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Usage of Information and Communication Technology for Access to Financial Services in Tanzania

Herbet Tenson
Ph.D. Student, University of Dar es salaam, Tanzania

Abstract:
Access to financial services is limited to the large population worldwide. This study mainly intended to examine relationship of ICT adoption in microfinance institution on access to financial services, particularly on availability, convenience and affordability in Tanzania. A cross sectional study design was conducted in two regions (Kilimanjaro and Dar es Salaam) for 11 selected Microfinance institutions. Exploratory factor analysis (EFA) was employed to reduce the variables to the manageable size while retaining the original information as possible. The study used structural equation modelling (SEM) with help of Analysis of Moment Structures (AMOS) version 21. SEM used to determine multiple relationships between ICT adoption and access of financial services variables simultaneously. The analysis included 303 customers from 77 microfinance institutions from Kilimanjaro and Dar es Salaam. Five factors were grouped from 29 variables. Only one path leading from ICT adoption to availability of financial services was found statistically significant. This implies ICT plays a key role of delivering financial services to clients via electronic delivery channels. Hence services become available to everybody regardless of location and time.

Keywords: *ICT adoption, access to financial services*

1. Introduction

Access to financial services has demonstrated to be a centre in human development and a catalyst to state growth (Cracknell, 2012; Jeanty, 2016; Honohan., 2006; Fischer, 2014). Adequate access to financial services is one of the solutions which minimize income inequalities and poverty among the citizens in any country (Rabobank, 2005; Rojas-Suarez, 2010). Microfinance institution (MFI) is one of the well-known sources of money supply which provide access to financial services for low income people(Ellis, Lemma, & Rud, 2010). The financial services includes savings, loans, remittance and insurance(Odhiambo, 2009; Burgess & Pande, 2003).MFIs target constrained people who are unable to offer sufficient collaterals and excluded by well-established financial institutions including commercial banks(Kessy, 2009; Robinson., 2003). Even though the MFIs are mushrooming around the globes, evidence shows large populations remain unbanked. According to the World

Bank (WB) reports around two billion people do not have access to formal financial services this comprises countries in Asia, Latin America and Africa continents (Hossain & Sarker, 2015). Further result indicates that less than a quarter of adult populations had access to financial services in Sub Saharan Africa (SSA) (Koblanck, 2013). In Tanzania context, data shows 40 percent of adult populations have accounts at financial institutions (WB.., 2014b). A limited access to financial service implies the financial products are inaccessible, unaffordable, unavailable of banking services, inflexible and unacceptable by some citizens (WB, 2017).

In combating limited access to financial services, several studies suggested adoption different advanced operational methodologies such as Information, Communication and Technology (ICT) in MFIs(Kipesha, 2013; Bada, 2012; Claessens, 2006). This ICT can facilitate communication, data capturing, processing and transmission of information (Beckinsale & Ram, 2006; Boar, 1997) through the use of computers, mobile phone, internet, application, hardware and networks (Ashrafi & Murtaza, 2008). Furthermore, ICT can form new delivery channels which reach low income people through branchless banking. The effect of ICT has been appreciated in broadening services, easy processing and brings innovative products (Emmanuel & Sife, 2008; Khanna & Gupta, 2015). ICT adoption in MFIs also increased efficiency and effectiveness (Ssewanyana, 2009; Kumar & Rao, 2012), expanded services to unbanked population (Jawadi, Jawadi, & Dechamps, 2010; Shamim, 2007; Osabuohien, 2008), reduced operations costs (Eid, Trueman, & Ahmed, 2006; Akanbi & Oladejo, 2012)and increased staff productivity (Apulu & Latham, 2011; Harindranath, Dyerson, & Barnes, 2008; Brynjolfsson & Hitt, 2003).

Despite, a positive effect of ICT on MFI's operational performance, still a large populations in developing countries do not have access to financial services (Hossain & Sarker, 2015; Koblanck, 2013). This limited access to financial services was observed in the MFIs which have low management support in adopting ICT, high ICT investment cost, weak technological connectivity, and low control of risk and fraud on electronic transactions(Triodos-Facet, 2011; Ashta, 2010; Sjauw-Koen-Fa & Vereijken, 2005). Consequences of these obstacles delay MFIs to adopt seriously sophisticated and advanced ICT in their operations (Kipesha, 2013) as a result negative effect on availability, convenience and final retail price on the financial services. Although, previous studies pointed out effect of ICT on MFIs' operational performance,

especially on increase of efficiency, improve staff productivity, increase services delivery as well as reduction of costs (Kairu & Rugami, 2017; Musa & Khan, 2010). This study observed a knowledge gap of contribution of ICT adoption on access to financial services. Therefore, there a need to understand how ICT adoption in MFIs contributes directly on access to financial services, particularly on making financial services available, convenience and affordable to large population. Objectively this study determined a relationship between ICT adoption in MFIs and access to financial services in Tanzania.

2. Literature Review

2.1. Theoretical Framework

Two theories guided this study in explaining the relationship between ICT adoption in MFIs and access to financial services through actual usage of electronic delivery channels. The theories are Davis' (1989) Technology Acceptance Model (TAM) and Roger's (1995) Diffusion of Innovation Theory (DOI). TAM employed to bring out the relevance of accepting new technology in MFIs and its usefulness in operational performance. The theory focused on understanding the causal relation of use external variable and perceived ease of use and perceived usefulness on actual usage of the system. The 'perceived usefulness' refers to the degree to which an individual believes that using a particular application system would enhance his or her job performance; and 'perceived ease-of-use', is expressed as the degree to which an individual person believes that using a particular system would be free from effort (Davis., 1989). TAM has proved to be useful and employed in different discipline of health care includes telemedicine (Holden & Karsh, 2010; Hu, Chau, Sheng, & Tam, 1999), ICT such as mobile phone, internet, website, eLearning (Bacha, Čeljob, & Zoroja, 2016; Kwon & Chidambaram, 2000; Venkateswara & Hanumantha, 2012), eGovernment (Chan, Thong, Venkatesh, Brown, Hu, & Tam, 2010) and agriculture (Amin & Li, 2014).Another theory that has been used in this study is diffusion of innovation (DOI) which tries to explain technology spreads in organizations' and individuals' lifestyle and its effect on overall performance and access to services. The individuals or organizations perceive the technology is new, in which they may refer innovation regardless of the time of invention within or outside their communities. Thus, innovation is defined as an idea, practice or object while diffusion is the process by which innovation or perceived new technology is communicated through certain channels over time among members of a social system (Rogers., 2003). DOI has been employed extensively in different studies, includes information and communication technology (Echchabi & Aziz, 2012), banking (Al-Jabri & Sohail, 2012; Yahaya, Yusoff, Idris, & Haji-Othman, 2014) and health (Cain & Mittman, 2002).DOI has five distinct features which determine adoption of an innovation, includes relative advantage, compatibility, complexity, trialability and observability. Relative advantage refers to the degree to which an innovation is considered to have more benefits than its predecessor. This means that the clients perceived usefulness of the latest technology over a traditional one(Roberts & Amit, 2003). Compatibility refers to the degree to which a service is perceived as consistent with users' existing values, beliefs, habits and present and previous experiences(Chen, Gillenson, & Sherrell, 2004). Observability of an innovation describes the extent to which an innovation is visible to the members of a social system, and the benefits can be easily observed and communicated (Rogers., 2003). Trialability is defined as the capacity to experiment with new technology before adoption (Al-Jabri & Sohail, 2012). Observability is defined as the degree to which results of an innovation are visible to others (Rogers., 2003). The presented theories (TAM and DOI) provide in depth understanding of the subject matter. The review indicates that ICT adoption is beneficial for the MFIs on operations as well as for individuals on access to financial services. The theories indicate that technology is more likely to be adopted if it has positive effect to the individual or MFIs respectively. In addition, intensity of adopting ICT differs among the MFIs and individuals, based on the requirements and budget.

2.2. Empirical framework

2.2.1. Effect of ICT on Operational Performance

Over last decades the ICT adoption proved to have strong and positive correlation on operational performance in the banking industry (Kairu & Rugami, 2017; Omanyo, 2014; Agbolade, 2011). This further studies of Jawadi et al. (2010), Kombe and Wafula (2015), and Wasilwa and Omwenga (2016) revealed that ICT adoption contributes on expanding financial services and enhanced performance through cost reduction. Sonja (2010)urged that IT adoption significantly increase efficiency on determining loan overdue and calculation of charges and penalties automatically. In another study of Musa and Khan (2010) found that adoption of point of sale (POS) technology in MFIs operation have enhanced implementation strategy and increases outreach through increased staff productivity.

The adoption of ICT considered as a catalyst and enabler for the MFIs to compete at a global scale, due to improved efficiency, effectiveness, services delivery and enhance customer and supplier relationships (Alam & Noor, 2009; Dangolan, 2011). A well-established technological infrastructure and devicesin MFIs can assist on automation of loan application, approval,fund disbursements and track loan repayment (Singh & Padhi, 2015). However no evidence which shows whether operational performance contributes on access to financial services in unbanked population. Studies show that access to financial services affected by high costs of hardware, software and internet, unstable network, financial literacy and security of information and fraud (Busler & Ssewanyana, 2007; Kevin, Bernard, & Ronald, 2013; Attom, 2013). For instance, clients pay high cost on services consumed because the MFIs lease technology from mobile service provider to facilitate deposit accumulation, loan disbursement and loan repayments which in return the clients pay for the services (Riggins & Weber, 2013). Further findings of Ray and MacMillan (2005) found that there were no direct effects of different IT resources employed on the performance of the customer service delivery.

2.2.2. ICT Adoption and Access to Financial Services

ICT adoption can benefit clients in the context convenient services, saving time and overcome distance barriers (Honohan., 2006). Another benefit of ICT adoption is smooth facilitation and transformation of regular banking services (Bada, 2012; Irechukwu, 2000). For example, mobile banking and internet banking contribute significantly on accounts opening, deposits, facilitates bill payments, balance inquiry and print statements (Wasilwa & Omwenga, 2016; Thulani, Tofara, & Langton, 2009). Furthermore, mobile phone can serve not only as a voice call conversations but also monitor to customer's account anytime and anywhere through a short message services (SMS), whereby it is easy to view account balance and track transactions (Enu & Gberbi, 2015; Nganga & Mwachofi, 2013; Vota, 2016).

In another study of Hossain and Ahmed (2014) explored the benefits and challenges of mobile banking services deployment for the MFIs in South Africa. The study revealed that most of the MFIs deployed mobile banking for loan repayments and cash in and cash out services. Bada (2012) also investigated the extent to which MFIs use ICT to deliver business services in Uganda and result shows ICT is critical on delivering services to clients. Asare and Sakoe (2015)examined the effects of electronic banking products on financial services delivery in Ghana and found that electronic banking enabled customers to select products conveniently regardless of time and place. Dangolan (2011) found that information technology in the banking system of Iran contributes on saving time and cutting down the expenses.

A study of Wu, Li, and Lin (2010)revealed that the customer's perception on online banking is high compared to other banking delivery channels in the in Taiwan. Conversely, Munsaka (2009)found that retails prices of financial products can be affected by high investment costs and broadband services. In another study of Luka and Frank (2012) revealed that customers are not comfortable with the bank charges injected by the MFIs. Maiyaki and Mokhtar (2010) also found that availability of electronic facilities such as ATM, online banking and mobile banking has no significant influence on customer's choice of the financial institutions. Regardless of multiple electronic mode of payment exist and available in India, still many citizens prefer cash mode of payments (Khanna & Gupta, 2015).

Based on the literatures reviewed in this study, the following hypotheses were tested:

- Hypothesis 1: There is a relationship between ICT adoptions in MFIs and availability of financial services.
- Hypothesis 2: There is a relationship between ICT adoptions in MFIs and convenience financial services.
- Hypothesis 3: There is a relationship between ICT adoptions in MFIs and affordability of financial services.
- These three hypotheses and their relationship between ICT adoption in MFIs and access to financial services through actual usage of ICT can be seen in Figure 1.

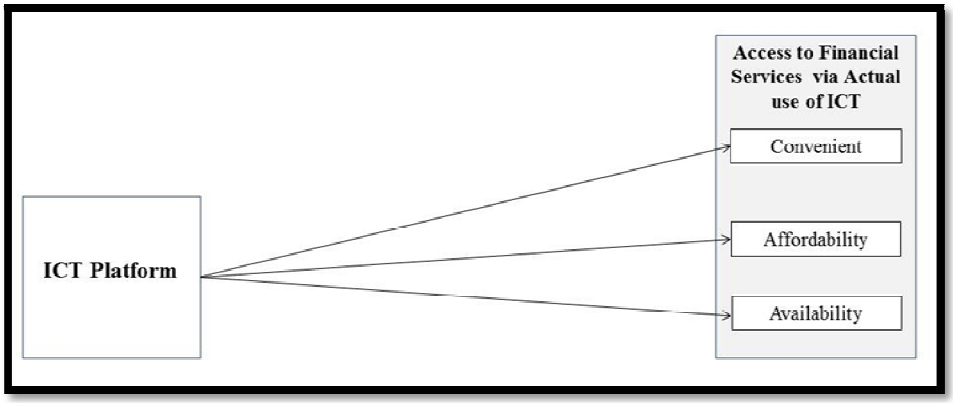

Figure 1: Model of ICT Adoption on Access to Financial Services

3. Methods

3.1. Study Area

The study was carried out in Kilimanjaro and Dar es Salaam region. The regions was selected because of highest number of MFIs are located and operating in the areas(FDST, 2013). Kilimanjaro Region is located in northern part of Tanzania with a total of more than 1.6 million populations. The region constitutes of six districts with a total 116 MFIs. Dar es Salaam region is located in Eastern part of Tanzania with a total of more 5 million people. The Dar es Salaam is the capital city in Tanzania with five districts. This region has 188 MFIs in which are distributed across the region.

3.2. Sample Size Calculation

Sample size was calculated based on the standard formula detailed by Naing et al, 2006 with 95% confidence interval which gives the confidence level value of 1.96 from the normal distribution table. Marginal error of 5% with 0.3 estimated value for the proportion of sample which gives the minimum sample size in absence of known population. The target sample size was 322 clients for MFIs and this sample size was within the range as suggested by Sekaran ,2000 that the sample size should range between 30 – 500 samples depending on sampling design. Kline (2011)recommend that it is important to determine minimum sample size that meetings the desired satatistical power as per model requirements prior to data collection.A total of 77 MFIs (22 in Kilimanjaro and 55 in Dar es Salaam)from the regions which provide financial services during the survey were included. Each selected selected MFIswas visited and collected information from the client. All clients attended MFI for financial services on the days of the survey were eligible and interviewed.

3.3. Study Design and data collection

A cross sectional study design was deployed to 77 MFIs. This study opted for cross sectional study design because it suits on examining the nature relationship between ICT adoption and access to financial services. The structured questionnaire developed as the main survey instrument to gather data from selected MFIs. The questionnaire consists of a five point Likert Scale where the respondents were asked to indicate the extent to which they agree/disagree with various statements. In addition, the questionnaire consists of closed and open ended questions for gathering respondent's characteristics. Field enumerators were trained on the survey procedures and questions on the questionnaire for face to face administering questionnaire. Random sampling technique applied to select MFIs from the list given by the respective districts. On the day of data collection, the first four clients who had visited and come for financial services in the MFIs office were requested to be interviewed by the researcher assistants. The research assistants with supervision from a researcher asked questions and they recorded responses in the questionnaire. This method reduced missing values and also improved validity and reliability of data. The questionnaire was designed in a manner that the respondents did not reveal their names and the name of the respective MFIs for commercial confidentiality and sensitivity of the financial information. The operational variables in the questionnaire were collected in a standard procedure in order to achieve results and test hypotheses of the study. A total of 303 questionnaires out of 322 were completed during the survey. Data was collected for a period of eight weeks.

3.4. Data Management and analysis

The data were entered in the Statistical Package for Social Sciences (SPSS) version 20, a computer software program. Data cleaning and analysis was performed using SPSS. The study applied a deductive approach for testing hypotheses by either approve or disapprove then the theory is confirmed, modified or abandoned. Descriptive analysis was carried out to obtain frequencies, mean and standard deviations of various variables by using SPSS. The results were presented in the form of tables and graphs for easy interpretation of the findings. Furthermore, descriptive statistics was also used to obtain data pattern and check for outliers and missing values. Exploratory factor analysis (EFA) employed to reduce the variables to the manageable size into five factors, while retaining as much of the original information as possible. The study used structural equation modeling (SEM) with help of Analysis of Moment Structures (AMOS) version 21. SEM employed to determine multiple relationships of independent variable and dependent variables simultaneously. After sampled data fit the model well, hypotheses tested and interpreted for significance on examining the relationship between ICT adoption and access to financial services. The significance test of individual path parameters was tested by z-statistics=1.96, which referred as Critical Ratio (C.R.). The C.R greater than 1.96 was considered significant.

3.5. Ethical Clearance

The protocol of this study was approved by the Vice Chancellor of the University of Dar es Salaam and granted an institutional ethical clearance submitted to Regional Secretariats. All participants in the study were asked for oral informed consent before collecting data and they had complete right to withdraw from the study at any time without any disadvantage.

4. Results

4.1. Respondents' Characteristic

Table 1 presents the characteristics of the respondents from two regions (Kilimanjaro and Dar es Salaam). The results show that 67.3% of respondents were recruited from Dar es Salaam while 54.1% of respondents were male. This implies that more male were recruited and attended for financial services in the MFIs during the survey. Furthermore, the result shows that 47.2% of respondents were aged from 20 to 30 years. The respondents are relatively young people. The demand of financial services increases as age increase and also this group has high rate of ICT usage on different services. The income of the respondents generally was low income earners. Less than 10% of the respondents receive income of 1,000,000 and above per month. The output coincides with the study design as the MFIs intends to offer financial services to low income people.

Item		Frequency	Percent
Region	Dar es Salaam	204	67.3
	Kilimanjaro	99	32.7
Sex	Male	164	54.1
	Female	139	45.9
Age (Years)	20-30	143	47.2
	31-40	119	39.3
	41-50	29	9.6
	≥ 60	12	4.0
Income	< 500,000	155	51.2
	500,000-1,000,000	128	42.2
	>1,000,000	20	6.6

Table 1: Respondents' Characteristics

4.2. Factor Analysis

The factor analysis was conducted via principal component analysis with orthogonal varimax rotation. The Bartlett Test of Sphericity and Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy were used to validate the use of factor analysis. In Table 2 shows that the value of KMO is meritorious, fall between 0.80 and 0.89 and Bartlett's Test of Sphericity is significant (P<0.05) suggesting that factor analysis can be conducted (Kaiser, 1970).

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		**.860**
Bartlett's Test of Sphericity	Approx. Chi-Square	6555.578
	df	595
	Sig.	.000

Table 2: KMO and Bartlett Test Sphericity

Several studies have given different cut off values for the retention of items based on the value of factor loadings, varying from 0.35 to 0.50 (Hair Jr, Black, Babbin, & Anderson, 2010). In this study, loadings of 0.50 or more are considered practically significant. Table 3 presents summarized results of exploratory factor analysis. The remaining items were grouped into four factors. First factor is availability with six items, second is affordability with six items, third is ICT adoption with six items, and fourth is convenience with four items as shown in Table 3.

Constructs	**Factor Loadings**			
	1	2	3	4
Receive alert on financial transactions update	.801			
Check balance of loan repayments	.773			
Check balance of savings	.759			
Payment of loans	.739			
Deposit money	.648			
Inquire about financial services offered	.568			
Low services charges		.900		
Saving more money		.826		
Increase in dividends		.805		
Obtain more than one loan		.774		
Get micro insurance claim on time		.665		
Low maintenance charges		.564		
Mobile technology			.894	
Internet or website			.829	
Voice call			.796	
Local area network			.773	
SMS			.768	
Email or electronic data			.675	
Borrow money through download or online				.919
Easy process of borrowing money				.890
Open account through download or online				.841
Easy process in acquiring micro-insurance				.741

Table 3: Exploratory Factor Analysis

4.3. Cronbach's Coefficient of Reliability, Mean and Standard Deviation of the Constructs

The items in the study constructs were tested for reliability. In Table 4 shows the computed Cronbach's alpha coefficients of the constructs or factors are above 0.6. The Cronbach's alpha coefficients of 0.6 and above are considered more acceptable (Kline, 2011; Hair et al., 2010). This indicates that all items in the factorial groups in this study are sufficient reliable measures. Table 4 shows the computed mean and standard deviation value of the items in each construct based on the five Likert scale. The results in Table 4 indicated the overall mean value score of ICT adoption, availability and convenience are below 3. This implies that the respondents were satisfied on contribution of ICT in MFIs business. While mean value of affordability construct was above 3, implies that the respondents were not satisfied that ICT contribute on affordable services. However, the computed standard deviation values of all constructs were less than 3.This implies that variability of the responses is small from the respondents.

Construct	No. of Items	Mean	Standard Deviation	Cronbach's alpha
ICT Adoption (ADO)	6	2.66	1.048	0.887
Availability (AVA)	6	2.32	.713	0.783
Convenience (CON)	4	2.40	.823	0.879
Affordability (AFO)	7	3.16	1.006	0.875

Table 4: Mean, Standard Deviation and Cronbach's Alpha
Notes: Mean Scores Based on a Five Point Scale, Where 1= Strongly Agree and 5= Strongly Disagree

4.4. The Model Fit Measures

The model fit comprises measurement model and structure model. The measurement model uses the confirmatory factor analysis (CFA) to validate sampled data if fits hypothesized model of related constructs. The constructs of the hypothesized model were correlated by using two headed arrows in AMOS version 21 with degree of freedom (df)) of 550. The AMOS version 21 generated fit statistics as follows: Chi-square = 1994.727; RMSEA= 0.093; GFI=0.739; CFI=0.769; TLI=0.750; NFI=0.708; Chi-square/df = 3.627. All generated fit indices did not fall within acceptable criteria. Hence, the model is rejected and subjected to modification. In this study the hypothesized model was rejected based on goodness-of-fit statistics, consideration for alternative model that fit the data is necessary (Lei & Wu, 2007). Modification of the model went through deleting weak factors loadings one after another. Thereafter, redundant items were paired or deleted one of the items preferable with lower factor loading. The remained factor loadings reported in the CFA output were above 0.69. New fit statistics generated from AMOS version 21 with degree of freedom (df) of 94 are: Chi-square=185.226; RMSEA = 0.065; GFI = 0.940; CFI = 0.969; TLI = 0.960; NFI = 0.940; Chi-square/df = 1.970. The results fall within acceptable limits as suggested in previous research using AMOS (Kline, 2011; Hair et al., 2010). Hence, the model fit the data well. The overall hypothesized model was tested with the sample data and converted and executed into AMOS version 21. The results of fit statistics output met minimum requirements with degree of freedom of 97 as follows: Chi-square=193.004; RMSEA=0.057; GFI=0.927; CFI=0.967; TLI=0.960; NFI=0.937; Chi-square/df = 1.990.Thus, the model fit the data well and was subjected for hypotheses testing.

4.5. Hypotheses Testing

Subsequent to the model fit the data well, interpretation and examination for statistical significance of the parameter estimate (path coefficients and standard error) is proper. The significance test of individual parameters is tested by z-statistics, which is referred as Critical Ratio (C.R.), obtained when Estimate divided by Standard Error (S.E) (Ullman, 2006). As a rough reference, absolute value of this ratio greater than 1.96 may considered statistically significant at the 0.05 level otherwise the hypothesis can be rejected (Kline, 2011). The results in Table 5 show a positive standardized regression coefficient or weights of the path leading from ICT adoption to Availability. The standardized regression coefficient of the path from ICT adoption to availability of financial service was 0.313 with the critical ratio (C.R) value of 4.886 above z-test value of 1.96. This implies a significant and positive contribution on the relationship between ICT adoption and availability of financial services. Another, positive standardized regression coefficient of the path leading from ICT adoption to convenience was 0.060 associated with the critical ratio (C.R) value, which is less than z-statistics value of 1.96. The path indicates insignificant relationship between ICT adoption and convenience financial services. However, the positive standardized regression weight indicates that usage of ICT has small contribution on accessibility of financial services. The standardized regression coefficient of the path leading from ICT adoption to Affordability is 0.078, which is positive associated with the critical (C.R) value given, which is below z-statistics value of 1.96. The path indicates no statistically significant relationship between ICT adoption and affordability of financial services. However, the positive standardized regression weight indicates that usage of ICT has small contribution on making financial services affordable.

			Unstandardized Estimate	S.E.	C.R.	P	Standardized Estimate
CON	<---	ADO	0.079	0.079	1.003	0.316	0.06
AFO	<---	ADO	0.102	0.078	1.304	0.192	0.078
AVA	<---	ADO	0.283	0.058	4.886	***	0.313

Table 5: Unstandardized and Standardized Regression Weights of the Relationship between ICT Adoption and Access to Financial Services

5. Discussion

This study aimed to assess the relationships between ICT adoption in MFIs and access to financial services (availability, convenience and affordability). The findings provide some explanations to help understanding the relationship of ICT adoption on access to financial services. Availability of financial services was significant and positively associated with the ICT adoption. This implies that ICT platforms (mobile technology, internet, website and telephone) facilitate financial services to be available in unbanked communities. The result of this study coincide with previous studies of Karjaluoto, Mattila, & Pento (2002), Bada (2012), Hosain and Ahmed (2014), Monyoncho (2015), Chale and

Mbamba (2014), and Thulani et al. (2009) who revealed that ICT adoption relate significantly to delivery of financial services such as money deposits, withdraw, money transfer and bill payments. Mohammed, Siba, and Sreekumar (2009)also concluded that internet banking transformed traditional banking to a growing bank with significant number of clients with high deposit. Another study conducted in Bangladesh concluded that mobile phone banking contributes on extension of services via virtual bank accounts to a large number of currently un-banked individuals (Rayhan, Sohel, Islam, & Mahjabin, 2012). ICT adoption and convenience financial services was insignificant, this contrary to the output of Enu and Gberbi (2015), Asare and Sakoe (2015), Akanbi and Oladejo (2012), and Basweti, Masese, and Martin (2013) who found that ICT usage in banking sector associate to accessibility in managing account, draw, deposit and transfrer money regardless of time and location.Finally, the insignificant output of the relationship between ICT adoption and affordability of financial services is inline with findings of Luka and Frank (2012) who found that customers are not comfortable with the bank charges even though ICT used in banking services. Similar to Munsaka (2009) who studied the impact of ICTs on development and found constraints of ICT affect consumer's prices of final products.

5.1. Limitations of the Study

This study had several limitations. First the study did not include new emerging or sophisticated ICT platforms which are commonly used by people or large organizations. Mainly the study focused on basic or minimum ICT usage in MFIs because they have budget constraints to invest in new emerging or sophisticated technology. Hence further study is recommended to include new emerged technology such as automatic teller machine, management information systems, point of sale and social media in order to produce innovative products and become competitive on provision of financial services. Secondly, the study did not cover ICT literacy hence further studies is recommend examine contribution of ICT literacy in MFIs on access to financial services. According to Roger's Diffusion Innovation theory, innovation decision process is knowledge in which an individual become aware of the innovation and know how to use the new technology (Rogers, 2003).

5.2. Conclusion

Most of the MFIs employed ICT platforms such as computer, internet, website, local area networks, mobile and fixed phone to perform daily operations and enhance access to financial services to clients. A part from carrying out business process, ICT plays a key role of delivering financial services to clients via electronic delivery channels. Hence services become available to everybody regardless of location and time. The usage of mobile phone and internet is essential for communication between the MFIs and the clients. It is possible for clients to inquire availability of financial services offered by MFIs through sending SMS or making telephone calls to the MFIs personnel. In addition, the clients can browse on the website to understand available financial services and information, and download forms for membership account and borrowing money.

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