

THE EFFECT OF MANAGEMENT INFORMATION SYSTEM ON THE PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA

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Abstract

This study investigates the effect of Management Information System (MIS) on performance of deposit money banks in Nigeria. The study employed a cross sectional survey research design. The sample size of the study was 117 drawn from 265 employees of DMBs working in Kaduna. The study utilized SPSS and PLS-SEM to analyze the data. The result suggested that MIS dimensions were related to performance of DMBs in Kaduna. Specifically, the Technology information system, Organization information system, Management information system were found to be significantly and positively related with performance of DMBs in Nigeria. The study thus, concluded that MIS has significant effect in improving the performance of DMBs. It is therefore recommended that management of DMBs, human resource units in particular should effectively and efficiently utilize their MIS in order to enhance their performance and sustain their competitive advantage.

Keywords: Performance, Technology, Organization, Management, Management Information System.

1. Introduction

Every organization develops its own MIS which is totally dependent on the personal needs of the organizations. In the management information system not only the system itself is important but to get the maximum advantages from the system human intelligence, perception and from the system it is important that the human intelligence, perception and judgment must be powerful and strong enough to get combined with the system information. This combination will provide managers with the unique and valuable to and for the information management in any company. MIS is presently the organization nerves system which responds to opportunities and threats are avoided. It is widely acknowledged that firms with the best and most effective information system are those that have clear and well through of information strategy. In private organizations, MIS are important factors in assuring the competitive advantage and eventual profitability of the firm. On the other hand in governmental organizations MIS are just as crucial but from another perspective, in terms of responsiveness, efficiency, and productivity. MIS provides information that manage organization effectively and efficiently. MIS in that they are used to analyze operational activities in the organization.

Academically the term is commonly used to refer the group of information management methods tied to automation or support of human decision making. MIS is not only indicating how things are going but why and where things are operated. The successful support of MIS

in business long-term plan providing reports based on performance analysis and to face high competition. According to Olughor (2016), MIS is subset of the overall internal control of a business covering the application of people, documents, technologies and procedures by management accountants as to solving business problem. MIS is a system process which provides information need to manage organizations effectively. It helps to reduce organization's cost and useless amount of human power. Management information system (MIS) is different from regular information. System in that it is used to analyze other information systems, planned operational activities in the organization.

Currently the effectiveness of the organization directly related to the appropriate management information system. MIS provides managers with reports and in some cases, on line access to the organization current performance and historical data records. Management information system (MIS) produces information products that support many of the day to day decision making needs of managers and business professional reports, displays provide information products satisfy the information needs of decision make at the operational and tactical level of organization who are faced with more structured types of decision situations. Most of organizations mainly depend up on MIS to process, record store and manipulate accurate data and information for the existence as well as profitability of the organization in processing data into accurate and well defined data, however without applying MIS organization does not have values for profit oriented as well as no profit firms. MIS needs to be strategically managed soaps to bring about sound and profitable organization and thereby increase organizational effectiveness of surviving to increase competitive advantage, to avoid challenges. This study therefore, seeks to fill this knowledge gap by investigating the role of MIS in improving organization performance and effectiveness in case of deposit money banks in Nigeria. The reason that the researchers initiate to study about the role of MIS of the organization is to set objectives and to help once, to know more about the role of MIS. To reflect the advantage of MIS since MIS is important for the effectiveness of the organization the importance of knowing that MIS is most effect vend efficient that could generate higher level of effectiveness to the organization organizational effectiveness depend up on the role of MIS. Therefore, in this study the researcher is emphasizing on the role of MIS in improving organization performance and effectiveness in deposit money banks in Nigeria. The MIS is operationalized in terms of technology, organization and management. From the foregoing discussions, the following hypotheses were raised and addressed:

H01: Technological information system has no significant effect on the performance deposit money banks in Nigeria

H02: Organization information system has no significant effect on the performance deposit money banks in Nigeria

H03: Management information system has no significant effect on the performance deposit money banks in Nigeria

2.0 Literature Review

2.1 Conceptual Framework

The Financial performance of a firm can be in terms of profitability, dividend growth, sales turnover, asset base, capital employed, among others. However, there is still debate among several disciplines regarding how the performance of firms should be measured and the factors that affect financial performance of companies (Mwangi & Murigu, 2015). A single

factor cannot reflect every aspect of a company performance and therefore the use of several factors allows a better evaluation of the financial profile of firms. Almajali, Alamro and Al-Soub (2017) argued that there are various measures of financial performance. For instance return on sales reveals how much a company earns in relation to its sales, return on assets explain a firm's ability to make use of its assets and return on equity reveals what return investors take for their investments. The profitability measures are compositely considered to be the basic firm financial ratio in order to evaluate how well firms are performing in terms of profit. For the most part, if a profitability ratio is relatively higher as compared to the competitor(s), industry averages, guidelines, or previous years' same ratios, then it is taken as indicator of better performance of the firm.

The efficiency of the banking system has been one of the major issues in the new monetary and financial environment (Sharon, 2013). The efficiency and competitiveness of financial institutions cannot easily be measured since their products and services are intangible in nature. Many researchers have attempted to measure the productivity and efficiency of the banking industry using outputs, costs, efficiency, and performance (Kosmidou, 2008).

Furthermore, a management information system (MIS) can be characterized as a tool that assists management in achieving a competitive advantage while also supporting the company's objectives. Kenneth and Jane Laudon (2003), as well as Dos Santos (1991), define a management information system as a planned system for gathering, processing, storing, and disseminating data in the form of information required to perform management functions. The importance of management information systems (MIS) in banking has grown, and it has become an important and necessary aspect of banking operations. Banks' increased use of information systems (ISs) has had a significant impact on all aspects of financial transactions and services.

Breakthroughs in technology around the world, such as telephones and the internet, the efficient use of (ISs) in today's knowledge economy has been strengthened by services, extranet, intranet, and other relevant technological issues; the rising banking sector of digital enterprises. Management information systems (MIS) could be used to give all types of data at all levels of management to assist decision-makers in mapping out (HRM) practices in the banking sector. R&D managers, for example, rely on all levels of (ISs) and computer networks to obtain instantaneous charts about (HR) practices in general, as well as market share analysis reports, in order to assess the firm's strategic position. Effective (ISs) must ensure that decision makers have access to the charts, formats, and presentations they need to assess the efficient levels of (HR) practices.

MIS, on the other hand, enforces the use of information systems that help firms achieve their goals, according to experts. The following are the cornerstone aspects of this overview: MIS development and use, information system, business goals and objectives (kroenke, 2011). In contrast, (MIS) makes information available to all organizational subsystems for strategic, tactical, and operational decision-making. This data is critical for achieving subsystem objectives since it is an integral component of the feedback control mechanism in these functional areas (Curtis & Cobham, 2002).

As a result, we can define a management information system as a system that offers information for organizational management activities. The targeted data is gathered, collected, and presented in an appropriate format for (HR) managers and decision makers to use in planning, organizing, directing, and managing the organization's activities. IT, IS, and MIS assist HR professionals in the delivery of services and have an impact on all HR practices (Hendrickson, 2003). The proposed system is made up of a collection of components that work together to achieve a specific goal, which is primarily the production of information. The model, according to Kroenke (2011), is based on the following elements: computer hardware, software, data, procedures, and people.

Empirical Review

According to Olughorolughorol (2016), the relationship between human resource information systems and human resource management (HRM) practices was studied in this study. Employees in the management levels of Nigerian food and beverage companies provided data. The findings reveal that HRIS has an impact on HRM practices by improving communication, decision-making, and workflow processes, and it is considered as a synergistic factor that aids employees in achieving competitive advantage (Al-Shawabkeh Arabic: 2014). The research looks at how HRIS affects HRM strategy in Nigerian commercial banks. The findings of the study were found to be generally consistent with the model once the data was analyzed. This research adds to the existing body of knowledge. The study found that (planning HR Systems, HR Systems, Training, Assessment HR Systems, Staffing HR Systems, and Compensation HR Systems) have a statistically significant impact on HRM Strategies in Nigerian Commercial Banks (P 0.05) (Deshpande and Mogandra 2014). The goal of this study is to determine the extent to which a Human Resource Information System (HRIS) is used in moderate to big businesses, as well as the benefits that come with using one in the Human Resource Planning (HRP) sub-functions. Questionnaires were distributed to 50 junior and senior HR managers and executives in three institutions in Pune, India, to collect primary data. The findings demonstrated that if HRIS is aligned with information system and HR strategy, institutions can achieve good HR planning efficiency and effectiveness. HRIS activities must be integrated with other business operations by institutions. According to the findings of the study, HRIS must provide more intelligent capabilities in order to leverage and improve the effectiveness of HR planning (Malkawi&Gharaibah 2013). The study's objectives were to determine the impact of management information systems (MIS) on the performance of governmental organizations, specifically the Jordan Ministry of Planning (case study). The findings revealed that while hardware and software equipment have no impact on the performance of Jordanian governmental organizations, networks, individuals, and procedures, as well as the management information system as a whole, have a significant impact. Finally, researchers advised the ministry to keep MIS systems up to date by including personnel in the development of systems and training them on how to use them.

The impact and utilization of human resource information systems on human resource management professionals was investigated by Hussain et al. (2007). They looked into the use of information systems in a variety of companies of all sizes, as well as the impact of information systems on HR professionals. They conducted an in-depth semi-structured interview with 11 top senior executives and a survey of HR professional managers in 450 British firms. The findings found that the size of a company has no discernible impact on the

use of information systems. HR workers may also improve and leverage an organization's positioning by strategically using information systems, according to the experts. Which evidence suggests that the use of information technology may add value and elevate the standing of human resource professionals as a whole? According to Sharif (2006), the study was undertaken to identify the threats that face electronic accounting information systems in the banking environment, as well as the most significant factors that contribute to the emergence of such threats and activities that could mitigate such threats. According to the conclusions of the study, good administration can reduce the appearance of threats to banking accounting information systems. It was also discovered that implementing information system security reduces the risk of accounting information systems.

3.0 Methodology

The study adopted cross-sectional survey research design which has the basic characteristics that involves the collection and collation of data to facilitate the answering of research questions through the test of hypotheses (Onodugo, Ugwuonah&Ebinne, 2010). Primary data was collected through the use of structured questionnaire. Copies of the questionnaire were administered to the employees working in DMBs in Kaduna. The target population of this study was 265 staff of DMBs in Kaduna. Krejcie and Morgan (1970) statistical formula for sample size determination from a finite population was used to determine the required sample size of SMEs. Given, the population of the study, the sample size is 117. Martini, Aloini, Dulmin, Mininno and Neirotti (2012) MIS scale was adopted for this study. Each dimension was evaluated by six items each. SME Performance was examined using Santos and Brito (2012), measurement which comprise of profitability, growth and market value, customer satisfaction, employees' satisfaction, environmental performance and social performance. The study used a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree).

4.0 Result and Discussion

The present study adopted a two-step process to evaluate and report the results of PLS-SEM as suggested by Henseler, Ringle and Sinkovics (2009). This two-step process adopted in the present study comprises the measurement model and the structural model (Hair et al., 2014)

4.1 Assessment of the Measurement Model

Analysis of a measurement model involves determining individual item reliability, internal consistency reliability, convergent validity and discriminant validity (Hair et al., 2011; Henseler et al., 2009). Figure 1 presents the result of the measurement model

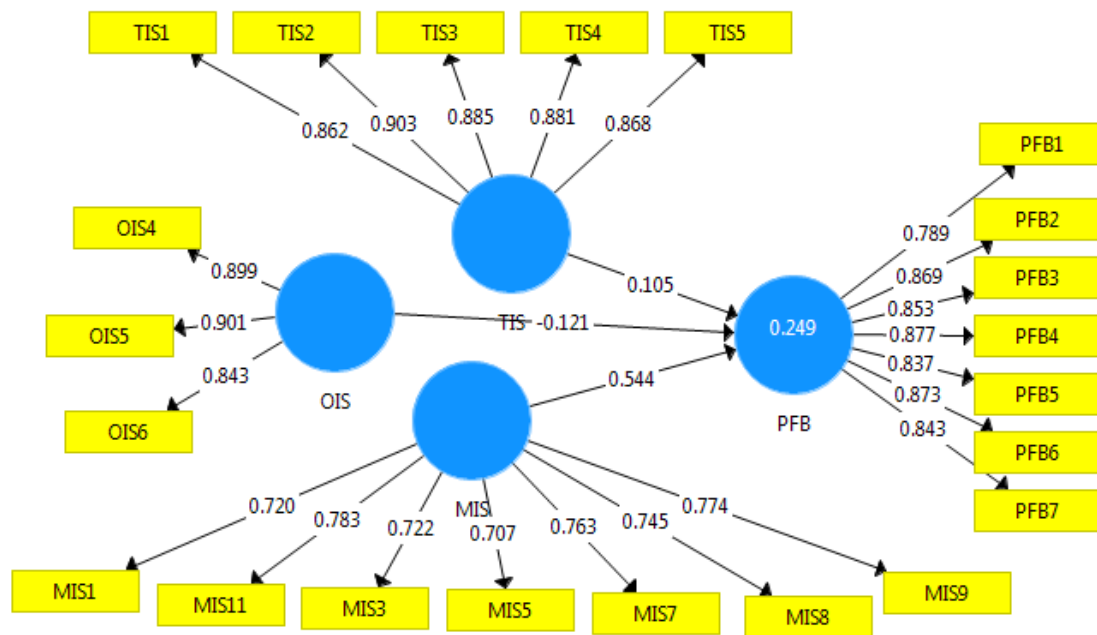


Figure 1: Measurement Model

In addition to the measurement model, Table 1 presents the result of individual item reliability, internal consistency reliability and convergent validity of this study.

Table 1:
Construct Reliability and Validity

Construct	Items	Loadings	CA	CR	AVE
Performance of DMBs	PFB1	0.789	0.916	0.931	0.577
	PFB2	0.869			
	PFB3	0.853			
	PFB4	0.877			
	PFB5	0.837			
	PFB6	0.873			
	PFB7	0.843			
Technology Information System	TIS1	0.862	0.738	0.830	0.510
	TIS2	0.903			
	TIS3	0.885			
	TIS5	0.881			
	TIS6	0.868			
Organizational Information System	OIS4	0.899	0.927	0.945	0.774
	OIS5	0.901			
	OIS6	0.843			
Management Information System	MIS1	0.720	0.889	0.909	0.501
	MIS11	0.783			
	MIS2	0.697			
	MIS3	0.722			

MIS4	0.598
MIS5	0.707
MIS7	0.763
MIS8	0.745
MIS9	0.774

From Table 1, loadings of items measuring individual construct were greater than 0.5 which is a minimum recommended value as contained in Hair et al (2013). However, items that failed this benchmark were deleted; they include PFB8, TIS1, OIS6 and MIS6. All the constructs in the study met the composite reliability benchmark of 0.7 and average variance extracted of 0.5. This suggest adequate internal consistency reliability of the measures used in this study (Hair et al., 2011).

In addition, convergent validity was assessed by examining the Average Variance Extracted (AVE) of each construct, as suggested by Fornell and Larcker (1981). To achieve adequate convergent validity, Chin (1998) recommended that the AVE of each latent construct should be .50 or more. Following Chin (1998), the AVE values (see Table 1) exhibited high loadings (> .50) on their respective constructs, indicating adequate convergent validity.

Heterotrait Momentrait (HTMT)

Henseler, Ringle and Sarstedt (2015) suggested a better approach to assess discriminant validity, HTMT refers to ratio of correlations within the constructs to correlations between the constructs. The approach is an estimate of what the true correlation between two constructs would be if they are perfectly measured. Kline (2011) recommended HTMT standard of 0.85 or less. However, Gold et al (2001) suggested that the value must not be greater than 0.90. This study adopted the criteria offered by Kline (2011) which is the latest. Table 2 displayed the details of the result. This is as presented in table 2.

Table 2: Discriminant Validity (HTMT)

	PFB	TIS	OIS	MIS
Performance of Banks				
Technology Information System	0.419			
Organization Information System	0.264	0.809		
Management Information System	0.305	0.446	0.563	

The result of HTMT in Table 2 revealed that the cross loading of all the constructs used in this study satisfy the condition of Kline (2011) as the coefficient of the intercorelations are less than 0.85. Thus, this further confirmed the validity of the measures employed in the study for further analysis.

4.2 AssesDMBsnt of the Structural Model

Hair et' al. (2013) identified four key criteria for assessing the structural model in PLS-SEM. These include assesDMBsnts of significance of the path coefficients, coefficient of determination (R^2), the effect size (f^2), and predictive relevance (Q^2). Figure 2 present the result of the structural model.

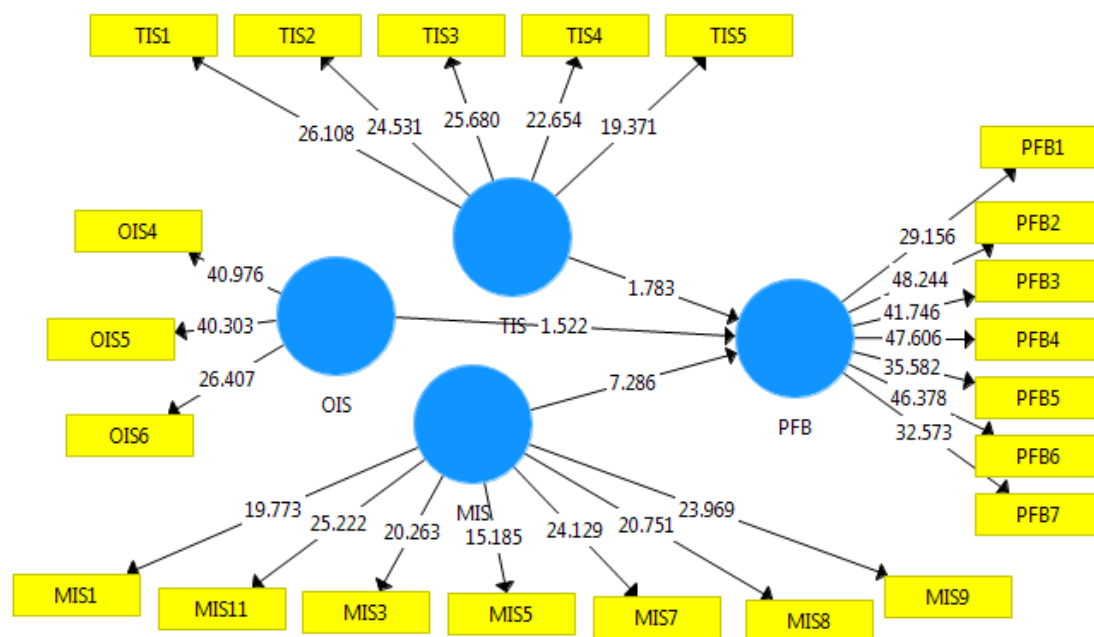


Figure 2: Structural Model

In addition to the structural model, Table 3 present the whole result of the path coefficients, coefficient of determination (R^2), the effect size (f^2), and predictive relevance (Q^2).

Table 3: Results of Structural Model

Path Coefficient	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
TIS ->PFB	0.176	0.177	0.062	2.832	0.005
OIS ->PFB	0.552	0.551	0.08	6.861	0.000
MIS -> PFB	0.039	0.037	0.064	0.607	.001
Coefficient of Determinant:					
R- Squared					0.249
Predictive Relevance:					
Q² (=1-SSE/SSO)					0.163
Effect Size				F²	Effect Size
TIS ->PFB				0.014	Small
OIS ->PFB				0.068	Small
MIS -> PFB				0.119	Small

From Table 3, technology information system has a significant positive effect with the performance of DMBSat 5% level of significance. This implied that adequate utilization of technology information system by DMBS owners, the better their performance. Thus, the hypothesis which states that technology information system has no significant effect on performance of DMBS is rejected. Similarly, organization information system has positive and significant effect on the performance of DMBS. This suggested that adopting an organization information system in improving the performance of DMBS might have positive result. Hence, the hypothesis which states that organization information system has no significant effect on

performance of DMBs was also rejected. In line with the above results, management information system has a significant positive effect on the performance of DMBs at 5% level of significance. This implied that effective and efficient use of management information system by the management of DMBs, will improve their performance. Thus, the hypothesis which states that management information system has no significant effect on performance of DMBs was rejected.

Table 3 also displayed the variance explained by the model. Based on the criterion for assessing R^2 (Chin, 1998), all the independent variables explained 24.9% variance in DMBS performance. Thus, suggesting that technology information system, organization information system and management information systems explained a weak variance in performance of DMBs. In addition, it can be seen that the Q^2 values of performance is greater than 0. It has the Q^2 of 0.163, which means technology information system, organization information system and management information systems have 16.3% relevance in predicting DMBs performance. Lastly, following the recommendation by Cohen (1988), all the variables (technology information system, organization information system and management information systems) have a small effect size on DMBS performance. That is the effect size for each construct is less than 0.15.

4.3 Discussion of Findings

This study examined the effect of management information system on the performance of DMBs in Nigeria. The result revealed that technology information system has a significant positive effect on the performance of DMBs in Nigeria. This implied that satisfactory application of technology information system will improve the performance of DMBs in Nigeria. This finding is consistent with the findings of *Mogandra and Deshpande (2014)*; *Olughor and Rukevwe (2016)* that documented that technology information system has a significant positive effect on the performance of DMBs. Similarly, organization information system has positive and significant effect on the performance of DMBs. This suggested that adopting of an organization information system in improving the performance of DMBs will yield positive result. This finding is inconsistent with the findings of *Gharaibeh, Shehada and malkawi, Nazim (2013)*; *Kroenke and David (2011)* that showed that organization information system has a significant positive effect on the performance of DMBs. Furthermore, management information system has a significant positive effect on the performance of DMBs at 5% level of significance. This implied that consistent and continuous application of management information system by the management of DMBs, will improve their performance. This is consistent with the finding of *Al-najjar, Fayez, Al-najjar, Nabil, & AL-zoubi, Majed (2013)*; *Alswabkah and Khaled (2014)*

Conclusion and Recommendations

The findings of this study suggest that management information system dimensions like technology, organization and management were related to performance of DMBs in Nigeria. Particularly, the technology information system was found to be significantly and positively related with performance of DMBs. Thus, the study concluded that capitalizing on technology information system by the management of DMBs will improve their performance. Additionally, management information systems significantly and positively affect performance of DMBs. Hence, adopting and utilization of management information systems

by managers of DMBs on will go a long way in sustaining their performance and competitive advantage. That is the more they utilize their management information systems, the better their chance of gathering technical know-how that will ultimately improve their performance. It is therefore recommended that managers of DMBs should effectively and efficiently utilize their management information systems channels that will help them enhance their performance and sustain their competitive advantage.

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