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Information and Communication Technology Usage for Managerial Effectiveness of Universities in Enugu State

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ABSTRACT

This study investigated the extent of ICT usage for managerial effectiveness in universities in Enugu State. Two research questions and two hypotheses guided the study. Census survey research design was adopted for the study. The population for the study was 546 respondents which comprised 311 Federal University Staff and 235 State University Staff. There was no sampling because the population was manageable. The instrument for data collection was a 13-item researchers structured questionnaire titled "Information and Communication Technology usage for Managerial Effectiveness of Universities Questionnaire (ICTUMEUQ)". It was validated by three research experts from the Faculty of Education, Enugu State University of Science and Technology. Cronbach alpha statistic was used to ascertain the internal consistency and the reliability index was .80 which showed that the instrument is reliable. Mean and standard deviation were used to answer the research questions. The hypotheses were tested using t-test statistic at .05 level of significance. The findings of the study showed that ICT facilities are utilized to a low extent for management of records and staff personnel management in universities in Enugu State. In view of the findings, the study recommended that university staff should encourage the transition from paper-based to digital record-keeping systems. Digital records are easier to manage, access, and update, saving time and resources in the long run.

Keywords: Information and Communication Technology, Management, Effectiveness, Universities



Introduction

Education plays a pivotal role in unlocking both individual and national potential, granting access to various rights and abilities worldwide. Education equips individuals with essential skills, pertinent knowledge, and adaptable habits necessary to thrive in an ever-evolving world. Education is of great importance to society, as it does not only foster national unity but also brings about transformative changes in the political, socio-political, and religious aspects of a nation (Shamaki, Yusuf, Nwunuji & Danladi, 2020). Education, including higher education provided by universities, can be a powerful tool for social mobility.

A university is an institution of higher education and learning that offers a wide range of academic programs and degrees. Idikwu (2014), posited that a university is a globally recognized, organized institution that stands as the pinnacle of education, symbolizing the acknowledgment of academic brilliance. According to Idoko (2015), a university is renowned for being a center of excellence, fostering the exchange of intellectual ideas in a systematic manner. Its primary aim is to develop an individual's intellectual capabilities, resourcefulness, and character, ultimately contributing to the advancement of society across various disciplines of knowledge. It is typically an organization that provides opportunities for advanced studies and research in various fields such as arts, sciences, humanities, engineering, social sciences, business, medicine, and more. Universities play a critical role in fostering intellectual growth, cultural development, and societal progress by imparting knowledge, encouraging critical thinking, and promoting lifelong learning (Idoko, 2015). They serve as hubs for intellectual exchange, research collaboration, and the preparation of individuals for a wide range of careers and leadership roles. Universities now encounter rising student enrollments, increased competition, budgetary constraints, and the need to meet quality assurance standards. To navigate these complexities, academic institutions must leverage Information and Communications Technology (ICT) solutions strategically.

Information and Communications Technology (ICT) is a broad term that encompasses various technologies used to manage and communicate information effectively. ICT includes hardware, software, networks, and other communication technologies that enable the processing, storage, retrieval, and exchange of data and information. According to Ali, Haolader, and Muhammad (2013), ICT refers to the electronic methods used to capture,



process, store, and transmit information. Integrating ICT into education is crucial as it offers opportunities for both teachers and students to utilize data and encourage independent and engaged learning. Over the last ten years, there has been a significant and swift expansion in the adoption of Information and Communication Technology ICT, leading to widespread effects on society (Okechukwu & Ukeh, 2022). This surge in ICT has sparked increasing attention, particularly in the field of education, raising questions about the most effective ways to incorporate ICT resources to enhance educational practices (Kyalo & Nzuki, 2014). Consequently, Anih and Ukeh (2023), Okechukwu and Ukeh (2022), Ukeh, Okeke, Okechukwu, Eziokwu, Onovo and Orié (2020), and Ukeh and Nwankwo (2023), posited that ICT provides effective communication as it helps to provide timely information for management of organizations.

Management refers to the process of planning, organizing, coordinating, and controlling resources and activities within an organization to achieve specific goals efficiently and effectively. Management is a multifaceted set of activities that encompass planning, organizing, leading, controlling, and directing an organization to attain its objectives efficiently and effectively. Okorie (2014), defined management as a coordination of all the resources of an organization through the process of planning, organizing, directing and controlling in order to attain organizational objectives. Additionally, according to Anaekwe in Osakwe (2016), management involves planning, organizing, leading, directing, and controlling the efforts of members and resources to realize the organization's stated objectives.

Meanwhile, managerial effectiveness refers to the ability of a manager to achieve desired outcomes and goals efficiently and successfully while effectively utilizing available resources. It encompasses the skills, competencies, and behaviours that enable a manager to lead, influence, and guide their team towards accomplishing organizational objectives. Managerial effectiveness involves a combination of leadership, interpersonal, and organizational skills to drive successful outcomes and contribute to the overall success of the organization. Effective managers are instrumental in inspiring and empowering their teams to reach their full potential. Managerial effectiveness within an organization is as a result of effective record management.



Record management is the systematic and efficient control of an organization's records throughout their entire lifecycle, from creation or receipt to their eventual disposal or preservation. Record management in universities is a crucial aspect of their administrative operations. It involves the systematic and organized handling of various types of records, such as student information, academic transcripts, financial data, faculty records, research materials, and more. Effective record management ensures data accuracy, security, accessibility, and compliance with legal and regulatory requirements. In Egoeze, Misra, Maskeliūnas, and Damaševičius' research (2018), Chinyemba and Ngulube emphasized that effective records management in universities plays a crucial role. It enables universities to efficiently handle information, fulfill their responsibilities, safeguard against legal issues, maintain institutional knowledge, and promote transparency and responsible leadership. However, the majority of universities still prefer the conventional approach to record management. The limited records that remain stored in certain offices and departments using traditional methods lead to a cumbersome and challenging process of retrieving information. Frequently, files are stored away in cabinets, leaving them vulnerable to damage from rodents and insects, resulting in tearing and destruction. Another drawback of this traditional record management method is the possibility of some unfaithful staff within the organization falsifying these files. The efficient management of records directly impacts the effectiveness of staff personnel management.

Staff personnel management refers to the process of overseeing and coordinating the activities of an organization's employees or staff members to achieve the organization's goals and objectives effectively. Aja-Okorie (2016) provided a definition of staff personnel management as a crucial task focused on acquiring, nurturing, and inspiring the workforce necessary for an organization to accomplish its goals. It is a crucial aspect of human resource management and involves various functions related to employee recruitment, training, performance evaluation, compensation, benefits, and employee relations.

In the rapidly evolving landscape of higher education, universities are faced with unprecedented challenges that demand efficient and effective management practices. In this pursuit, Information and Communication Technology (ICT) has emerged as a transformative tool, revolutionizing the way universities operate and deliver services. This study investigated the extent to which ICT usage contributes to the managerial effectiveness of



universities in Enugu State, Nigeria with particular reference in record management and staff personnel management.

Statement of the Problem

Information and Communication Technology (ICT) has become an essential tool in various sectors, including education. In Enugu State, Nigeria, universities play a crucial role in shaping the intellectual and professional growth of the nation's future leaders. To ensure effective management and administration within these institutions, the integration and optimal usage of ICT have become imperative. Despite the recognized potential benefits of Information and Communication Technology, there may be challenges and limitations in the effective usage of ICT for managerial purposes in universities in Enugu State. These challenges could hinder the universities' capacity to operate efficiently, make informed decisions, and maintain a competitive edge in the rapidly evolving higher education landscape. The evident issues lie in the overwhelming number of files and documents that have surpassed the capacity of traditional management methods. Due to inadequate space and a lack of suitable file racks and cabinets, these files and documents are scattered, making retrieval difficult. To address this, the government needs to embrace information communication technology (ICT) in all levels of education to improve information management. Integrating ICT would lead to enhanced management of various aspects of education, including student and staff services, record-keeping, admissions, class schedules, attendance tracking, registration, timetabling, and result access. Moreover, students would benefit from online services provided by ICT, making it easier for them to access tools and equipment required for experiments. However, despite the government's efforts to make ICT facilities available for academic and administrative activities in universities, they are not fully utilized. It's disheartening that many universities still rely on traditional methods for their management processes. This study aims to assess the extent to which ICT is effectively utilized in managing universities in Enugu State.

Purpose of the Study

The main purpose of this study was to examine the extent to which ICT is utilized for effective management of universities in Enugu State. Specifically, the study sought to:

1. ascertain the extent of utilization of ICT facilities in management of universities records in Enugu State;



2. determine the extent of utilization of ICT facilities in staff personnel management in universities in Enugu State.

Research Questions

The following research questions guided the study:

1. What is the extent of utilization of ICT facilities in the management of records in universities in Enugu State?
2. What is the extent of utilization of ICT facilities in staff personnel management in universities in Enugu State?

Hypotheses

The following hypotheses were tested at .05 level of significance.

H₀₁: There will be no significant difference between the mean ratings of Federal and State university staff on the extent of utilization of ICT facilities in managing records in universities in Enugu State.

H₀₂: There will be no significant difference between the mean ratings of Federal and State university staff on the extent of utilization of ICT facilities in staff personnel management in universities in Enugu State.

Research Method

Descriptive survey research design was adopted for the study. According to Nworgu (2015), a census survey research approach is one in which a group of people or items are studied by collecting and analyzing data or information from every member of the population. This design is suitable for this study because it involved the collection of data from all the. The population for the study was 546 respondents which comprised 311 Federal University Staff and 235 State University Staff. There was no sampling because the population was manageable. The instrument for data collection was a 13-item researcher structured questionnaire titled “Information and Communication Technology usage for Managerial Effectiveness of Universities Questionnaire (ICTUMEUQ)”.

It was validated by three research experts from the Faculty of Education, Enugu State University of Science and Technology. Cronbach alpha statistic was used to ascertain the



internal consistency and the reliability index was .80 which showed that the instrument is reliable. The researcher used mean scores and standard deviations in answering the research questions. The hypotheses were tested using t-test statistic at .05 level of significance. In rating the mean, each response option had a numerical value based on real limit of numbers: VGE = 3.50-4.00; GE = 2.50-3.49; LE = 1.50-2.49; VLE = 0.00-1.49. The interpretation of the test of hypotheses was based on the significance (sig.) values from the SPSS output. The null hypothesis was not rejected when the probability values are greater than .05, but was rejected when the probability values are less than .05.

Data Analysis and Results

Research Question 1: What is the extent of utilization of ICT facilities in management of records in universities?

Table 1: Mean rating scores of Federal and State universities' staff on the extent of utilization of ICT facilities in management of records in university

S/N	ITEMS	Federal University Staff			State University Staff		
		\bar{x}	SD	Dec	\bar{x}	SD	Dec
	Extent to which ICT facilities are utilized in record management:						
1.	spread sheet to prepare student's attendance register.	2.16	.85	LE	2.12	.89	LE
2.	spread sheet for preparing financial record.	2.18	.95	LE	2.16	.91	LE
3.	spread sheet for preparing personnel schedule of duty.	2.16	.96	LE	2.12	.86	LE
4.	spread sheet for preparing time table.	2.12	.88	LE	2.18	.89	LE
5.	word processing for typing and editing minutes of meeting/reports	2.18	.92	LE	2.13	.91	LE
6.	digital video display ROM to store social activities.	2.16	.81	LE	2.18	.95	LE
	Cluster mean	2.16	.90	LE	2.15	.90	LE

The data analysis presented in Table 1 indicates that the average scores for Federal university staff ranged from 2.12 to 2.18, while State university staff scores also ranged from 2.12 to 2.18. The respective cluster means were found to be 2.16 and 2.15, with standard deviations of 0.90 for both groups. From these results, it can be inferred that the utilization of ICT facilities for record management in universities in Enugu State is relatively low.

Research Question 2: What is the extent of utilization of ICT facilities in staff personnel management in universities?

Table 2: Mean ratings of Federal and State universities' staff on the extent of utilization of ICT facilities in staff personnel management in universities

S/N	ITEMS	Federal University Staff			State University Staff		
		\bar{x}	SD	Dec	\bar{x}	SD	Dec
	Extent to which ICT facilities are utilized in staff personnel management:						
7.	Microsoft power point is used for presenting talk, speeches during staff seminars.	2.14	.89	LE	2.14	.86	LE
8.	using ICT in attracting qualified candidates to fill job vacancies within the university.	2.15	.90	LE	2.18	.85	LE
9.	internet is used by to publish names of appointed workers after interview.	1.16	.89	LE	1.51	.87	LE
10.	on-line payment is used for payment of personnel salaries.	2.16	.93	LE	2.11	.97	LE
11.	on-line payment is used for payment of personnel allowance.	2.15	.95	LE	2.17	.84	LE
12.	on-line payment is used in the payment of pensioners' gratuity and pension.	2.61	.86	GE	2.65	.89	GE

13. using telephone for interaction with their staff during working hours and at home.	2.63	.95	GE	2.66	.95	GE
Cluster mean	2.14	.91	LE	2.20	.89	LE

The analysis of Table 2 revealed that the average scores for Federal university staff varied between 1.16 and 2.63, while State university staff scores ranged from 1.51 to 2.66. The cluster means were calculated as 2.14 and 2.20, accompanied by standard deviations of 0.91 and 0.89, respectively. The study's outcome indicates that the utilization of ICT facilities by staff personnel is relatively limited.

H₀₁: There will be no significant difference between the mean ratings of Federal and State university staff on the extent of utilization of ICT facilities in managing records in universities in Enugu State.

Table 3: t-test on the mean ratings of Federal and State university staff on the extent of utilization of ICT facilities in managing records in universities

Group	N	\bar{x}	SD	df	p-value	Decision
Federal University	311	2.16	.90	544	.101	H ₀₁ not rejected
State University	235	2.15	.90			

The data presented in Table 3 indicates that, with 544 degrees of freedom, the p-value was found to be .101. As the p-value exceeds the significance level of .05 chosen for the study, it implies that the null hypothesis was not rejected. Consequently, there is no significant distinction between the mean ratings of Federal and State university staff regarding the extent of ICT facility utilization in managing records at universities in Enugu State.



H₀₂: There will be no significant difference between the mean ratings of Federal and State university staff on the extent of utilization of ICT facilities in staff personnel management in universities in Enugu State.

Table 4: t-test on the mean ratings of Federal and State university staff on the extent of utilization of ICT facilities in staff personnel management in universities

Group	N	\bar{x}	SD	df	p-value	Decision
Federal University	311	2.14	.91	544	.089	H ₀₂ not rejected
State University	235	2.20	.89			

Table 4 data indicates that at 544 degrees of freedom, the obtained p-value was 0.089. This p-value exceeds the predetermined significance level of 0.05 for the study. Consequently, the null hypothesis was not rejected, suggesting that there is no significant difference between the mean ratings of Federal and State university staff concerning the utilization of ICT facilities in staff personnel management in Enugu State universities.

Discussion of Findings

The finding of the study shows that the utilization of ICT facilities for record management in universities in Enugu State is relatively low. The finding of the study is in agreement with Chidobi (2015), who posited that ICT facilities are not properly used for administrative record management in the public universities in Enugu state. Further finding shows that there is no significant distinction between the mean ratings of Federal and State university staff regarding the extent of ICT facility utilization in managing records at universities in Enugu State.

The finding of the study shows that utilization of ICT facilities by staff personnel is relatively limited. The finding is in agreement with Adeniran and Alabi (2022), who posited that ICT facilities are not properly utilized for staff personnel management in universities. Further finding shows that there is no significant difference between the mean ratings of



Federal and State university staff concerning the utilization of ICT facilities in staff personnel management in Enugu State universities.

Conclusion

The conclusion drawn from the findings of the study is that ICT facilities are not extensively utilized for the management of records and staff personnel in universities in Enugu State. In other words, the use of information and communication technology (ICT) in these areas is limited or not fully optimized. The low extent of ICT usage for record management and staff personnel management suggests that there may be significant room for improvement in adopting and implementing digital solutions to enhance these administrative processes within universities. This could potentially lead to increased efficiency, streamlined operations, and better overall management of university resources and personnel.

Recommendations

The following recommendations were proffered:

1. University staff should encourage the transition from paper-based to digital record-keeping systems. Digital records are easier to manage, access, and update, saving time and resources in the long run.
2. There is need to conduct regular training sessions for university staff members, especially those involved in record-keeping and personnel management, to enhance their ICT skills and proficiency. This will empower them to make better use of available technology.



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