An Assessment of the Factors Affecting the Use of Mobile Banking in Tanzania: A Case Study of Stanbic Bank

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Abstract: *The main purpose of this study was to assess the factors that affect the use of Mobile banking in Tanzania. The specific objectives of this study were to: assess the influence of users' perceived risk on the use of M- banking in Tanzania, and examine the effect of network coverage on the use of M-banking in Tanzania. This study employed a case study design using qualitative and quantitative approach. The population of the study was 4015 and samples of 150 respondents were used in this study. The study used questionnaire and interview in data collection. From the 150 questionnaires that were distributed, 120 were successfully returned but only 100 were usable for the analysis yielding a 66.7% response rate. Descriptive and inferential statistics were used to analyze the data. The analysis of the data was done with the help of the SPSS and Microsoft excel. The findings reveal that users' perceived risks, lack of trust, security risks and poor network coverage are the key factors that negatively influenced the level of use of m-banking service. Security policy positively influenced the use of m-banking services. The study recommends the government and other stake holders to invest more on m-banking services and direct more effort on its security in order safeguard outside attacks on m- banking transaction in Tanzania.*

Keywords: perceived risk, network, level of use, mobile banking

1. Introduction

Information and communication technology (ICT) has extensively affected the operations of organizations. Such effects have not only touched the Private sector routines with the introduction of electronic commerce and business but also the ways through which private organizations manage and synchronize their activities both within and outside. In the banking sector, key modernizations have been brought about whereby most of the outdated manual systems have been and are still being replaced by classy mechanisms [2]. The introduction of modern banking system such as Automated Teller Machines (ATMs), internet banking and mobile banking, Tele Banking, Smart Card banking, Debit Card and E-cheque banking has enabled clients to send and withdraw cash from such devices more conveniently by reducing the queuing time in the banking halls [3]. [2]Asserts that rapid technological development in the world today, which includes introduction of mobile phones, especially 3G smart phones and advancement of wireless telecommunications, have led to creation of potential business opportunities that can be exploited.

Today almost everybody above the age of eighteen years has a mobile phone in his pocket [4].According to wireless intelligence, the total number of cellular phones worldwide is estimated at above three billion. This large-scale adoption of mobile phones and recent growth of smart phones has opened up a number of opportunities for mobile applications such as M-banking. According to [2], M-banking is a channel whereby the customer interacts with a bank via a mobile device, such as a mobile phone or personal digital assistant (PDA). The objective of M-banking is to control cost by reducing operation cost, improving performance by making the service 24/7, a wider coverage by enabling the

access to service from any location, revenue growth through better quality and additional non-financial services, and customer convenience through personalized [5].

[6] asserts that, from customers' point of view, M-banking facilitate a convenient and effective approach to manage personal finances as it is accessible 24 hours a day and 365 days in a year without physically visiting the bank and from any location. However, despite many wireless commercial services increasing quickly, the use of mobile banking service is much lower than expected and is still underused [7]. [8] Asserts that, the market of mobile banking still remains very small compared to the whole banking transactions [9]; [10]; [11]. That is, the wide usage of cell phone and large increase acceptance does not reflect on the adoption and usage of mobile banking.

In developed world, Consumers are refraining from using these technologically advanced services, partly because of lack of awareness and partly due to other concerns of security, device functionality [12]. [13] Quotes that 86% of the people who did not use mobile banking services in US were of the opinion that their banking needs were being met without mobile banking and nearly two-thirds of people who did not use mobile banking cited security concerns, such as data interception, phone hacking or lost phone. In India, according to Report of the Technical Committee on Mobile Banking (2014) as quoted by [14], 64 banks have commenced mobile banking operations and there are 22 million active mobile banking users, which is roughly 5% of the total bank accounts. Lack of awareness, security concerns and technical issues such as network failures were considered as the major reasons behind customer resistance to mobile banking services.

The survey conducted by MQA as quoted by [15] results shows that security remains a major concern in adopting mobile banking, 72% of the respondents reported they worried about the security of accessing financial data on a mobile device, and 79% of the respondents reported they would only sign up for account balance alerts by mobile. In supporting the above [16] states that "security threats might include exposure of confidential data, loss or destruction of data, modification of data, denial of services and errors in web application." Furthermore, security was considered to be one of the greatest concerns in adoption of mobile banking services [17]; [18]. In Africa, according to study done by [19] on the factors affecting adoption of electronic banking system in Ethiopian Banking industry. The result of the study indicates that, the major barriers in the adoption of Electronic banking are: security risk, lack of trust, lack of legal and regulatory frame work, lack of ICT infrastructure and absence of competition between local and foreign banks. In East Africa, [20] studied factors affecting adoption of mobile banking in Kenya: Case study of KCB bank Lemuru. Descriptive statistics was used to analyze the data. The finding indicates that the adoption rate in KCB Limuru is below target. The main reasons found to be behind non-adoption of mobile banking service was risk of loss and fear of system failure. Customers' perceived risk was found to negatively affect adoption of M-Banking service. The risks found to have the greatest influence were fear of sending money to wrong account or phone number and loss of personal or account information. A further study done by [21] analyzed the factors that influence internet banking adoption among intellectuals in Uganda, the result reviled that the chief setback of adaptation of technology among these were compromised security of transactions and marketing exposure. In Tanzania, a survey research conducted by [22] revealed that, 63% of surveyed households have access to a mobile phone, 56% of households own at least one active SIM card which is required for opening an m-money (M-Pesa) account. Even among rural, unbanked and poor households (those living on less than $2 a day), about one-half of households have access to a mobile phone and own a SIM card which can access M- banking services, however, despite all these, there seem to be a number of issues that prevent Tanzanian population from meaningfully adopting and using existing M-banking services [23] .According to research done by [24] on the factors that influence adoption of electronic banking in Morogoro, Tanzania. The findings of the study indicated that the beigest challenges besides education, income, demographic factors such as age, security, cost, perceived ease of use, the network failure and technical difficulties during transactions influenced the adoption of e-banking.

2. Methods / Approach

Research Design
[25] Defines research design as the conceptual structure within which research is conducted. It constitutes the blueprint for the collection, measurement and analysis of data. A case study seeks to describe unit in detail, in context and holistically. This study employed a case study research design. [26] Define research design as a case study research is more than simply conducting research on a single individual or situation. A case study was used because it allowed in depth investigation of the issue at hand. It also enabled the researcher to gather data from a variety of sources and to converge the data to clarify the case.

Target Population.
A population is a group of individuals, objects or items from which sample are taken for measurement [27].The target population for this study was the employees and customers of Stanbic Bank Arusha branch as shown in Table 1

Table 1: Presenting the Target Population.

S/N	Respondents	Population
1	Management	5
2	Bank Tellers	5
3	IT Staff	5
5	Customers	4,000
TOTAL POPULATION		4,015

Sample Design
Sampling design refers to the part of the research plan that indicates how cases are to be selected for observation [28]. The study employed non probability design that is, judgmental sampling and convenient sampling respectively.

Purposive Sampling: is a sample technique that allows a researcher to use cases that have required information with respect to the objective of his or her study [29]. This study employed Judgmental sampling techniques where Bank Manager, Bank tellers and IT staff were selected for interview and the selection were based on researchers' own judgment. This was done based on the amount of information that can be accessed through such individuals.

Convenient sampling: according to [28] is the method based on using people who are captive audience, people the researcher meets by haphazardly or accidently. The study also employed convenient sampling whereby, the researcher visited the bank and approaches customers who came in to do transaction to filled in the questionnaire and those who were in array, questionnaire were given to them and the researcher exchanged contact with them and then they filled the questionnaire at their convenient time and contacted with the researcher later.

Sample size
Sample size is the number of object which is included in simple [28]. There are several methods for determining the sample size. In this research, the researcher employed a simple formula from [30] to determine the sample size.
The study involved 148 customers and 3 employees of Stanbic Bank, and distribution of the sample size is as given in Table: 2

$$n = \frac{N}{1 + N(e)^2}$$

Where:

$$n = \frac{4015}{(1+4015(0.08)^2)}$$

n = sample size
N = population size
e = the level of precision

Therefore, n=151.

The level of precision (e) is 8% (0.08) with 92% confidence level.

In this case therefore the sample size for the Stanbic bank customers and bank staffs were 151 as shown in Table2.

Table 2: Presenting the number of the sample size

S/N	Respondents	Population	Sample Ratio	Sample Size
1	Management	5	0.1	1
2	Bank Tellers	5	0.1	1
3	IT Staff	5	0.1	1
5	Customers	4,000	0.148	148
	TOTAL	**4,015**	**0.151**	**151**

Data Collection Methods
Data collection refers gathering specific information aimed at proving or refuting some facts [29]. The researcher used two sources of data; that is primary and secondary data sources.

Primary Data
Primary data is the information gathered directly from the respondent [28]. The primary data were collected through the following methods:

Interviews
The interview method of collecting data involves presentation of oral-verbal stimuli and reply in terms of oral-verbal responses [25]. The researcher carried out 3 interviews with the Bank manager, Bank tellers and IT staff. Such interviews enabled the researcher to gather more detailed information from such individuals who were well informed about M-banking and other operations of the bank; the method allowed the researcher to ask probing questions and hence enrich the study with key data. Interview guides were prepared; and it enabled the interviewer to focus on most critical areas of the study and ensured that all the necessary data were gathered from all intended respondents.

Questionnaire
A questionnaire is a set of questions for gathering information from individual which consists of a number of questions printed or typed in a definite order on a form or set of forms [28] Apart from the interviews questionnaires were applied in the study. The questionnaire consisted of both open-ended (few) and closed questions (most). The format enabled the respondents to provide their insights about the factors that affect the use of M-banking in Tanzania. Piloting of the instrument of the questionnaire were done in order to ensure that the questions provoke a response, content therein and the information were having clear wordings and measuring what they were supposing to measures in order to ensure validity and accuracy. The questionnaires were used in this study because it can cover a wide area and no bias on the side of the researcher and the respondents.

Secondary Data
The secondary data were collected through different documentary review whereby a researcher reviewed news papers, articles and published bank reports if any.

Documentary review
According to [31] documentary review is the process of reviewing variety of existing sources i.e. documents, reports, data files and other written artifacts with the intention of collecting independently verifiable data and information. The researcher chooses this method because it is cheap and easy to collect the relevant information.

Data Analysis Methods
[29] Defines data analysis as the "process of extracting, compiling and modeling raw data for purposes of obtaining constructive information that can be applied to formulating conclusion and predicting outcomes or supporting decisions scientifically. Descriptive and inferential statistics such as percentage, frequency and correlation were used to analyze the data, with the help of Statistical Package for Social Scientists (SPSS) version 20. Before performing the analysis all data were debugged (sorted out) to ensure that only the accurate and relevant elements were left to go into the analysis process; the questionnaire were coded into Statistical Package for Social Scientists (SPSS) version 20 and all the questionnaires were entered into it and analysis were run. The results have been presented in form of tables, pie and bar charts, as well as percentages. In addition to that excel has also been applied to analyze secondary data gathered from various sources. Not only that but also the qualitative data has been summarized into different themes that correspond with each of the research questions given in the first chapter of this study. Such narratives supported the quantitative data from the questionnaires as well as the secondary sources.

Variables and Measurements
The study used descriptive statistics of correlation, percentages to assess the factors affecting the use of M-banking in Tanzania. The variables which ware compared were Perceive risks, Poor network coverage, user's Knowledge and level of use of M-banking. The qualitative analysis was also used to provide the details of the qualitative variables.

Data

Validity and Reliability

Validity
Validity is the extent to which the findings of the study make sense, are credible or represent an authentic portrait of what the study is looking at [32].It also refers to how well a test measures what it is purported to measure. It is the establishment of the causal relationship whereby the outcomes of the study are linked to each other. In order to achieve this, I read through the instrument with my supervisor to check whether they were addressing the objectives and those that were irrelevant were removed and add those questions that were relevant thus, ensured the validity of the instruments. A pilot test was also done to ensure validity, a pre-test were sent to five respondents to see if the questionnaire contains anything that were hard to interpret.

Reliability
On the other hand, reliability is the degree to which an assessment tool produces stable and consistent results [32]. This was censured by using Cronbach's Alpha. Cronbach's Alpha was used by administering the instrument to the bank that was not part of the study but with the similar characteristic and was not being used by the current studies. After getting back the instruments, it was corded in SPPS Version 20 and the analysis was run in order to determine the stability and consistency of the instrument. The result of the Cronbach's Alpha is high (0.751) has shown in the Table3, indicating that the instruments is reliable.

Table 3: Reliability Test

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.751	.763	27

3. Results / Discussion

The Influence of Users' Perceived Risk on the Use of M-Banking
I always use mobile banking because I trust the services offered by my bank, it is very secure
The study investigated whether the respondents always use mobile banking because they trusted the services offered by their bank, were very secure. The results revealed that 75% of the respondents agreed that they always used mobile banking because they trusted the services offered by their bank, was very secure, 20% were not sure, while 15% disagreed. These findings are in harmony with the results of [33] which indicates that, lack of trust on the use of technological facility provided by bank is another factor that can hinder adoption of technological innovation by Ethiopian banking industries. The correlation test results shows that there are weak negative statistical significant relationship between customers' trust on the services offered by bank on m-banking and dislike of using it. ($r= -0.398$: $p=0.082$). This implies that the more trust the customers have on the m-banking services, the lesser they will dislike using it. Hence, increasing the level of m-banking use

To me the security of M-banking is the most important factors that influence my choice of using M-banking service or Branch banking
The study also investigated whether the security of M-banking was the most important factors that influenced the respondent's choice of using M-banking services or Branch banking. Out of 100 respondents who filled the questionnaires, 75% agreed that to them the security of M-banking were the most important factors that influenced their choices of using M-banking services or Branch banking. 15% were not sure, while 10% disagreed. The higher percentage of the respondents agreed that security of M-banking was the most important factors that influenced their choices of using m-banking service or Branch banking. These findings are in line with a study done by [34] which found that security as the main reason for slow growth of M-banking in Australia. In addition, [34] identifies security risk as a primary concern relating to M-banking. They argues that external threats such as "hacking" surfing,

spoofing and denial of services, attacks expose banks to new security risks. This implies that the security of mobile banking has significant influence on the level of use of mobile banking.

There is high risk of fraudsters in accessing accounts using mobile banking
This study also investigated whether there was high risk of fraudsters in accessing accounts using mobile banking. The results indicated that out 100 respondents 40% agreed that there were high risk of fraudsters in accessing accounts using mobile banking,35% strongly agreed to the same, which sum up to 75% of the respondents, 20% were not sure, while 5% disagreed. A higher percentage of the respondents (75%) agreed that there was high risk of fraudsters in accessing accounts using mobile banking. This study results are in harmony with [35] Global Economic Crime Survey, which found that external fraudsters were still the main perpetrators of economic crime for the majority of financial service organizations (57% in 2014 and 60% in 2011). The study also found that 65% of the total fraud cases reported by banks were technology-related frauds (covering frauds committed through/ at an internet banking channel, ATMs and other payment channels like credit/debit/prepaid cards). This implies that m-banking is associated with fraudsters which could impede the level of use of m-banking.

I like using M-banking because my bank has security policy that guarantee its customers in case of any security risks or losses
The study investigated whether the respondents liked using m-banking because their banks had security policy that guaranteed its customers in case of any security risks or losses. The results indicated that 60% of the respondent agreed that they like using M-banking because their banks had security policy that guaranteed them in case of any security risks or losses, 30% were not sure and 10% disagreed. From the findings, (60%) of the respondent agreed that they liked using M-banking because their banks had security policy that guaranteed them in case of any security risks or losses. However, on the contrary, the study done by [36] indicates that 82.0% of respondents interviewed feared that through transferring money via mobile banking, they would easily lose money due to careless mistakes. The study further reveals 82.6% of the interviewed respondents worried that when transaction errors occur, they may not get compensation from banks. The correlation test results show that there are positive statistically significant relationship between bank's security policy and customers' preference to use m-banking. ($r= 0.627$; $p=0.003$). This implies that the banks' security policy does influence the customer's preference to use m-baking. It signifies that, the more the bank adds favorable security policies that guarantee customers' recovery of their money in case of any lost during m-banking transaction, the more the customer will prefer using the m-banking services as long as the safety of their fund is guaranteed.

I don't like using mobile banking because I fear that the third party may access my financial information
The study investigated whether the respondents did not like using mobile banking because the third party might access

their financial information. The result indicates that 35% of the respondents were not sure whether they didn't like using mobile banking because the third party might access their financial information, 25% strongly agreed, 20% disagreed, while 20% strongly disagreed. The results indicated that 40% of the respondent disagreed that they didn't like using mobile banking because the third party might access their financial information. This was supported by previous studies which found that security issues were not major obstacles for consumers in adopting mobile banking [37]; [38]. However, on the contrary, the study done by [39] found that 94.3% of the respondents agreed that they would not feel totally safe providing personal privacy information over mobile banking. The study further re-affirmed that 80.8% of respondents interviewed felt that they would not feel secure sending sensitive information across mobile banking platform. As a result, many people may decide not to use this service and ignore the extra benefits of using mobile banking. The correlation test indicated a positive relationship between access to customer's financial information by the third party and their preference to do transaction physically at the bank branch. (r=0.464; p=0.039). This implies third party access to customer's financial information positively influence the use of physical branch banking. This further signifies that banks need to limit threats of third party access to customers' information during m-banking transaction if it's to succeed.

I can only trust doing transaction on mobile banking up to certain maximum Amount
The results shows that 70% of respondents strongly agreed that they could only trust doing transaction on m-banking up to certain maximum amount, 20% agreed, and none of the respondents disagreed, while 10% were not sure. Furthermore, the interview result reveals that 80% of the respondent indicated that they could trust doing transaction on mobile banking up to maximum amount of TShs 200,000 only, 10% indicated TShs 500,000, 5% indicated TShs 1,000,000, while the remaining 5% indicated TShs2,000,000. This result confirms the finding of [40] which indicates that, the greatest challenge among the electronic banking sector is winning the trust of customers in the issue of security or perceived security risk as a key inhibitor in the adoption of online banking.

The correlation tests shows weak negative correlation (r= -0.398; p= 0.083). This signifies that the maximum amount set by the customers on m-banking transaction negatively affect their level of use of m-banking. It means that the more the amount to be transacted by the customers, the lesser they will use m-banking transaction.

The Effect of Net Work Coverage on the Use of M-Banking

The network of M-banking is one of the most important factors that determine my choice of using mobile banking service or branch banking
The result indicated that 60% of the respondents strongly agreed that the network of M-banking was one of the most important factors that determined their choices of using m-banking service, 30% agreed while 10% were not sure. These findings are similar to findings of [41] in Kenya which reveals that 60.2% of the respondents cited that network coverage was the most important factor that hindered them from using m-banking. The Correlation test result shows a positive statistical significant relationship between network coverage and the customers preference to use m-banking while doing transaction (r= 0.548; p=0.012). This implies the m-banking network coverage positively influence the level of m-banking use by customers. Thus, the banks need to ensure that the networks of their chosen service provider are stable in order to motive more customers to use m-banking services.

Mobile banking transaction is always slow because of poor network
The finding revealed that 40% of the respondents agreed that m-banking transaction was always slow because of poor network, 30% strongly agreed, 5% strongly disagreeing and20% were not sure, while 5% disagreed. The result indicated that 70% of the respondents agreed that m-banking transaction was always slow because of poor network. These results are in harmony with a study done by [42] which states that (45%) of Tanzania areas have limited cellular network whereby the urban areas has at least reasonable coverage compared with rural areas. Another cause for poor network coverage may include increased number of customer served by a single base transceiver station (BTS) whereby the same study identifies that (44.6%) of the subscribers at the University of Dodoma claimed of network outage and call dropout a situation caused by lack of sufficient BTS whereby 23,000 customers could be served by only three BTS. Hence causing slowness of network during m-banking transaction and resulting to low level of m-banking use.

Poor Network makes mobile banking services inconveniencing and unreliable
The results of the study indicates that 80% out of 100 respondents agreed that poor network of mobile banking services were inconveniencing and unreliable, 15%were not sure, while 5% disagreed. The correlation tests result shows a weak positive statistically significant correlation between the poor network and dislike of m-banking use by the customers (r=0.416; p=0.068). This implies that the more customers get inconvenienced while doing transaction on m-banking because of poor network, the more they perceived it as being unreliable and dislike using such services. Hence, resulting to low level of use of m-banking services. This could be one of the reasons why customers still queue in the bank halls for doing transaction.

I like using mobile banking but sometime I am limited by poor network coverage especially when I am traveling or in the village

The finding reveals that 80% of the respondents agreed that they liked using mobile banking but sometimes they were limited by poor network coverage especially when traveling or in the village, 10% were not sure and while the remaining 10% disagreed. These results are in harmony with the findings of [43] which indicates that 78.6% of the respondents cited poor network coverage as obstacle towards their adaption of m-banking in Tanzania. In addition, results from [44] revealed that only (65%) of the Tanzania population lived within the range of a GSM signal, as compared to over (90%) in neighboring Kenya and Uganda. This therefore implies that network coverage in Tanzania is still inadequate thus low network capacity contributes to low level of m-banking use in Tanzania. This implies that the poor network coverage directly denies customers access to m-banking service. Thus, banks should improve their network coverage in order to enhance customer's access to m-banking services.

Poor Network of mobile bank often discourages me to do transaction through my phone that is why I do go to bank physically to do transaction

The result indicates that 90% of the respondents strongly agreed that poor network of mobile banking often discouraged them from doing transaction through their phone, and that is why they went to bank physically to do transaction, while 10% were not sure. These results are also in line with [43] which indicate that 78.6% of the respondents cited poor network coverage as obstacle towards their adaption of m-banking in Tanzania. Thus, implying that poor network negatively influences m-banking use.

The influence of users' perceived risk on the use of M-banking in Tanzania

The finding shows that the security of M-banking was the most important factors that influenced the customers' choices of using M-banking service or Branch banking. This was evidenced by 75% of the respondents who cited that to them the security of M-banking were the most important factors that influenced their choices of using M-banking service or Branch banking. Most of the respondents worried that they would lose their money during m-banking transaction because of fraudsters. This was evidenced by (85%) of the respondents who agreed that there was high risk of fraudsters in accessing accounts using mobile banking. The respondents also had limited level of trust on m-banking transaction up to certain maximum amount. These were evidenced by70% of respondents who strongly agreed that they could only trust the service up to certain maximum amount. A further 80% of the respondents re-affirmed that they could trust doing transaction on mobile banking up to maximum amount of TShs 200,000 only. People used m-banking because their bank had security policy that guaranteed compensation of their funds in case of any security loses. This was supported by (60%) of the respondent agreed that they liked using M-banking because their banks had security policy that guaranteed them in case of any security risks or losses. The study therefore, found user's perceived risks and security to be one of the major factors negatively influencing the level of mobile banking use.

The effect of network coverage on the use of M-banking in Tanzania

The finding shows that network was one of the most important factors that determined customers' choices of using m-banking service. This was indicated by 90% of the respondents who strongly agreed that the network of M-banking was one of the most important factors that determined their choices of using m-banking services. The correlation test shows a positive relationship between network and the level of m-banking use. The m-banking transaction was slow because of poor network. This was evidenced by 70% of the respondents who agreed that m-banking transaction was always slow because of poor network. The customers were inconvenienced and they felt that m-bank was unreliable because of poor network. This was evidenced by 80% of respondents who agreed that poor network of mobile banking services was inconveniencing and unreliable.

Even so, a further 80% of the respondents cited that they liked using mobile banking but sometimes they were limited by poor network coverage especially when they were traveling or in the villages. Poor network did discouraged people from doing transaction through their mobile phone. This was evidenced by 90% of the respondents, who agreed that poor network of mobile banking often discouraged them from doing transaction through their mobile phone. This is true because poor network coverage can denies or limit or delay customer's access to their bank account through their mobile phones. Thus, resulting to law level of mobile banking use. The study therefore, found that poor network was one of key factors negatively affecting the level of m-banking use.

4. Conclusions

First specific objective assed the influence of users' perceived risk on the use of m- banking, the study found users' perceived risks, lack of trust, and security risks, to be of the key factors negatively influencing the level of use of m-banking services. However, presents of security policy that guarantees customers in case of any lose positively influenced the level of use of m-banking service.

Lastly, the study examined the effects of network coverage on the use of m-banking and the study concluded that poor network coverage was the key factors negatively affecting the use of m-banking service by limiting or denying customers access to their bank account via mobile phone. Hence, low level of use of mobile banking.

5. Future Scope

The findings of this study have highlighted major factors that hamper the use of m- banking. Based on the above findings, the following suggestions to improve customer's use of mobile banking are put forward for commercial banks either offering or planning to launch mobile banking services in Tanzania:

Firstly, with regards to users' perceived risk the study recommends commercial banks and service providers to come up with safety security features such as firewalls and proxy servers which are both the best remedy to save guard outside attacks on m- banking transaction in order to ensure that consumers feel secure while conducting business on the mobile banking platform, thus, yielding higher level of m-banking usage by the customers.

Secondly, the study recommends commercial banks and their service providers to ensure privacy and confidentially of customers' information by the use of message encryption to guarantee end-to-end security and guaranteeing that information is only being accessed by authorized parties. In fact, banks and service providers should continuously innovate and offer better security and reliable applications to enhance users' confidence towards mobile banking services.

Thirdly, the study also recommends that commercial banks invest more in promotional communication drives to educate and reassure the market of the safety of using mobile banking.

Furthermore, with regards to poor network coverage, this study recommends that the government, in collaboration with commercial banks and service provider (telecomm companies) to improve and expand network coverage from urban center to the rural areas by connecting the whole country to the national fiber optic cable in order to minimize network failure and increase speed of m-banking network and hence in turn increasing the level of the mobile banking use.

Lastly, this study also recommends commercial banks and their service providers to open sea cable for international high speed Internet connectivity and the expansion of mobile communication networks to 4G technologies which will open new opportunities of business transactions using payments systems such MasterCard, debit card, credit card for international banking and transactions.

6. Limitations

This research only focused on Stanbic Bank Arusha branch which is very small area compared to mobile banking market nationwide. Therefore, this study recommends further studies on mobile banking usage to be conducted using more than one case study and a comparative analysis should be done to find out if there could be any similarities.

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