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RESEARCH ARTICLE

Influence of Application of Management Information System (MIS) on Administration of Private Polytechnics in Benue State, Nigeria

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The study investigated the influence of application of Management Information System (MIS) on the administration of Private Polytechnics in Benue State, Nigeria. The purpose of the study was to investigate influence of application of MIS on administration of Private Polytechnics in Benue State, Nigeria. Two research questions guided the study and two hypotheses were tested. The design adopted for the study was descriptive survey design. The population comprised of 788 staff in four accredited Private Polytechnics in Benue State, Nigeria. The sample size was 315 or 40% of 788 staff in four accredited Private Polytechnics in Benue State Nigeria. The instrument for data collection was a questionnaire titled: "Management Information System and Administration Questionnaire (MISAQ)". The questionnaire was made up of 10 items. Each variable carries 5 items. It was validated by three experts, two experts in Educational Management in the Department of Educational Foundations and one expert in the Department of Science and Mathematics Education, Faculty of Education, Benue State University Makurdi. The instrument was trial tested using 30 staff in two Private Polytechnics using Cronbach Alpha and reliability coefficient of 0.86 was found. The data collected was analyzed using the descriptive statistics of mean scores and standard deviation to answer the research questions while Chi-square was used to test the hypotheses at 0.05 level of significance. The findings of the study showed that application of MIS has significant positive influence on communication and personnel management in Private Polytechnics in Benue State, Nigeria. The study concluded that application of MIS has significant positive influence on the administration of Private Polytechnics in Benue State, Nigeria. It was recommended that proprietors and rectors of Private Polytechnics in Nigeria should ensure the proper use of effective communication in personnel management by using MIS tools such as telephones and computers. This would help in achieving the objectives of Private Polytechnics in Nigeria.

Keywords: Management Information System (MIS); communication; personnel management; administration**INTRODUCTION**

Administration of educational organizations especially private polytechnics is complex task which requires a modernized system approach to ease the process. Perhaps, administration of private polytechnics is crucial for ensuring the effective delivery of technical and vocational education that meets industry demands and national development goals (Federal Republic of

Nigeria). Strong administrative structures may help maintain academic standards, financial sustainability, and regulatory compliance, which are essential for building institutional credibility and student trust. Effective administration may also support curriculum development, quality assurance and staff management, all of which directly influence student outcomes and employability (Bua, 2020). Administration is defined as

the process of planning activities which aim at the fulfillment of the goals of education (Okwori & Ede, 2012). It involves a series of activities. These activities, according to Shaayongo, Atim and Adai (2019), include: describing the tasks to be performed to accomplish certain objectives and assigning those tasks to carefully selected and trained personnel, making the personnel perform effectively by using the tools provided for them and coordinating some formal structures (administrative unit, system, office, or department) which permits a hierarchical (vertical) allocation of responsibilities and a communication flow.

Private polytechnics are higher educational institutions established by individuals or group of individuals for training manpower for skills acquisition and national development. Polytechnic education, which is part of technical education programme in tertiary education level leads to the acquisition of practical and applied skills as well as fundamental scientific knowledge (Federal Republic of Nigeria, 2014). In Nigeria, polytechnics offer multiple programmes in two tiers which are the National Diploma (ND) and the Higher National Diploma (HND). Polytechnics are major part of Nigeria's tertiary education level as stated in the National policy on education in terms of technology and technical education. Polytechnics in Nigeria have over the years helped a lot of students go through with higher education and more. In Nigeria especially in Benue State, there are public and private Polytechnics. These Polytechnics are multifaceted, multi-disciplinary and a pragmatic field which are aimed at equipping individuals with requisite vocational and functional technical skills (Uwaifo, 2016).

In Benue State, Nigeria, private polytechnics have been established to support government's efforts in delivering technical education and equipping individuals with advanced technical skills to address the scientific and technological challenges facing both the state and the country. However, over time, polytechnics in Nigeria particularly those in Benue State have continued to grapple with increasingly complex organizational issues. These challenges include efficient resource utilization, staffing, planning, control and evaluation processes, as well as information management. According to Nwankwo (2014), these institutions not only encounter intricate administrative difficulties but have themselves become complex entities due to the vast scope of academic and managerial responsibilities they handle. With the complexities in administration of private Polytechnics, Okon, Ekaette and Ameh (2015)

assert that there is no doubt that educational institutions in Nigeria have become more complex over the years with concomitant administrative demands being exerted on the school administrators especially in today's Information and Communication Technology (ICT) era. Such administrative demands may only be carried out effectively through administrative process that is characterized by the use of management information system (MIS).

Management Information System (MIS) involves the use of modern technology and computerized processes to input, process, store, and retrieve organizational data for effective administration (Madiha, 2013). It is a system that monitors the performance of education programs offered by the institute and manages the distribution and allocation of educational resources. It manages, plans, and strategize to implement work processes to execute the education system smoothly (Ochai, P. D, & Onoja A. J, 2025). It is specifically structured to support managers in carrying out their duties by providing a systematic and efficient approach to handling information (Nwangwu, Ememe & Obike, 2013). However, Lundu and Mberve (2014) highlight that many educational institutions lack robust information management policies to properly oversee the creation, handling, storage, and retrieval of data. An effective MIS can enable polytechnics particularly private ones to manage their information systems more effectively, fulfill their institutional responsibilities, avoid legal issues, safeguard organizational memory and promote accountability and sound governance. It may also facilitate communication and personnel management for effective running and realization of objectives of private polytechnics.

Ekpo, Ategwu and Jenny (2025) argue that some of the policies that govern MIS in higher institutions in Nigeria are there but the problem of immediate implementation remains the setback. Therefore, for MIS to be effective institutions of higher learning must take proactive measures in the implementation of these policies to guarantee effective administration in the school system. Ategwu et al (2022). Opined that for MIS to be exceptionally workable in school setting, there should be administrative efficiency in the side of the school administration. Nevertheless, the deficiency in administration of school is exacerbated by incompetent school managers which is one of the major setbacks in administration

Communication is the life wire of any organization including private Polytechnics. It is the process of

exchanging information from one person to another in schools (Okwori & Ede, 2012). School management information systems provide information and various reports from the database in order to make decisions in line with the aims of the school and facilitate controlling of the activities to achieve the aims (Christopher, 2013). The application of MIS could help Polytechnic administrators to access, manage and report the information quickly and easily. Antwi and Gideon (2019) in their study found that Management Information System provides communication link that support administrative works, teaching and learning by senior administrative staff, lecturers and students in University of Education Winneba, Kumasi Campus-Ghana. Beyond technological facilitation, leadership style also plays a critical role in determining how communication systems are utilized in schools. Slaa and Inamungu (2025) established that transformational leadership practices enhance information flow, shared vision, and stakeholder engagement, which are essential components of effective communication in educational institutions. When supported by MIS platforms, such leadership practices are further strengthened, enabling administrators in private polytechnics to disseminate information efficiently and foster participatory decision-making. Also, Lanre (2020) established that MIS enhances communication by providing for improved teaching and learning and it has also enhanced or modified the learning process in Kwara State Polytechnic, Ilorin. While telecommunication nets provide the administrators with wide resources of information that can be used in problem solving, written communication has richer by means of word processors and e-mails (Perez & Uline, 2013). Through the use of MIS in communication, Private Polytechnic administrators may find it very easy to achieve administrative functions including personnel management. Effective communication in educational institutions depends does not rely basically on access to digital platforms but also on how information is managed and regulated. Ochai, et al (2025) demonstrated that when communication platforms such as social media are guided by structured management strategies, student engagement and participation improve significantly. This reinforces the role of MIS in coordinating information flow, ensuring clarity, timeliness, and consistency of communication between administrators, staff, and students in private polytechnics.

Personnel management connotes series of managerial

and administrative services of school leaders aimed at promoting staff welfare and performance in schools. Bua (2020) asserts that personnel management refers to all the activities and services that are rendered to staff by school to ensure their retention in schools. It involves all the activities and services that are rendered to staff for the achievement of the educational objectives (Okwori & Ede, 2012). A study conducted by Anachuna (2019) revealed that school administrators' utilization of management information system has significant impact on students' personnel administration in secondary schools. Through MIS, activities and progress, records of institution's budgets, programmes, staffing by quality and quantity are among the critical records that must be kept in the Polytechnics, be it private or public, as stipulated by education law (Negla, 2014). It was based on the above background that the study investigated the influence of application of MIS on administration of private Polytechnics in Benue State, Nigeria in areas of communication and personnel management.

Statement of the Problem

The use of Management Information Systems (MIS) in the administration of educational institutions worldwide appears to assist school leaders in achieving their institutional goals by enabling efficient data collection, processing, storage, and retrieval. However, the administrative practices in private polytechnics in Benue State, Nigeria, raise concerns. Observations by the researcher and key stakeholders such as government officials, administrators, and staff highlight issues like delayed task execution, poor information dissemination, and loss of critical data across various faculties and departments. These problems may be attributed to the ineffective implementation of MIS in these institutions. Furthermore, communication within private polytechnics in the region is reportedly weak. The flow of information from administrators to staff, students, and even the surrounding community seems inadequate, despite the availability of MIS tools like computers, the internet, and telecommunication systems that are meant to support effective communication. The researcher also notes that personnel management in these institutions appears to be substandard, with challenges such as delayed salary payments, flawed recruitment processes, lack of timely promotions, and poorly organized training programs. These factors collectively hinder the efficient administration of private polytechnics and obstruct their ability to meet the broader objectives of technical

education in Benue State. It is against this backdrop that the study was conducted to examine the impact of MIS application on the administration of private polytechnics in the area.

Purpose of the Study

The purpose of the study was to investigate the influence of Management Information System (MIS) on administration of Private polytechnics in Benue State, Nigeria. Specifically, the study sought to:

1. examine influence of application of MIS on Communication in Private Polytechnics in Benue State, Nigeria.
2. assess influence of application of MIS on personnel management in Private Polytechnics in Benue State, Nigeria.

Research Questions

The following research questions guided the study.

1. What is influence of application of MIS on Communication in Private Polytechnics in Benue State, Nigeria?
2. What is influence of application of MIS on personnel management in Private Polytechnics in Benue State, Nigeria?

Hypotheses

The following hypotheses were formulated and tested at 0.05 level of significance.

1. Application of MIS has no significant influence on communication in Private Polytechnics in Benue State, Nigeria.
2. Application of has no significant influence on personnel management in Private Polytechnics in Benue State, Nigeria.

METHODOLOGY

The design that was adopted for the study is descriptive survey design. A descriptive survey research design is one in which a group of people or items are studied by collecting and analyzing data from a few people

considered to be a representative sample of the entire population (Emaikwu, 2021). The population comprised 788 staff in four accredited Private Polytechnics in Benue State (National Board for Technical Education, 2024). The sample size consisted 315 or 40% of 788 staff in four accredited Private Polytechnics in Benue State Nigeria. The instrument used for data collection was a structured questionnaire titled: "Management Information System and Administration Questionnaire (MISAQ)". The questionnaire was made up of 10 items. Each variable carries 5 items. It was validated by three experts, two experts in Educational Management in the Department of Educational Foundations and one expert in the Department of Science and Mathematics Education, Faculty of Education, Benue State University Makurdi. The instrument was trial tested using 30 teachers in two Private Polytechnics using Cronbach Alpha and reliability coefficient of 0.86 was found. The collected data was analyzed using the descriptive statistics of mean scores and standard deviation to answer the research questions. A cut off of 2.50 with respect to mean was used for decision making. Any item with mean score greater than the cut-off point of 2.50 suggests respondents' agreement with the item. On the other hand, items with mean score of less than 2.50 cut-off point implied respondents' disagreement with the items. Chi-square was used to test the hypotheses at 0.05 level of significance. The hypothesis were rejected when p-value was less than the set alpha value ($p < 0.05$) and were retained with positive impact when p-value is equal to or more than the set alpha value ($p \geq 0.05$).

RESULTS

Research Question 1: What is the influence of application of MIS on communication in Private Polytechnics in Benue State Nigeria?

Table 1. Mean scores and standard deviation ratings of respondents on influence of application of mis on communication in private polytechnics in Benue state, Nigeria

S/No	Item Description	N	SA	A	D	SD	\bar{X}	SD	Decision
1	Enhances information flow between Private Polytechnics' management and staff.	312	79	112	60	61	2.67	1.05	Agree
2	Helps in connecting Private Polytechnics with the outside world.	312	115	95	61	41	2.91	1.04	Agree
3	Enhances information flow between the management and students in Private Polytechnics.	312	103	98	80	31	2.88	0.98	Agree
4	Aids communication in Private	312	92	91	78	51	2.72	1.06	Agree

Polytechnics.										
5	The use of ICT facilities for correspondence increases participation of Polytechnic community in its activities.	312	54	123	85	50	2.58	0.95	Agree	
Cluster Mean							2.75	Agree		

Source: Researchers' Field Work, 2025

Table 1 shows Mean ratings of 2.67, 2.91, 2.88, 2.72, 2.58 and cluster mean of 2.75 with corresponding Standard Deviation ratings of 1.05, 1.04, 0.98, 1.06 and 0.95 respectively. The result indicated that items 16-20 individual ratings agreed that MIS enhances information flow between Private Polytechnics' management and staff, helps in connecting Private Polytechnics with the outside world, enhances information flow between the management and students in Private Polytechnics, aids

communication in Private Polytechnics and the use of ICT facilities for correspondence increases participation of Polytechnic community in its activities. The cluster Mean value of 2.75 was found to be above the Mean score benchmark of 2.50. This shows positive influence of application of MIS on communication in Private Polytechnics in Benue State, Nigeria.

Research Question 2: What is the influence of application of MIS on personnel management in Private Polytechnics?

Table 2. Mean scores and standard deviation ratings of respondents on influence of application of mis on personnel management in private polytechnics

S/No	Item Description	N	SA	A	D	SD	\bar{X}	SD	Decision	
6	Aids objective recruitment of staff in Private Polytechnics.	312	65	132	72	43	2.70	0.95	Agree	
7	Improve employee – management relationship in Private Polytechnics.	312	73	128	58	53	2.71	1.00	Agree	
8	Enhances effective appraisal of staff in Private Polytechnics.	312	103	89	76	44	2.80	1.05	Agree	
9	Promotes the conduct of staff training programmes in Private Polytechnics.	312	78	125	78	31	2.80	0.92	Agree	
10	Supports staff posting in Private Polytechnics.	312	90	107	71	44	2.78	1.01	Agree	
Cluster Mean							2.75	Agree		

Source: Researchers' Field Work, 2025

Table 2 shows Mean ratings of 2.70, 2.71, 2.80, 2.80, 2.78 and cluster mean of 2.75 with corresponding Standard Deviation ratings of 0.95, 1.00, 1.05, 0.92 and 1.01 respectively. The result indicated that items 21-25 individual ratings agreed that MIS aids objective recruitment of staff in Private Polytechnics, improve employee – management relationship in Private Polytechnics, enhances effective appraisal of staff in Private Polytechnics, promotes the conduct of staff training programmes in Private Polytechnics and supports staff posting in Private Polytechnics. The cluster Mean value of 2.75 was found to be above the Mean score benchmark of 2.50. This shows positive

influence of application of MIS on personnel management in Private Polytechnics in Benue State, Nigeria.

Test of Hypotheses

Hypothesis 1:

Application of MIS has no significant influence on communication in Private Polytechnics in Benue State, Nigeria.

Table 3 showed Chi-square calculated value of 22.692^a at 3 degree of freedom; P=0.000 is less than 0.05. With this result, the null hypothesis which states that MIS has no significant influence on communication in Private Polytechnics was therefore rejected. This means that MIS has significant positive influence on communication in Private Polytechnics

Table 3. Chi-square analysis of influence of application of mis on communication in private polytechnics in Benue state, Nigeria

Responses	Fo	Fe	P	Df	χ^2 Cal.	Decision
SA	89	78				
A	103	78	0.000	3	22.692 ^a	Sig.
D	73	78				
SD	47	78				
Total	312					

Source: Researchers' Field Work 2025

Hypothesis 2:

Application of MIS has no significant influence on personnel management in Private Polytechnics in Benue State, Nigeria.

Table 4 showed Chi-square calculated value of 55.718^a at 3 degree of freedom; P=0.000 is less than 0.05. With

this result, the null hypothesis which states that MIS has no significant influence on personnel management in Private Polytechnics was therefore rejected. This means that MIS has significant positive influence on personnel management in Private Polytechnics in Benue State, Nigeria.

Table 4. Chi-square analysis of influence of application of mis on personnel management in private polytechnics in Benue state, Nigeria

Responses	Fo	Fe	P	Df	χ^2 Cal.	Decision
SA	82	78				
A	116	78	0.000	3	55.718 ^a	Sig.
D	71	78				
SD	43	78				
Total	312					

Source: Researchers' Field Work 2025

DISCUSSIONS

The first finding of the study showed that application of MIS has significant positive influence on communication in Private Polytechnics. This finding means that MIS enhances information flow between Private Polytechnics' management and staff, helps in connecting Private Polytechnics with the outside world, enhances information flow between the management and students in Private Polytechnics, aids communication in Private Polytechnics and the use of ICT facilities for correspondence increases participation of Polytechnic community in its activities. This finding agreed with the findings of Antwi and Gideon (2019) whose findings showed that Management Information System provides communication link that support administrative works, teaching and learning by senior administrative staff, lecturers and students in University of Education Winneba, Kumasi Campus-Ghana. The findings also aligned with the findings of Lanre (2020) whose findings showed that MIS enhances communication by providing for improved teaching and learning and it has also enhanced or modified the

learning process in Kwara State Polytechnic, Ilorin. The researchers also agreed that MIS has significant positive influence on communication in Private Polytechnics because MIS facilitates seamless communication among stakeholders, including students, faculty, and administrators by providing a centralized platform for information sharing, enabling real-time dissemination of news, announcements and updates and ensuring that all stakeholders are informed and connected in private polytechnics in Benue State, Nigeria.

The second finding of the study showed that application of MIS has significant positive influence on personnel management in Private Polytechnics. This finding means that MIS aids objective recruitment of staff in Private Polytechnics, improve employee – management relationship in Private Polytechnics, enhances effective appraisal of staff in Private Polytechnics, promotes the conduct of staff training programmes in Private Polytechnics and supports staff posting in Private Polytechnics. This finding agreed with the findings of Thompson and Anachuna (2019) whose findings revealed that school administrators' utilization

of management information system has significant impact on students' personnel administration in secondary schools. The researchers also agreed that MIS has significant positive influence on personnel management in Private Polytechnics because MIS ensure effective automation of various human resource processes, such as recruitment, attendance, performance evaluation, and payroll management. Also, MIS facilitates transparent and fair personnel management practices, reducing the risk of bias and errors, and enhancing overall efficiency and effectiveness in Private Polytechnics particularly in Benue State, Nigeria.

CONCLUSION

Based on the results of the study, it was established that application of MIS has significant positive influence on administration of Private Polytechnics in Benue State, Nigeria. This is to state specifically that, application of MIS has significant positive influence on communication and personnel management in private polytechnics in Benue State, Nigeria.

RECOMMENDATION

Based on the findings of the study, the following recommendations were made.

1. The proprietors of private polytechnics in Benue State should invest in effective communication module in MIS by enabling secure and authenticated communication among stakeholders, utilizing email, messaging, and video conferencing tools to facilitate real-time communication, and implementing a notification system for important announcements and updates. Human resource managers in private polytechnics should ensure effective application of a comprehensive Human Capital Management system within the MIS by automating personnel processes such as recruitment, performance management, and payroll management.

REFERENCES

- Antwi, A.B. & Gideon, A. (2019). The impact of management information system on University of Education Winneba, Kumasi Campus-Ghana. *European Journal of Research and Reflection in Management Sciences*, 7(1), 1-20.
- Ategwu, P.O., Kenn-Akhlah, F.U., Fanan, A.G., & A., Uzoigwe, M.C (2022). Availability and utilization of instructional technologies in supervision in public secondary schools during Covid-19 Era in Cross River State, Nigeria. *Global Journal of Educational Research*, 21(1) 175-189
- Bua, F.T. (2020). *Communication and interpersonal relationship in educational management*. Makurdi: Tent-D Consults and Publishers.
- Christopher, J. C. (2013). Extent of decision support information technology use by principals in Virginia public schools. Doctoral Thesis. Virginia: Virginia Commonwealth University.
- Ekpo, M.A., Ategwu, P.O., & Jenny, M. (2025). Digital technology integration and students' academic performance in secondary schools in Abi L.G.A Cross River State, Nigeria. *Scientific Journal of Educational Management Research and Law*, 3(1) 159-163
- Emaikwu, S.O. (2021). *Fundamentals of educational research and statistics*. Kaduna: Derey Prints.
- Federal Republic of Nigeria (2014). *National policy on education*. Abuja: NERDC.
- Lanre, A. (2020). Management information system and effective service delivery in Kwara State Polytechnic, Ilorin. *International Journal of Computer Applications*, 175(39), 7-13.
- Lundu, M.C. & Mbewe, G. (2004). Factors retraining the formulation and implementation of national information policy process. Management effectiveness in the Nigerian University. *International Journal of Social Relevance and Concern*, 3(6), 2-12.
- Madiha, S. (2013). Impact of management information system on school administration: What the literature says. *Procedia-Social and Behavioural Sciences*, 116(2014), 2799-2804.
- National Board for Technical Education (2024). *What is polytechnic?* Retrieved from net.nbte.gov.ng on 28/10/2024.
- Negla, A. A. O. (2014). The acceptance and use of information and communication technology by staff members in Khartoum State's University. Unpublished Ph. D thesis of Dresden University of Technology, Sudan.
- Nwangwu, J.U., Ememe, O.N. & Obike, C.N. (2013). Management information system as a technique in the administration of secondary schools in Aba zone, south east Nigeria. *International Journal of Learning and Development*, 3(3), 194-202.
- Nwankwo J.I. (2014). *Modern approaches in education*. Ibadan: Girraffe Books Ltd.

- Ochai, D. P., Ugaduh, L. C., & Slaa, E. D. (2025). Effect of social media management strategies on students' engagement and academic participation in Benue State University, Makurdi. *East African Journal of Arts and Social Sciences*, 8(4), 692-701.
- Ochai, P. D., & Onoja A.J (2025). Management Information System (MIS) for Effective Universities Administration in Nigeria. *American Journal of Corporate Management*, Vol, 2, No. 3, 45-52.
- Okon, J.E., Ekaette, S.O. & Ameh, E. (2015). Information and communication technology (ICT) utilization and principals' administrative effectiveness in public secondary schools in Akwalbom State, Nigeria. *African Educational Research Journal*, 3(2),131-135.
- Okwori, A. & Ede, S. (2012). *Management issues in education*. Makurdi: Aboki Publishers.
- Perez, L. G. & Uline, C. L. (2013) Administration problem solving in the information age: Creating technology capacity. *Journal of Educational administration*, 41(2), 1430-157.
- Shaayongo, B.T., Atim, T.T. & Adai, E. (2019). Perceived impact of students' attrition on administration of secondary schools in Benue State. *Benue State University Journal of Educational Management*, 1 (1), 177-186.
- Slaa, E. D., & Inamungu, A. P. (2025). Administrators' transformative leadership styles and students' academic achievement in secondary schools in Magu, Mwanza Region, Tanzania. *Nigeria Journal of Educational Leadership and Management*, 9(1), 27-32
- Uwaifo, V. O. (2016). Industrializing the Nigerian society through creative skill acquisition in vocational and technical education programme. A paper presented at the Faculty of Education International Conference at University of Nigeria.