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Research Paper

Mediating factors in the utilization of management information system for effective service delivery of administrative staff of Michael Okpara university of agriculture, Umudike and Alex Ekwueme university

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ABSTRACT

The relevance of management information system (MIS) in promoting employee performance cannot be over-emphasized. However, the utilization of MIS in the a university information system possess the tendency of linking all the components of the university such as personnel, admissions, exams and records, bursary, library, sickbay, student's affairs unit, security and management among others. It permeates all the components. This study was carried out to ascertain the various factors militating against the utilization of management information system (MIS) for effective service delivery of administrative staff of Michael Okpara University of Agriculture, Umudike and Alex Ekwueme University, Abakiliki. Specifically, the study determined the effect of adoption of MIS technology, identify various factors militating against MIS utilization and their effect on the performance of MOUAU and AEU. This study adopted survey research design method and the population of the study comprised of all the administrative staff under Bursary, F.M.C, Security, Library, Registry Department of the Michael Okpara University of Agriculture Umudike and Alex Ekwueme University. It consisted of a total of one thousand three hundred and ninety-six (1394) in MOUAU, and one hundred and eleven (938) in Alex Ekwueme University, (Alex Ekwueme University Statistical Unit, 2022). The sources of data collection comprised of both primary and secondary sources. The research adopted stratified sampling technique to select the chosen sample staff of Michael Okpara University of Agriculture and Alex Ekwueme University in the various units selected respectively, while convenience sampling was adopted for interviewing the staff of both Universities as to fix a convenient time to carry out an oral interview on them. The simple random sampling method was used in this research to draw the appropriate sample sizes of 311 and 280 which was determined using Taro Yamen's formular from the populations of 1394 and 938 under study. Bourley's proportion allocation formula was used to determine samples for both universities individually. The instruments were designed in five-likert scale of strongly agree (SA), Agree (A), Disagreed (D), Strongly Disagreed (SD) and Undecided (U) and were face validated and the reliability was ascertained to be .87. Results of the findings revealed that adoption of management information system by staff of AEU have significant effect on administrative staff performance. Furthermore, the findings of the study showed that limited use of infrastructure, poor allocation of resources, lack of technical support, rigidity in management information system, poor data base management poor resource allocation are barriers to MIS development in MOUAU and AEU. The study concluded that MIS acts as guidelines to business owners when making critical decisions about their businesses. As a result, managers and key decision makers are bridled from overstepping their boundaries or exceeding their business mandate. The study further recommended that there is the need for update in management information systems continuously and top management should initiate a support programme towards having an IT technologist to propel the affairs of both Universities and its environment

1 | INTRODUCTION

Poor management information system has been identified as a bottleneck in the successful management of universities in Nigeria (NUC 1987). As it is usually the case in Nigerian universities, where management information system is not effectively used to take decisions on long and short-term planning issues. In a university where information cannot be stored or retrieved as at when needed, it becomes difficult and more likely impossible to take accurate and timely decisions on long and short-term planning such as: expenditure estimates, revenue estimate, cost of each programme of the universities and the likes of Ajayi and Omirin, (2007). Ineffective use of management information system in the Administrative performance by some of the universities usually result in failure of academic programmes, ineffective budgeting, wastage of resources, inaccurate projection of students' enrolment and manpower needs, poor motivation of staff, poor resource allocation and above all low-level performance of staff among others (Nayak, Sequeira and Senapati, 2010). The difficulty associated with effective performance of Administrative Staff in Michael Okpara University of Agriculture Umudike and Alex Ekwueme University had been attributed to ineffective information management implementation. There had been absence or limited use of relevant management information infrastructures to facilitate expansion of the information communication technology capabilities which has resulted to unacceptable tardiness in the delivery of university administrative services including financial transactions and, release of students' results and transcripts, student records, accounting information, staff data and so on Nirpesh, 2016). Although information resource is one of the major issues and indices for performance, effective performance in Nigerian Universities has become very difficult due to the ineffective use and adoption of management information system. It is against this background that it becomes an obvious need to study the various factors that militate against the utilization of Management Information System (MIS) for effective service delivery of administrative staff of Michael Okpara University of Agriculture, Umudike and Alex Ekwueme University within the period of 2013 to 2023.

2 | CONCEPTUAL FRAMEWORK

2.1 | Concept of Management Information System (MIS)

According to Hasan et al. (2013), management information system is concerned with the taking of data internally from the system there by analyzing it to produce meaningful and useful information as management reports to use it to address management activities and managerial decision

making. According to Al-Mamary et al (2014) management information systems is basically the process of retrieving and transforming data to produce information sent to managers at different stages and units to make timely and effective decisions to plan, direct and control the activities for which they are responsible for. Whitten et al. (2004), stated that "management information system is an arrangement of people, data, process, and information technology that interact to collect, process, store and provide as output the information needed to support an organization," which indicates that management information system is an arrangement of groups, data, processes and technology that act together in accumulating, processing, storing and providing information output needed to facilitate and enhance performance. Additionally, Management Information Systems refers to a system that uses information to ensure apt management of businesses. Fundamentally, all the facets of management information system run concomitantly to ensure overall efficiency of the whole system. Failure in one part could results to a general failure in all the other parts since they are all designed to function interdependently (Davenport and Short, 1990). Consequentially, a good management of information systems results into an effective performance in business just in the same way poor management leads to poor performance. In conclusion the definition which considered to be adequate for Information system is a collection of people, procedures, a base of data and (sometimes) hardware and software that collects, processes, stores and communicates data for transaction processing at operational level and information to support Management decision making (Hassan and Wang, 2015).

2.2 |Objectives of Management Information System

The management information system has a direct objective on this overhead, through creates an information- based work culture in the organization. Also, Rhupendra and Vijay (2016), outlined that management information system has the following objectives for any organization:

- Enhance the decisions-making process by facilitating information in the proper time frame. Thereby aiding the decision-maker in choosing the best course of action.
- Provide requisite information at each level of management to carry out their functions.
- It assists in addressing the critical factors to the closely monitored for successful functioning of the organization.
- Support decision-making in both structured and un structured problem environments.
- Provision of a system of people, computers, procedures, interactive query facilities, documents that collects, stores, retrieves and transmits information to the users.
- Enhance communication among staff.
- Deliver complex materials throughout the institution.
- Provide objective system to record and aggregate information.
- Reduce costin respect to labour-intensive manual activities.
- Support the organizations strategies goals and direction

2.3 |Characteristics of management information system

Rhupendra and Vijay (2016), also viewed management information system to have the following characteristics

Management oriented: The system is designed from the top to work downwards it does not mean that the system is designed to provide information directly to the top management. Other levels of management are also provided with relevant information. Take for example, marketing information system, it provides information such as sales order processing, shipment of goods to customers and billing for the goods are basically operational control activities. This information can also be tracked by a salesman, to know the sales territory, size of order, geography and product line, provided the system has been designed accordingly. However, if the system is designed keeping in mind the top management, then data on external competition, market and pricing can be created to know the market share of the company's product and to serve as a basis of a new product or market place introduction.

Management directed: Because of management orientation of management information system, it is necessary that management should actively direct the system development efforts. In order to ensure the effectiveness of system designed, management should continuously make reviews. For example, in the marketing information system, the management must determine what sales information is necessary to improve its control over marketing operations.

Integrated: The word 'integration' means that the system has to cover all the functional areas of an organization so as to produce more meaningful management information, with a view to achieving the objectives of the organization. It has to consider various sub-systems, their objectives, information needs, and recognize the interdependence, that these sub-systems have amongst themselves, so that common areas of information are identified and processed without repetition and overlapping. For example, in the development of an effective production scheduling system, a proper balance amongst the following factors is desired: set up costs, manpower, overtime, production capacity, inventory level, money available and customer service.

Common data flows: Because of the integration concept of management information system, common data flow concept avoids repetition and overlapping in data collection and storage, combining similar functions, and simplifying operations wherever possible. For example, in the marketing operations, orders received for goods become the basis of billing of goods ordered, setting up of the accounts receivable, initiating production activity, sales analysis and forecasting etc.

Heavy planning element: A management information system cannot be established overnight. It takes almost 2 to 4 years to establish it successfully in an organization. Hence, long-term planning is required for management information system development in order to fulfill the future needs and objectives of the organization. The designer of an information system should therefore ensure that it will not become obsolete before it actually gets into operation. An example of such a feature of management information system may be seen in a transportation system where a highway is designed not to handle today's traffic requirements but to handle the traffic requirements five to ten years hence.

Flexibility and ease of use: While building management information system all types of possible means which may occur in future are added to make it flexible. A feature that often goes with flexibility is the ease of use. The management information system should be able to incorporate all those features that make it readily accessible to a wide range of users with easy usability.

2.3.1 |Factors that should be considered when designing a Management Information System

Many factors come to mind when designing management information system. Abu, Ajadi and Adeyemi (2008) highlighted these factors to include:

Behavioral Factor: Consists of the norms, attitudes, motivations, aspirations and capabilities of the people involved. For instance, in Nigeria management information system on compulsory levy in primary institutions might be jeopardized in some parts of the country because of their beliefs and attitudes.

Communication Channels: In order to make information available where and when needed, seminars, meetings, retreats etc., have to be organized.

Computer Facilities: Computer and other data transmission should be made available to help in data processing.

Internet Facilities: If possible, it is ideal to be on network so as to have access to important information when designing yours.

Personnel: For effective data processing, competent personnel with qualitative computer knowledge might be needed to help in data processing.

Database: Simple database might be maintained to help in analyzing information.

2.4 |Performance and Service Delivery

Performance is a systematic process for improving organizational performance by developing the performance of individuals and teams (Khresat 2015). It is a means of getting better results by understanding and managing performance within an agreed framework of planned goals, standard and competency requirements. Performance is much more than appraising individuals. It contributes to the achievement of culture change and it is integrated with other key HR activities, especially human capital management, talent management, learning and development and reward management. More specifically performance management is concerned with (ALGharaibeh & Malkawi, 2013):

- aligning individual objectives to organizational objectives and encouraging individuals to uphold corporate core values;
- enabling expectations to be defined and agreed in terms of role responsibilities and accountabilities (expected to do), skills (expected to have) and behaviours (expected to be);
- providing opportunities for individuals to identify their own goals and develop their skills and competencies;
- Motivating people by providing them with recognition and the opportunity to use and develop their skills and abilities.

Every organization has been established with certain objectives to achieve. These objectives can be achieved by utilizing the resources like men, machines, materials and money. All these resources are important but out of these the manpower is the most important. It plays an important role in

performing tasks for accomplishing the goals. The question arises that how these resources are utilized by manpower. Further, the business environment is changing drastically. The environmental factors are uncontrollable. These are beyond control of management of the firms (Akram et al., 2025). One must adjust with the external factors to do the business in the market. Every environmental factor like social, cultural, legal, political, economic, technology and competition get changed very fast. For effective working the knowledge of these factors is must otherwise the plan will misfire. In present situation it is difficult to predict about anything and it is uncertain to say that what will happen tomorrow.

2.5 | Effect of Management Information System on the Performance and Service Delivery of Administrative Staff

Management information system is used in organization for its business operation (Kumar, 2011). It provides strong advancement in the field of information technology through which an organization can easily achieve the strategic objectives. It helps in decision support, venture management, resource and people management and data base retrieval application. The use of management information system in business organization support business processes, competitive strategies and business operation which result and impact the performance of the work force of the specific organization. Management information system plays the life blood role for an organization as no human can survive without it. Investment in management information system by the organization support it in core competencies, it also helps in production process, human resources records, financial records and controlling and monitoring of the various activities which in turn impact the organization growth and development and also provide sound basis for strategic decision making process. Proper implementation of the technology in the organization can help in three dimensions one is Management information system, employee's act, payroll structure or systems, control and monitoring of the employees and over all organization activities (Sinan Aral, 2010). The overall management can be best managed and controlled and by the appropriate execution of the MIS tools. Each and every department work with full strength. He further says that the overall activities of the organization largely depends mainly on three things the proper use of equipped machinery, trained men power and good organization structure which in turn should be supported by best and sound supervision and control system all these bustles can only be best organized and managed when there is more conscious Management information system implemented, not only that but also trained IT specialist employees play an important role in the financial and payroll system of the organization where all the activities carrying on with best possible monitoring system.

Large productivity premium totally depends on the management information system of the organization. And also training and employees management is related with great extent to its. Employee's motivation not enough for the complementarities but it should be explained through talent selection of employees (Olsson, 2010). He says that all the managers and executives afraid from different hazard analysis. It may be firm low yields, low output, time prediction errors (Jagolinzer 2006). All these things can only be controlled when trained employees with Technology that is Management information system, so they can best exercise times which have effects on financial reporting and also improve the estimates and forecasting decisions. The most important mechanisms to achieve the employee's performance in any organization is the technology development (Kumar, 2006). It is a thing through which one organization not only motivates the employees but also try to achieve its stated goals and objectives. Through technological improvement organization committed to achieve its long-term objectives and to decide about future course of action. As recently observed by Saad (2000), good information to be relevant for a purpose, sufficiently accurate, complete and arising from a reliable source, communicated to the right person in time and which is detailed enough for user's comprehension is crucial in staff job performance. Dan-Isa (2001) stated that in any organization, the administration should evaluate any information received on its quality for improved performance

Jensen (2006), stated his research paper that the organization performance always correlates with budget and system. If employees are well trained and budget system is computerized, then there may be possible change in the behavior of the staff. Employees can get help from this new technological budgeting system and they can execute all the activities of the organization if there is possible training to employees. Managers, researchers and strategy makers play very important role in the development of an organization but despite of all these the role of information technology for an organization is indispensable one (Ville, 2004). Because information technology make link between all the departments and make inter relationship between the departments which integrates all into single framework. The organization performance with great extent associated with information technology. Information technology is valuable for organization, but the extent of dimension depends on various factors that is internal and external. He concluded that the use of extensive technology is crucial for the performance of employees and also for organization. They have presented in their research paper the relationship of investment in of technology and the organization performance, for research purpose they taken hospital to see the impact. (Devaraj and Kohi, 2003). They posited that the actual usage of the technology directly associated with the hospital revenues and quality.

Campbell wrote in his paper that the organization growth and success is a two-way relation one is cause and other is effect, more training in the field of MIS to employees will result more effective performance of the workers (Campbell, 2002). Because he further points out in his paper that these thing is directly associated with the organization long term strategies. The management information system can easily measure the employee's performance and can be best supervised and controlled with the help of this computer technology and the firm can easily revise the strategy. The cause effect relationship cannot be possible by proper implementation and use of computer technology in the organization. The value of IT for business is much more than its concept because the scope of It business research includes the theoretical, logical, conceptual, and experimental studies (Dehning and Richardson, 2002). More investment in information technology makes a good role in competitive environment of the organization. The use of information technology in business impact the cost reduction and product differentiation and also its application is useful for competition (Belleflamme, 2001). The value of IT is also to business is less but not less application to data modeling and reproduction. Kauffman (1996) has pointed up that all the managements level executives should be motivated for the investment in technology and to promote the IT program in the organization which in turn improve the overall performance of the employees and the organization will be able to do all the activities in splendid ways. Robert accomplished that uncover that proper MIS training to employees may not only create value of the organization but also it set and clear the unmeasured directions and dimension. He emphasized on the more investment in the field of technology that is Management information system.

The organization when it invests in the information technology or management information system not only investment, but it also creates different type of opportunities within the organization which has direct impact on the employee's performance and efficiency as well as on the profitability of the organization (Duliba, 1996). Furthermore, various scholars and researchers have found from their various researches, that the effect of the technology or management information system not only brings possible changes in the profitability and performance but also in productivity, organization process, economy levels and industry. Management information system gives organization the opportunity to improve performance and efficiency and also put the organization in a more competitive ground that would increase profit through effective production The management information system very useful for business decision making not only for long term success but also for achieving short term. The human resource performance with great extent accelerates through management information system. But often this system does not meet the desirable expectation of the management. The main reason behind that is not proper implementation the system and they do not balance the cognitive and management hierarchies in the organization. To get favorable result from the system must be explicitly assimilate with information needs and cognitive hope of the management. From the above review we can sum up that the effect of management information system is not only on organization function, and performance but also on productivity. It supports all the department management which performs their functions more effectively, it also links all the departments under one roof and enable the employees to work. It also increases boundary spanning, helps in forecasting, long-term planning and ability to store and retrieve information.

2.6 | Factors Militating Against the Utilization of Management Information System

Most education management problems in Nigeria might be traced back to lack or poor management of information (Nwankwo 2013). Abu, Ajadi and Adeyemi (2008), Identified the following to be the problems of Management Information System.

Lack of management involvement: Most often the design of MIS is left in the hands of information specialists who may not know enough about management. At times they do not appreciate management's true information requirements and of organizational problem.

Lack of top management support: Top management sometimes does not encourage MIS due to various reasons often based on fear of the unknown.

Lack of computer knowledge: It is a glaring fact that most administrators at all level of management have little or no computer knowledge. Therefore, it is always difficult for them to assist MIS designers acquire and disseminate information

Inappropriate emphasis of computer system: In some organization, too much emphasis is laid on the use of computer to the extent that other methods of information acquisition and dissemination are relegated to the background.

In addition, Srinivas, (2011), also pointed out the following to be the **"**challenges limiting the efficacy of management information system**"**.

i. The dynamic nature of management information system makes it difficult for some organizations to keep up with the principles, strategies, propositions or even ideas.
ii. Different situations call for different decisions to be made. This poses challenges to management information system theorists since some management information system tend to not be adaptable
iii. The institutionalization, programming, monitoring and evaluating management information system requires a lot of expertise something which numerous organizations lack.
iv. The running of management information system programs tends to be relatively costly for some organization— especially small ones who are not well-endowed financially.
v. Management information system is more of a science-oriented field while business is art-oriented. Consequently, finding a middle ground where the two can be linked is quite challenging to some people.
vi. Most organizations do not have a well-defined decision making system. So even with the right management information system tools, very little can be achieved in terms of improving decision-making.

2.7 |Theoretical Framework

Goodhue defines task-technology fit (TTF) as the degree to which a technology assists an individual in performing his or her tasks. More specifically, it is the fit among task requirements, individual abilities, and the functionality and interface of the technology (Goodhue, 1997). In the context of information systems research, technology refers to computer systems (such as hardware, software, and data) and user support services (such as training and help lines). Technologies are viewed as tools used by individuals in carrying out their tasks. Tasks are defined as "the actions carried out by individuals in turning inputs into outputs" (Goodhue, 1995). In order for an information system to have a positive impact on individual performance, 1) the technology must be utilized, and 2) there must be a good fit with the tasks the technology supports (Goodhue and Thompson, 1995). If either the task-technology fit of the technology or its utilization is lacking, the technology will not improve performance. This theory has been formally recognized in studies such as those by Pentland (1989), who found that IRS auditors had positive attitudes toward PCs and utilized them extensively, but that the PCs had little positive impact on their performance, or even negative impacts. According to Pentland, the PCs were being utilized for inappropriate tasks, that is, tasks where the technology was not a good fit with task needs (Pentland, 1989). A more recent study by Keil et al. (1995) found that task-technology fit is more important than the user interface of an information system. In this study, a computer company implemented an expert support system for its sales representatives but found that usage was low. Feedback indicated that the system was difficult to use, so the company's developers performed a major rewrite of the user interface. After deploying the new and improved tool, they surveyed the users and found that there was no significant increase in use. In addition, the users still perceived the software to be cumbersome. Based on user comments, it was determined that the deficiencies were a function of the mismatch between the tasks the system supported and those that the users needed to perform (Keil *et al.*, 1995). Here, task-technology fit was completely overlooked; rendering a system that was of no value to the users.

3 | RESEARCH METHODOLOGY

This study adopted survey research design method and the population of the study comprised of all the administrative staff under Bursary, F.M.C, Security, Library, Registry Department of the Michael Okpara University of Agriculture Umudike and Alex Ekwueme University. It consisted of a total of one thousand three hundred and ninety-six (1394) in MOUAU, and one hundred and eleven (938) in Alex Ekwueme University, (Alex Ekwueme University Statistical Unit 2019). Bringing it to a total of two thousand three hundred and thirty-two (2332) Administrative staff for the both Universities. The sources of data collection comprised of both primary and secondary sources. The research adopted stratified sampling technique to select the chosen sample staff of Michael Okpara University of Agriculture and Alex Ekwueme University in the various units selected respectively, while convenience sampling was adopted for interviewing the staff of both Universities as to fix a convenient time to carry out an oral interview on them. The simple random sampling method was used in this research to draw the appropriate sample sizes of 311 and 280 from the populations of 1394 and 938 under study. Bourley's proportion allocation formula was used to determine samples for both universities individually. Finally, simple random sampling was done to get the required respondents. A sample size of 280 was determined with the aid of Taro Yamane (1967)'s method since it was not convenient for the researcher to study the entire population. The instruments were designed in five-likert scale of strongly agree (SA), Agree (A), Disagreed (D), Strongly Disagreed (SD) and Undecided (U) and were face validated. The validators were requested to examine the instruments with regard to clarity; use of language, relevance of the items to the study and coverage of the instrument in terms of the purpose of the study. Their corrections and suggestions were utilized to improve the initial copies of the questionnaire to produce the final copies while the reliability of the questionnaire involved the test and retest reliability method and the use of Cronbach alpha (1971). A reliability of .87 was realized. Data were analyzed using descriptive and inferential statistics while the hypothesis was analuzed using ordinary least squares (OLS) multiple regression.

4 | RESULTS AND DISCUSSION

Out of three hundred and eleven (311) questionnaires administered to administrative staff of MOUAU, Abia State, Alex Ekwueme University, Ebonyi State, Nigeria (AEU). Three hundred (300) was returned. The table below gives the breakdown of the questionnaire administration and its retrieval which served 96.5% of the response rate. 3.5% made up the rate of questionnaire not returned. Again, out of 280 administered, the retrieved ones were 79.3% while the not returned rate was 20.7%.

4.1 |Presentation of Data

Out of three hundred and eleven (311) questionnaires administered to administrative staff of MOUAU, Abia State, Alex Ekwueme University, Ebonyi State, Nigeria (AEU). Three hundred (300) was returned. The table below gives the breakdown of the questionnaire administration and its retrieval which served 96.5% of the response rate. 3.5% made up the rate of questionnaire not returned. Again, out of 280 administered, the retrieved ones were 79.3% while the not returned rate was 20.7%.

Table 1: Return Rate of Questionnaire

Institution	Number of copies of questionnaire administered	Number of copies of questionnaire returned	Number of copies of questionnaire not returned	Response rate (%)	Unreturned Response rate (%)
MOUAU	311	300	11	96.5%	3.5%
AEU	280	222	58	79.3%	20.7%

Field Survey: 2023

4.2 |Analysis of Descriptive Statistics (Comparative Study)

Determine the effect of adoption of (MIS) technology on the performance of MOUAU and AEU.

Table 2:Descriptive comparison between MOUAU and AEU on Adoption of MIS facilities

	N MOUAU	N AEU	Minimum	Maximum	Mean MOUAU	Mean AEU	Std. Deviation MOUAU	Std. Deviation AEU
Technical systems	300	222	1	5	3.57*	2.96	1.487	1.254
Personnel issues	300	222	1	5	3.09*	2.93	1.503	1.201
Management process issues	300	222	1	5	3.00*	3.30*	1.232	1.263
Leadership issues	300	222	1	5	3.37*	2.85	1.306	.919
MIS has made Online Learning Easy	300	222	1	5	2.93	3.51*	1.301	1.247
Valid N (listwise)	300	222						

Source: Field Survey, 2023. (SPSS Vision 22)

Descriptive statistics result on the effect of adoption of (MIS) technology on administrative staff performance recorded the following as shown in Table 2. MOUAU according to management information adoption revealed mean values of 3.57, 3.09, 3.00, 3.37, 2.93 respectively. Again, AEU also recorded: 2.96, 2.93, 3.30, 2.85 and 3.51. Given that mean values greater or equal to 3.00 would be considered as significant, whereas mean values less than or not equal to ($< or \neq$) 3.00 is not significant. Therefore, MIS has made online learning easy recorded 2.93 which revealed insignificance and others marked asterisks showed significance for MOUAU. However, only

management process issues and MIS has made online learning easy showed significance due to mean values ≥ 3.00 for AEU, whereas "unasterisked" showed no significance suggesting that they have no effect on administrative staff performance.

Examine whether the effect of limited use of infrastructure and poor resource allocation are barriers to MIS development in MOUAU and AEU

Table 3: Descriptive comparison between MOUAU and AEU on barriers to MIS development

	N MOUAU	N AEU	Minimum	Maximum	Mean MOUAU	Mean AEU	Std. Deviation MOUAU	Std. Deviation AEU
limited use of infrastructure	300	222	1	5	3.42*	3.36*	1.389	1.368
Poor allocation of resources	300	222	1	5	3.10*	3.04*	1.456	1.441
Lack of technical support	300	222	1	5	3.17*	3.21*	1.366	1.390
Rigidity in management information system Process	300	222	1	5	2.93	2.96	1.257	1.254
Poor Data Base Management	300	222	1	5	2.90	2.93	1.205	1.201
Valid N (listwise)	300	222						

Source: Field Survey, 2023. (SPSS Vision 22)

Descriptive statistics result on the barriers to MIS on Administrative Staff performance recorded the following as shown in Table 3. MOUAU according to barriers to MIS revealed mean values of 3.42, 3.10, 3.17, 2.93, 2.90 respectively. Again, AEU also recorded: 3.36, 3.04, 3.21, 2.96 and 2.93. Given that mean values greater or equal to 3.00 would be considered as significant, whereas mean values less than or not equal to (< *or* ≠) 3.00 is not significant. Thus, limited use of infrastructure, poor allocation of resources, lack of technical support. Rigidity in management information system Process, poor data base Management which revealed insignificance are not inherent barriers affecting MIS, whereas others marked asterisks i.e. limited use of infrastructure, poor allocation of resources, lack of technical support showed significance for MOUAU. However, limited use of infrastructure, poor allocation of resources, lack of technical support again showed significance due to mean values ≥ 3.00 for AEU, whereas "unasterisked" showed no significance, suggesting that they are not barriers to MIS.

Test of Hypotheses for MOUAU

Hypothesis: Adoption of management information system by staff of the Universities have no significant effect on administrative staff performance of Michael Okpara University of Agriculture.

Table 4. Regression Analysis

Variable MOUAU	Coefficient	t-statistics
Tech system (x_1)	0.036089	0.687932
Personal issues (x_2)	0.639157	4.756445*
Management process issues (x_3)	0.106713	0.992792
Leadership issues (x_4)	-0.015672	-0.310248
Easy learning (x_5)	0.148742	0.429224
Constants (c)	2.205568	2.027793**
R-Square	0.330938	
Adjusted R-squared	0.255763	
Log likelihood	-182.3969	
f-statistics	5.311	
Prob(f-statistic	0.000050	
Durbin – Watson stat	1.350248	

*Note level of significant: 1% = *, 5% = **, 10% = ****

The result of multiple regression analysis revealed the adoption of management information system by Staff of MOUAU. Five (5) factors considered were (x_1) technical system (x_2) personal issues (x_3) management process issues (x_4) leadership issues (x_5) easy learning. The factors considered explained 33% or 26% of administrative staff performance as revealed by R-Squared and R-square adjusted. The f-statistic of 5.09 showed how well the regression model fits the data of the study from their respective co-efficient of determinations namely: (0.03) Technical system (0.64) personal issues (0.11) management process issues (-0.01) leadership issues (0.15) easy learning. x_4 is negatively related whereas x_1, x_2, x_3 and x_5 are positively related to administrative staff performance which suggests that adoption of management information system by staff of MOUAU have significant effect on administrative staff performance.

Staff performance was at 2.20 holding all other variables constant as revealed by the value of any of the factors considered resulted to increase (for positively related) and decrease (for negatively related) of adoption of MIS by administrative staff performance to their respective co-efficient of determinations. Durbin Watson stat of 1.350248 revealed the presence of a positive auto serial correlation. T–statistic revealed that among all the factors considered, x_2 personal issues is significant at 1% which suggested that respondents are 99% sure that adoption of MIS has a positive effect on administrative staff performance.

Hypothesis 2:

Limited use of infrastructure and poor resource allocation are not barriers to MIS development in Michael Okpara University of Agriculture and Alex Ekwueme University.

Variable MOUAU	Coefficient	t-statistics
Limited use of infrastructure (x_1)	.008	.138
Poor allocation of resources (x_2)	.242	4.207**
Lack of technical support (x_3)	.090	1.576**
Rigidity in management information system (x_4)	-.070	-1.218
Poor Data Base Management (x_5)	.158	2.795**
Constants (c)	2.205568	4.879**
R-Square	0.330938	
Adjusted R-squared	0.255763	
Log likelihood	-182.3969	
f-statistics	5.291213	
Prob(f-statistic	0.000010	
Durbin – Watson stat	1.34648	

*Note level of significant: 1% = *, 5% = **, 10% = ****

The result of multiple regression analysis revealed the barriers to MIS development in Michael Okpara University of Agriculture on Administrative Staff performance. Five (5) problems considered were limited use of infrastructure (x_1), poor allocation of resources (x_2), lack of technical support (x_3), rigidity in management information system (x_4), poor data base management (x_5). The problems considered explained 33% or 26% of barriers to MIS as revealed by R-Squared and R-square adjusted. The f-statistic of 5.29 showed how well the regression model fits the data of the study from their respective co-efficient of determinations namely: limited use of infrastructure (.008), poor allocation of resources (.242), lack of technical support (.090), rigidity in management information system (-.070), poor data base management (.158). $x_1 x_2, x_3$ and x_5 is positively related whereas x_4 is negatively related to administrative staff performance which suggests that limited use of infrastructure and poor data base management are not barriers to MIS development in Michael Okpara University of Agriculture Staff performance was at 2.205568 holding all other variables constant as revealed by the value of any of the factors considered resulted to increase (for positively related) and decrease (for negatively related) to barriers of MIS with their respective co-efficient of determinations. Durbin Watson stat of 1.34648 revealed the presence of auto-serial correlation. T–statistic revealed that among all the factors considered, x_2, x_3, x_5 (poor allocation of resources,, lack of technical support, poor data base management) are significant at 5% which suggested that respondents are 95% sure that limited use of infrastructure and poor resource allocation are barriers to MIS development in Michael Okpara University of Agriculture.

Testing of hypotheses

Hypothesis 1: Adoption of management information system by staff of the Universities have no significant effect on administrative staff performance of Michael Okpara University of Agriculture and Alex Ekwueme University.

Variable	AEU Coefficient	t-statistics	MOUAU Coefficient	t-statistics
Tech system (x_1)	0.045012	4.45333**	0.036089	0.687932
Personal issues (x_2)	0.74563	3.45687*	0.639157	4.756445*
Management process issues (x_3)	0.11786	0.345620	0.106713	0.992792
Leadership issues (x_4)	-.034569	-0.410212	-0.015672	-0.310248
Easy learning (x_5)	0.43568	2.9127**	0.148742	0.429224
Constants (c)	1.29665	2.092340	2.205568	2.027793
R-Square	0.1230911		0.330938	
Adjusted R-squared	0.210123		0.255763	
Log likelihood	-121.35431		-182.3969	
f-statistics	3.010		5.311	
Prob(f-statistic	0.000090		0.000050	
Durbin – Watson stat	2.350286		1.350248	

*Note level of significant: 1% = *, 5% = **, 10% = ****

From the regressed results, the indicators reviewed thus; technical system (x_1) recorded .004 for AEU and significant at 0.05, 95% confident level, while 0.03 for MOUAU, but insignificant. Conversely .Personal issues (x_2) recorded 0.74 (AEU), while MOUAU recorded 0.63 and they both

showed direct relationships and significant at 0.01, 99% confidence level. Management process issues (x_3) recorded 0.11 for AEU, while MOUAU recorded 0.10 (both insignificant). Leadership issues revealed a negative correlation coefficient of -.034 for AEU, -.015 for MOUAU (both have indirect relationships). This implies that they are negatively related among the universities in context "easy learning" recorded a coefficient of 0.43 at 95% confidence level in AEU. Although, MOUAU recorded a positive but insignificant relationship. This implies that there is a strong disparity between the two universities compared. Again AEU had technical system (x_1), personal issues (x_2) and easy learning (x_5) indicators as positive and significant adoption of management information system by staff of AEU University, whereas, x_2 (personal issues) was revealed for MOUAU indicating that adoption of MIS was based on personal issues. Therefore, AEU showed more reason or effect of adoption of MIS compared to MOUAU.

Again, the factors considered for MOUAU in hypothesis two explained 33% or 26% of administrative staff performance as revealed by R-Squared and R-square adjusted. The f-statistic of 5.09 showed how well the regression model fits the data of the study and its overall significance. Conversely, AEU the factors considered explained 12% or 21% of administrative staff performance as revealed by R-Squared and R-square adjusted. The f-statistic of 3.01 showed how well the regression model fits the data of the study. Thus MOUAU revealed more predictive capability determining the effect of adoption of MIS between the Universities

Hypothesis 2: Limited use of infrastructure and poor resource allocation are not barriers to MIS development in Michael Okpara University of Agriculture and Alex Ekwueme University

Variable	AEU Coefficient	t-statistics	MOUAU Coefficient	t-statistics
Lack of confidence or skills (x_1)	055	.822	.008	.138
Poor allocation of resources (x_2)	.070	1.040**	.242	4.207**
Lack of technical support (x_3)	.060	.897	.090	1.576**
Rigidity in management information system (x_4)	-.169	-2.500	-.070	-1.218
Poor Data Base Management (x_5)	.041	2.3934	.158	2.795**
Constants (c)	3.278	2.9867	2.205568	4.879**
R-Square	0.194512		0.330938	
Adjusted R-squared	0.372100		0.255763	
Log likelihood	-112.5341		-182.3969	
f-statistics	2.111241		5.291213	
Prob(f-statistic	0.000080		0.000010	
Durbin – Watson stat	1.21245		1.34648	

*Note level of significant: 1% = *, 5% = **, 10% = ****

From the regressed results, the indicators reviewed thus; lack of confidence and skills (x_1) recorded .055 for AEU but not significant, while 0.08 for MOUAU and insignificant as well .Poor allocation of resources (x_2) recorded .070 (AEU), while MOUAU recorded .242 and they both showed positive coefficients and had direct relationships, significant at 0.05, 95% level of confidence. Lack of technical support (x_3) recorded 0.60 for AEU but not significant, while MOUAU recorded 0.090 and significant at 0.05, 95% confident level). Rigidity in management information system revealed a negative correlation coefficient of -.169 for AEU, -.070 for MOUAU (both have indirect relationships). This implies that they are negatively related among the universities in context "poor data base management" recorded a coefficient of 0.041 but insignificant whereas MOUAU recorded .158 at 95% confidence level. Consequently, two factors are seen in x_2: poor allocation of resources and poor database management which is also seen in MOUAU, except for lack of technical support which posed as extra problem more in MOUAU. This implies that MOUAU had more barriers to MIS, compared to AEU.

On the other hand, problems considered in hypothesis four for MOUAU explained 33% or 26% of barriers to MIS as revealed by R-Squared and R-square adjusted. The f-statistic of 5.29 showed how well the regression model fits the data of the study and its overall significance. On the contrary, AEU problems considered explained 19% or 37% of barriers to MIS as revealed by R-Squared and R-square adjusted. The f-statistic of 2.11 showed how well the regression model fits the data of the study. Thus MOUAU explained the movement of (Y) administrative performance with respect to barriers to MIS to a maximum extent compared to AEU.

5 | DISCUSSION OF FINDINGS

Hypothesis two result of multiple regression analysis recorded the adoption of management information system by staff of MOUAU where five factors considered namely; (x_1) technical system (x_2) personal issues (x_3) management process issues (x_4) leadership issues (x_5) easy learning explained 33% or 26% of administrative staff performance as revealed by R-Squared and R-square adjusted. F-statistic of 5.09 showed how well the regression model fits the data of the study from their respective co-efficient of determinations i.e.: (0.03) technical system (0.64) personal issues (0.11) management process issues (-0.01) leadership issues (0.15) easy learning. Four factors (x_1, x_2, x_3 and x_5) showed positively related to administrative staff performance suggesting that adoption of management information system by staff of MOUAU have significant effect on administrative staff performance at 2.20 holding all other variables constant as revealed by the value of independent variables. Durbin Watson stat of 1.350248 revealed the presence of a positive auto serial correlation. Again, T–statistic revealed that among all the factors considered, x_2 personal issues is significant at 1% which suggested that respondents are 99% sure that adoption of MIS has a positive effect on administrative staff performance and this corroborated with Kehinde, and Yusuf, (2012) where they stated that the adoption of MIS in an effective and purpose driven scale will increase the chance of attaining set organizational goals. Also this conforms with Stephen (2015), where he stated that information acquisition and information management capacities whether taken separately or jointly made significant contributions to both effective and efficient administration in Nigerian Universities.

Hence, AEU considered factors that explained 12% or 21% of administrative staff performance as revealed by R-Squared and R-square adjusted. The f-statistic of 3.01 showed how well the regression model fits the data of the study with their respective co-efficient of determinations namely: (0.04) technical system (0.74) personal issues (0.12) management process issues (0.12) leadership issues (-0.03) easy learning 0.43. x_4 is negatively related whereas x_1, x_2, x_3 and x_5 are positively related to administrative staff performance which suggests that adoption of management information system by staff of AEU have significant effect on administrative staff performance. Staff performance was at 2.20 holding all other variables constant as revealed by the value of any of the factors considered. Durbin Watson stat of 1.350248 revealed the presence of a positive auto serial correlation. T–statistic revealed that among all the factors considered, x_2 personal issues and x_5 easy learning are significant at 5% which suggested that respondents are 95% sure that adoption of MIS has a positive effect on administrative staff performance. Therefore the study had slight disparity in the area of adoption of MIS, thus x_2 and x_5 did not show enough evidence due to its miniature coefficient of determination (12%, 21%) visavise AEU whereas MOUAU showed enough predictive capability based on its coefficient of determination (33%, 26%).

Hypothesis four result of multiple regression analysis revealed the barriers to MIS development in Michael Okpara University of Agriculture on Administrative Staff performance. Problems considered were limited use of infrastructure (x_1), poor allocation of resources (x_2), lack of technical support (x_3), rigidity in management information system (x_4), poor data base management (x_5). The problems considered explained 33% or 26% of barriers to MIS as revealed by R-Squared and R-square adjusted. The f-statistic of 5.29 showed how well the regression model fits the data of the study from their respective co-efficient of determinations i.e. limited use of infrastructure (.008), poor allocation of resources (.242), lack of technical support (.090), rigidity in management information system (-.070), poor data base management (.158). $x_1 x_2, x_3$ and x_5 are positively related whereas x_4 is negatively related to administrative staff performance. Administrative performance was at 2.205568 holding all other variables constant as revealed by the value of any of the factors considered with their respective co-efficient of determinations. Durbin Watson stat of 1.34648 revealed the presence of auto-serial correlation. T–statistic revealed that among all the factors considered, x_2, x_3, x_5 (poor allocation of resources,, lack of technical support, poor data base management) are significant at 5% which suggested that respondents are 95% sure that limited use of infrastructure and poor resource allocation are barriers to MIS development in Michael Okpara University of Agriculture. Result corroborates with Munirat et al. (2014) when they agreed that poor data base management, lack of adequate knowledge and skill on information technology and the ability to manage the MIS process by various organizations is one of the major factor that affect the efficient performance of management information system in Nigeria universities.

Hence, AEU considered five problems namely: limited use of infrastructure (x_1), poor allocation of resources (x_2), lack of technical support (x_3), rigidity in management information system (x_4), poor data base management (x_5). The problems considered explained 19% or 37% of barriers to MIS as revealed by R-Squared and R-square adjusted. The f-statistic of 2.11 showed how well the regression model fits the data of the study considering their respective co-efficient of determinations namely: limited use of

infrastructure (.055), poor allocation of resources (.070), lack of technical support (.060), rigidity in management information system (-.169), poor data base management (.041). x_1, x_2, x_3 and x_5 are positively related whereas x_4 is negatively related to administrative staff. Staff performance was at 3.278 holding all other variables constant as revealed by the value of any of the factors considered Durbin Watson stat of 1.21245 revealed the presence of auto-serial correlation. T–statistic revealed that among all the factors considered, x_2 and x_5 (poor allocation of resources and poor data base management) are significant at 5% which suggested that respondents are 95% sure that limited use of infrastructure and poor resource allocation are barriers to MIS development in Alex Ekwueme University. Although the responses were synonymous in nature but slight divergence in their r-squared and adjusted r-squared i.e. MOUAU (33%, 26%), AEU (19%, 37%).

6 | CONCLUSION

The study concluded that MIS act as guidelines to business owners when making critical decisions about their businesses. As a result, managers and key decision makers are bridled from overstepping their boundaries or exceeding their business mandate. This is very crucial as it helps in keeping businesses checked and balanced thus ensuring that only proven decisions are considered while the untried ones are thwarted. More importantly, the capacity to guide decision-making facilitates progress and improvement of the operations in a company. In addition, most MIS programs are endowed with the capacity to give real-time updates of the occurrences in company or system. By real-time, scholars simply refer to immediate updates of occurrences in a system. These immediate updates help managers to take necessary actions as soon as is deemed appropriate especially during the discovery and management of crises. This augments progress and improvement in company operations through timely decision making. This is important for companies in the modern-day generation where any slight lapse in decision making can lead to very huge losses. Furthermore, the programmability of most Management information system saves a lot of priceless time and resources for owners. In other words, through programmability, business manager can program the systems to automatically discover certain deficiencies and even solve them. Consequently, the manager or system operator can use the time and resources he/she would have used in monitoring or fixing problems for other key uses. By routinely programming a Management Information System, the business is bound to make positive progress since time and resources can be easily channeled into rightful business paths. As a fundamental point, a good number of MIS used today can perform multiple tasks all at the same time. This potential to multitask increases efficiency in a company since several business operations can be conducted simultaneously. With special regards to decision making and administrative performance, the capacity to multitask ensures that decisions are made speedily when compared to those systems which can only handle one task at a time.

6.1 | Recommendations

In line with the findings of this study, the following recommendations were made.

- There is the need for update in management information systems continuously and top management should initiate a support programme towards having an IS technologist to propel the affairs of both Universities and its environment
- Training and development programme should be conducted in the universities to improve in the allocation of resources, data management, technical support and use of infrastructure etc.
- Management should aid in the development of existing system and make provision of adequate information relating to MIS in order to simplify complex problems and facilitate high quality administrative staff performance in Nigerian Universities.
- Information systems' practitioners are highly recommended to design and implement MIS built on the relevant effectiveness dimensions; these are MIS capabilities supporting innovativeness, creativity and environment scanning (open system) as well as modeling, optimizing and forecasting (rational) at the expense of internal controlling, monitoring, excessive documentation and stability (internal process).

6.2 | Findings

From the empirical evidence, the study found that MIS act as guidelines to business owners when making critical decisions about their businesses. Hence, managers and key decision makers are bridled from overstepping their boundaries or exceeding their business mandate. This is very crucial as it helps in keeping businesses checked and balanced thus ensuring that only proven decisions are considered while the untried ones are thwarted. However, the capacity to guide decision-making facilitates progress and improvement of the business operations.

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