

# Management Information System Adoption in Microfinance Banks' in Oyo State, Nigeria

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**Abstract:** This study focuses on Management Information System (MIS) Adoption in Microfinance Banks (MFBs) in Oyo State, Nigeria. Specifically, the study analysed factors influencing the adoption of MIS in microfinance banks. Primary data was collected with the aid of administered questionnaire on some selected microfinance banks staff. Data collected were analysed using descriptive statistical tools to determine factors influencing adoption of MIS in Microfinance banks' in Oyo State, Nigeria. While inferential statistical tools of Multiple Regression and ANOVA were used to determine factors with significant contributions to MIS adoption and at what degrees. Results revealed that Relative advantage- the extent to which a technology provides improvement over currently available tools, Complexity-simplicity of the technology's use or learning, and Compatibility- consistency of the innovation with social practices and norms among its users were the significant factors that influenced adoption of MIS in Microfinance Banks and were significantly different from one another. It is thus recommended that Common management information system platform should be recommended to all Nigerian microfinance banks by the regulatory authorities for suitable MIS adoption.

**Keywords:** Management information system; adoption; microfinance banks; relative advantage; complexity; compatibility; microfinance policy.

## INTRODUCTION

Management Information System is the managerial process that supports decision making at different levels and functional areas of management. Every organization whether private or public, profit making or non-profit making, large or small, is expected to employ financial statistics to facilitate crucial management decisions, and the information needs vary according to information each user requires [1]. Originally suitable information is usually arranged routinely by the organisation accountant, and this has a number of shortcomings which includes: deliberate manipulation of information, long period of data processing, human errors and many more.

However, through the introduction of information technology, the accountant now has at his disposal a good number of accounting management information channels that aid them in streamlining issues and providing quality information for the organization they render services to. Therefore, banks as financial organizations need a good information

system that enables them engender an efficient and effective platform for crucial decision making that will give them more competitive advantage [2].

Lately, management information systems have arisen as a dominant device to lessen operating costs, making it viable for financial institutions to expand to low-income areas.

Management Information System can be a tactical tool in making Microfinance Institutions (MFIs) more proficient and efficient. Although a few MFIs are making good use of technology, a good number are facing problems in getting the right solution for reasons which include; risk of failure of the MIS, diversity of geography and language, insufficient organizational human capacity and unavailability of suitable MIS, and high cost of information technology solution [3]. Therefore, an evaluation of factors that influence the adoption of MIS in Microfinance banks in Oyo state is the main focus of this study.

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Microfinance Bank is a bank with minimum capital base of N20 million that provides banking services to the unemployed or low income individuals or group who would have no other means of gaining financial services. A microfinance banks service includes loans, deposit, insurance, fund transfer services and other ancillary non-financial product aimed at low-income customers.

The importance of management information system in banking sector is detailed through information technology industry. Real information service delivery in banking dovetailed into reduced frustration and increases level of awareness in an organization [4]. Management information system has changed the way banks and their business relationships are planned world over and the variety of innovation device available to enhance the speed and quality of their service delivery.

### Microfinance Banks' Concept

Recently, the Central Bank of Nigeria launched the Microfinance Policy, Regulatory and Supervisory Framework for Nigeria to empower the vulnerable and poor people by enhancing their access to factors of production, mostly capital. To achieve the goals of this phase of its banking reforms agenda, the apex bank seeks to re-brand and re-capitalise hitherto community banks, to come under three categories of microfinance banks. These are Microfinance banks that are licensed to run as a unit within local governments and the second is licensed to operate in the state or the federal capital territory (FCT) as the third category is licensed to operate in more than one state including the FCT with a minimum paid up capital base and shareholders' funds of N20million, N100million and N2billion respectively [5]. Microfinance recognize poor and micro entrepreneurs who are denied access to financial services on the basis of their inability to pledge tangible assets as collateral for financial advances [6]. The main objective of micro credit according to Maruthi, Smith and Laxmi [7] is to improve the welfare of the poor as a result of better access to small loans which are not provided by the conventional financial institutions. Microfinance bank assists to mobilise savings in the economy, draw foreign donor agencies, reinforce entrepreneurship and catalyze development in the economy.

### Microfinance and MIS

The increase and expansion in infiltration of Management Information System (MIS) into the banking industry in the preceding decades are a well recognized and known reality. However, scores of operators of microfinance banks have experienced variance in desired results relating to the expected increase in output and in organization performance in respect to the huge investments in MIS.

Unlike the microfinance banking subsector, investment banks and insurance companies have succeeded in capitalizing over their MIS investment.

The regulatory and supervisory guidelines for Microfinance Banks (MFBs) require that an appropriate management information system (MIS) be put in place to compliment evaluation of risks and the rating criteria of these institutions on a continuous basis. The information required by management are generated through proper organisation of data from different distinct parts and summarised to become an output for decision making. Management Information System includes all components used for generating the information that guide management in its decisions and actions. In view of the high volume but small transactions and relatively less manpower prevalent in MFBs, the installed management information systems shall facilitate decision making at the different levels of the institution, with reference to the specific description of various types of products and services (deposits and loan portfolio), satisfactory classification of depositors and borrowers, and reporting requirements of the Central Bank of Nigeria. The types of information expected to be generated by MIS are:

- Financial statements (Balance sheet, Income statement, Cash flow and liquidity)
- Portfolio monitoring (credit & savings)
- Performance ratings/ indicators
- Customer information
- Non-financial performance (staffing, service quality, fixed asset etc)
- Market trends and comparisons.

Despite the advances in MIS, practical experience shows that the acquisition of a suitable MIS is not simple.

There is no doubt that "*the right information*" at "*the right time*" at "*the right place*", is crucial in decision making. The two major approaches of MFIs are Outreach and Financial Sustainability. Outreach to the poor is the traditional social mission of microfinance. On the other hand, financial sustainability refers to the ability of a microfinance service provider to cover all of its cost. Achieving financial sustainability require minimizing costs, offering products and services that meet client needs, finding innovative ways to reach the unbanked poor and charging interest rates and fees that covers costs. MIS can add substantial value in achieving both approaches.

### Benefits of MIS to Microfinance Banks' Operation

The main benefit of MIS to microfinance banks operation is that it offers easy contact to accurate and complete information. For instance, credit officers obtain information on credits that require follow-up, manager's can check daily growth of the branch, and management can obtain a full picture of the portfolio performance and quality. Clients too obtain rapid

information on their accounts, payments and balances. Other benefits are;

- Full information is captured on clients and their transactions that can be used to measure customer business to evaluate impact.
- Transactions, such as disbursements, repayments, deposits, withdrawals and money transfers are done faster and well controlled, with the accompany substantial degree of accuracy.
- Generated Information come in user-needed formats, promotes better understanding, setting priorities, objectives and strategy.
- Major performance indicators offer an overview of the enterprise performance, efficiency and effectiveness of business procedures for quick and timely adjustments when required.
- MIS usage assists make MFI services more users friendly, accessible and transparent.
- MIS offers full flexibility to design products and services to the needs of its aimed group.
- Staff efficiency and productivity is increased, as a result of the inherent ability to manage more products, clients, and activities in less time.
- Introduction of new products and setting procedures is simple and can be rapidly applied all over the branch network to meet target market.
- Through MIS, flexibility to integrate with other applications and delivery mechanisms is also provided.

## METHODOLOGY

Table-1 (Appendix 1) the study was divided into five clustered areas, where 10 percent of the microfinance banks from each of the clustered areas were selected using random sampling technique through balloting. Sixty-six respondents from the employees of the microfinance banks in Oyo State were selected. Primary data was collected with questionnaire. Staffs were selected because they have reliable information about the MIS in their banks. The justification for Oyo State was that it has the second largest concentration of microfinance banks in the south western states of Nigeria. Analysis of Variance (ANOVA) and Multiple Regressions were used to analyse factors influencing the adoption of MIS.

## RESULTS AND DISCUSSION

This study analysed the factors that influence adoption of Management Information System in the selected Microfinance banks in Oyo State, Nigeria.

Table-2 (Appendix 1) revealed the Analysis of Variance of the factors influencing the adoption of management information system. The result shows that the linear combination of Relative Advantage, Complexity of Information System, Compatibility, Security Concern, and Observability were significantly related to  $F(5,60) = 81.129$   $P < 0.01$ . The multiple regression coefficient was 0.93, indicating that approximately 93 percent of the variance of the

management Information System adoption can be accounted for by the linear combination of Relative Advantage, Complexity of Information System, Compatibility, Security Concern and Observability and this yielded an R-squared of 0.87 accounting for 87 percent of the management information System adoption. It equally shows the overall measure of the strength of association of all the independent variables.

Table-3 (Appendix 1) shows that findings from the objective delved into separate contributions of the five explanatory variables; Relative Advantage, Complexity, Compatibility, Security Concern, and Observability. Three out of the five variables independently made significant contributions to management information system adoption, though at different degrees. The most potent contributor happened to be Relative Advantage ( $\beta = 30.34$ ) with P value = 0.000 and is statistically significant at 0.05. This implies that relative advantage - the extent to which a technology offers improvement over the currently available tools, has a decisive influence on the adoption of management information system in microfinance banks in Oyo State, Nigeria. Closely followed by Complexity of Information System, ( $\beta = 7.37$ ) with P value = 0.000. The result revealed further that Compatibility ( $\beta = 3.04$ ), was also significant at 0.05 and has the least influencing value out of the three decisive factors shown to be influencing management information system adoption in Oyo State. This finding, conforms to James [8] stated that, small business with certain CEO characteristics (innovativeness and level of information system knowledge) innovation characteristic (relative advantage, compatibility and complexity of information system) and organizational characteristics (business size and level of employee; information system knowledge) are more likely to adopt information system.

Given the result of the analysis in Table-2, the coefficients of determination ( $R^2$ ) of 0.871 and also supported by high value of adjusted ( $R^2$ ) significant at 0.860, the constant and coefficients are statistically significant. There is significant difference in factors influencing adoption of management information system in microfinance banks in Oyo state.

## CONCLUSION

The result of the analysis indicates that complexity, compatibility and relative advantage were the major factors influencing the adoption of management information system in microfinance banks in Oyo State, Nigeria. Furthermore, adoption of management information system has a positive impact on microfinance banks operation in Oyo State.

From the findings above, it could be recommended that Microfinance Banks should invest only on the relevant technologies. Common management information system platform should be

recommended to all Nigerian microfinance banks by the regulatory authorities.

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#### APPENDIX 1

**Table-1: Sampling Procedure and Sample Size**

Area of the Banks	Name of the Banks	10% of the Banks for each area	Selected Banks
IBADAN AREA	<ol style="list-style-type: none"> <li>Apex Trust Mfb</li> <li>Best Star Mfb</li> <li>Blue Intercontinental Mfb</li> <li>Civic Mfb</li> <li>Crest Mfb</li> <li>Custodian Mfb</li> <li>Faith Mfb</li> <li>First Index Mfb</li> <li>Lead City Mfb</li> <li>M.B.A Mfb</li> <li>Mainsail Mfb</li> <li>MultivestMfb</li> <li>Oja TesanMfb</li> <li>OnibuoreMfb</li> <li>OriloniseMfb</li> <li>Orita-BasorunMfb</li> <li>PolybadanMfb</li> <li>Prison Mfb</li> <li>Reality Mfb</li> <li>Seed Vest Mfb</li> <li>UnibadanMfb</li> <li>LA FAYETTE Mfb</li> </ol>	3	Crest Mfb Custodian Mfb Mainsail Mfb
OGBOMOSO AREA	<ol style="list-style-type: none"> <li>AjewoleMfb</li> <li>Caretaker Mfb</li> <li>Ikoyi Ile Mfb</li> <li>New Vision Mfb</li> <li>Oke Oba Mfb</li> <li>OlogbonMfb</li> <li>OlowolagbaMfb</li> <li>RandalphMfb</li> </ol>	1	RandalphMfb
IBARAPA AREA	<ol style="list-style-type: none"> <li>AyeteMfb</li> <li>Excel Mfb</li> <li>Iganganmfb</li> <li>IgbooraMfb</li> <li>New Era MFB</li> </ol>	1	Excel Mfb
OKE-OGUN AREA	<ol style="list-style-type: none"> <li>EbediMfb</li> <li>IfedapoMfb</li> <li>IpapoMfb</li> <li>IwaMfb</li> <li>KadupeMfb</li> <li>Kisi Mfb</li> <li>OsantaMfb</li> <li>RanmilowoMfb</li> <li>SepeteriMfb</li> </ol>	1	IfedapoMfb
OYO AREA	<ol style="list-style-type: none"> <li>Awe Mfb</li> <li>IloriMfb</li> <li>IOC Mfb</li> <li>Kernel Mfb</li> <li>KopoKopeMfb</li> </ol>	1	IOC Mfb

**Source:** Conference Brochure for National Association of Microfinance Banks, Oyo State (2013).

**Table-2: Analysis of Variance of Factors Influencing Adoption of Management Information System in Microfinance Banks**

Multiple R	0.933			
R Square (R <sup>2</sup> )	0.871			
Adjusted R Square	0.860			
Standard Error	4.889			
Analysis of Variance Table				
	DF	Sum of Squares	Mean Square	F-ratio
Regression	5	9694.338	1938.868	81.129
Residual	60	1433.919	23.899	
Total	65			

Source: Field Survey, 2015.

**Table-3: Regression Analysis Showing Factors Influencing Adoption of Management Information System in Microfinance Banks**

Variables	Unstandardized Coefficients		Standardized Coefficients	t- value	P- value	Remarks
	$\beta$	Std. Error	Beta			
Constant	13.360	2.304		5.798	0.000	
Relative Advantage	30.836	3.504	1.160	8.800	0.000	S
Complexity	7.370	1.486	0.367	4.961	0.000	S
Safety Concern	2.058	1.636	0.103	1.258	0.213	NS
Observability	1.372	2.560	0.054	0.536	0.594	NS
Compatibility	3.036	1.287	0.245	2.359	0.022	S

S = Significant; NS = Not Significant

Dependent Variable: MIS adoption

Source: Field Survey, 2015.