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(REVIEW ARTICLE)

Information and communication technology (ICT) and the performance of microfinance Banks in Akwa Ibom state

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Abstract

The 21st century economy has been technology driven in all forms of business for effective productivity and profit maximization, and microfinance Banks are not left out. Information and communication technology (ICT) has helped microfinance Banks in efficient and effective service delivery to their customers and business processes, managerial decision making and work group collaborations which in turn strengthens their competitive positions in a rapidly changing and emerging economies. The paper examines the impact of ICT on the performance of microfinance Banks in Akwa Ibom state. The study adopted a survey research design and the simple random sampling approach. The study employed the use of secondary source of data. Findings from the study reveals that the usefulness of ICT in microfinance Banks is at a low percentage unlike the commercial Banks who have inhibited technology as part of their culture; bulk of the services which are rendered to their customers are for rural dwellers which makes the adoption of ICT near impossible. The study recommends that , microfinance Banks should as a matter of need use modern ICT applications in their operations as this will increase their performance in terms of reducing cost of operations, minimizing of error, increased competitive advantage which will in turn increase productivity and overall performance of microfinance Banks.

Keywords: ICT; Impact; Microfinance Banks; Performance; Efficiency

1. Introduction

Globally, poverty and mal-nourishment rank among the largest humanitarian problems in the world. An estimated 805 million, or 11.3% of the world's population, were classified as chronically undernourished in 2012-2014 (Food and Agricultural Organization, 2014). This problem is the most pronounced in Sub-Saharan Africa where 23.8 % of the population is undernourished. Poverty ranks as the principal reason for mal-nourishment (Riggins & Weber, 2016). To enhance international development, the United Nations (UN) announced the millennium development goals, aimed to eradicating poverty by 2015 (Arifujjaman & Rahaman, 2007). To achieve this goal, the UN counts on the Microfinance as one sure way to fight against poverty as well as the microfinance industry is the form of financial development that is now being considered as one of the most important and an effective mechanism for poverty reduction. The emergence of microfinance in the past three decades is viewed as a critical component in the fight against global poverty (Mosley, 2001). Microfinance is defined as the provisioning of financial services to poor or low-income clients, including consumers and entrepreneurs who would otherwise not be served by traditional financial institutions (Ledgerwood, 2000). According to Mosley (2001), microfinance makes a considerable contribution to the reduction of poverty through

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its impact on income and a positive impact on asset level. That is why, the UN, declared 2005 as the International Year of Micro-credit.

Microfinance institutions are the main financing sources for the poor and low income households around the world. They provide financial services to this world's poor in hopes of moving individuals and families out of poverty (Udom, Ukommi & Udom, 2023).

These institutions provide financial services to the poor who are excluded by formal financial systems, to enable them sustain a living and engage in economic activity through entrepreneurial activity and small business which together have impacts on country economic developments (Kipesha, 2013).

In this regard, Microfinance industry serves as an umbrella term that describes the provision of banking services by poverty-focused financial institutions to the segment of the poor population that are not being served by mainstream financial services providers (Sehgal, 2008). MFIs play a very important role in the economy. More precisely, MFIs have a two-fold mission which is social and economic by helping the customers to have active financial lives, intermediate a large part of their income, seek ways to save, borrow and insure and focus first on day to day needs (Bernd, 2007).

To achieve this mission, the microfinance sector, as for any other financial institutions, has a great task to adopt and adapt the information, Communication and Technology (ICT) to improve its products and services as well as today's business environment which is extremely dynamic and experience rapid changes as a result of technological improvement, increased awareness and demands Banks to serve their customers electronically (Agboola, 2001). In fact, ICT has been shown to have some impact on poverty at the micro and macro levels (Arifujjaman & Raham, 2007). Low ICT capabilities diminish the ability to use financial services to reduce poverty in developing areas (Udom, Offong & Bassey, 2024).

Today, the Banking industry operates in a complex and competitive environment characterized by these changing conditions and highly unpredictable economic climate in the World in general and Africa in particular (Agboola, 2001). That is why financial institutions, including MFIs, invest their time, human resources and huge sums of money in ICT, having their products and services basically supported by it. Bidley (2000) argues that Information and communication technology has brought a complete paradigm shift on the banks performance and on the customer service delivery in the banking industry. In a bid to catch up with global development, improve the quality of customer service delivery, and reduce transaction cost, banks invest heavily in ICT and widely adopt ICT networks for delivering a wide range of value added products and services. The Microfinance is maturing in part due to the adoption of information and communication technologies (ICT).

Thus, in present day banking, total automation of banking operations is an imperative need for all banks and microfinance institutions to enhance convenience by extending access to customers residing outside the branch network and creating opportunities for effective cross-selling, to attract more customers, to provide efficient and quality services, and survive in the emerging new competition, apart from the profit motive which is the primary objective of the banks (Juma, 2012). Competition forces MFIs to invest in ICT to realize increased efficiency and quality service delivery, to mitigate costs and increase efficiency to achieve customer satisfaction and to boost their profitability (Riggins & Weber, 2016).

On one hand, a sizeable number of studies on relationship between ICT investment and financial performance undertaken in banking sector in general and microfinance in particular, revealed that firms using ICT performed better compared to those that were reluctant to adopt it (Bidley, 2000). They revealed also that ICT investment led to reduction in costs and improved performance. Other studies revealed that some microfinance programs, even though they invest in ICT, find little success either in reaching the poorest individuals (social performance), in reaching the financial performance goals: (loan portfolio, efficiency, productivity, profitability, and sustainability) or in focusing on one of these two elements in disfavor of another. The crucial problem is how to make evidences of the impact of ICT utilization on financial performance in MFIs which invest in it.

In Nigeria, ICT is not a matter of convenience but a survival factor. If traditional banks, mostly public sector banks, do not transform their business by introducing the impact of information and communication technology (ICT) application on performance of microfinance banks in Akwa Ibom State. ICT in its all aspects, their survival will become difficult (Keivin et al., 2011). That's why, the potential customers and big companies are shifting their accounts from traditional banks (not fully computerized) to E-banks (fully computerized and provide different e-channels). Accordingly, a number of MFIs had already invested in ICT but they are still operating in the old traditional way BNR (2015). This study finds

its motivation in this higher need for evidences on the impact of ICT adoption and usage on financial performance of Microfinance institutions.

Objectives of the study

- To examine the impact of ICT on the performance of microfinance Banks in Akwa Ibom state.
- To examine if ICT application has attracted customers to microfinance Banks in Akwa Ibom state.

2. Review of Related Literature and Theoretical Framework

2.1. Literature Review

ICT is "the scientific, technological and engineering disciplines and the management techniques used in information handling, processing and disseminating; their applications; computers, networking and communication and their integration with men and machines; and associated social, economic and cultural matter" (Kimani, 2014). It is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning (Agboola, 2001). According to Freeman et al., (2010), ICT is a field of work and study that "includes technologies such as desktop and laptop computers, software, peripherals, and connections to the Internet that are intended to fulfill information processing and communications functions". Electronic banking is the provision of banking products and services, including electronic payments, through electronic channels. According to Keivin et al., (2011), it is an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a brick-and-mortar institution. For Daniel & Wilson (2003), it refers to several types of services through which a bank's customers can request information and carry out most retail banking services via computer, television or mobile phone. Accordingly, Berger & Wharton (2003) describe it as an electronic connection between the bank and customer in order to prepare, manage and control financial transactions. Clients satisfaction is a term frequently used in marketing. It is a measure of how products and services supplied by a company meet or surpass customer expectation. For Gustafsson et al., (2006), customer satisfaction is defined as a customer's overall evaluation of the performance of an offering to date. This overall satisfaction has a strong positive effect on customer loyalty intentions across a wide range of product and service categories. A system is a set of interdependent elements that together accomplish specific objectives. Romney & Steinbart (2009) defined an information system as an organized means of collecting, entering, and processing data and storing, managing, controlling, and reporting information so that an organization can achieve its objectives and goals. Gelinas et al., (2005) emphasized that, information system has the following components: Goals and objective, Inputs, Output, Data storage, Instructions and Procedure, Users, Control and Measures. Accounting system as an "information system is a man-made system that generally consists of an integrated set of computer-based and manual components establish to collect, store, and manage data and to provide output information to users" (Gelinas et al., 2005). Computerized Accounting Systems is a computer based system which combines accounting principles and concepts as well as the concept of information system to record, process, analyses and produce financial information to its users for making economic decisions. (Gelinas et al., 2005). For Baren, (2010) the use of computers is time-saving for businesses and all financial information for the business is well organized so that the Computerized Accounting Systems are important to businesses in various ways such as time and Cost Savings, organization and accuracy, storage and speed and easy distribution of financial information. Microfinance, according to Otero & Rhyne (1999) is "the provision of financial services to low-income poor and very poor self-employed people". Financial performance is a measure of how well a firm can use assets from its primary mode of business and generate revenues (Cull et al., 2007). This term is also used as a general measure of a firm's overall financial health over a given period of time and it is one of major indicator of organizational performance. For Zeller et al., (2002), financial performance can be defined as the accomplishment of a given task that is measured using predetermined standards of accuracy, completeness, efficiency and effectiveness.

2.2. Empirical Review

There are many studies carried out on impact of ICT utilization on financial performance of MFIs. Kimata (2013) did a study on effects of ICT on the financial performance of deposit taking SACCOS (DTS) in Nairobi County. The study used a descriptive survey to find out how ICT impacts on customer services system and reduction in operational costs. The population of interest was all the deposit taking Saccos in Nairobi County. Secondary data was sourced from the Sacco's annual financial reports and Sacco Societies Regulatory Authority (SASRA) supervisory reports. The data covered the period 2008 to 2012. Data analysis involved reducing accumulated data to manageable levels, developing summaries, looking for patterns and applying statistical techniques. The study established that ICT adoption were a major contributor to financial performance of DTS. Kipesha (2013) did a study on the impact of ICT adoption on efficiency and

financial sustainability of microfinance institutions in Tanzania. The study used data envelopment analysis (DEA) model to estimate technical efficiency and regression analysis model was used to test for association and cause and effect between ICT with efficiency and financial sustainability. The study reports the presence of positive but weak association and insignificant course and effect between ICT usage with efficiency and financial sustainability. ICT adoption was found to have a positive correlation with efficiency and financial sustainability in microfinance institutions. The correlation results imply that ICT usage has a positive impact on efficiency and sustainability as they move in the same direction. The strength of the impact was found to be low due low investments in ICT among microfinance firms. Kamau (2014) carried out a study on the effect of ICT adoption on the financial performance of microfinance institutions in Kenya. The study did a descriptive survey to find out the factors that influence ICT adoption on financial performance of microfinance institutions in Kenya. The study carried out tests on the effects of ICT adoption on the financial performance of MFIs for the period 2008-2012. Primary data was collected through a questionnaire. An analytical model was developed to determine the strength of the relationship between variables. Analysis of the data showed that there was a positive correlation between ICT adoption and financial performance of MFI's.

Musa et al., (2012) conducted a study to assess the impact of investment in information and communication technology on performance and growth of microfinance institution in Uganda. Performance is measured as a change in total factor productivity and growth as change in scale of operation. Two level growth models were used to determine the impact of investment in information and communication technologies on total factor productivity and scale change trajectories of individual microfinance firms. Results indicate that about 18% variation in performance and 19% variation in growth across firms were due to investment in information and communication technologies. They concluded that the shrinking customer base, decreasing marginal returns, and increased competition were necessitating selecting optimal input-mix and investment in information and communication technology by microfinance institutions in Uganda. This will ensure providing service at lower cost and sustainability and microfinance institutions in Uganda. Muteteri (2015) made a study on the contribution of E-banking towards banking on performance of banking Institutions in Rwanda. The study used a descriptive method based on qualitative and quantitative approach. Secondary data was used to collect information from financial statements and records. As results, it was established that Electronic banking system like ATM, Pay direct, electronic check conversion, mobile telephone banking and E-transact has a great impact on bank performance because they increase profitability, reduce bank cost of operations, and increase bank asset and bank efficiency. It is revealed that there is a significant relationship between E banking and Performance of bank of Kigali in Rwanda.

Most studies locally and globally have shown that there is a positive relationship between ICT investment and financial performance of firms. It has shown that the ICT utilization impacts more on firms' costs reduction, increased sales, and profitability enhanced efficiency and sustainability. This also supports the assumptions held by the above theories on the importance of ICT in enhancing financial performance. However, among the extensive researches done on ICT and financial performance; little focus has been placed within the context of microfinance institutions in Rwanda. Thus, this justifies the need to investigate the impact of ICT utilization on financial performance of microfinance institutions in Rwanda.

3. Theoretical framework

3.1. Technology acceptance theory

The Technology Acceptance Model (TAM) is a theoretical framework designed to predict how likely individuals or organizations are to embrace new technology systems. Developed by Fred Davis in the 1980s, the model emerged in response to concerns about people's resistance to technology and the frequent under-performance or outright failure of new systems. TAM posits that the features of a technological system influence potential users' motivation to adopt it. This motivation is primarily impacted by two key factors: perceived ease of use and perceived usefulness.

Perceived ease of use refers to how easy potential users believe the technology will be to operate, while perceived usefulness assesses whether they think the technology will aid in accomplishing desired tasks. Together, these factors shape the users' attitudes toward using the technology, ultimately predicting whether they will accept and utilize the system. The model has been widely accepted and adapted by researchers and organizations, highlighting its utility in understanding the complex relationship between technology and human behavior. TAM is particularly significant in an era where technology continues to evolve rapidly, affecting both personal and professional environments.

TAM is a theory that attempts to predict the likelihood of an individual or organization successfully adopting a new system of technology. It was developed in the 1980s by Fred Davis which responded to concerns of business owners and others about some people's unfavorable attitudes toward technology and the failure of many new systems to work

as intended. The TAM proposes that the features of the new technological system directly influence the motivation level of the potential users. This motivation level closely predicts the likelihood of users accepting and adopting the new system.

Historically, technology has greatly affected the way people reach their goals, both personal and professional. The introduction of new technologies can help people, as well as businesses and other organizations, perform their necessary tasks more quickly and efficiently. However, successfully creating, applying, and using technology may present a variety of challenges.

Hundreds of years ago, people performed most work by hand and created most products one at a time. The introduction of simple tools and machines allowed people to increase both productivity and speed. This process of technological development continued into modern times, during which computers and other advanced technology have become crucial aspects of many industries. In addition, entirely new industries have arisen to design and help people use these machines, computers, software, and other technology.

Although, technology has proved crucial in advancing many human occupations to their modern levels of productivity and efficiency, technology is not always easy to implement. Sometimes technology may be unreliable or too expensive to produce economically. Some of the most challenging difficulties, however, arise in the complex relationship between technology and the people who must adopt and use it.

For as long as technology has existed, people have resisted it. Some people believe that technology takes jobs away from human workers or reduces the "personal touch" that makes handmade goods and services special. Other people have resisted new technology because of its often high cost, which may represent a major and risky investment for individuals and small businesses. Still, other people have avoided technology because it can be difficult to implement and learn how to use properly.

These ideas and attitudes may seriously hamper the adoption or use of technology by an individual or organization. Although technologies may be powerful and advanced, they cannot function without human cooperation. People must purchase, install, operate, and maintain the various technologies. If these people are uncertain or unwilling, the effectiveness of the technology may be seriously threatened.

Technology acceptance theory is relevant to this study because of the ability to utilize new technology in achieving a task, rather than reflecting simple skills (Compeau & Higgins, 1995). It is believed that the higher the self-efficacy perceived by IT users, the more active and longer they continue to use new technologies to accomplish the assigned tasks. Moreso, When users believe that advantages of a new technology assist them in the enhancement of their productivity and job performance or its easiness to use,their intentions become higher for the acceptance and use of such technology.

4. Methodology

The study employs, a survey research design using data generated from secondary sources from books, journals, databases, government archives. Data for the research will be qualitative from literature reviews and findings from multiple sources.

5. Findings

This study revealed the infusion of ICT devices in microfinance bank operation in Akwa Ibom State. The ICT devices identified and used among the respondents chosen for this study were: smartphones, SMS, e-mails, computer hardware, telephone banking, magnetic ink character recognition (MICR) cheque, bank websites or mobile banking applications, teleconferencing, electronic point-of-sale (E-POS) services and financial ERP software applications. They are all determinants of portfolio quality or loan repayment, financial efficiency and productivity, financial profitability and sustainability are the financial performance indicators influenced by ICT utilization but not at the same level. ICT impacts on financial sustainability and profitability. Secondly, it impacts on financial efficiency and productivity and thirdly on portfolio quality. The study reported also on the relationship between ICT determinants and the financial performance. The results confirmed a positive and moderate correlation between ICT determinants and financial performance in selected microfinance banks. It is found that ICT applications by MFIs has attracted more customers to micro finance banks in Akwa Ibom State.

6. Conclusion

The study focused on information and communication technology and the performance of microfinance Banks in Nigeria. Related literature were reviewed and the study adopted secondary data from journals, periodicals, reports. The study revealed that the infusion of ICT in microfinance Banks can increase productivity and global competition. Observations also show that customers can reduce their presence in the banking hall through the adoption of SMS, E-mails, Point of Sale(POS) services, and other ICT financial software applications.

that Author should provide an appropriate conclusion to the article. Write a conclusion as a single para. Conclusion should be concise, informative and can be started with summarizing the outcome of the study in 1-2 sentences and end with one line stating: how this study will benefit the society and the way forward

Recommendations

- Aggressively upgrading of technology and sciences and adaptation to customer's requirements by investing in improvement and equipping modern facilities and technology with various functions so as to adapt to customers' demands in its services and products delivery such as: electronic banking, internet banking accessibility, digital financial services, PC banking, software and computerized account system, online banking, phone banking, home banking, phone banking, ATM, credit and debit card, money transfer services, foreign currency accounts, agent banking system and others.

- Microfinance should embark on training of operational staff on new attractive marketing strategies to improve their knowledge of information communication technology and its products and services for financial efficiency, productivity, profitability and sustainability.

- Microfinance banks should tackle the problem of ICT system failure faced by customers and staff by introducing the strong software, implementing the new strategies to avoid the lack of wireless which lead to the poor quality service delivery to the customers.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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