FACTORS INFLUENCING USAGE OF MOBILE BANKING SERVICES: THE CASE OF ILALA DISTRICT IN TANZANIA

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Abstract
The study assessed key factors that influence the usage of mobile banking services in Tanzania using TAM and transaction theory. A sample of 120 mobile phone users collected through a structured questionnaire was used. Descriptive, Pearson correlation and multiple regressions were employed for analysis. The study found that customers' awareness and perceived ease of use have a significant positive influence while perceived risk and transaction cost have a significant negative influence on the usage of mobile banking services. Customers' awareness and perceived ease of use have relatively greater influence on the usage of mobile banking services than perceived risk and transaction costs.

Key Words: Factors; Mobile Banking Services; Tanzania

Introduction

Improving access to financial services is essential in transforming people's lives specifically in developing countries (N-FIF 2014-2016). It has been observed that majority of ordinary people in these countries have limited access to financial services. It is estimated that 2.7 billion people in developing countries have no access to financial services (CGAP, 2010). Over a billion people in Africa, Latin America and Asia are currently without bank accounts but have mobile phones (Dovi, 2008).

Mobile phones have become a tool for everyday use. They have created an opportunity for evolution of banking services to reach the previously unbanked population. Use of mobile banking has made basic financial services highly accessible to low-income people because it caters for challenges of time and distance to the nearest retail bank branches (CGAP, 2006). Mobile banking (m-banking) is an internet-based service, which enables customers to access bank accounts through mobile devices and conduct as well as complete bank-related transactions such as checking account status, transferring money and selling stocks, to mention a few (Kim, Shin and Lee, 2009). Luo Li, Zhang and Shim (2010) defined mobile banking as an innovative method for accessing banking services via a channel whereby the customer interacts with a bank using a mobile device. Mobile banking services provide ability to perform banking transactions online on portable mobile devices via the Short Messaging Service (SMS) or Wireless Application Protocol (WAP). Such provision of financial services through ICT was made possible even in low-income countries. The roll-out of mobile telephone has been rapid and has extended access well beyond already connected customers in developing countries. It has resulted in a positive social impact on poor people and communities (Porteous and Neville,

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2006). Furthermore, mobile banking is a powerful way of delivering savings services to a billion people, worldwide, who have a cell phone but no bank account (Lee, Lee and Kim, 2007). It breaks down geographical constraints and also tends to offer immediacy, security and efficiency (Ondienge, 2010).

Worldwide and more so in developing countries, mobile banking services have been increasing. Some examples are in India, Pakistan, Iran, Guatemala, Mexico and Saudi Arabia where general banking services and others like micro-insurance are provided through mobile banking (Rumanyika, 2015). In Africa, the growth rate is about 33 percent. Countries that have responded the most are Mozambique (49.7%), Ghana (39.3%), South Africa (30.1%), Nigeria (26.9%) and Zambia [(22.1%) *ibid*.]. Furthermore, it has been observed that in Africa, people use mobile phones to make payments for school fees, healthcare and utility bills (FinScope, 2013). Businesses use mobile phones to pay their staff and suppliers (*ibid*.). Poor people who have never entered a bank are using mobile services to send or receive remittances and also to save their money. 'Mobile money,' as it has been dubbed, is growing at an amazing pace on the continent and more so in Tanzania. Statistics indicate that the total number of registered mobile customers surged from 14,000 in June, 2008 to 28.1 million in March, 2014 (TCRA, 2014). The average number of monthly transactions increased from 272,700 in 2009 to 74.9 million in June, 2013 (BOT, 2014); and money stored in mobile accounts increased from Tanzanian shillings (TZS) 3 billion in June, 2009 to TZS 308 billion in March, 2014 (BOT, 2014). FinScope (2013) indicates that 49.9 percent of the adult population (approximately 12 million adult Tanzanians) use mobile money, an increase from 1.1 percent in 2009. The report (*ibid*.) further indicates that only 13.9 percent of the adult population use banking services. It was noted further that the percentage of those who are excluded from using banking services decreased from 55.3 percent in 2009 to 26.8 percent in 2013, because of the increased use of non-bank formal products from 6.7 percent in 2009 to 43.5 percent in 2013 (*ibid*.).Despite all these developments in use of mobile phone services and mobile money transfers, usage of banking services and mobile banking, in particular, has remained low in Tanzania.

Rumanyika (2015) used Diffusion Innovation Theory and reviewed literature from 14 papers on obstacles to adopting mobile banking in Tanzania. He (*ibid*.) used descriptive analysis and identified that theft of mobile handsets, poor network coverage, lack of knowledge of m-banking, high mobile transaction fees, irregular standards of mobile money payments, lack of enough mobile money agents, Automated Teller Machine (ATM) breakdown, ATM theft, lack of trust of mobile money agents and poor security of mobile networks negatively affect adoption of mobile banking in Tanzania. This study differs from Rumanyika's study in terms of the model and methodology. This study was guided by both Technology Acceptance Model (TAM) and Transaction Cost Theory (TCT). The former predicts user's acceptance and usage of information technology. The model explains that a user's perception on the system's usefulness and ease of use result in a behavioural intention to use/not use the system. The latter explains about one of the critical influencing factors while deciding whether or not to use certain services. Therefore, this study was an empirical undertaking that aimed at answering the following question:

What influences mobile phone users in Tanzania to utilize mobile banking services?

A sample of 120 mobile phone users collected through a structured questionnaire was used. Data were examined using descriptive, Pearson correlation and multiple regression analysis. Results

showed that customers' awareness and perceived ease of use have a significant positive influence, while perceived risk and transaction costs have a significant negative influence on usage of mobile banking services. Customer awareness has the greatest influence on usage of mobile banking followed by perceived ease of use, then perceived risk and lastly, transaction costs. We argue that creating awareness to a wide range of customers and banks providing services that are 'easy to use' will positively influence more Tanzanians to use mobile banking services. The paper proceeds as follows. Section 2 presents literature review starting with the context of mobile banking in the country, theoretical review and empirical literature followed by section 3, which presents methodology. Section 4 presents findings and discussion, while section 5 presents conclusion.

LITERATURE REVIEW

Mobile Banking Services Context

Tanzania has about 45 million people (PHC, 2012) and the economy has been growing at an average rate of 5.8 percent per annum since 1995 (N-FEF 2016-2020). However, most (71%) of the population lives in rural areas and around 66 percent of households engage in agriculture. The literature indicates that inclusive financial systems are critical for growth of agriculture because smallholder farmers and Small and Medium Enterprise (SME) owners will be facilitated to invest, expand operations, increase turnover per acre and protect themselves against risks. Globally, literature indicates that 2.5 billion people and hundreds of millions of enterprises are currently excluded from the formal financial system. In Tanzania, 55.3 percent of the adult population was excluded in 2009. The situation improved in 2013 when only 26.8 percent of the adult population was excluded (FinScope, 2013). Tanzania has more than 56 banks with more than 609 branches. Currently, there are seven mobile phone companies with about 40 million subscribers (Communication statistics report, 2015). Most companies provide mobile money services and a few banks also offer mobile as well as agency banking services. It has been observed that about one in five people in the country use mobile money. The statistics further show that mobile money agents out-number all other financial access points by almost 30 to 1 (N-FIF, 2014-2016). With such rapid leverage of technology in the telecommunications industry, it was expected that a good number of people would use banking services. However, this is not the case as it has been observed that even with the mobile money agent network, a significant number of people still cannot access banking services. This study sought to establish factors that influence their use of mobile banking services.

Theoretical Literature Review

The Technology Acceptance Model (TAM) focuses on explaining attitude of intention to use a specific technology or service. The model has been used by several studies focusing on adoption of mobile services (Micheni, Lule and Muketha, 2013) and has been established as a robust and powerful model for predicting user acceptance (*ibid.*). TAM, which deals with perceptions as opposed to real usage, suggests that when users are presented with a new technology, two important factors influence their decision on how and when they will use it, namely, Perceived usefulness (PU) and Perceived Ease-of-Use (PEoU). PU is the degree to which a person believes that using a particular system will enhance his or her job performance and PEoU is the degree to which the person believes that using the system will be free from effort (Davis, 1989).

According to the model, the user's perceptions of the system's usefulness and ease of use result in a behavioural intention to use (or not to use) the system. TAM strongly suggests that the two

variables influence users' decision on how and when they will use the technology once introduced. The model suggests factors that influence usage of mobile banking services, which is a relatively new technology introduced by banks. The model has further been extended on various constructs due to its usefulness (for example, Mbamba and Chale, 2014). Also literature also indicates that the cost may prevent many people from choosing to use mobile money (Micheni *et. al*., 2013), which is the essence of the transaction cost theory. The concept of transaction cost has been explored in many adoption theories. The theory predicts that if the cost of a service is acceptable, then the service will be adopted and used easily.

Empirical Literature Review

Suoranta (2003) studied adoption of mobile banking in Finland, focusing on consumer behaviour. The study observed that advantages in terms of compatibility, communication and being able to try it out drive usage or explain consumer behaviour. A study by Wu and Wang (2005) on mobile commerce acceptance concentrating on the middle class showed that perceived cost had much less significance than other variables such as perceived risk, compatibility and perceived usefulness. A further qualitative investigation on the same study was conducted, which revealed that perceived cost is normally a major concern when a technology is introduced (*ibid*.). Corroborating the findings, Karnani (2009) argues that cost plays an important role in choosing mobile banking. Nysveen, Pedersen and Thorbjornsen (2005) challenge reliance on TAM only while studying mobile banking services. One of the identified limitations is its design, which was to be used in an organizational context rather than in everyday life. In the organizational context, the model predicts users' acceptance of information technology and usage on the job. The core of the model lies on the hypothesis that intention to use a system is determined by two variables, namely, perceived usefulness and perceived ease of use. However, other pieces of empirical research works identified not only other variables but also some came up with contradictory findings (Wu and Wang, 2005; Karnani, 2009).

Yu (2009), using 250 university students in New Zealand, studied factors that influence on customers' decision to use a specific form of mobile banking and focused on evaluating SMS-based mobile banking. The results revealed that context-specific factors, such as service quality and service awareness, influence users' perceptions on usefulness of SMS mobile banking, which, in turn, affects intention to use and adopt (*ibid*.). That study focused on a very specific form of mobile banking (SMS-based mobile banking). Gaffer (2009) studied bank customers' perspective on adoption or introduction of mobile banking in Ghana. A sample of 100 students (customers) was randomly selected (*ibid*.). It was established that customers' perceptions were overwhelmingly positive (*ibid*.). The most appreciated feature was ubiquity of the service [(the notion of it being present everywhere) *ibid*.]. Others were connectivity and secure communication platform as well as encrypted messaging system (*ibid*.). These were found to be factors that would enhance mobile banking implementation in Ghana (*ibid*.). Furthermore, factors like technical and security standards, regulatory and supervisory issues and business and legal issues were found to hinder mobile banking implementation in Ghana (*ibid*.). Rapid reaction to market developments, which is often cited as one of the most attractive features of mobile banking, was not found to be much appreciated (*ibid*.).

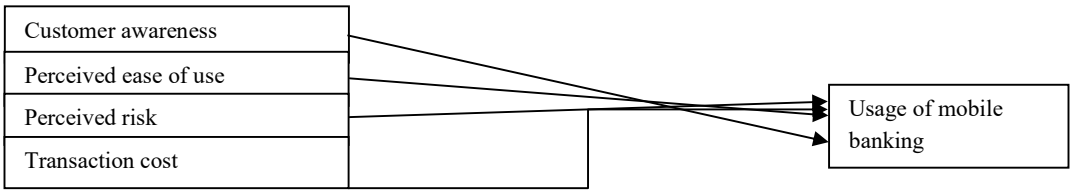
Masinge (2010) studied factors influencing adoption of mobile banking services at the bottom of the pyramid (BOP) in South Africa. The research focused on trust, perceived cost and perceived risk [(performance risk, security/privacy risk, time risk, social risk and financial risk) *ibid*.]. The

study found that customers at the BOP considered adopting mobile banking as long as it is perceived to be useful and easy to use (*ibid.*). The most critical established factor was cost, meaning that the service should be affordable (*ibid.*). Furthermore, it was importantly noted that customers should be able to trust the mobile banking service providers, both banks and mobile network providers (*ibid.*). Trust was found to be significantly negatively correlated to perceived risk (*ibid.*) and so trust plays a role in mitigating risk and enhancing customer loyalty.

Furthermore, Yu (2012) studied factors affecting whether or not individuals would adopt mobile banking in Taiwan. Through a sample of 441 respondents, the study concluded that individual intention to adopt mobile banking was significantly influenced by social influence, perceived financial cost, performance expectancy and perceived credibility in that order (*ibid.*). Behaviour was considerably affected by individual intention and other facilitating conditions (*ibid.*). Micheni et al. (2013) studied transaction costs and facilitating conditions as indicators of adoption of mobile money services in Kenya. The study surveyed 250 low-income earners and through structural equation modeling established that facilitating conditions measured by the availability of agents and network coverage, technology reliability and convenience in sending and receiving money through mobile phones strongly relate to adoption of mobile money services (*ibid.*). The study (*ibid.*) found out further that transaction cost does not influence adoption of mobile money services. These results are useful for this study as they are assumed to be valid in relation to mobile banking services. The results emphasise on importance of reliable technology, wide network coverage and convenience in using mobile banking services.

Achieng and Ingari (2015) used 103 customers of only one Kenya Commercial Bank (KCB) branch to study factors influencing adoption of mobile banking in Kenya. Through a descriptive analysis, they (*ibid.*) established among others that perceived risk and cost have a negative impact on adoption of mobile banking. Rumanyika (2015) adopted the diffusion innovation theory while conducting a study based on literature review. The study (*ibid.*) identified four factors that are main obstacles to adopting mobile banking in Tanzania; poor network coverage, lack of knowledge of m-banking, lack of enough mobile money agents, ATM breakdown and theft. This study is very useful because it reviewed a lot of literature on the subject. However, out of the 14 papers reviewed, 9 focused on use of mobile money payments and not mobile banking, in particular. The rest of the reviewed studies, apart from Rumanyika's, indicate that context matters in relation to inhibiting factors, which is the reason there were contradictory results. The most contradictory variable was transaction cost. This study adopted TAM because it has been established as a robust and powerful model for predicting user acceptance. The study added the transaction cost variable due to its contradictory results in previously cited studies. Figure 1 provides the model that guided this study.

Figure 1: Research Model



Source: Synthesised from Literature

The dependent variable 'usage of mobile banking' is influenced by four independent variables, the first being customer awareness [*the amount of information consumers have about mobile banking*]. Pikkarainen Pikkarainen, Karjaluoto & Pahnila (2004) reported that the amount of information a consumer has about mobile banking and its benefits may have a critical impact on usage of mobile banking services. We hypothesize that customer awareness positively influences on usage of mobile banking services. The second is perceived ease of use [*the degree to which a person believes that using a particular system would be free of effort*]. We hypothesize that perceived ease of use positively influences on usage of mobile banking services. The third is perceived risk [*the user's subjective expectation of suffering a loss in pursuit of a desired outcome* (Pavlou, 2001)]. Frambach (1995) contends that the speed of adoption is negatively related to level of perceived risk. Therefore, it is hypothesized that perceived risk negatively influences on usage of mobile banking services. The fourth is transaction cost [*the extent to which a person believes that using mobile banking will cost money* (Luarn and Lin, 2005)]. We hypothesize that transaction cost negatively influences on usage of mobile banking.

Methodology

The population for this study consisted of telephone mobile subscribers, whose number constituted around 27 million (TCRA, 2013). The study was carried out in one of the biggest districts in Dar es Salaam, Tanzania (Ilala District). Dar es Salaam region not only has a high population but also it has the highest number of people who use mobile phones. According to the 2012 census, the region's population reached 4,364,541, which is about 10 percent of Mainland Tanzania population. Population density is 3,133 persons/kilometre square (national average is 51 persons per kilometre square*)*, which was the highest in the country. The region also comes second in terms of using bank products (FinScope, 2013). The studied district (Ilala) has a slightly lower population (1.2 million) than the other districts (Kinondoni = 1.8 million people and Temeke = 1.4 million), but it is located in the central business area in Dar es Salaam. For the purpose of consistency and accuracy of data, the study used a sample of 150 respondents with a response rate of 80 percent (120 respondents filled in the questionnaire properly). The sample size is comparable to other TAM studies, such as by Davis (1989), which involved 107 respondents, Gaffer (2009), which involved 100 customers as well as Mbamba and Chale (2014) who used 90 respondents. A structured questionnaire was used to collect data. A random selection of mobile phone users participated in the study through filling in the questionnaire. The researchers administered all the questionnaires by taking the respondents through it. The measure ensured reliability and validity of data. Questions selected for the constructs were mostly adapted from prior studies to ensure content validity, such as those by Davis (1989), Suoranta (2003), Gaffer (2009), Masinge (2010) and Yu (2012). The items were modified to make them relevant to the context of mobile banking services in Tanzania. A 5-point Likert scale was used with ranges from 1-strongly disagree to 5-strongly agree. The questionnaire was divided into two parts. The first section focused on the respondents' demographics. The second section focused on research variables, which are usage of mobile banking, customer awareness and perceived ease of use, perceived risk and transaction cost.

The collected data were cleaned before analysis. Cronbach's Alpha Index was used to test reliability whereby variables with a score greater than or equal to 0.7 qualified for analysis. Frequencies and percentages were tabulated as well as used to describe respondents' profile in relation to usage of mobile banking services. Pearson correlation analysis was conducted for independent variables (Customer awareness, Perceived ease of use, Perceived risk and

Transaction cost) to determine inter-correlation and test for a multi-collinearity problem. Multiple regressions analysis, which is embedded in the SPSS, was used to establish predictability level of the independent variables (Customer awareness, Perceived ease of use, Perceived risk and Transaction cost) in relation to the dependent variable (usage of mobile banking). The adjusted R^2 and F statistics were used to test the model for goodness-of-fit. The model used is as follows:

$$\textbf{Usage of Mobile Banking} = Constant + \beta_1\ Customer\ awareness + \beta_2 Perceived\ ease\ of\ use + \beta_3\ Perceived\ risk + \beta_4 Transaction\ cost + E$$

Findings and Discussion

Respondents' Profile in relation to Usage of Mobile Banking

The profile covers respondents' gender, age, occupation, level of income and whether or not they have a bank account. Table 2 provides gender profile of the respondents.

Table 2: Gender and Mobile Banking Usage

		Use Mobile Banking	Do not Use Mobile Banking
Gender	Male	52 (43%)	33 (28%)
	Female	17 (14%)	18 (15%)
Total		**69 (58%)**	**51 (42%)**

N = 120

A bit over half (58%) of respondents use mobile banking services. Out of those, there were more males than females. These findings correlate with those of FinScope (2013), which indicate that 17.9 percent of males had/used bank products against only 10.1 percent of females. This suggests that males are more likely to use mobile banking than females despite the fact that the population ratio in Tanzania is Female: Male 51:49 (Population and Housing Census, 2012).

Table 3: Age and Mobile Banking Usage

		Use Mobile Banking	Do not Use Mobile Banking
Age	Below 18	0 (0%)	1 (1%)
	18 to 38	43 (36%)	29 (24%)
	39 to 48	14 (12%)	10 (8%)
	Above 48	12 (10%)	11 (9%)
	Total	**69 (58%)**	**51 (42%)**

N = 120

Table 3 shows that respondents were of different age groups. The majority of respondents were between the ages of 18 and 38. This was expected as the 2012 census data indicate that 34.7

percent of the population is aged between 15 and 35. The same age group constituted the majority of those who use mobile banking services. These findings suggest that people in this age group are more likely to use mobile banking services.

Table 4: Occupation and Mobile Banking Usage

		Use Mobile Banking	Do not Use Mobile Banking
Occupation	Informal Employment	36 (30%)	23 (19%)
	Formal Employment	32 (27%)	27 (23%)
	Unemployed	1 (1%)	1 (1%)
	Total	**69 (58%)**	**51 (42%)**

N=120

Majority of mobile banking services users are those with informal employment. This could be explained by the nature of formal employment absorption in the country. After all, majority of the population is employed by SMEs, which are in the informal sector. However, results showed that the difference in percentage from those with formal employment is small (30 % against 27%). FinScope (2013) shows that 78.6 percent formally employed have/use bank products.

Table 5 Income and Mobile Banking Usage

		Use Mobile Banking	Do not Use Mobile Banking
Income	Less than TZS 100,000 (USD 47.62)	10 (8%)	9 (8%)
	Between TZS.100,000 and 500,000 (USD 47.62 and 238.10)	25 (21%)	13 (11%)
	Between TZS. 500,001 and 800,000 (USD 238.10 and 380.95)	2 (2%)	3 (3%)
	Between TZS. 800,001 and 1,000,000 (USD 380.95 and 476.19)	2 (2%)	0 (0%)
	Above TZS. 1,000,000 (USD 476.19)	30 (25%)	26 (22%)
Total		**69 (58%)**	**51 (42%)**

N=120

The majority of the respondents had an income of above TZS 1,000,000 (USD 476.19). The study results further indicated that most of the respondents who use mobile banking services are on a higher income, which suggests that such people are more likely to use mobile banking. The results further suggest that low-income earners, those earn between TZS. 100,000 and 500,000 (USD 47.62 and 238.10) about 21 percent of the respondents, cannot be ignored because they use mobile banking services.

Table 6 Bank Account and Mobile Banking Usage

	Bank Account	
Mobile Banking	**Has a Bank Account**	**Has No Bank Account**
	Percent	**Percent**
Use Mobile Banking	69 (58%)	46 (38%)
Do not Use Mobile Banking	0 (0%)	5 (4%)
Total	**69 (58%)**	**51 (42%)**

N=120

Majority of respondents confirmed they had a bank account. Of those with a bank account, most use mobile banking services. However, results indicated that having a bank account is no guarantee that the account holder will use mobile banking services as indicated in Table 6 that 38 percent of respondents have bank account but do not use mobile banking services. Therefore, results imply that there are other aspects apart from having a bank account that influence customers to use mobile banking services.

Factors that Influence Usage of Mobile Banking Services

Four factors were tested in this study, namely, customer awareness, perceived ease of use, perceived risk and transaction cost. Reliability of data collected was tested and statistics indicated high consistency (i.e., Cronbach's Alpha = 0.799 and that based on Standardized Items = 0.806).

Correlation and Multiple Regression

Table 7: Correlations Analysis

		Awareness of the Services	Perceived Ease of Use	Perceived Risk	Transaction Cost
Awareness on the Services	Pearson Correlation	1			
	Sig. (2-tailed)				
Perceived Ease of Use	Pearson Correlation	.001	1		
	Sig. (2-tailed)	.000			
Perceived Risk	Pearson Correlation	-.002	-.001	1	
	Sig. (2-tailed)	.010	.008		
Transaction Costs	Pearson Correlation	.000	.000	.003	1
	Sig. (2-tailed)	.005	.010	.023	

Pearson Correlation *0.01 Sig. level (2-tailed):N = 120*

The variables were not correlated as shown in Table 7. This implies that each independent variable is free from influence of the other independent variables.

Table 8: Multiple Regression Analysis

Dependent Variable	Independent Variable	B	Std. Error	t	P
Usage of Mobile Banking	Constant	1.172	0.368	4.013	0.003
F = 26.783	Customer awareness	0.485	0.098	4.451	0.000
p = 0.000	Perceived ease of use	0.438	0.077	6.246	0.000
Adjusted R^2 = .495	Perceived risk	-0.382	0.067	-5.052	0.000
n = 120	Transaction cost	-0.131	0.054	-3.541	0.001

Alpha levels less than 0.05

The results indicated that usage of mobile banking can be explained by the independent variables (customer awareness, perceived ease of use, perceived risk and transaction cost) by 49.5 percent (Adjusted R^2 = 0.495). The results are statistically significant as shown by F statistics = 26.783. The prediction is also reliable as the standard errors of estimates are small (0.098, 0.077, 0.067 and 0.054 for customer awareness, perceived ease of use, perceived risk and transaction cost, respectively).

Discussion of Findings

This study was triggered by low level of usage of mobile banking services despite the tremendous growth in mobile phone usage and mobile money transfer in Tanzania. Thus, we focused on studying key factors that influence on usage of mobile banking services in Tanzania using the modified TAM and transaction cost theory. The study found that customer awareness, perceived ease of use, perceived risk and transaction costs significantly influence on usage of mobile banking. The first two variables (customer awareness, perceived ease of use) positively influence on usage of mobile banking, while the last two variables (perceived risk and transaction cost) have a negative influence. Customer awareness has the greatest influence on usage of mobile banking followed by perceived ease of use (as reflected in the respective beta coefficients). Some of our findings match those of Rumanyika (2015), which show that lack of understanding of how mobile banking and mobile-related transactions operate as well as perceived risk (which was seen as the lack of security of mobile networks) are obstacles to adopting mobile banking services in Tanzania. Furthermore, they match with Achieng and Ingira (2015) who observed that cost is a key factor stopping people from adopting mobile banking. However, our findings are different from those by Micheni *et al.* (2013) who observed that transaction cost does not influence adoption of mobile money services. Our study results may suggest that the mobile money services markets are about to mature.

The majority of the respondents who use mobile banking services were males aged between 18 and 38. This was expected because it is the working group. The study further revealed that majority of those in informal employment use mobile banking services. This is slightly different from FinScope (2013), which shows that 78.6 percent of the formally employed have/use bank products. Our results indicate, however, that the difference is not big from those in the formal employment. The study findings also suggest that people on a higher income are more likely to use mobile banking services, although low-income earners are potential customers for mobile

banking services. Findings suggest that the large portion of the population in Tanzania who resides in the rural areas may be included because they fall within the informal employment, the respective identified age and income. The study revealed further that for customers to use mobile banking services, it takes more than just having a bank account.

The study found consumer awareness of mobile banking services is essential in promoting usage of mobile banking. Furthermore, people use mobile banking services when they are perceived to be easy to use. This was also confirmed in other studies, such as by Masinge (2010) and Yu (2009). The results also showed that people will adopt mobile banking services when they perceive them to be less risky. Lastly, the results showed that the more customers feel that usage of mobile banking services is costly, the lesser they use the same. This was also found out in the study by Achieng and Ingara (2015).

Conclusion

It was established that customers' awareness and perceived ease of use have a significant positive influence, while perceived risk and transaction cost have a significant negative influence on the usage of mobile banking services. The country's performance as regards to financial inclusion is still low compared to the regional average of access to formal financial services, despite the increased number of financial institutions and advances in technology, especially in telecommunications. It is imperative that concerted efforts should made to involve the public and private sector in a coordinated approach to address reasons for low level of inclusion in the formal financial sector in Tanzania. Results from this study lead to conclude that consumer awareness as well as devising user-friendly (easy to use), less risky and less costly services could have overwhelming results in terms of increasing usage of the financial services offered, particularly mobile banking.

Contribution of the Study

Theoretically, this study contributes to information technology acceptance research by successfully confirming the Technology Acceptance Model (TAM) in mobile banking, albeit, in a different context from previous studies. Practically, the study confirms key factors influencing use of mobile banking services in Tanzania. The Bank of Tanzania needs to promote further innovations in financial services delivery and ensure integrity of the financial system and consumer protection. As a matter of policy, the Government needs to implement a national financial education strategy, which will among others, raise public awareness on benefits from formal financial services, including mobile banking. To the financial service providers, the study reveals that they have the opportunity to reach more people with a broad range of financial services. It further informs them of the critical issues to focus on when customers are considering, whether to accept use of mobile banking services or not.

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