EFFECTS OF ACCOUNTING INFORMATION SYSTEM IMPLEMENTATION ON THE OPERATIONAL PERFORMANCE OF MICROFINANCE BANKS IN NIGERIA: AN EMPIRICAL INVESTIGATION

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Abstract

This study examined the effects of Accounting Information Systems (AIS) on various services of Microfinance Banks (MFB) in Nigeria. This research revealed the relevance of Accounting Information Systems implementation on the operational performance of Microfinance Banks in Ogbomoso, Oyo State, Nigeria. All the ten (10) microfinance banks in the city were contacted. Simple random sample was used to selected 150 staff, while questionnaire was administered to the respondents and only 134 were returned without void. Pearson Product Moment Correlation (PPMC) was used to examined the significant effects of Accounting Information Systems implementation on the operational performance of Microfinance Banks. The results showed that Accounting Information Systems implementation has significant effects on various MFB services. Thus, recommendation is made that the banks should focus more on adoption of AIS as it is been found to improve their service quality.

Key Words: *Accounting Information System (AIS), Microfinance Bank (MFB), Small and Medium Enterprises (SMEs), Services, Operation*

1. Introduction

Many researchers had reported the importance of microfinance institution to economic development. According to Ehigiamusoe, (2005), microfinance is the supply of loans, savings and other basic financial services to the poor. The owners of micro and small enterprises require a numerous range of financial instruments to meet working capital requirement, build assets, stabilize consumption, and shield themselves against risks. Financial services provided by microfinance institutions include; working capital loans, consumer credit, savings, pensions, insurance, and money transfer services. In reality, microfinance is much more than disbursement, management and collection of little bits of loans. Furthermore, Ehigiamusoe, 2005, postulated that microfinance consist of "flexible processes and structures by which financial services are delivered to owners of micro enterprise on a sustainable basis". Microfinance institution recognizes the stress and challenges of micro enterprises and their owners in term of accessing funds. It creates

indulgence for the inability of the poor to provide necessary collateral and therefore promotes collateral substitution. Microfinance bank can perform better and operate in an efficient way with the support of information Technology.

One of the technology advancements available in supporting financial institutions is Accounting Information System (AIS). Accounting information system dependability plays a vital and crucial part in the decision-making process, and it is an essential source for management to strengthen its plans and oversee its activities (Phuong, 2017). Loudon, (2004) gives definition of AIS has as a correlated group of components that collect, receive, process, save, and distribute information to support decision-making and control in an organization. Furthermore, it helps managers and workers to examine problems and create new products. Information technology is known as the electronic means to collect, process, store, and disseminate information (Duncombe and Heeks, 1999). AIS is considered one of the modern issues that begin to reflect the importance of using technologically processed information to serve several aspects in the society (Avolio, *et al*., 2001). These technologies led to reduction in the overall costs of banking operations (Jones, 2001). Furthermore, AIS guides the whole operation of an organization by evaluating previous performance, controlling current operations, and forecasting future operations and outcomes. The use of information technology (IT) improves the functions of recording, processing data, reporting, and other aspects of accounting information through the accounting information systems (AIS). The internal users, especially managers, may make inappropriate decisions due to lack of accounting information and this may place the future of the whole organization in jeopardy. An organization requires accounting information produced by the AIS to enable it to manage and control its financial and other resources better compared to the traditional manual system of recording process.

Microfinance bank is very essential in promoting grassroots development all over the world. It offers various services which includes; Marketing, Human Resources Management (HRM), Administrative and general services, Auditing, and operation. Marketing services involved selling of bank products; HRM involves recruitment, Training/development and retrenchment; Administrative and General Services involves acquisition of system, preparation minutes and report, and other administrative services; Auditing services include auditing of bank account, enforcement of compliance with bank policy, etc. while, the operation services includes; collection of cash/payment, preparation of financial statement, reconciliation of account, issuance of check book, deposit teller, money transfer, standing order process etc.

Consequently, the services of microfinance bank cannot be over-emphasized and is very paramount in ensuring a successful running. Nevertheless, in assuring prompt, uninterrupted and less error prone operation services of operation services from microfinance bank there is a need to inculcate information technology. Some of the previous study on the relevance of Technology to microfinance bank operation are; Kulik and Molinari (2004) and Yusuf *et. al.,* (2013), it was established in their studies that the major problem eroding microfinance bank services and performance is lack of access to technology. This prompts this research to find out how accounting related technology such as Accounting Information System can promogate various operation and services of Microfinance bank in Nigeria.

This research found out the effects of AIS adoption on various MFB services, which includes: Marketing, Human Resource Management (HRM) services, Administrative and General Services, Auditing Services and Operation Services.

2.1 Conceptual Review

Microfinance is defined as the provision of financial services to the poor who are traditionally not served by the conventional banks (Conroy, 2003 and Jaffari, *et. al.,* 2011). According to CBN (2005), the characteristics that distinguish microfinance from other forms of formal financial products are; (i) the absence of asset-based collateral; (ii) the smallness of loans advanced and or savings collected, and (iii) ease of operations. It is clear that microfinance is a very good instrument for job creation and poverty alleviation (Abiola and Oyeleye (2012). Again, greater numbers of businesses in Nigeria are private and small in need of the services of microfinance banks. It is the sustainable duty of MFBs to provide the services to these small businesses to ensure their growth. Microfinance banks would improve the standard of the living of active poor in the urban and rural areas, help the poor to be self-reliant, increase their sources of income. Above all, Microfinance banks will help to produce more entrepreneurs than job seekers (Abiola and Oyeleye, 2012).

2.1.1 Operations of Microfinance Banks in Nigeria

The launching of the microfinance policy, regulation, and supervisory framework guideline was launched by the Central Bank Nigeria in 2005 and were licensed to begin operations in 2007. Ana (2008) opined that microfinance banking in Nigeria is guided by the microfinance regulatory policy and guideline of 2005. No micro banker may, therefore, operate outside the dictates of this policy. The microfinance banks in Nigeria were made up of community banks and Microfinance –NGO that met with the requirements Central Bank of Nigeria. In Nigeria, microfinance can be owned by government, individual, group. Hence, Acha (2012), maintain that the point of divergence between the community banks and their microfinance successors is in those which the regulatory guideline allows to own them. In addition to individuals, group of individuals, community development associations, private corporate entities which could own community banks, commercial banks and foreign investors could also own microfinance banks. There are two categories of microfinance banks: State based microfinance with a minimum paid up capital of N1b. This type of microfinance bank was authorized to have branches anywhere within the state. The second one is Local Government Area based; with a minimum paid up of capital of N20m and should have just one branch within the LGA.

2.2 Accounting Information System (AIS) and Microfinance Bank (MFB)

Marriott and Marriott (2000) stated that financial awareness among MFBs' managers vary considerably and the use of computers for the preparation of management accounting information is not at its full potential. Research in information systems is well aware that the use of AIS does not directly affect MFBs' performance (Ismail & King, 2005; Saira et al., 2010). The AIS must be used and exploited to achieve its intended objectives. Therefore, before moving towards adopting more sophisticated and advanced AIS; it is important to determine SMEs current usage of existing accounting information system. In the study of, Amidu et al. (2011), they underscoring the

strategic importance of using AIS, noted that the use of accounting information could be linked to the success or failure of a small or medium enterprise. In order to survive, institutions' owners and managers need updated, accurate and timely accounting information (Amidu, 2005).

Many researchers have worked on AIS, with different views, but it is ascertained that, in the business world there is an increasing dependency on Information technology (IT) due to the need to improve business efficiency (Lallo & Selamat, 2013). Authors such as Al-Jalily and Taha (2010), Lallo and Selamat (2013; 2014), Pathak, (2004), and Salehi, Rostami, and Mogadam (2010) revealed that AIS is interdisciplinary in nature and seems to integrate the fields of accounting and Information Systems (IS). According to Mia, (1993) AISs have been perceived as a means of providing financial information to organization. There has been considerable evidence that within organization financial accounting has remained the principle source of information for managers (Saira *et. al*., 2010). These studies have also found out that organizations are still having ineffective information management, poor system control, and most decision making is on ad hoc basis despite having used AIS. The accounting system original role of replacing manual accounting process (Al-Jalily & Taha, 2010; Lallo & Selamat, 2013 & 2014; Pathak, 2004) has hindered further usage and exploration on the system benefits.

In the study of Amidu, (2005) and Saira *et. al*., (2010), it is established that Accounting Information Systems (AISs) are responsible for analyzing and monitoring the financial condition of companies, preparation of documents necessary for tax purposes, providing information to support the many other organizational functions such as production, marketing, human resource management, and strategic planning. Without such a system it will be very difficult for SMEs to determine performance, identify customer and supplier account balances and forecast future performance of the organization. Using standardized guidelines, the transactions are recorded, summarized, and presented in a financial report or financial statement such as an income statement or a balance sheet. Here, using AISs is viewed as a system that helps management in planning and controlling processes by providing relevant and reliable information for decision making (Gordon & Miller, 1976). Gordon & Miller, (1976) also suggests that AIS's functions are not solely for the purpose of producing financial reports. It role goes beyond this traditional perspective. Generally, literature on accounting in the AIS shows that several scholars have investigated the adoption of the system among large companies only. Very little knowledge is known about the evolution of computing in SMEs (Grande *et al*., 2011).

According to Saira et al., (2010), AIS's is 'a system that processes data and transactions to provide users with information in order to plan, control and operate their businesses. The work of Lallo and Selamat (2014) and Saira *et al.,* (2010) revealed that an AIS as 'a system that processes data and transactions to provide users with information. They need to plan, control and operate their businesses. Here, AIS is viewed as a system that helps management in planning and controlling processes by providing relevant and reliable information for decision making. It suggests that AIS's functions are not solely for the purpose of producing financial reports. It role goes beyond this traditional perspective. AIS should be utilized to include planning and managing business activities. It could also be used as a controlling mechanism such as budgeting. Therefore, full adoption of the system is essential to fully attain the system's benefits.

Prior researches have shown that information system adoption did increase companies' performances and operations efficiency especially in big company (Saira *et al*., 2010). AIS is a tool which, when incorporated into the field of Information and Technology systems (IT), were designed to help in the management and control of topics related to companies' economic-financial area (Salehi *et al*., 2010). AISs also provide information on both actual and budget data which would help company to establish, plan, and control operation (Grande *et al*., 2011). Good management of resources and better control of expenditure, budgeting and forecasting enhance the wellbeing of company (Saira *et al*., 2010).

2.3 Theoretical Review

Several models have been developed to examine various aspects of information technology use. But in this study, Technology Acceptance Model (TAM) is review because it's more likely to explain the relationship of human behavior as a user of an information system (Putu, Nyoman and Sunitha, 2018). The TAM model, which is founded on psychological theory, analyzes the behavior of information system users by looking at the relationship between belief, attitude, intention, and user behavior. The goal of this model is to better explain the primary aspects that influence information system users' attitudes toward their use (Adhiputra, 2015). There are four constructs in the TAM concept, namely (1) perceived ease of use is a measure where technology is easy to use and understand, (2) perceived usefulness is a measure where a technology is believed to provide benefits to its users, (3) attitude toward using namely the attitude towards users of the system in the form of rejection or acceptance as a result of someone using technology in their work, (4) actual use is a real behavior in adopting a system (Putu et. al., 2018). In the study, the adoption of AIS by the MFB will be triggered by the perceived ease of use, perceived usefulness, attitude towards usefulness and actual usefulness of the systems.

3. Method Research

This study was carried out in Ogbomoso, Oyo State Nigeria. The choice of Ogbomoso is because of the increasing numbers of Microfinance banks in the Area. According to CBN, (2020) there are Ten (10) microfinance banks in Ogbomoso. All the 10 MFBs were examined in this study. Simple random sample was used to draw the study sample. 15 possible staff that involve in daily transactions were drawn from each bank while primary source of data i.e. questionnaire and survey. The objectives of the study were analysed using Pearson Product Moment Correlation (PPMC). A total number of 150 questionnaires were administered to the respondents. 134 were returned without void while the remaining 16 were void. Therefore, the analyses of this study was based on 134 questionnaire returned without void.

Table 1: Questionnaire analysis

AIS adoption	Frequency
Administered	150
Returned	134
Not returned	16

Source: Field survey, 2020

4. Results

4.1 Effect of AIS Adoption on Marketing Services of MFB

This objective was tested using Pearson Product Moment Correlation and the result is presented in table 2 below.

Table 2: Correlation Result

		AIS adoption	Marketing services
AIS adoption	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	134	
Marketing services	Pearson Correlation	.233*	1
	Sig. (2-tailed)	.123	
	N	134	134

*. Correlation is significant at the 0.05 level (2-tailed).
Source: SPSS output

4.2 Effect of AIS adoption on Human Resource Management (HRM) services of MFB

This objective was tested using Pearson Product Moment Correlation and the result is presented table 3 below.

Table 3: Correlation Result

		AIS adoption	HRM services
AIS adoption	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	134	
HRM services	Pearson Correlation	.211*	1
	Sig. (2-tailed)	.123	
	N	134	134

*. Correlation is significant at the 0.05 level (2- tailed).
Source: SPSS output

4.3 Effect of AIS Adoption on Admin. and General Services of MFB

Pearson Product Moment Correlation (PPMC) was used to test the effects and the result is presented in table 4 below.

Table 4: Correlation Result

		AIS adoption	Admin. and general services
AIS adoption	Pearson Correlation	1	

	Sig. (2-tailed)		
	N	134	
	Pearson Correlation	.256**	1
Admin. and general services	Sig. (2-tailed)	.123	
	N	134	134

**. Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS output

4.4 Effect of AIS adoption on Auditing services of MFB

This objective was tested using Pearson Product Moment Correlation and the result is presented in Table 5 below.

Table 5: Correlation Result

		AIS adoption	**Auditing services**
	Pearson Correlation	1	
AIS adoption	Sig. (2-tailed)		
	N	134	
	Pearson Correlation	.261**	1
Auditing services	Sig. (2-tailed)	.123	
	N	134	134

**. Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS output

4.5 Effect AIS adoption on Operation Services of MFB

This objective was tested using Pearson Product Moment Correlation and the result is presented in Table 6 below.

Table 6: Correlation Result

		AIS adoption	**Operation services**
	Pearson Correlation	1	
AIS adoption	Sig. (2-tailed)		
	N	134	
	Pearson Correlation	.246**	1
Operation services	Sig. (2-tailed)	.123	
	N	134	134

**. Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS output

4.6 Discussion of Results

The findings of this study as indicated on Table 2 - 6 were on the effects of AIS adoption on various services of selected microfinance banks. The result of PPMC on table 2 revealed that AIS adoption by the selected microfinance bank has a positive and significant effect (.233*) on their marketing services at $\alpha<0.05$. However, the implication of this finding is that whenever there is an

increase/improvement in AIS adoption, the marketing services will be gaining ground and more product and services will be sell. This result corroborated the findings of Abdallah, (2014) on "The impact of using accounting information systems on the quality of financial statements submitted to the income and sales tax department in Jordan".

Furthermore, the result on table 3 revealed that AIS adoption by the selected microfinance bank has a positive and significant effect (.211*) on their HRM services at $\alpha<0.05$. However, the implication of this finding is that whenever there is an increase/improvement in AIS adoption, the HRM services will be gaining ground and more productive personnel will be recruited to achieve more results. Likewise, the finding on table 4 shows that AIS adoption by the selected microfinance bank has a positive and significant effect (.256*) on their Admin. and general services at $\alpha<0.01$, this implies that whenever there is an increase/improvement in AIS adoption, the admin. and general services will be gaining ground and daily activities of the bank will be good. This buttressed the findings of Abdallah, (2014) and Onoyere (2014).

Moreover, the finding on table 5 revealed that AIS adoption by the selected microfinance bank has a positive and significant effect (.256*) on their auditing services at $\alpha<0.01$. However, the implication of this finding is that whenever there is an increase/improvement in AIS adoption, the auditing services will be gaining ground and there will be no room for fraudulent activities within the bank. Finally, the finding on table 4.16 shows that AIS adoption by the selected microfinance bank has a positive and significant effect (.256*) on their operation services at $\alpha<0.01$, this implies that whenever there is an increase/improvement in AIS adoption, the operation services will be gaining ground and banking activities will be good and this corroborated with the findings of Abdallah, (2014) and Akanbi and Adewoye (2018).

5. Conclusion and Recommendations

This research has shown that the implementation of AIS improves the MFB operations. In particular, the study indicated that AIS enhance the supply of marketing services, HRM services, administrative and general services, auditing services, and operational services in the MFBs. This study is consistent with earlier studies suggesting that good information systems can enhance organizational productivity and service provision (Ojeka, Ben-Caleb & Ekpe, 2016).

Based on these findings, MFBs should give top priority to the enhancement and implementation of AIS in their management scheme. Such a recommendation is based on studies showing that sophisticated information systems enhance decision making, data accuracy, and financial reporting (Sajady, Dastgir, & Hasheminejad, 2008). Another critical benefit of AIS is enhanced transparency and accountability necessary to win the confidence of customers in the financial sector (Kumar, 2015). Moreover, MFBs should be encouraged to continuously enhance their AIS. This might entail training the staff on the appropriate use of these systems, updating the current hardware and software technology to the standard of the moment, and periodically reviewing the system performance to ensure it matches the changing demands of the bank and its clients.

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