

Management Information System and University Administration: The Case of Government-Owned Universities in Ogun State, Nigeria

Mushay A. Ogundipe^a, Kehinde K. Anise^b, Owolabi P. Adelana^{c*}, Adetoun M. Adeniji^d

^aDepartment of Educational Management, Tai Solarin University of Education,
Ijebu-Ode, Ogun State, NIGERIA, ogundipe@tasued.edu.ng

^bDepartment of Educational Management, Tai Solarin University of Education,
Ijebu-Ode, Ogun State, NIGERIA, kennysquare2008@gmail.com

^cDepartment of Science and Technology Education,
University of Ibadan, Ibadan, NIGERIA, paulyetty@gmail.com*

^dDepartment of Educational Management, Tai Solarin University of Education,
Ijebu-Ode, Ogun State, NIGERIA, marytee34@yahoo.com

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Abstract

The need for efficient and effective university administration, especially concerning university data and information management, cannot be overemphasized. As the world advances in the 21st century, the need to further use advanced management information system (MIS) tools in university administration also arises. Therefore, there is a need to find out if Ogun State Government-owned universities have and use MIS in their day-to-day running since data and information are significant parts of achieving university objectives. Because of this, using a descriptive survey of the non-experimental design, this study investigates MIS and university administration in Ogun State, Nigeria, with a special focus on Government-owned Universities. The sample comprised 128 staff of two State universities in Ogun State, Nigeria. An instrument titled "Management Information System and Information Administration in Universities Questionnaire (MISIAUQ)" ($r = 0.75$) was used to collect data, while analysis was done using simple percentages, mean rating, standard deviation, and Multiple Regression at a .05 level of significance. Findings showed that the sampled institutions have some MIS tools, and are used for storing and retrieving information needed by ex-students ($x = 3.30$; $SD = .856$), among other uses. Also, the finding showed that the use of MIS in the institutions improves staff's ability to work with large data, thereby leading to the continuous growth of the University. However, funding remains a major issue in the use of MIS tools. Among others, we suggested that modern MIS technologies be embraced by universities to ensure confirmation of modern global best practices in the management of data in higher institutions.

Keywords: Management Information System (MIS), university administration, Government-owned universities, Information Management, Management Information System Tools

INTRODUCTION

Without quality education, cultural, social, political, economic, and technological development will be difficult in any nation all over the world. Quality education remains a vital tool for a sustainable economy globally. Given this, giving quality education to the citizens inspires creativity and innovation, and also improves the nation's economy (Thangeda, Baratiseng, & Mompati, 2016). Specifically, university education is not only important for the development of the individual but also vital to national and global developments. Without education, especially a qualitative one, advancements in science, technology, and citizens' socioeconomic, along with sustainable development may be impossible (Olurinola & Adelana, 2022). In addition to these, quality education assists in equipping individuals with the capability to effectively and meaningfully contribute to their societies (Thangeda, et al. 2016). In any nation, the highest level of education is attainable only at the university level. This is why universities have been tagged as citadels of knowledge and the knowledge capital of the world.

Universities are for the training of high-level manpower for society. Globally, universities are recognized as centres of excellence where knowledge, through teaching and research, is acquired and disseminated to society (Adeniji, Adelana & Ogunsile, 2022). The university has been described as the place of enlightenment; a frontier for the exploration of knowledge where individuals are trained to imbibe values for the pursuits of the common societal good, and individual well-being (Angie & Ochai, 2013). The roles that universities play all over the world in fostering development in society cannot be underestimated.

Aside from being the citadels of knowledge, universities also ensure that their products, in the form of learned individuals, are well-prepared such that they can contribute to the furtherance of personal and societal developments. Given these, a university education is an important investment in human capital development, which in turn is germane to human and socio-economic growth and development of society (Akinyemi et al., 2022). Universities are also saddled with an unwavering commitment to quality teaching and learning, research and scholarship, community service, good governance and management, and consultancy. This, according to Boulton and Lucas (2011), connotes that fundamentally, universities are meant to create and forward "useful knowledge" to society, and also engage with society in applying the knowledge.

Universities need to efficiently collect, collate, process and manage large amounts of data to run smoothly, achieve their objectives, and ensure effective knowledge management. Aside from manual methods which are sometimes useful when technology fails, universities generally utilize diverse automated tools in the processing of raw data for the smooth running of the institution. (Musti, 2020). These automated tools are essential because achieving the set objectives of universities (both academic and non-academic), especially on 21st-century campuses, tends to be a herculean task, partly because of the large amount of data required.

According to Tahvildarzadeh, Moghaddasi, and Hosseini (2017), various issues affect data quality, hence the need for having an institutional policy on data quality management. However, advances in information and communication technology (ICT) and its wide application have proven to be beneficial to the university community. ICT plays an important role in ensuring that universities run efficiently and effectively. Given the volume of data generated daily in the university, the role of technology cannot be sidelined because such a large amount of data cannot be managed manually, for efficiency and effectiveness. In a typical university, technologies are used to process all forms of data at different levels, and the information is shared within the university community, with the government and its relevant agencies, and with neighbouring allies or institutions both locally and internationally (Angie & Ochai, 2013). One of the tools for effectively collecting, collating, and processing data for effective decision-making in universities globally is known as management information systems (MIS).

MIS is a technology that is used to process data to generate information that is used in the operational management and administration of universities. It is also used in analysis and decision-making functions through the use of computer hardware and software. The use of MIS at most management levels in the university assists in the provision of data and information which help the board and management in making strategic decisions. At other levels of management, MIS provides the means through which

institutions' activities are executed, monitored, and controlled. These processes help in the distribution of relevant information to supervisors, other employees, and the campus community (Marire, 2018).

In essence, the most important goal of MIS is to increase the efficiency of managerial and administrative activities. In every educational system, information is key. Therefore, to make effective educational policies, information related to inputs, resources used and expected, administration and governance, and outcomes, are needed. In essence, MIS provides structured quality data which facilitates the utilization of the information required for policy dialogue and planning. This in turn leads to educational sustainability (Zelenika & Pearce, 2014). Charles (2012) notes that in the modern world, the use of technology in the processing of data to generate information is fast changing the approaches to data capturing, and how it is processed, stored, and disseminated for use. In a typical university, there is a need to manage both staff and students' data effectively.

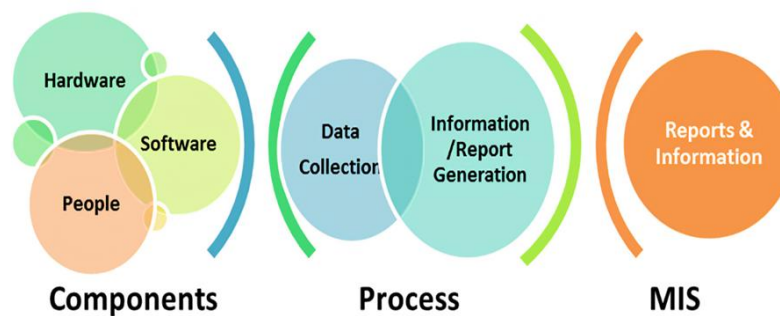


Figure 1. Management information system processes
 (Source: <https://www.whatissixsigma.net/management-information-system/>)

Those working especially in the administrative sections of universities have to attend to admission inquiries by students and other prospective applicants, manage admission and registration processes, attend to course allocations, registration, and related inquiries, and create and manage timetable and class schedules along with designated academic staff, and a host of other activities which are done to ensure that universities are up and running.

Also, universities utilize technology in sending and receiving emails of notices and agendas to staff, students, and the public, carry out admissions and other registration processes through web-enabled services, stage online conferences, seminars and manage fees payment and other financial records using relevant payment gateway, monitor and update its web page, collaborate with other institutions, manage teaching and learning processes with all its related activities, manage staff and students, and ensure that all the day-to-day activities of the institution, both physical and online, are well managed (Pohekar, 2018). With a mammoth number of students being admitted to universities globally, manual approaches to these administrative activities would be almost impossible.

In the above scenario, the use and importance of MIS come to play, especially in supervising, coordinating, and controlling all the day-to-day administrative activities of universities, seamlessly. Administrative services in universities ensure the smooth running of various activities including those relating to accounts management, management of staff and students' data, and general administration. These administrative activities are found to have been better done through the application of MIS. This is because the integration of MIS into these processes enhances the overall efficiency of university administration (Egoeze et al., 2018). The processes facilitate the participation, cooperation, intervention, and involvement of relevant stakeholders in the University for efficient and effective achievement of institutional goals.

Recognizing the vital roles of MIS in school administration and management, Christopher (2013) states that MIS usage leads to more efficient administration, better accessibility to information, reduction in workload, efficient utilization of institution's human and resources, improvement in the quality of reports produced, and better time management, among others. MIS also assists institutions' managers and administrators in strategic plan formulation, effective allocation of resources, and evaluating staff performance, in addition to organizational success. For universities to be run effectively and efficiently, data management and information flow must be managed technologically, as this is key to building and maintaining efficient management, which can make the effective decision based on properly collected, collated, and processed data managed by well-structured MIS (Yusuf, 2014).

Theoretical underpinning

This study is theoretically underpinned by the Socio-technical theory. The theory stresses the need for consistency among independent subsystems (technology, tools, devices, employees and employer) for the larger system (the university) to achieve optimal performance (Avgerou et al., 2004). The subsystems, according to the theory, are the technical and social systems. The technical subsystem is made up of technologies, tools, devices, gadgets, and techniques that are required for the transformation of inputs into outputs in such a way that will enhance the economic performance of the organization – the university. As a technical system, MIS is vital in the supervision and coordination of the day-to-day administrative activities of employees and employers in the university. In this wise, it connects all workers in the institution to achieve the common goal and objectives of the university. These administrative activities are seamlessly handled with an effectively installed and utilized MIS (Egoeze et al., 2018), which is an effective technological tool for efficient data processing and management (Marire, 2018).

The social system is made up of all employees regardless of their levels (academic and nonacademic staff); their attitudes, skills, needs, knowledge, and values that they bring to their work environments, including the reward system and authority structures that exist in the institution. The crux of the socio-technical theory or approach is the achievement of a design process that aims at combining and optimizing the subsystems (technology and workers). This is because performance will only be maximized if the interdependency of the subsystems is recognized and utilized, explicitly. Because of this, any design or redesign must seek out, recognize and determine the influence of each subsystem on the other. Also, the design must aim at achieving superior outputs by ensuring that all the subsystems work harmoniously (Avgerou et al, 2004). By implication, the Socio-Technical Theory stresses the need for university workers to utilize the technology at their disposal for the effective running of the organization. The most important goal of MIS is to increase the efficiency of managerial and administrative activities, especially in an educational system such as a university where information is key (Zelenika & Pearce, 2014).

Despite the relevance of MIS in institutional data and information management, however, several challenges negatively affect the use of MIS, and these have been identified as bottlenecks to the effective administration of universities in Nigeria. According to Almalki et al. (2017), Ali et al. (2016), and Babaei & Beikzad (2013), some of the challenges of effective deployment and use of MIS in universities include lack of knowledge on the part of MIS handlers, inaccuracy of the information gathered, inadequate and outdated documentation processes, use of outdated software and hardware, lack of protocols, methodology, and stages in the system's growth, and lack of environmental assessment of MIS.

Given the complex nature of university management in Nigeria, there is a need to carry out this study at this time in which universities are deep into the 21st century; the era of technological advancement. This is because, in an effectively managed university, data must be collected, collated, processed, and stored as information that can be readily retrieved as at, and when needed. Anything short of this leads to difficulty for administrators in taking accurate and timely decisions on crucial activities such as expenditure estimates, revenue estimates, and cost of each program of the university and others (Almalki et al. (2017). Other challenges related to poor use of technology include failure of academic programs, ineffective budgeting, wastage of resources, inaccurate projection of students' enrolment, students' failure, and poor motivation of staff among others.

Due to the problems identified above, this study examines MIS and university administration in Ogun State, Nigeria, specifically in government-owned universities. The objectives of the study are to: determine the types of MIS that are available in Ogun State Government-owned universities; examine the purpose of using MIS in Ogun State Government-owned universities; determine the contributions of MIS to staff productivity in Ogun State Government-owned universities; examine the challenges to effective use of MIS in Ogun State Government-owned universities; and, determine if there is any significant influence of MIS on university administration in Ogun State Government-owned universities.

Hence, the study successfully answered four research questions namely: (1) What are the types of management information systems that are available in Ogun State Government-owned universities?; (2) What are the purposes of using management information systems in Ogun State Government-owned Universities?; (3) What are the contributions of management information systems to staff productivity in Ogun State Government-owned Universities?; (4) What are the challenges militating against effective use of MIS in Ogun State Government-owned Universities??. Besides, the study also successfully revealed that there is no significant influence of management information systems on university administration in Ogun State Government-owned Universities.

According to Gavua, Okyere-Dankwa and Offei (2016), the need to perform many duties in less time while leveraging reliably fast and effective technologies for efficient data processing is one of the many expectations of university administrators. As the world is now technologically inclined, this expectation has increased Bukukbaykal (2015) reported that improvements in technologies have brought about new opportunities in education management, hence, universities are beginning to fully integrate them into their day-to-day activities, including administration, teaching, learning and research, among others (Tongkaw, 2013). MIS, as a technological database, has been reported to assist in data management, which produces reports on university operations for every relevant cadre in university management and decision-making (Suchi, 2017). MIS is also vital to university sustenance because it is the communication of useful information needed to carry out the managerial functions of universities, and for linking institutions with its external environments. The advancement in the utilization of MIS has been further engendered as a result of technological progress, breakthroughs in telecommunications (e.g. the Internet), the strong need for an information economy, and the continuous rise of digitally competitive firms. This progress transformed the MIS from mere data processing technology to decision-making and support systems (Marire, (2018).

Reporting on the utilization of MIS to enhance the administrative processes of universities, Ahmed (2009) reported that MIS makes the processes of administration less time-consuming, more flexible, and at fewer expenses. MIS also assists universities in processing data to produce usable information that can inform relevant decision-making in the system (Suchi, 2017). Hence, there is a connection between MIS usage and the effectiveness of decision-making in institutions. In addition, Awoleye and Siyanbola (2006) reported that MIS has enhanced and made communication easier on campuses, consequently, it is fast becoming an integral part of universities (Louw et al., 2009). Alegbeleye (2013) reported that information administration in universities involves a lot of activities including but not limited to correspondence control, management of reports, file management, appraisal records retention and disposition, and archives management among others.

Also, Anderson and Van-Dyke (2012) reported that institutions at all levels of education generate data that must be analyzed using ICT to produce information which in turn is needed to take relevant decisions. In universities, the purpose of using management information systems, according to Yusuf (2014), includes providing accurate information to the management at all various levels in due time, and without unnecessary cost. The information in turn is utilized for making relevant policies and decisions-taking. Also, Anho (2006) reported that MIS is used in universities to keep adequate records of students' data and information, which might be needed by employers, the school, parents/guardians, or for other vital reasons now or in the future. MIS is also utilized in communicating between administrators, staff members, and others for the smooth running of the institution (Egoeze et al., 2018).

Ikechukwu et al., (2019) reported that MIS assists in increasing workers' productivity and reported that the cost-effectiveness of MIS contributed to the productivity of human resources. Also, Alaa (2015) found that employees have positive attitudes toward the use of management information systems (MIS). In

addition, MIS increases the productivity of workers and also creates time to spend on other value-added services in the university. Since MIS plays a very important role in institutions, it creates an impact on the organization's functions, performance, and productivity (Mohamed, 2014). Because MIS works on basic systems such as transaction processing and databases, the strenuous work of information managers in universities is transferred to the computerized system, thus relieving them and also making their outputs better (Christopher, 2013).

In connection with the continuous advancement in ICT, the relevance of information is ever-increasing, presently. In the present information-based society, means of telecommunication and computers are been used extensively (Büyükbaykal, 2015). Regardless of the roles of information in organizational efficiency, there are some challenges and constraints to efficient information management. Some of the constraints include compatibility issues, the computer self-efficacy of employees, and prior experience. These have been reported to significantly affect the perceived ease of use of MIS (Egoeze et al. 2018). Reporting on the influence of MIS on an organization, Al-Nakib et al. (2015) stated that MIS assists in boosting organizational performance, and also leads to better strategic performance. Also, Mohamed (2014) reported that MIS assists in reducing the volume of resources expended on recurring, and time-consuming duties in universities. The administrators of universities are primarily saddled with administrative services, the progress and success of which depend on the effectiveness of MIS (Asian Development Bank, ADB, 2012; Hénard & Mitterle, 2010).

METHODOLOGY

A descriptive survey type of non-experimental design was employed in the study. Data were collected to describe the relationships existing between the variables examined in the study (Fraenkel *et al.*, 2015). The population comprised all heads of academic and non-academic units of two randomly selected State Government-owned universities in Nigeria. In selecting the sample, the simple random sampling technique was used. Seventy-five percent (75%) of the total population was selected using the convenience sampling technique. This was done due to the erratic nature of the jobs of the selected unit heads. The sample selected was one hundred and twenty-eight (128) respondents from the two universities. The selection is broken down in Table 1 below:

Table 1: Sample distribution

S/N	Institutions	Population	Sample Size	%
1	School 1 - HODs (Academics)	61	46	75.4
2.	School 1 - HOU's (Non-Academics)	25	19	76.0
3.	School 2 - HODs (Academics)	55	41	75.0
4.	School 2 - HOU's (Non-Academics)	29	22	75.8
Total		170	128	75.5

A self-structured and validated questionnaire was used for data collection and titled "Management Information System and Information Administration in Universities Questionnaire (MISIAUQ)". The questionnaire was divided into five sections, based on the number of research questions and hypotheses in the study. The respondents were to indicate their opinions on each item by picking the most appropriate column that satisfies their responses thus: Strongly Agreed = SA; Agreed = A; Disagreed = D. and Strongly Disagreed = SD; Available, Not Available, and Always, Sometimes and Never, respectively.

For validation, the draft of the questionnaire was given to three experts, two in measurement and evaluation and one in educational management, for constructive criticism, and also to ensure that the instrument contains the relevant items for data collection in the study. Based on their opinions, important modifications were made to produce the final draft of the instrument. The test-retest method was used to

determine whether the instrument measured consistently what it ought to measure. The questionnaire was administered to twenty (20) staff outside the sample area at two weeks intervals. Cronbach alpha reliability method was used to test the data collected and a coefficient of .75 was gotten, showing that the instrument was reliable. The questionnaire was administered to the respondent HODs and HOU in their various offices, in the two selected universities, after seeking and obtaining their consent to participate in the study.

Data collected was analyzed using simple percentages, mean rating, standard deviation and Multiple Regression. A mean rating (benchmark of 2.5) was used to answer the research questions using the standard deviation to show the degree of dispersion in respondents' opinion while the hypothesis stated was tested using Multiple Regression at 0.05 level of significance. The analysis was done using Statistical Package for Social Science (SPSS) version 26.

RESULTS AND DISCUSSION

Table 2 reports on the types of management information systems that are available in Ogun State Government-owned universities. The result shows that “Relational Data e.g. Oracle, MySQL Server, IBM DB2” are available (87.5%); “Extended-relational Data e.g. MySQL, SQLite, and PostgreSQL” are available (86.7%); “Object-relational Data e.g. Microsoft Word and Excel” are available (87.5%); “Object-oriented Data e.g. XML” are available (86.7%); “Network Data e.g. Internet and Wireless” are available (94.5%), and; “Hierarchical Data e.g. IBM DB4o and DTS/S1 from Obsidian Dynamics” are also available (93.8%), in the sampled universities. The result shows that the surveyed universities have the investigated MIS tools available in their institutions.

Table 2: Results showing the types of management information systems that are available in Ogun State Government-owned Universities

S/N	Forms of Data	Available, Functional	Not Available	Remark
1	Relational Data e.g. Oracle, MsSQL Server, IBM DB2,	112 (87.5%)	16 (12.5%)	Available
2	Extended-relational Data e.g. MySQL, SQLite and PostgreSQL	111 (86.7%)	17 (13.3%)	Available
3	Object-relational Data e.g. Microsoft Word and Excel	112 (87.5%)	16 (12.5%)	Available
4	Object-oriented Data e.g. XML	111 (86.7%)	17 (13.3%)	Available
5	Network Data e.g. Internet and Wireless	121 (94.5%)	7 (5.5%)	Available
6	Hierarchical Data e.g. IBM DB4o and DTS/S1 from Obsidian Dynamics	120 (93.8%)	8 (6.3%)	Available

Table 3 portrays that MIS is used in universities for information administration (Average Mean of 3.17). Each item analysis shows that MIS is used to protect evidence of students' achievements ($x = 3.18$), provide a range of services relating to students' verification ($x = 3.13$), storing and retrieve information needed by ex-students ($x = 3.30$), providing accurate information of students' transcripts and cumulative records ($x = 3.20$), and providing the information needed by lecturers and students ($x = 3.19$). Further, the result shows that MIS is used for speeding up internal communications ($x = 3.17$), improving the office performance of staff ($x = 3.21$), facilitating the scope and adequacy of information audit activities ($x = 3.09$), reducing the cost of human resources ($x = 3.12$), reducing the operational costs of running information management (3.12), and simplifying the detection of errors during data entry and subsequent corrections ($x = 3.16$).

Table 3: Mean and standard deviations on the purpose of using management information systems in Ogun State Government-owned universities

S/N	Management Information System is used for the purpose of:	Mean	S.D	Remark
1	Protecting evidence of students' achievements	3.18	.715	Useful
2	Providing a range of services relating to students' verification	3.13	.615	Useful
3	Storing and retrieving information needed by ex-students	3.30	.856	Useful
4	Providing accurate information on students' transcripts and cumulative records.	3.20	.804	Useful
5	Providing information needed by lecturers and students	3.19	.707	Useful
6	Speeding up internal communications	3.17	.665	Useful
7	Improve the office performance of staff	3.21	.695	Useful
8	Facilitating the scope and adequacy of information audit activities	3.09	.758	Useful
9	Reducing the cost of human resources	3.12	.728	Useful
10	Reducing the operational costs of running information management	3.12	.753	Useful
11	Simplifying the detection of errors during data entry and subsequent corrections	3.16	.704	Useful

Average Mean = 3.17

Based on the Average Mean of 3.14, as shown in Table 4, MIS has positively contributed to staff development. The result further shows that MIS assists university administrators in easily obtaining inventories of students' records ($x = 3.13$), efficient recordkeeping through MIS promotes staff efficiency and effectiveness ($x = 3.12$), MIS helps staff to keep proper school records thereby improving their records keeping skills ($x = 3.13$), MIS improves staff record retrieving skills and the data is easily shared with stakeholders such as NUC and ASUU ($x = 3.12$), MIS has helped to improve on staff data management skills which has improved university efficiency ($x = 3.20$), MIS has helped to improve staff analytical skills ($x = 3.01$), MIS has contributed to staff ability to work with large data and this has contributed to continuous growth of the university ($x = 3.23$), MIS has contributed staff ability to access and share information quickly through departments and with higher management authorities ($x = 3.13$), the use of MIS has enabled staff to become skilled at collaborating with each other to diagnose and solve data management-related problems ($x = 3.14$) and the use of MIS has improved staff ability to effectively manage both staff and students' data generated on daily basis ($x = 3.20$).

Table 4: Mean and standard deviations on the contributions of management information systems to staff productivity in Ogun State Government-owned Universities

S/N	Items	Mean	STD	Remark
1	Management Information System assists university administrators in easily obtaining inventories of students' records.	3.13	.664	Positive
2	Efficient recordkeeping through management information system promotes staff efficiency and effectiveness.	3.12	.647	Positive
3	Management Information System helps staff to keep proper school records thereby improving their records keeping skills.	3.13	.657	Positive
4	Management Information System improves staff record retrieving skills and the data is easily shared with stakeholders such as NUC and ASUU.	3.12	.647	Positive
5	Management Information System has helped to improve staff data management skills which have improved University efficiency.	3.20	.676	Positive
6	Management Information System has helped to improve staff analytical skills.	3.01	.799	Positive
7	Management Information System has contributed to the staff's ability to work with large data and this has contributed to the continuous growth of the University.	3.23	.595	Positive
8	Management Information System has contributed to staff's ability to access and share information quickly through departments and with higher management authorities.	3.13	.680	Positive
9	The use of management information system has enabled staff to become skilled at collaborating with each other to diagnose and solve data management-related problems.	3.14	.571	Positive
10	The use of a management information system has improved the staff ability to effectively manage both staff and students data generated on a daily basis.	3.20	.580	Positive

Average Mean = 3.14

The findings in Table 5 indicate that lack of funding (86: 67.2%), lack of storage space (66: 51.6%); expensive to maintain MIS equipment (61: 47.7%) and the lack of skilled manpower (74: 57.8%), are some of the challenges to university's effective use of MIS tools. Also, the result shows that there is a lack of access to information (69: 53.9%), delay in information retrieval (73: 57.0%), lack of power supply (64: 50.0%), outdated systems and applications (67: 52.3%), and lack of security (56: 43.8%) are other challenges as well. In addition, constant system crashes (76: 59.4%), low morale of staff (74: 57.8%), lack of training and re-training (75: 58.6%), technology integration challenges (67: 52.3%), and technical problems (69: 53.9%) are further challenges to effective use of MIS in universities. Finally, the result shows that management policy is always a problem (77: 60.2%). The findings also revealed there is no significant influence of management information systems on university administration in Ogun State Government-owned Universities.

Table 5: Showing the challenges militating against the effective use of management information systems in Ogun State Government-owned Universities

S/N	Items	Always	Sometimes	Never	Remark
1	Funding	86 (67.2%)	42 (32.8%)	-	Challenge
2	Storage space	66 (51.6%)	62 (48.4%)	-	Challenge
3	Costly MIS equipment maintenance	61 (47.7%)	56 (43.8%)	11 (8.6%)	Challenge
4	Skilled manpower	54 (42.2%)	74 (57.8%)	-	Challenge
5	Access to information	69 (53.9%)	58 (45.3%)	1 (0.8%)	Challenge
6	Delay in information retrieval	49 (38.3%)	73 (57.0%)	6 (4.7%)	Challenge
7	Power supply	64 (50.0%)	53 (41.1%)	11 (8.6%)	Challenge
8	Outdated systems and applications	52 (40.6%)	67 (52.3%)	9 (7.0%)	Challenge
9	Lack of security	52 (40.6%)	56 (43.8%)	20 (15.6%)	Challenge
10	Constant system crash	51 (39.8%)	76 (59.4%)	1 (0.8%)	Challenge
11	Low morale of staff	54 (42.2%)	74 (57.8%)	-	Challenge
12	Lack of training & re-training	53 (41.1%)	75 (58.6%)	-	Challenge
13	Integrating latest technologies	59 (46.1%)	67 (52.3%)	2 (1.6%)	Challenge
14	Technical problems	57 (44.5%)	69 (53.9%)	2 (1.6%)	Challenge
15	Management policy	77 (60.2%)	51 (39.8%)	-	Challenge

Table 6 shows the multiple regression results that MIS has a significant influence on university administration ($B = .64$; $t = 9.27$; $p (.000) < 0.05$), which also reveals that the stated null hypothesis is not accepted. The result implies that the use of MIS has a significant and positive influence on the administration and management of university data and information.

Table 6: Multiple regression results on the influence of management information systems on university administration in Ogun State Government-owned Universities

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	19.336	2.062		9.377	.000
Management Information System	1.193	.129	.637	9.286	.000

Model Summary:

R = .637^a; R Square = .406; Adjusted R Square = .402; Std. Error of the Estimate = 4.960

a. Dependent Variable: University Administration

b. Predictors: (Constant), Management Information System

Overall, the finding from this study has shown that MIS is an effective technological tool in the processing and management of data in universities. It is particularly useful in supervising, coordinating, and controlling all the day-to-day administrative activities of universities. It also ensures the smooth running of various day-to-day activities of the university, including those relating to accounts management, management of staff and students' data, and overall university administration. Concerning the availability of MIS in the institutions investigated, the study found that Oracle, MySQL Server, IBM DB2, MySQL, SQLite and PostgreSQL, Microsoft Word and Excel, XML, Internet and Wireless, IBM DB4o and DTS/S1 from Obsidian Dynamics, are some of the available MIS in the universities. The availability of the gadgets might have been a result of the universities recognizing the importance of the technologies to the smooth running and administration of information in their institutions. This aligns with the position of Ahmed (2009) who reported that the use of ICT makes the processes of administration less time-consuming, more flexible, and at fewer expenses.

Further, Awolaye and Siyanbola (2006) reported that ICT has enhanced, and made communication easier on campuses. As a result of these, ICT is fast becoming an integral part of universities (Louw et al., 2009). In addition, Alegbeleye (2013) reported that information administration in universities involves a lot of activities including but not limited to correspondence control, management of reports, file management, appraisal records retention and disposition, and archives management among others. Furthermore, Anderson and Van-Dyke (2012) reported that institutions at all levels of education generate data that must be analyzed using ICT to produce information which in turn is needed to make relevant decisions.

Concerning the purpose for which MIS is used in the universities examined, the study found that the technology is purposely used for various reasons, including providing a range of services relating to students' verification, storing and retrieving information needed by ex-students, providing accurate information of students' transcripts and cumulative records, and providing the information needed by lecturers and students. This is in addition to improving the office performance of staff and facilitating the scope and adequacy of information audit activities, among others. Yusuf (2014), reported that in universities, the purpose of using MIS includes providing accurate information to the management at all various levels in due time, and without unnecessary cost. The information in turn is utilized for making relevant policies and decisions.

Moreover, MIS has been reported to assist universities in keeping up-to-date records of students' data and information, which might be needed by employers, the school, parents/guardians, or for other vital reasons now or in the future (Ikechukwu et al., 2019; Anho, 2006). Bukukbaykal (2015) reported that improvements in technologies have brought about new opportunities in education management, hence, universities are beginning to fully integrate them into their day-to-day activities, including administration, teaching, learning, and research, among others (Tongkaw, 2013). ICT is also utilized in communicating between administrators, staff, and others for the smooth running of the institution (Egoeze et al. 2018).

Concerning the contributions of MIS to staff productivity in universities, the study found that MIS has contributed positively to staff development in universities, especially in the areas of seamless students inventory for proper planning, efficient recordkeeping, staff efficiency, and effectiveness, improvement in staff records keeping skills, efficient sharing of relevant records with stakeholders, improvement in staff data management skills, and staff ability to access and share information quickly through departments and with higher management authorities, among others.

The finding is parallel with Ikechukwu et al (2019), who reported that MIS assists in increasing workers' productivity, and the productivity of human resources. Also, Alaa (2015) found that employees have positive attitudes toward the use of MIS. In addition, MIS increases the productivity of workers and also creates time to spend on other value-added services in the university. Since MIS plays a very important role in institutions, it creates an impact on the organization's functions, performance, and productivity (Mohamed, 2014). The technology works on basic systems such as transaction processing and databases, therefore, the strenuous work of information managers in universities is transferred to the computerized system, thus relieving them and also making their outputs better (Christopher, 2013).

Concerning the challenges militating against the effective use of MIS in universities, the study reports that some of these challenges include lack of storage space, lack of skilled manpower, delay in information retrieval, lack of power supply, outdated systems, and applications, lack of security, system crash, low morale of staff, and lack of training, among others. This finding corroborates authors who reported earlier that regardless of the roles of information in organizational efficiency, there are some challenges and constraints to efficient information management. According to Egoeze et al. (2018), some of the constraints include compatibility issues, computer self-efficacy of employees, and prior experience. These have been reported to significantly affect the perceived ease of use of the technology (Egoeze et al. 2018; John, 2015).

Finally, the study found that there is a significant influence of MIS on university administration. This implies that the use of MIS has a significant influence on the administration and management of university data and information in universities. This agrees with Al-Nakib et al. (2015), who reported that MIS assists in boosting organizational performance, and also leads to better strategic performance.

Peretomode (2008) reported from his study that well-organized records and information management save a lot of money for administrators. Also, Mohamed (2014) reported that MIS assists in reducing the volume of resources expended on recurring, and time-consuming duties in universities. The administrators of universities are primarily saddled with administrative services, the progress and success of which depend on the effective administration of (Asian Development Bank, ADB, 2012; Hénard & Mitterle, 2010).

CONCLUSION AND RECOMMENDATIONS

This study has been able to show that MIS not only makes information management efficient and increases staff productivity but overall, it also makes university administration easier and seamless. Hence, the study would like to suggest that: (1) Modern MIS databases must be embraced in order to further ensure that data and information management conform to modern global best practices in higher institutions; (2) University administrators must further train their staff since they are all involved in the use of technology directly or indirectly in the University of the 21st century; (3) School administrators should work in conjunction with the government to ensure that the factors against the effective use of MIS in institutions are curbed. This will ensure that schools are run without loss of vital information and records about staff and students and the university at large.

Finally, workshops and seminars should be organized for those directly in charge of the utilization of MIS in higher institutions so that they can be updated on the effective use of the systems for the efficient running of the school in alignment with global practices.

Even though this study does not claim that the perspectives of the participants gathered reflect what obtains in all State-owned or other public universities in Nigeria, the findings stand as an eye-opener on the availability and use of MIS in State-owned universities while also significantly contributing to the body of knowledge in this area of study. Also, while the sample of the study might not have been largely representative, the data gathered and analyzed from the sample has been able to generate some valuable insight into the topic of inquiry. Given these limitations, it is suggested that other researchers consider and examine a relatively larger sample size across more universities in Nigeria. This will give room for a more generalizable finding. This is also expected to serve as a form of validation of the present findings.

REFERENCES

- Adeniji, A. M., Adelena, O. P., & Ogunsile, Y. O. (2022). Work Conditions and Staff Job Commitment: An Empirical Survey of Government-Owned Universities. *Management Research Journal*, 11(1), 1-12. <https://doi.org/10.37134/mrj.vol11.1.1.2022>
- Ahmed, J.U. (2009). Use of ICT in the private universities of Bangladesh *International Journal of Educational Administration*, 1(1), 77 – 82.
- Akinyemi, A. L., Adelana, O. P., & Olurinola, O. D. (2022). Use of infographics as teaching and learning tools: Survey of pre-service teachers' knowledge and readiness in a Nigerian university. *Journal of ICT in Education*, 9(1), 117-130. <https://doi.org/10.37134/jictie.vol9.1.10.2022>
- Alaa, K. (2015). The effect of management information system on organizational performance: Applied study on Jordanian telecommunication companies. *Information and Knowledge Management*, 5(6), 45-50.
- Alegbeleye, G. B. (2013). Disaster control planning for libraries, archives and electronic data processing centres in Africa, Ibadan: Option Book and Information Services.
- Ali, B.J., Bakar, R., & Omar, W.A.W. (2016). The critical success factors of accounting information system (ais) and its impact on organisational performance of Jordanian commercial banks. *International Journal of Economics, Commerce and Management*, 4(4), 658-677.
- Almalki, M., Al-fleit, S., & Zafar, A. (2017). Challenges in implementation of information system strategies in Saudi business environment: A case study of a bank. *International Journal of Computer Trends and Technology*, 43(1), 56-64

- Al-Nakib, N., Ahmed, M. A., & Wang, H. (2015). Using management information systems (MIS) to boost corporate performance. *International Journal of Management Science and Business Administration*, 1(11), 55-61.
- Anderson, L. W., & Van-Dyke, L. A. (2012). *Secondary school administration*. Boston; Houghton Mifflin Company, USA.
- Angie, I. O., & Ochai, G. (2013). Application of ICT (information and communication technology) in the management of universities in the North-Central State of Nigeria.
- Anho, J. E. (2006). Identification and analysis of problem in the administration of students' personal support services in Nigerian Universities. *Unpublished Ph. D Thesis, Delta State University, Abraka*.
- Asian Development Bank (ADB) (2012). Administration and governance of higher education in Asia: patterns and implications.
- Awoleye, O., & Siyanbola, W. (2006). Examining the level of penetration and impact of internet usage amongst Undergraduates in Nigerian Universities-a case study approach. *Current Developments in Technology-Assisted Education*, 3, 1708-1713.
- Babaei, M., & Beikzad, J. (2013). Management information system, challenges and solutions. *European Online Journal of Natural and Social Sciences: Proceedings*, 2(3(s)), 374
- Boulton, G., & Lucas, C. (2011). What are universities for? *Chinese Science Bulletin*, 56(23), 2506-2517.
- Büyükbaykal, C. I. (2015). Communication technologies and education in the information age. *Procedia-Social and Behavioral Sciences*, 174, 636-640.
- Charles, A. S. (2012). Role of E-Government in Improving Organizational Performance in the Civil Status and Passports Department of Jordan. *Developing Country Studies*, 3(5), 50-64.
- Christopher, J.C. (2013). The extent of decision support information technology used by principals in Virginia public schools. Doctoral Thesis. Virginia: Virginia Commonwealth University.
- Egoeze, F., Misra, S., Maskeliūnas, R., & Damaševičius, R. (2018). Impact of ICT on universities administrative services and management of students' records: ICT in university administration. *International Journal of Human Capital and Information Technology Professionals (IJHCITP)*, 9(2), 1-15.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2015). *How To Design And Evaluate Research In Education*. New York: McGraw-Hill.
- Gavua, E. K., Okyere-Dankwa, S., & Offei, M. (2016). The Importance of Management Information Systems in Educational Management in Ghana: Evidence from Koforidua Polytechnic. *International Journal of Innovative Technology and Exploring Engineering (IJITEE)*, 5(9), 14
- Hénard, F., & Mitterle, A. (2010). Governance and quality guidelines in Higher Education. A review of governance arrangements and quality assurance. Berlin: OECD.
- Ikechukwu, N. P., Okechukwu, A., Erastus, B., & Epelle, S. E. (2019). Management Information System and Organizational Success in a Competitive Environment: A Study of Small Scale Businesses in Port Harcourt. *International Journal of Engineering and Management Research (IJEMR)*, 9(4), 93-101.
- John, S. P. (2015). The integration of information technology in higher education: a study of faculty's attitude towards IT adoption in the teaching process. *Contaduría y Administración*, 60(S1), 230-252
- Louw, J., Brown, C., Muller, J., & Soudien, C. (2009). Instructional technologies in social science instruction in South Africa. *Computers & Education*, 53(2), 234-242.
- Marire, M. M. (2018). Importance of Management Information System in service Delivery and Paper Work in Nigeria University. *IOSR Journal of Business and Management (IOSR- JBM)* 20 (9), 30-38
www.iosrjournals.org
- Mohamed, E. H. (2014). The impact of the sector type on the role of management information systems for the decision-making process: RNS-Sudan as Case Study. *International Conference on Global Economy, Commerce and Service Science (GECSS)*, 396-402.
- Musti, K. S. (2020). Management information systems for higher education institutions: challenges and opportunities. *Quality management implementation in higher education: Practices, models, and case studies*, 110-131.
- Olurinola, O. D., & Adelana, O. P. (2022). Pre-Service Teachers' Perceptions of Remote and Hybrid Modes of Instruction: Implication for Learning Preferences. *Evaluation Studies in Social Sciences*, 3(1), 26-41.
<https://doi.org/10.37134/esss.vol3.1.3.2022>
- Peretomode, V. F. (2008). Educational administration: applied concepts and theoretical perspective for students and practitioners, Lagos: Joja Edu and Pub. Ltd.
- Suchi, M. (2017) The Role of a Management Information System in an Organization: <https://bizfluent.com/about-6686990-role-management-information-system-organization.html>

- Tahvildarzadeh, M., Moghaddasi, H., & Hosseini, M. (2017). A framework for quality management of university educational information: a review study. *Research and Development in Medical Education*, 6 (1), 3-11.
- Thangeda, A., Baratiseng, B., & Mompati, T. (2016). Education for Sustainability: Quality Education Is a Necessity in Modern Day. How Far Do the Educational Institutions Facilitate Quality Education? *Journal of Education and Practice*, 7(2), 9-17.
- Tongkaw, A. (2013). Multi perspective integrations Information and Communication Technologies (ICTs) in higher education in developing countries: case study Thailand. *Procedia-Social and Behavioral Sciences*, 93, 1467-1472.
- Pohekar, D. (2018). Role of ICT on Universities Administrative Services and Management. *International Research Journal of Engineering and Technology*, 5(11), 266- 271.
- Yusuf, M. (2014). The Impact of Management Information System (MIS) on the Performance of Business Organization in Nigeria, *International Journal of Humanities Social Sciences and Education (IJHSSE)*, 1 (2), 76-86.
- Zelenika, I., & Pearce, J. M. (2014). Innovation through collaboration: scaling up solutions for sustainable development. *Environment, development and sustainability*, 16 (6), 1299-1316.