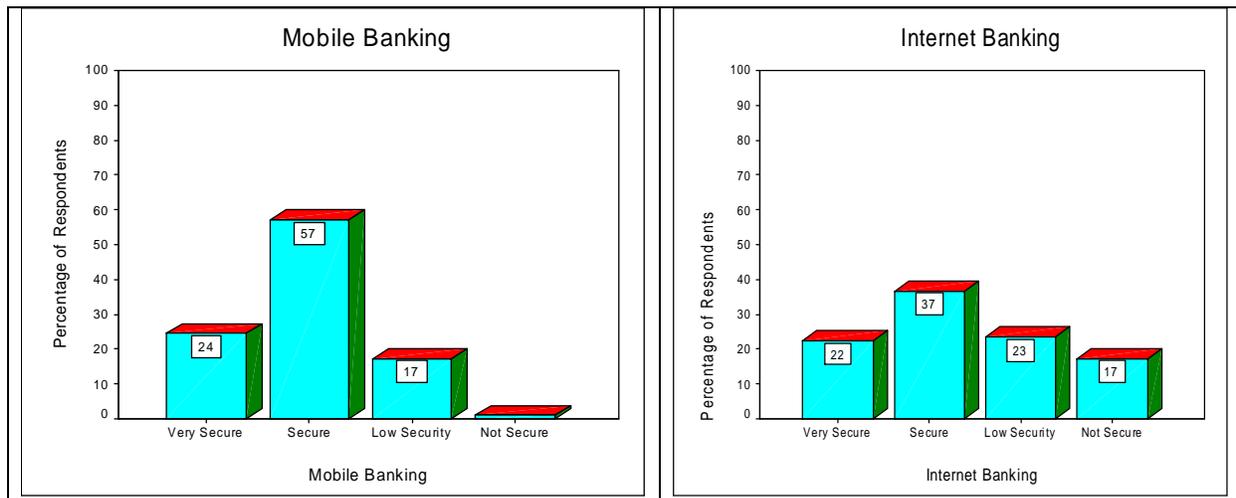
On the level of training, 50.0% of the respondents had bachelor’s degree, 9.2% had master’s degree, 10.2% had CPA Part I, 6.1% had CPA Part II and 11.2% had CPA Part III. These qualifications are deemed relevant in the banking sector. The study found that none of the respondent had Phd qualifications.

4.4 ATM Banking and Branch Banking



With regard to ranking of the ATM banking service on the basis of the level of security, 14% of the respondents said that they were very secure with this service or technological innovation, 66% were secure, 16% cited low security while 4% were not secure with the ATM banking. From the findings, majority of the respondents (45%) confirmed that they were very secure with the branches where they get their banking services, 43% said they were secure, 10% cited low security while the minority at 2% remarked that they were not secure.

4.5 Mobile Banking and Internet Banking



On the issue of mobile banking, 24% of the respondents remarked that they were very secure, the majority (57%) said they were secure, 17% said there was low security in the mobile banking while the minority at 2% remarked that they were not secure with this banking service. With regard to internet banking, 22% of the respondents remarked that they were very secure, 37% said they were secure, 23% said there was low security in the internet banking while 17% remarked that they were not secure with this service.

4.6 Factors Affecting the Utilization of Mobile Banking

The respondents were asked to rank a number of factors that affect the utilization of mobile banking. The factors were as follows; risks of fraudsters in accessing accounts using mobile banking, lack of transaction details in form of transaction slips, the use of PIN in mobile banking, third party exposure in accessing clients financial information via mobile banking, the trust of the bank in keeping customers information private and confidential and employees working for the bank posing a threat of insider fraud racket.

4.6.1 Risks of Fraudsters in accessing Accounts using Mobile Banking

Table 4.3: Risks of Fraudsters in accessing Accounts using Mobile Banking

| | Frequency | Percent |
|-------------------|-----------|---------|
| Strongly agree | 24 | 24.5 |
| Agree | 35 | 35.7 |
| Uncertain | 8 | 8.2 |
| Disagree | 16 | 16.3 |
| Strongly disagree | 15 | 15.3 |
| Total | 98 | 100.0 |

With regard to risks of fraudsters in accessing accounts using mobile banking, 24.5% strongly agreed with this as a factor, 35.7% agreed, 8.2% were uncertain, 16.3% disagreed while 15.3% strongly disagreed.

4.6.2 Lack of Transaction details in form of transaction slips

Table 4.4: Lack of Transaction details in form of transaction slips

| | Frequency | Percent |
|-------------------|-----------|---------|
| Strongly agree | 23 | 23.5 |
| Agree | 28 | 28.6 |
| Uncertain | 7 | 7.1 |
| Disagree | 16 | 16.3 |
| Strongly disagree | 24 | 24.5 |
| Total | 98 | 100.0 |

About, 23.5% of the respondents strongly agreed that lack of transaction details in form of transaction slips was a factor affecting the utilization of mobile banking. 28.6% agreed, 7.1% were uncertain, 16.3% disagreed while 24.5% strongly disagreed.

4.6.3 The use of PIN in mobile banking

Table 4.5: The use of PIN in mobile banking

| | Frequency | Percent |
|-------------------|-----------|---------|
| Strongly agree | 20 | 20.4 |
| Agree | 26 | 26.5 |
| Uncertain | 12 | 12.2 |
| Disagree | 20 | 20.4 |
| Strongly disagree | 20 | 20.4 |
| Total | 98 | 100.0 |

On the issue of the use of PIN in mobile banking, 20.4% of the respondents strongly agreed that the use of PIN in mobile banking was a factor affecting the utilization of mobile banking. 26.5% agreed, 12.2% were uncertain, 20.4% disagreed while 20.4% strongly disagreed.

4.6.4 The use of PIN in mobile banking

Table 4.6: The use of PIN in mobile banking

| | Frequency | Percent |
|-------------------|-----------|---------|
| Strongly agree | 20 | 20.4 |
| Agree | 26 | 26.5 |
| Uncertain | 12 | 12.2 |
| Disagree | 20 | 20.4 |
| Strongly disagree | 20 | 20.4 |
| Total | 98 | 100.0 |

The study found that, 20.4% of the respondents strongly agreed that the use of PIN in mobile banking was a factor affecting the utilization of mobile banking. 26.5% agreed, 12.2% were uncertain, 20.4% disagreed while 20.4% strongly disagreed.

4.6.5 Third Party exposure in accessing Client's Financial Information

Table 4.7: Third Party exposure in accessing Client's Financial Information

| | Frequency | Percent |
|-------------------|-----------|---------|
| Strongly agree | 15 | 15.3 |
| Agree | 22 | 22.4 |
| Uncertain | 21 | 21.4 |
| Disagree | 17 | 17.3 |
| Strongly disagree | 23 | 23.5 |
| Total | 98 | 100.0 |

Table 4.7 shows that, 15.3% of the respondents strongly agreed that, third party exposure in accessing client's financial information was a factor affecting the utilization of mobile banking. 22.4% agreed with this factor, 21.4% were uncertain, 17.3% disagreed while 23.5% strongly disagreed.

4.6.6 Trust of the Bank in Keeping Customer's Information Private

Table 4.8: Trust of the Bank in Keeping Customer's Information Private

| | Frequency | Percent |
|-------------------|-----------|---------|
| Strongly agree | 12 | 12.2 |
| Agree | 34 | 34.7 |
| Uncertain | 13 | 13.3 |
| Disagree | 18 | 18.4 |
| Strongly disagree | 21 | 21.4 |
| Total | 98 | 100.0 |

On the issue of trust of the bank in keeping customer's information private, 12.2% strongly agreed with this as a factor, 34.7% agreed, 13.3% were uncertain, 18.4% disagreed while 21.4% strongly disagreed.

4.6.7 Employees Working for the Bank Posing a Threat of Insider Fraud

Table 4.9: Employees Working for the Bank Posing a Threat of Insider Fraud

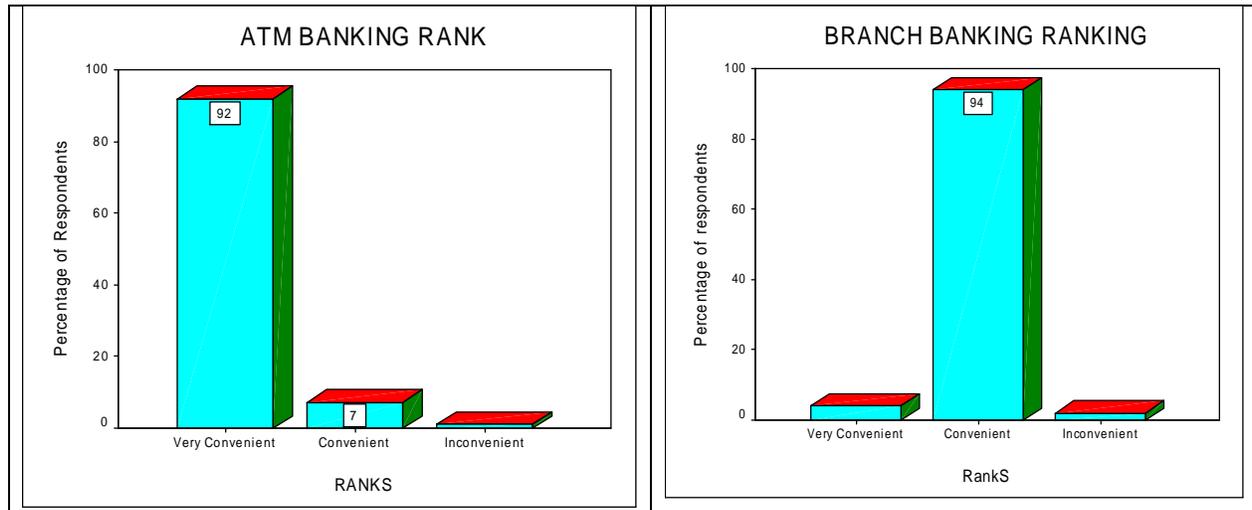
| | Frequency | Percent |
|-------------------|-----------|---------|
| Strongly agree | 14 | 14.3 |
| Agree | 32 | 32.7 |
| Uncertain | 12 | 12.2 |
| Disagree | 19 | 19.4 |
| Strongly disagree | 21 | 21.4 |
| Total | 98 | 100.0 |

On the factor of employees working for the bank posing a threat of insider fraud, 14.3% strongly agreed with this as a factor, 32.7% agreed, 12.2% were uncertain, 19.4% disagreed while 21.4% strongly disagreed.

4.7 Banking Services and their Degree of Convenience

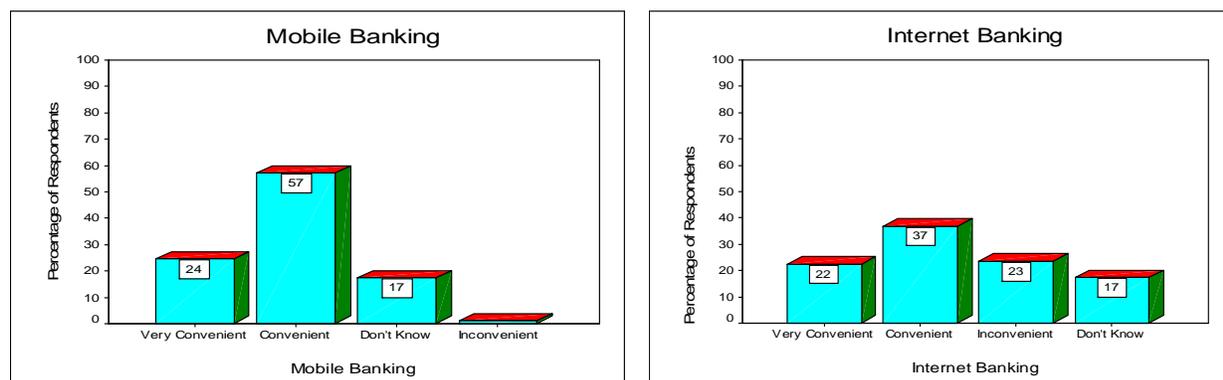
The research also sought to find out the banking services and their degree of convenience.

4.7.1 ATM Banking and Branch Banking Rank



From the findings of the research regarding the ATM banking branch, 92% of the respondents indicated that the ATM banking was a very convenient way of banking and getting the other services, 7% said it convenient while a paltry 1% said it was inconvenient. With regard to the branch banking ranking, less than 10% of the respondents indicated that the branch banking was very convenient and the same percentage indicated that it was inconvenient. The majority (94%) indicated that it was a convenient way of banking.

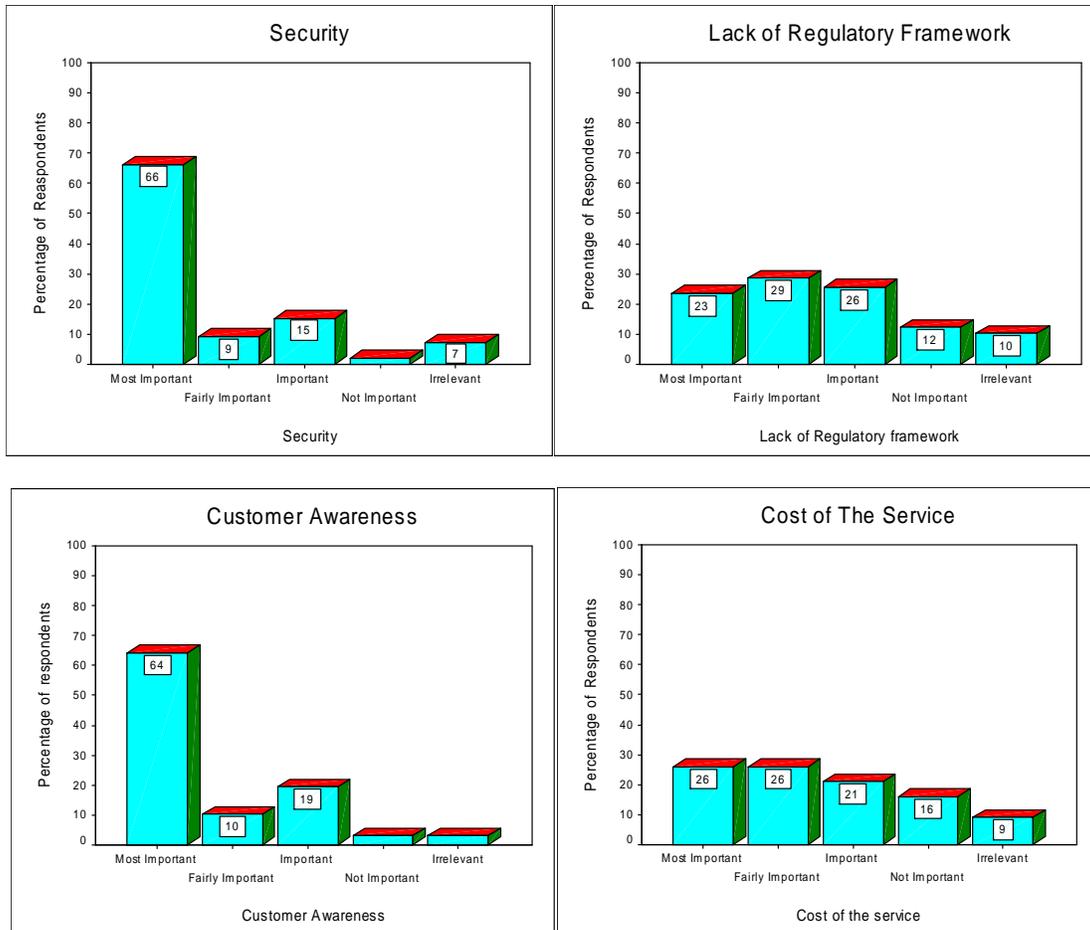
4.7.2 Mobile banking rank and Internet Banking Rank



From the analysis 24% felt that mobile banking is very convenient ,57% had the confidence of convenient ,17% were not sure hence had the don't know variable,2% felt that mobile banking is inconvenient. Respondents indicated that for internet banking 22% felt that internet banking is very convinient ,37% had the confidence of convenience ,23% brought out the inconvenient aspect whereas 17% did not know how to rank the internet banking.

4.8 Challenges Facing Mobile Banking in Kenya

The respondents were also asked to respond on the issue of the challenges facing mobile banking in Kenya.



On the issue of security, 66% of the respondents cited it as the most important challenge facing the mobile banking in Kenya. 15% said security was important, 9% indicated it was fairly important, 7% said security was irrelevant while 3% did not respond to this question. With regard to the issue of lack of regulatory framework, 23% of the respondents cited it as the most important challenge. 29% indicated that it was fairly important, 26% said it was important, 7% said it was not important while 10% said that it was irrelevant.

On the issue of customer awareness, 64% of the respondents cited it as the most important challenge. 10% said that it was fairly important, 19% said it was important, 3% said it was not important while another 3% said that it was irrelevant. With regard to the cost of the service, 26% of the respondents cited it as the most important challenge while a similar percentage said that it was fairly important. 21% said it was important, 16% said it was not important while 9% said that it was irrelevant.

4.9 Factors affecting Utilization of Mobile Banking in Thika

The research sought to find out the factors affecting utilization of mobile banking in Thika. The factors included network coverage, cost, security and handset use.

4.9.1 Network Coverage

Table 4.10 Network Coverage

| | Frequency | Percent |
|------------------|-----------|---------|
| Most important | 59 | 60.2 |
| Fairly important | 10 | 10.2 |
| Important | 9 | 9.2 |
| Not important | 9 | 9.2 |
| Irrelevant | 11 | 11.2 |
| Total | 98 | 100.0 |

On the issue of network coverage, 60.2% of the respondents cited it as the most important factor, 10.2% indicated that it was fairly important, 9.2% said it was important, another 9.2% cited it as not important while 11.2% said it was irrelevant.

4.9.2 Cost involved

Table 4.11 Cost involved

| | Frequency | Percent |
|------------------|-----------|---------|
| Most important | 34 | 34.7 |
| Fairly important | 35 | 35.7 |
| Important | 14 | 14.3 |
| Not important | 10 | 10.2 |
| Irrelevant | 5 | 5.1 |
| Total | 98 | 100.0 |

With regard to the issue of cost, 34.7% of the respondents cited it as the most important factor, 35.7% indicated that it was fairly important, 14.3% said it was important, another 10.2% cited it as not important while 5.1% said it was irrelevant.

4.9.3 Security

Table 4.12 Security

| | Frequency | Percent |
|------------------|-----------|---------|
| Most important | 60 | 61.2 |
| Fairly important | 15 | 15.3 |
| Important | 16 | 16.3 |
| Not important | 4 | 4.1 |
| Irrelevant | 3 | 3.1 |
| Total | 98 | 100.0 |

Security was another factor that was noted as affecting the utilization of mobile banking in Thika. Of the respondents that gave their responses, the majority (61.2%) indicated that it was the most important factor, 15.3% said that it was fairly important, 16.3% said it was important, 4.1% cited it as not important while 3.1% said it was irrelevant.

4.9.4 Handset Use

Table4.13 Handset Use

| | Frequency | Percent |
|------------------|-----------|---------|
| Most important | 16 | 16.3 |
| Fairly important | 33 | 33.7 |
| Important | 23 | 23.5 |
| Not important | 17 | 17.3 |
| Irrelevant | 9 | 9.2 |
| Total | 98 | 100.0 |

Handset use was also a factor that was investigated and from the findings, 16.3% of the respondents indicated that it was the most important factor, 33.7% said that it was fairly important, 23.5% said it was important, another 17.3% cited it as not important while 9.2% said it was irrelevant.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The purpose of this research was to establish the factors affecting the utilization of mobile banking in selected banks in Thika town, Kenya.

5.1.1 ATM Banking

Most of the respondents were secure with ATM banking as a service and called for risks into this service to be looked into.

5.1.2 Branch Banking

From the findings, majority of the respondents said that they were very secure with the branches where they get their banking services.

5.1.3 Mobile Banking

Majority of the respondents indicated that they were secure with the mobile banking with only a small portion of the respondents citing that they were insecure.

5.1.4 Internet Banking

On the issue of internet banking, a good number of the respondents cited insecurity and had reservations about it. They cited a number of risks, for example, hacking of the systems, issues of coding and also the issue of PIN.

5.2 Conclusion

The study noted that mobile banking has been embraced by many people and most of them were satisfied with the different services that this service provides. Some concerns about security were cited by the respondents. Potential risks to the mobile banking service were also cited and ways to counter the risks and generally to improve the mobile banking suggested.

5.3 Recommendations

Awareness creation should be enhanced so that more and more people can embrace the mobile banking. Banks should ensure that the different services that are provided within the mobile banking are secure to improve their level of satisfaction. The different risks that have identified should be checked and proper measures taken to eliminate them.

REFERENCE

1. Agabin&Meliza H(2007). *Technical Innovation for Expanding Outreach: Mobile Phone Banking in the Philippines*. MABS Program Presentation at the 3rd African Microfinance Conference Kampala, Uganda.
2. Au Y A& Kauffman, R. J (2008). *The economics of mobile payments: understanding* Elsevier Science Publishers B.V. Amsterdam, Netherlands.
3. Brown, I., Cajee, Z., Davies, D. & Stroebel, H (2003). *Cell Phone Banking: Predictors of Adoption in South Africa – An Exploratory Study*. International Journal of Information Management, Vol. 23 No. 5, pp. 381-94 Emerald Group Publishing Limited, Finland.
4. Bruno, M (2005). *Internet Banking Adoption among Mature Customers: Early Majority of Laggards?* Journal of Services Marketing, Vol. 17 No. 5, pp. 514-28.
5. Bangko (2004). *Banking Policy & Regulations Department State Bank of Pakistan Circular 471, Section 3*.
6. Central Bank of Kenya annual financial report (2008). *Payment Systems in Kenya*.
7. Chavidi N. S., Mulabagula G. & Suleep (2004). *Barriers to Mobile Internet Banking Services Adoption: An Empirical Study in Klang Valley of Malaysia*. The Internet Business Review Issue 1 – October Issue.
8. Delgado, H. & Nieto T (2004). *Factors underlying Attitude formation towards Online Banking in Finland*. International Journal of Bank Marketing, Vol. 20 No. 6, pp. 261-72. Emerald Group Publishing Limited, Poland.
9. Donner, J(2008). *Research Approaches to Mobile Use in the Developing World: A Review Of The Literature*. The Information Society, 24, 140_159 Routledge, an imprint of Taylor & Francis Books Ltd, India.
10. Donner J& Tellez, Camilo A (2008). *Mobile Banking and Economic Development: Linking Adoption, Impact, and Use*. Asian Journal of Communication, 18:4,318 — 332, Routledge, India.
11. Eriksson.K, Kerem, K. & Nilsson, D (2005). *Customer Acceptance of Internet Banking in Estonia*. International Journal of Bank Marketing, Vol. 23 No. 2, pp. 200-16, Emerald Group Publishing Limited, Finland.
12. Infogile Technologies (2007) *Basic concepts, services offered, market survey and Technology*
13. Ivatury, G (2004). *Harnessing Technology to Transform Financial Services for the Poor*. Small Enterprise Development, 15, 25_30, Routledge, India.
14. Ivatury, G., & Pickens, M (2006). *Mobile Phone Banking and Low-Income Customers: Evidence from South Africa*. Washington, DC: Consultative group to assist the poor (CGAP) and the United Nations Foundation, India.
15. Kleijnen, et al (2004). *Consumer Acceptance of Wireless Finance*, Journal of Financial Services Marketing, 8(3), 206-217 <http://www.allbusiness.com/journal-of.-electronic-commerce-research>, Netherlands
16. Kolodinsky et al (2004). *The Adoption of Electronic Banking Technologies by US Consumers*. International Journal of Bank Marketing, Vol. 22 No. 4, pp. 238-59, Emerald Group Publishing Limited U.K.
17. Kothari C.R (2008) .Research Methodology, Methods and Techniques, 2nd revised Ed, New age International Publishers, India.
18. Laukkanen et al(2007). *Segmenting Bank Customers by Resistance to Mobile Banking*. Management of Mobile Business, ICMB International Conference on the Volume, Issue, 9-11 July 2007 Page(s):42 - 42

19. Luarn, P. & Lin, H (2005). *Toward An Understanding of the Behavioral Intention to Use Mobile Banking*. Computers in Human Behavior, Vol. 21 No. 6, pp. 873-91.
20. Lyman T, Porteous D, and Pickens M (2008) *Regulating Transformational Branchless Banking: Mobile Phones and Other Technology to Increase Access to Finance.* Focus Note 43. Washington, D.C.: CGAP.
21. Mattila, M. & Pento, T(2002). *Development of Electronic Distribution Channels in Finland – M-banking Usage and Consumer Profiles*. Die Banking und Information Technologie, Vol. 2, 41-49.
22. Mohamed K. & Kathy ,N S(2008).*Drivers For Transactional B2C M-Commerce Adoption: Extended Theory of Planned Behavior* ,Spring 2008 Journal of Computer Information Systems
23. Mohammed, M (2008). *Adoption of Mobile Commerce: Role of Exposure*. Proceedings of the 35th Annual Hawaii International Conference on System Sciences (HICSS-35'02).
24. Mohr, J. (2005). *Marketing of High-Technology Products and Innovations*. Upper Saddle River: Prentice Hall.
25. Mortimer-Schutts, I (2007). *The Regulatory Implications of Mobile and Financial Services Convergence*. In D. Coyle (Ed.), *The transformational potential of m-transactions*: Vol. 6 (pp. 19_29). London: Vodafone Group.
26. Munnukka, J. (2004). *Perception-Based Pricing Strategies for Mobile Services in Customer Marketing Context*. Studies in Business and Economics, University of Jyva"skyla", Jyva"skyla".
27. Njenga A D K. (2008), *Mobile phone banking: Usage experiences in Kenya*, Catholic University, Kenya
28. Pennathur, A.K. (2001), *“Clicks and bricks’: e-Risk Management for banks in the age of the Internet”* *Journal of Banking and Finance*, Vol. 25, pp. 2103-2123
29. Polasik, H. (2008). *Electronic Banking in Finland: Consumer Beliefs and Reactions to a New Delivery Channel*. *Journal of Financial Services Marketing*, Vol. 6 No. 4, pp. 346-61.
30. Porteous D. (2006).*The enabling environment for mobile banking in Africa*, Bankable Frontier Associates.
31. Siau *et al* (2004). *A Qualitative Investigation on Consumer Trust in Mobile Commerce*. *International Journal of Electronic Business*, 2(3), 283-300.
32. Simpson, J (2002). *The impact of the internet in banking: observations and evidence from developed and emerging markets*. *Telematics and Informatics*, 19, 4, 315–330.
33. Tiwari, G. & Buse D (2007).*Marketing Research: Methodological Foundations*. 8th edition. Orlando: Harcourt College Publishers.
34. Toh, C. K (2002): *The Wireless Network Evolution, excerpted from: Ad Hoc Mobile Wireless Networks: Protocols and Systems*, Upper Saddle River, NJ 2001, Technische Universität Hamburg-Harburg, Germany.
35. Reijswoud, V (2007). *Mobile Banking an African Perspective*, Asian Media and Information Center, India.
36. Ruthven (2002). *Money mosaics: Financial choice and strategy in a West Delhi squatter settlement*. *Journal of International Development*, 14(2), 249-271.
37. Usha thorat (2008) *financial inclusion and information technology , vision 2020 – Indian financial services sector*, NDTV, Mumbai, Reserve Bank Of India.
38. Wallage (2005).*Belief, Attitude, Intention and Behaviour: An Introductory to Theory Research Readings*. Addison Wesley Publishing Company Wendy Atkins. Financial Service Marketing, Wiltshire Prentice Hall.

39. Wallace T (2005). *Modelling Internet Adoption*. International Quarterly Journal of Marketing. Vol. 7 (2), 271-289. Elsevier Science Publishers B. V. Amsterdam, The Netherlands.
40. Welman J.C, Kruegler S.J (2001). *Research Methodology*. Oxford University Press South Africa
41. Xiao S& Benbasat I (2004), *Understanding Customer Trust in Agent-Mediated Electronic Commerce, Web-Mediated Electronic Commerce, and Traditional Commerce*. Information Technology & Management (5:1-2), January-April, pp. 181-207. University of Minnesota, USA.
42. Zelizer (1994). *The social meaning of money*. New York: Basic Books.