INTERNATIONAL JOURNAL OF OFFICE ADMINISTRATION AND INFORMATION MANAGEMENT (IJOAIM)

Volume 2, Issue 1, September 2022

ISSN: 2955-1269 (Print) and ISSN: 2955-1277 (Online)

An official publication of the National Institute of Office Administrators and Information Managers (NIOAIM)

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An official publication of the **National Institute of Office Administrators and Information Managers (NIOAIM)**

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Rebranding practitioners for greater recognition, respect and excellence

Mission Statement

To promote knowledge, skills and experiences of members by organizing seminars, workshops, conferences and conducting qualifying examinations to rebrand practitioners in the field of Office Management and Information Management.

The Editor-in-Chief
International Journal of Office Administration and Information Management (IJOAIM)
An official publication of the National Institute of Office Administrators and Information Managers (NIOAIM)
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c. Full paper should not be more than 20 pages including abstract and references. 1.5-line spacing, font style – Times New Roman, font size – 12.
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Publication mode: (Online)

Account Details: National Institute of Office Administrators & Information Managers (NIOAIM)
2175824186 (UBA)

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CONTENTS

Information Literacy and Research Competence of Undergraduate in Oyo State, Nigeria

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Abstract

The current era of information explosion and inclination towards novelty characterized by 21st century places demands on students in term of research competencies in order to be relevant and productive both in the academic world and workplace. This triggered an inquiry into information literacy and research competence of undergraduates from universities resident in Ibadan. This study adopted a descriptive design, the population comprised of all 151 final year students in the faculty of Communication and Information Sciences Lead City University. Krejcie and Morgan sample table for known population and Bowley's population allocation formula was used to select 108 undergraduates for the study. Two research questions and one hypothesis were raised and answered using Frequency Count, Simple Percentage, Mean and Pearson's Product Moment Correlation analysis at 0.05 level of significance. The result showed that the level of research competency and information literacy skills of undergraduate were low. Also, information literacy positively correlated with research competence (r= .549, p< 0.01), This implies that, increase in information literacy will increase research competence. Among others it was recommended that qualitative content on research methodology should be introduced into undergraduate curriculum right from first year in the university which should be improved on throughout the course

of the study. Information literacy skills course should be integrated into undergraduate curriculum and taught to students across departments and not just a one-off orientation programme.

Keywords: research competence, information literacy, undergraduates

1.1 Introduction

The quest to bring out innate potentials of students and nurture what has been brought out keeps dominating educational endeavors across nations. Higher education institutions are saddled with the responsibility of meeting societal needs by producing highly skilled and productive graduates who are problem solvers and act as a leader in different capacities. The educated graduate of the twenty-first century should therefore be equipped with a wide range of skills and abilities, such as inquiry and research skills, in order to conduct systematic investigation and find long-term solutions to complex societal context-based problems.

Given this, the emergence of sophisticated technologies and science inclined industries, dynamics growth of scientific and technical information, creation of complex social and academic phenomenon requires the students to be versatile with skills of independent search activity and ability to propose and execute research enquiry. This heralded the fact that research competence is germane to undergraduate's scholarly emancipation.

The ability to acquire new knowledge, identify educational problems, synthesize and argue knowledge of research methodologies, and develop research for interpretation and distribution of results is defined as research competence (Castilo-Martinez and Ramirez-Montaya, 2021). Research competency is essential for interdisciplinary approach to phenomenon and provides opportunity for students to conduct their thesis, carry out independent research work and critically evaluate the result of their research outcomes.

Research competency for many professionals commences during their learning in higher institution, despite this many students seems incapable of planning and conducting a research work. Independent research competencies are critical for developing students' personal interest, leadership roles, and critical thinking. However, evidence exist to suggest that student's research competencies are low (Palermo, 2021). Also, the intellectualization of academic endeavors raises

fundamentally new problems in training students who will become specialist in diverse fields, research competencies help prepare undergraduates for future professional activities. As the abundance of the graduates in the labor market lack competencies to solve professional problems by methods of scientific inquiry (Abu and Alheet,2019; Hosein and Rao, 2017). The switch from a traditional tutor-centered to a learner-centered learning system, as well as the increased use of technology in the classroom, have all been designed to effectively prepare undergraduates for potential career difficulties.

Higher institution of learning also aim at making undergraduates self-reliant, thinks critically and a lifetime learners so that they end up becoming productive and qualitative workforce in the international arena. To actualize this goal, research competence plays a very decisive role. Recognizing the importance of research, industrialized countries and developed nations of the world have created laws, guidelines, and a plethora of models, standards, and frameworks to ensure that research skill acquisition training is carried out efficiently in their educational institutions.

In addition, advances in digital technologies altered how research was organized and conducted, contributing to the improvement of digital science. According to the international document "Plan S," Beginning in 2021, all publications based on the results of research funded by public or private grants from regional, international research councils and funding agencies should be published in open access journals, on open access platforms, or readily accessible through open access to storage without interference.

However, for research paper to be accepted and published in an open access journal, the outline and structure of the paper must align with international best practice. Cursory observation shows that many undergraduates who might likely be working on thesis or research projects with intention to publish are not proficient about research procedures and lack competencies in conducing scientific research. Research competencies of students features as an important element for problems solving (Lopatovska and Sessions, 2016). There has been a rising recognition of the value of scientific inquiry in everyday life. However, students who are inclined to scientific study are few among undergraduate, Young people's enthusiasm for research is dwindling due to many factors. Clearly, not all

smart learners link their learning to research. But, research competency has been described as sine qua none for professional emancipation. Yet, there is paucity of testaments regarding effective teaching and learning of research.

Many factors converge in the development of research competence, information literacy constitute an essential element in enriching research competence. According to Luo (2018), information literacy consists of skills that requires people to be aware when they need information and to be able to successfully find, assess, and use that information.
A person who is information literate must be able to not only recognize a need, but also find, evaluate, and apply information to productive ends (Association of College & Research Libraries, 2006). The "information age" has ended, and the "knowledge age" has begun, with the recognition that information cannot solve issues on its own, but that effective use of information can. As a result, undergraduates must be well-versed in knowledge (Farmer and Henri, 2018). Similarly, in today's increasingly complex environment, there are numerous information options available, such as print materials, electronic, image, spatial, acoustic, visual, and quantitative.

The challenges a scarcity of information for research purposes, but rather an abundance of material in various formats, not all of which are equally valuable. The ability to act confidently and not be overwhelmed by information overload is crucial to academic performance and research competency of students in an era information explosion (Selikem, 2016). Increasing facilities including computers and electronic media which currently characterized modern higher institution is promising, in spite of its threat of information overload (Swapna and Biradar, 2017). This is mainly because, Information literacy education is not only a laudable goal, but it is also a necessary element in the making of knowledgeable researchers (Selikem, 2016).

On completion of undergraduate program, graduates are expected to be information provider through research and utilization of advanced literacy skills but they are often unable to fit in into this function effectively without being knowledgeable in information literacy during their studies. As a result, the curriculum is designed so that students can graduate as information literate individual. They should be able to determine reasons for needed information, place to locate it, how to appraise, use, convey information ethically, and how to use the knowledge to address research challenges. Information literacy education

is the forerunner for actualization of projects which focuses on equipping prospective graduates with core 21st century skills through the application of various stages (Lynn, Mark, 2020; Okike, 2014). Unfortunately, the current state of affairs in Nigerian higher institutions suggests that the aim and objective of problem-based learning may not be realized.

The development of information literacy skills in order to boost research abilities is a critical problem. The effects of growing up with poor information literacy abilities are getting increasingly serious today. Students who are ill-equipped to participate in today's information-rich culture are increasingly ostracized. This means that, if we want learners be fully participants in tomorrow's workforce, effectively integration of information literacy skills instruction into both primary and secondary school curriculum must be achieved. Students must acquire a degree of information literacy that allows them to find, assess, and apply knowledge in order to excel in every facet of life (Chanchinmawia and Kumar, 2018).

Students will need information literacy skills to identify information needs, discover approaches to address gaps, establish methods for obtaining and gaining access to information resources, appraise, integrate, utilize, and consolidate information resources, and construct knowledge useful for research (Kimani, 2014). Higher education's evolving environment creates an uncertain information ecosystem, requiring students to take on more responsibility for creating new knowledge and utilizing information appropriately (Association of College Research Libraries, 2000).

Despite big expansion of educational sector in Nigeria, higher education institutions seem unable to boast of inventions worthy of international repute, inculcate spirit of scientific inquiries in students and equip them with ability to unraveled association behind natural and societal phenomenon through research. This pathetic situation degenerates into inability to break even in most industries, finding lasting solution to human sufferings and forecast possible relationships between variables which are capable of hampering scientific quest and national development. All these could be attributable to low research competence triggered by information illiteracy.

Imperatively, research competency of undergraduate student in most university has been adjudged to be very low as most students contract their assignment or thesis writing to a ghost writer, unable to develop testable hypothesis, orchestrate and execute research plans and procedure, engaged in academic writing and scholarly discussion. In view of these, the purpose of this research is to look into the impact of information literacy. on research competence among undergraduate in Ibadan, Oyo State.

1.2 Objectives of the study

1. To determine the level of research competency of undergraduates in Ibadan Oyo State.
2. To determine the level of information literacy of undergraduates in Ibadan Oyo State.
3. To examine the relationship between research competency and information literacy.

1.3 Research Questions and Hypothesis

1. What is the level research competency of undergraduates in Ibadan Oyo State.
2. What is the level information literacy of undergraduates in Ibadan Oyo State.

Hypothesis

H_{01}: there will be no significant relationship between information literacy and research competence.

1.4 Conceptual Framework

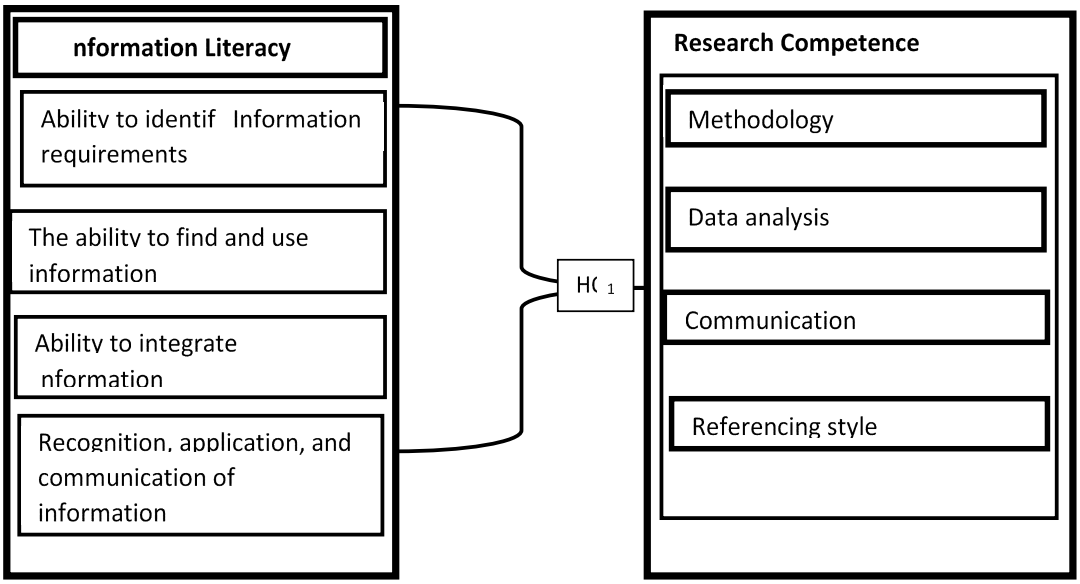

Fig 1.1: Proposed Conceptual Framework of the Study

Figure1.1 shows conceptualization of the variables of the study. According to the conceptual model of the study, the dependent variable of this study is the research competence, measured with information seeking skills, methodology awareness, statistical analysis skills, problem solving skills, and communication skills. Information literacy is the independent variable in the study and it is measured with literacy awareness, library resources awareness, library information awareness, ICT skills and information searching, retrieving and evaluating skills. adapted from Doyles' (1999) theory of information literacy. Being competent and versatile in probing and providing solution to phenomenon using scientific method is a function of being information literate. The model also hypothesized that there will be a significant relationship between information literacy and research competency of undergraduate students and this is depicted with H_{O1} in the model.

1.5 Methodology

For this investigation, a descriptive survey design was used. The design is appropriate due to the fact that the researcher intended to describe and estimate the relationship between the variables. More so, the researcher has no intention of manipulating the variables. All 151 final year undergraduates in the four programme in the faculty of Communication and Information Sciences in Lead-City University Ibadan Oyo State. They are Health Information Management (67), Mass Communication and Media Technology (42), Library and Information Science (24) and Office and Information Management (18) respectively. Sample size for the study was 108 as determined from Krejcie and Morgan sample size table for a known population. Stratified proportionate random sampling was adopted and using Bowley population allocation formula, sample size of 48, 30, 17, and 12 was selected respectively.

Data were collected using questionnaire which was adapted from Doyle(1999) after extensive review of literature. The instrument used was on four-point scale; 4- highly skilled, 3 – moderately skilled, 2 – weakly skilled and 1 – not skilled. Copies of the questionnaire were administered to final year undergraduates in the faculty of Communication and Information Science. One hundred and eight (108) questionnaire were taken to the field, 104 were returned. Four out of the returned questionnaires were not properly filled; the remaining hundred were coded and used for data analysis. Descriptive and inferential statistics were used to analyze the study's data. To answer research questions, percentages, frequencies, and

mean ratings were used, while Pearson Product Moment Correlation (PPMC) was used to analyze the hypothesis.

1.6 Result

One hundred and 108 questionnaires were taking to the field in order to have margin of error, 104 were returned. 4 out of the returned questionnaire were not properly filled, the remaining hundred were coded and used for data analysis. From the demographic angle, female participated more than their counterparts in the study while majority of participants are undergraduates in their year two of study.

Research Question One: What is the level research competency of undergraduates in Ibadan Oyo State.

Table 1.1: Showing Participants Response Based on Level of Research Competency

S/N	ITEMS	SA	A	D	SD	M	S.D
Research methodology							
1.	I can justify the choice of research design based on topic and objective of the study.	56 (56.0 %)	16 (16.0%)	28 (28.0 %)		3.993	.4364
2.	I can determine and select appropriate sample size using established techniques and formulas for research work.	58 (58.0%)	18 (18.0 %)	24 (24.0 %)		2.667	.4162
3.	I can collect data for a research works using different approach.	56 (56.0 %)	44 (44.0 %)			2.848	.5031
4.	I can develop, adapt or adopt an instrument for research work	68 (68.0 %)	30 (30.0 %)	2 (2.0%)		2.705	.4973

Criterion mean		**3.0**					
Data Analysis							
5.	I know when to use quantitative or qualitative analysis when conducting research work.	56 (56.0 %)	28 (28.0 %)	14 (14.0%)	2 (2.0%)	3.756	.8568
6.	Research questions or hypothesis determine the choice of data analysis	52 (52.0%)	24 (24.0 %)	20 (20.0 %)	4 (4.0 %)	2.475	.7500
7.	I can determine and use appropriate test statistics to answer research questions or hypothesis	22	48	16	14	2.927	.8425
8.	I am familiar with many software packages for statistical analysis	10 (20.0%)	25 (50.0%)	10 (20.0%)	5 (10.0)	2.268	.9481
9.	I can interpret computer printout of analysis	20 (20.0 %)	34 (34.0%)	24 (24.0%)	2 (2.0 %)	2.244	.8755
Criterion mean		**2.7**					
Communication							
10.	I can present findings from research work using tables and graph.	16 (16.0%)	54 (54.0%)	28 (28.0 %)	2 (2.0%)	2.143	.5559
11.	I can explain the findings of research work to a layman	18 (18.0%)	58 (58.0%)	20 (20.0%)	4 (4.0 %)	3.190	.7068
12.	I know what it requires to publish a research finding in a journal	8 (8.0 %)	84 (84.0 %)	8 (8.0%)		2.119	.7341

13.	I can extract and report key findings from a research work	18 (18.0 %)	66 (66.0 %)	16 (16.0 %)	2.042	.4729
14.	I have the ability to present researching finding in a conference	42 (42.0%)	54 (54.0 %)	4 (4.0 %)	2.000	.6389
Criterion		**2.3**				
Referencing Style						
15.	It's easier for me to identify referencing style format for a research work.	58 (58.0%)	18 (18.0 %)	24 (24.0 %)	2.293	.4162
16.	I can reference author in research work using different style	56 (56.0 %)	44 (44.0 %)		2.548	.5031
17.	I can easily follow guideline for referencing	68 (68.0 %)	30 (30.0 %)	2 (2.0%)	3.405	.4973
18.	I can use acceptable styles to cite bibliographic references in research reports.	32 (32.0 %)	38 (38.0%)	30 (30.0%)	2.146	1.0214
Criterion mean		**2.6**				
Grand mean				2.7		
Decision Rule		Note: Highly competent (HC) 3.50 – 4.0, Moderately Competent (MC) 3.0 – 3.49, Weakly Competent (WS) 2.0 – 2.99, Not Competent (NS) 1.0 – 1.99				

From the results in table 2, it was revealed that the items on research competence dimension of research methodology were rated between 2.6 to 3.9 with a criterion mean of 3.0. the criterion mean of 3.0 implies that undergraduates are moderately competent in research methodology. Though in responding to the item' I can justify the choice of research design based on topic and objectives of the study recorded mean score of 3.9. The criterion mean for research methodology is higher than grand mean indicating that undergraduate research competence in respect to research methodology is relatively high. The items on data analysis with mean

rating ranging from 2.2 to 3.7 with a criterion mean of 2.7 implies that undergraduates are weakly skilled in research competence in terms of data analysis. Also, the mean rating of 3.7 on item that bothers on knowing when to use quantitative or qualitative analysis when conducting research work indicate that though undergraduate are low skilled in term of data analysis, they are capable of knowing when to use either qualitative or quantitative methods. The mean rating on undergraduate research competence in respect to communication of result recorded a mean score ranging from 2.0-3.1 with a criterion mean of 2.3. The criterion means of 2.3 indicate that undergraduates are weakly competent in respect to communicating the result of a research work. However, the mean rating of 3.1 in terms of explaining research finding to a lay man indicates that they fare well in this regard. The criterion mean is also lower than the grand mean, an indication that undergraduate students are less skilled in communicating research work. The mean rating on referencing style ranges from 2.1 to 3.4 with a criterion mean of 2.6 implies that undergraduate research competence in terms of referencing style is low. Also, the criterion is lower than grand mean, an indication that undergraduate research competence in term of referencing style is low.
From the table, it can be garnered that the grand mean recorded 2.7 while criterion means are **3**.0, 2.7, 2.3, 2.6 for research methodology, data analysis, communication and referencing style respectively.

Research question two: What is the level information literacy of undergraduates in Ibadan Oyo State.

Table 1.2: Showing Participants Response Based on Level of Information Literacy

S/N	**ITEMS**	SA	A	D	SD	M	S.D
	Ability to identify Information requirements						
1.	I can see how information and data are required to attain a given goal.	62 (62.0%)	24 (24.0%)	4 (4.0%)	10 (10.0%)	2.886	.6133
2.	I can define concept of a topic for a research presentation.	56 (56.0%)	34 (34.0%)	6 (6.0%)	4 (4.0%)	2.549	.6490

3.	I can identify information need through electronic discussions.	82 (82.0%)	12 (12.0%)	6 (6.0%)		3.570	.4236
	Criterion mean						**3.0**
The ability to find and use information							
4.	I can use proper search techniques to get the information I need.		6 (6.0%)	78 (78.0%)	16 (16.0%)	3.114	.4614
5.	I can tell the difference between primary and secondary information sources.		60 (60.0%)	12 (12.0%)	28 (28.0%)	3.182	.6152
6.	I can develop information search techniques employing keywords and associated terms.	26 (26.0%)	58 (58.0%)	4 (4.0%)	12 (12.0%)	3.068	.7395
7.	My ability to select the most appropriate electronic resources is low	2 (2.0 %)	64 (64.0%)	28 (28.0%)	6 (6.0%)	3.455	.6838

8.	I can search internet sources for information resources by subject, title, and date.	43 (43.4%)	52 (52,5%)	2 (4.0%)		3.665	.568
	Criterion mean						**3.3**
Ability to integrate information							
9.	I can select information materials based on reliability, validity, accuracy, authority or bias	12 (12.1%)	13 (13.1%)	19 (19.0%)	55 (55.6%)	3.1833	1.073
10.	I am able to sift information resources obt ained from the internet	23 (23.0%)	64 (64.0%)	8 (8.0%)	5 (5.0%)	3.3962	.59073
11.	I can evaluate the quality, reliability, and usefulness of	24 (24.0%)	71 (71.0%)	5 (5.0%)		3.9104	.659
12.	Based on facts I found on the internet, I can come to a judgment.	32 (40.1%)	68 (69.4%)			2.8022	.494
	Criterion mean						**3.3**

Ability to integrate information

13.	I may combine fresh and previous knowledge to meet the study objectives.	32 (32.0%)	68 (68.0%)		2.8020	.494
14.	In a research project, I have the power to generate new knowledge.	34 (34.3%)	63 (63.6%)	2 (2.0%)	2.7111	.476
15.	I have the skill to manipulate digital text, images, and data as needed	39 (39.0%)	57 (57.0%)	4 (4.0%)	3.6832	.512
16.	I can use a range of information technology application in carrying court an assignment	38 (38.0%)	59 (59.0%)	3 (3.0 %)	2.6421	.543
	Criterion mean				3.00	

Recognition, application, and communication of information

17.	I am capable of using information resources to resolve the issue at hand.	37 (37.0%)	59 (59.0%)	4 (4.0 %)	2.6443	.524

18.	I can construct a multimedia presentation using PCs and/or mobile technology.	38 (38.0 %)	51 (51.0 %)	4 (4.0%)	7 (7.0%)	2.7622	.744
19.	In the electronic realm, I am familiar with issues such as copyright, plagiarism, information privacy, and security.	38 (38.0%)	60 (60.0%)	2 (2.0 %)		1.6321	.507
Criterion mean		**2.3**					
Grand mean		**3.7**					
Decision Rule		Note: Highly Skilled (HS) ranges from 3.50 to 4.0, Moderately Skilled (MS) ranges from 3.0 to 3.49, Weakly Skilled (WS) ranges from 2.0 to 2.99, and Not Skilled (NS) ranges from 1.0 to 1.99.					

The items on ability to identify the need for information were rated with a mean range from 2.5 to 3.5 and a criteria mean of 3.0, according to the results in table 1. The criterion mean of 3.0 show that undergraduate are moderately skilled in their ability to recognize the need for information, they can identify information need through electronic discussion(where they have the highest mean score of 3.5). the criterion mean is lesser than grand mean indicating that undergraduate students are moderately high. The items on ability to locate and access information with the mean rating from 3.0 to 3.6, the criterion mean of 3.3 indicates that undergraduates are moderately skilled in their ability to locate and access information. Also, the mean rating of 3.6 on the item focusing on searching information resources from electronic databases by subject, tittle and date

indicated that undergraduates are highly skilled in this respect. The mean rating of 2.8 to 3.9 in respect to undergraduate ability to evaluate information shows that they are moderately skilled. The criterion means of 3.3 also shows that undergraduates are moderately skilled in evaluating information but highly skilled in respect to ability to assess the quality, accuracy and relevance of information resources found on the internet with mean rating of 3.9. The mean rating on undergraduate ability to integrate information ranges from 2.6 to 3.6 with criterion mean of 3.0. The criterion mean of 3.0 indicates that undergraduate are moderately literate in respect to ability to integrate information. However, the mean rating of 3.6 in respect to having skill to manipulate digital text, images and data as needed indicates that undergraduate students are highly literate in this respect. The mean rating ranging from 1.6 to 2.7 with criterion mean score of 2.3 in respect to ability to recognize, apply and communicate information ethically shows that undergraduate information literacy in this domain is weak.

Holistically, the grand mean recorded 3.7 while criterion means are 3.0, 3.3, 3.3, 3.0 and 2.3 for ability to recognize need for information, ability to locate and access information, ability to evaluate information, ability to integrate information and ability to organize, apply and communicate information ethically respectively. None of the domains of information literacy measured up with grand mean, an indication that information literacy is low among undergraduate. The lowest of which is the ability to organize, apply and communicate information ethically.

H_{01}: there will be no significant relationship between information literacy and research competence.

Table 3: Pearson's Product Moment Correlation Showing the Relationship Between Information Literacy and Research Competence.

Variable	Mean	Std.Dv	R	r^2	Df	Sig	P
Research Competence	10.2700	1.36777	.549	.301	98	.000	<0.05
Information Literacy	1.81	.394					

Table 5 reveals that there was significant relationship between information literacy and research competence; $r_{(98)} = .594$, $p<0.05$. thus, the null hypothesis was rejected. This implies that being information literate influence research competence. Further the table reveal than information literacy accounted for 30.1% in the variance of research competence $r^2 = 0.301$.

1.7 Discussion

The first research question examines the level of research competency of undergraduates in higher institutions residents in Ibadan Oyo State. The findings revealed that undergraduate research competence in respect to data analysis, communication and reference style is low. This findings corroborates the study of Yuri and Ighor(2017) who reported that research competency which is also conceptually referred to academic productivity is low among undergraduate. Most students reported that they are sparingly exposed to research related courses and are only to be taken during penultimate or terminal years in the university. The data analysis, communication and reference style dimensions recorded the lowest, indicating that most undergraduate lack adequate skills needed to collect and analyses data, communicate the findings appropriately and adequately reference the sources thereby becoming relevant in the academic community. Its expedient to note that the low research competence of undergraduate also reflect in the quality of studies emanating from most higher institutions as many students are just getting familiar with intricates of research when they got to final year or when commencing second degree.

The second research question inquiry into level information literacy of undergraduates in Ibadan Oyo State. The result indicated that the level of information literacy of undergraduate is low. This result converge with the findings of Attama and Kingsley (2015) who found that information literacy skill of undergraduates is very low in most Nigeria universities. Consistent with this Aliyu, Chiwar and Anthony (2019) reported that undergraduates could not decipher their information needs and determine how to source and establish the validity of information gotten in the face of information explosion. Imperatively, undergraduates are not adequately literate enough to seek assess, validate information and use it for rigorous academic activities.

While the hypothesis bothers on relationships between information literacy and research competence. The result reveals that there is a linear relationship between information literacy and research competence. The more information literate

undergraduates become, the more their research competent. This finding agrees with the work of Colucci (2020) which revealed that there is a significant relationship between information literacy and research competency of students in North Central Nigerian Universities. In a related study by Attama and Kingsley (2015), it was discovered that information literacy had positive relationship with research competencies of students in federal universities in Nigeria.

1.8 Conclusion and Recommendation

This study investigated information literacy and research competence of undergraduate in Oyo State, Nigeria. Three objectives were tested and theory of planned behaviour was used to anchor the study. Data were collected using standardized instrument while result indicated that the level of research competence and information literacy was low among undergraduates. Also, the result shows that there is significant linear relationship between information literacy and research competence. The 21st century is characterized by information explosion and flexible work environment made possible through technology. Undergraduate are to be skillful in information literacy and competent to plan and conduct research without hitch. In view of these, the study recommended that:

1. Qualitative content on research methodology should be introduced into undergraduate curriculum right from first year in the university which should be improved on throughout the course of the study.
2. Information literacy skills course should be integrated into undergraduate curriculum and taught to students across departments and not just a one-off orientation programme.
3. Research competence should be emphasized on as a lifetime skill needed to thrive in the academic world and not just a skill to conduct project work during terminal years
4. Efforts should be geared toward making information literacy and research competence a compulsory general study which will serve as a criterion to high level courses.

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Role of Technological Innovations and Adoption of Artificial Intelligence in Contemporary Library Service Delivery

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Introduction

New development in digital technologies over the years has brought a lot of transformations to the traditional library work. Technology has been wired and integrated into all in-house functions and activities of academic and research libraries all over the world, and the developing countries like Nigeria is not left behind in this race. The application of technology to library services is not a new phenomenon in Nigeria. In the last two decades or thereabout, Nigerian libraries have not been left behind in the adoption and application of technological innovations to enhance library operations and services. Such technologies include computer systems, scanning and printing facilities, electronic resources, CCTV camera, social media and recently the use of RFID technology. However, the application of novel technologies like artificial intelligence has not gained much popularity.

Artificial intelligence has been regarded as the fourth industrial revolution (Park, 2019). AI are machines that can reason, make decisions, learn and interact like humans (CILIP, 2021). According to Holmes et al. (2019), AI can be regarded as computer programmes that carry out tasks that require intelligence when done by humans. On the other hand, the OECD (2019) perceived AI thus:

> "An AI system is a machine-based system that is capable of influencing the Environment by making recommendations, predictions or decisions for a given set of objectives. It does so by utilizing machine and/or human-based inputs/data to: i) perceive real and/or virtual environments; ii) abstract such perceptions into models manually or automatically; and iii) use Model Interpretations to formulate options for outcomes".

The application of artificial intelligence is now very evident in almost every sector of the society around the world. It has brought about transformations and new competitive advantage in many institutions and service organisations. Thus, AI has been found very useful and applicable in many areas like surveillance and cybersecurity, banking and finance, marketing, healthcare management and smart applications (such as facial recognition, voice recognition, location assistant, etcetera). Like in many other disciplines as mentioned above, artificial intelligence (AI) can help libraries update and expand their services and also promote their relevance in the present day digital world. As claimed by ExLibris (nd), libraries can maximize the potentials of AI, and also use the "opportunity to leverage the available practical benefits of artificial intelligence for their own objectives: optimizing workflows, maximizing operational performance, and developing new services."

In the past, libraries were known to acquire, process, store and disseminate only print materials. However, in recent years, this role has changed. Modern day libraries are moving away from being a storehouse of printed information resources to digital service provider (Tella, 2007). This development can be attributed to the universal adoption of computer systems, continuous dependence on computer networks, rapid advancement of the web and Internet as well as escalation in the standard and amount of information. This has forced many libraries to embrace new techniques for storing, retrieving and disseminating information. The modernization of libraries and information centers from analog to digital information hub has enabled ease of information transfer and access, thereby creates a network of libraries. This strategy helps to facilitate resource development, resource sharing and their utilization at various levels. ICTs are now being used to provide as well as access electronic sources such as electronic journals, online and CD-ROM databases, web-based information resources, as well as different types of electronic information resources (Williams & Channveeraiah, 2008).

The introduction of artificial intelligence to university libraries in Nigeria was first witnessed by the University of Lagos in June 2020 through a donation from Platform Capital. The robots (Roboscholar), which are "cloud-based intelligent humanoid robots have the following features: face recognition, surveillance technology, Open API, data management, advert & promotion, book shelf management, research, customizable, and entry validation" (University of Lagos, 2020).

In this wireless and interconnected era, the most practical way to accomplish new aims and targets is by adopting advanced innovative technologies within the day-to-day library operations. Libraries and librarians are trying everything possible to catch up with the trend in the digital world. Interestingly, most of the AI features are already quite familiar in web and mobile application search (such as auto-suggest, ranking by relevance, auto-recommendation, bookmarking and personalization) or word processing (autocomplete, spell-checking, translation, voice recognition). These attributes can be embedded in library functions to make more interactive and attractive to the users. The application of AI in libraries guarantees easy access to information in a more quickly and new ways. A typical example is searching for information through the voice command.

Statement of the problem

The present day information environment is highly ICT-driven. That is, there is high level of dependence on new technological innovations to offer dynamic and cutting-edge information services that meet the changing needs of the users. For libraries to seamlessly provide effective information services that meet up with the current challenges, there is need for the adoption and integration of innovative technologies such as artificial intelligence. However, it is worrisome that many academic libraries in Nigeria are not fully exploiting the advantages of AI for effective service delivery to both the physical and distant users. This study, therefore, tries to explore the possible areas where academic libraries can deploy AI to promote quality and effective service delivery to students, researchers and the faculty.

Aim and Objectives

The aim of this paper is to explore the possible ways in which innovative technologies like AI and robotics can be maximized by academic libraries to promote quality and intuitive services in the digital age. It is aimed at re-awakening

the libraries roles in meeting users' growing needs and expectations the application of AI. More specifically, the purpose of this study is to assess the role of innovative technologies in promoting library service delivery. It also intends to know the possible areas that AI can be adopted and applied in library service delivery.

Research question

The following research question is drawn to guide this study.

1. What is the role of innovative technologies in promoting library service delivery?
2. What are the possible areas that AI can be adopted and applied in library service delivery?

Methodology

This study adopts the expository research approach to evaluate the presence and application of artificial intelligence in contemporary library services in Nigeria. Through systematic analysis of literature, the study addresses how academic libraries can utilize artificial intelligence to support innovative library services.

AI application in academic libraries

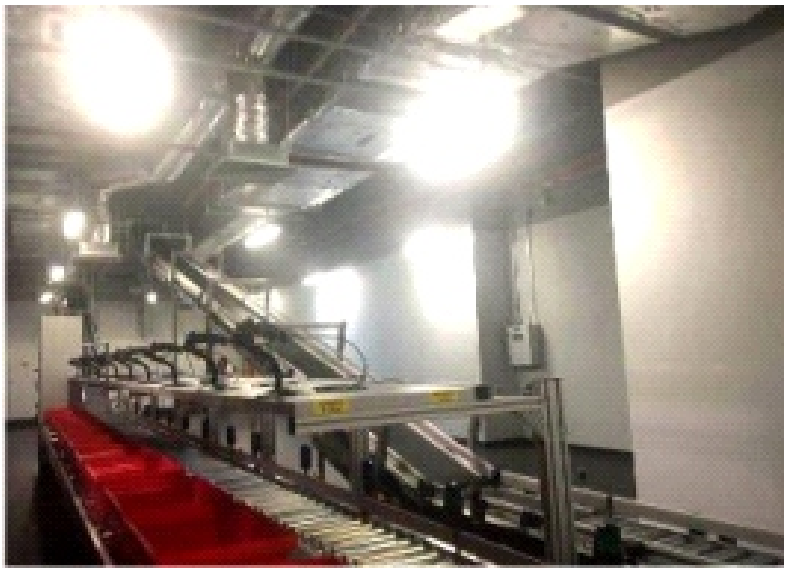
According to CILIP (2021), apart from impacting daily experiences of people, the new technologies are also changing worldwide procedures, and causing a paradigm shift in all sectors throughout the universe. There are new changes in conventional roles which requires new competencies, new options and new difficulties. In the present day academic library setting, this new change is affecting the general service provision, the librarians and their functions.

Yusuf et al. (2022) examined the adoption of artificial intelligence for effective library services in Nigerian academic libraries, by conceptualising and tracking the genesis of AI. The study affirmed the benefits of utilising AI in library functions. Such benefits include user friendliness, unlimited functions and capabilities, ability to perform complex tasks et cetera. It also identified the problems library management encounter in the process of utilizing AI namely: inadequate funds, technological barriers, job loss and so on. In conclusion, the authors noted that the utilisation of artificial intelligence in library and information centres is creating new standard for effective and efficient service provision in the library. However, there is low utilisation of AI technology in academic libraries in developing countries, which is as a result of the problems earlier identified.

With the integration of and adoption of AI in the information industry, information service delivery in academic libraries is most likely to experience positive transformation (Cox, 2021). Many libraries in developed countries now leverage on direct application of AI and robotics in their day-to-day operations. AI can be applied in the following areas:

Robots: This is an automated or AI-enabled machine which is programmed and designed to carry out specific tasks with or without human intervention. This may include the utilization of robotics for the retrieval of books (McCaffrey, 2021): such as the automatic arm or robots to pick books from library shelves.

Robots in UNILAG Librar



Automatic Arm in Central Library, Princess Noura University

- **Chatbots**: Chatbot refers to an artificial intelligence (AI) program or application that can replicate a discussion (or a chat) with somebody in natural language by using a messaging applications, blogs, websites, mobile applications or by a smart device. Chatbots and voice assistants can be used for library services (Hopkins & Maccabee, 2018; Mckie & Narayan, 2019); Like it is currently being witnessed in other areas of life, AI technology has also permeated the core areas of library functions where chatbots can be used to provide answers to simple and frequently asked questions on a library web page or blog, alert users of new arrivals and when a book loan is due for return, and refer a patron to related materials.
- the application of machine learning (such as image recognition, speech recognition et cetera) to library resources (Cordell, 2020);
- the adoption of AI in teaching, learning and research in public and school libraries (Nguyen, 2020);
- Similarly, many libraries and information centres are leveraging on AI to harnessing "big data and data analytics both in their operational and service-oriented aspects" (Garoufallou & Gaitanou, 2021).

All these can also be replicated by libraries in developing countries through support from partnering or funding agencies. This will help to improve the efficiency and effectiveness of library service operations in this information-rich and digital economy.

The Need for AI in Nigerian Academic Libraries

Before now, many academic libraries in Nigeria have been struggling to adopt and integrate new technologies like artificial intelligence into the traditional library services. However, the need for the application of innovative technologies to support library service operations has been accelerated by COVID 19. Thus, the need for the application of artificial intelligence in academic libraries in Nigeria can be attributed to many factors such as:

- Change in user behaviour and information landscape
- Rise in global health crisis creating boundary between physical meeting
- Increased digital revolution – such as the inclusion of smart Internet-enabled devices, utilization of digital hi-tech devices in the home, the arrival of AI-enabled assistants in the interfaces used in everyday lives, the keyless and near-auto drive cars and so on (Poole, 2020)

Prospects of AI in Nigerian Academic Libraries

The need to offer users new services is a hot debate among librarians as technology is changing user expectations. Also, the advent of COVID-19 and the resultant safety protocols, librarians across the world are beginning to recognize the benefits of innovative technologies in effective library service delivery. A critical analysis of AI literature has established that a lot of benefits can be derived from the adoption of artificial intelligence, especially in library and information work. According to Ridge (2019), such benefits include but are not limited to:

- developing library character / honour;
- creating collaborations;
- upgrading systems;
- mastering procedures and digitization;
- collecting current descriptive metadata as a by-product from project end result;
- enhance user experience;
- efficiency in library operations.

Challenges of adopting AI in Nigerian Libraries

There are issues and challenges militating against the full adoption of innovative technologies like artificial intelligence in library and information work. These issues have become a recurring decimal in academic and research libraries in Nigeria. Some of these challenges associated with the adoption AI in libraries have been highlighted by CILIP (2021) and others. These among other things include:

- copyright and intellectual property rights (IPR),
- the General Data Protection Regulation (GDPR),
- cost of working at scale,
- reintegration of data from projects into systems
- lack of management / executive support
- inadequate budget and funding
- inability to keep up with increasing trend in new technologies
- difficulty in implementing new technologies

Conclusion

Artificial intelligence is not only changing the general information landscape of libraries around the world, but also affecting the traditional job roles of library and information professionals. Artificial intelligence has the potentials to simplify library functions, enhance efficiency of librarians, and promote quality service delivery to the new generation of library users. Investigations through the literature have shown that only one academic library (University of Lagos Library) in the whole of Nigeria has successfully adopted and utilized artificial intelligence for library services. This is grossly inadequate

Although the prospect of AI adoption in library is high, yet a lot of efforts and investment are required from libraries to guarantee the successful adoption of this innovative technology. This notwithstanding, Nigerian libraries are encouraged to embrace the AI to promote quality service delivery and remain relevant in this highly competitive information environment. Nigerian libraries and librarians can no longer claim to be ignorant of the trend in changing user behaviour and their emerging information needs, therefore, leveraging on the possibilities of AI can go a long way to meet the needs of this digital generation.

Recommendations

Having established the relevance of artificial intelligence in the modern day library and information work, it is therefore recommended that:

1. Academic libraries in Nigeria should fully embrace new innovative technologies and artificial intelligence like chatbots and robotics for delivering quality services and also keep close contact with their users.
2. There is need for librarians to familiarize themselves with artificial intelligence and other related innovative technologies especially in this digital information landscape where users want to access on the go.
3. Libraries should also leverage on the opportunities presented by artificial intelligence to reconnect their remote users, and consequently re-establish their relevance among the user community.
4. With artificial intelligence like chatbots, library services can always be available to users 24/7 to meet their specific needs.

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Repositioning of the National and Public Library in the 21st Century towards National Development

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Abstract

This paper addresses the state, role of the national and public libraries and their statutory functions in the 21st century. It also highlights these functions and suggested ways to ensure that these libraries live up to expectations of her users. As we know, Library is also a place where informational materials are "acquired, organized and interpreted to meet broad and varying needs of the people such as information, knowledge, recreation, culture. So many countries have accepted education as an essential instrument for human development, and various means (such as schools and workshop/seminars) have been put in place to extend the benefits of education to all categories of people". One of the role of library is to ensure that information about its community is provided, while its objective is to serve as a center where needed knowledge are acquired to enlighten people from ignorance about their environment. National library as a type of library coordinate the network of other kinds of libraries throughout the country, in addition to

collecting materials and making them available for their community. Thus, both National and Public library in their role provided a platform where people irrespective of their diversity can unite as a result of the change-oriented information thereby helping to foster national integration for development. The paper suggests among others that proper attention must be given to these national assets and there is a need for Attitudinal change by leaders in favour of library development in other for them to be able to meet the demands of the 21st century users towards national development.

Keywords: *Public Library, Information Management, Records Management*

Introduction

A library is a place which involves in the acquisition, processing, organizing, preservation and dissemination of recorded information in the various formats most convenient to its target users (Olanlokun and Salisu, 1993). Library is also a place where informational materials are acquired, organized and interpreted to meet broad and varying needs of the people such as information, knowledge, recreation, culture etc. So many countries have accepted education as an essential instrument for human development, and various means (such as schools and workshop/seminars) have been put in place to extend the benefits of education to all categories of people. Sobalaje & Ogunmodede (2015), "view that the general role of library is to provide information about its community while its objective is to serve as a centre for information where people acquire the needed knowledge to reduce their ignorance about their environment". National library has one of the types of library of library coordinate the network of other kinds of libraries throughout that country, in addition to collecting materials and making them available for their community. One of the roles of national libraries includes the building the national information infrastructure, coordinating the infrastructure for different types of publicly accessible libraries, such as public libraries and academic libraries and striving towards joint aspect of this infrastructure (Savenije, 2010). Thus, the national and public library, "provide literacy programmes, reader development promotions and act as an information point for the availability of local public services. Typically they collect and preserve a wide range of materials relating to the history and development of the locality. Special services have been developed to serve the needs of particular groups such as children (including story telling programmes), housebound people, and the visually impaired. Public libraries in particular strive to serve all sections of their communities without discrimination" (IFLA 2003). Thus, both National and Public

library in their role provided a stage where library users regardless of their background or identity can unite as a result of the change-oriented information thereby helping to fostering national integration for development.

The National Library

The National Library is also known as the Apex library. This library serves as the primus inters Paris in functions and services to other libraries. National libraries, in this sense, are the stewards of the nation's intellectual history, organizing, accessing, and preserving the national imprint in all media" (IFLA, 1997). Typically, they are funded by taxes levied by the government. However, like some public services around do supplement these monies with funds obtained from a variety of sources, such as sponsorship, charging for specific services, selling publications, and so on.

The concept of a national library has grown beyond its traditional functions of obtaining, storing, and maintaining the nation's intellectual legacy to wider dimensions of searching for and disseminating information outside geographical boundaries. National libraries, on the other hand, are typically mandated to collect and preserve the country's national publishing output, ensuring that it is accessible not just to present users, but also to future generations. They often feature elaborate preservation and conservation programs. This component of their job is made more difficult by electronic publishing. They keep working on ways for collecting, archiving, and making electronic publications available. National libraries are frequently tasked with making literature published in other nations, particularly scientific and technical publications, available to the public (IFLA 2001). International Federation of Library Associations and Institutions (IFLA, 1997), describes national library responsibilities as varied from country to country. This include:

The collection via legal deposit of the national imprint (both print and electronic) and its cataloguing and preservation; publishers have to make copies of their publications available to them free of charge.

The provision of central services (e.g. reference, bibliography, preservation, lending) to users both directly and through other library and information centers;

The preservation and promotion of the national cultural heritage;

The acquisition of at least a representative collection of foreign publications;

The promotion of national cultural policy; and leadership in national

literacy campaigns.

Other functions are:

Responsible for issuance of ISBN and ISSN

Provides intellectual support to the Nation

They ought to be the chief cataloger of materials and assigning catalogue number, which publishers use for catalogue in publication

They stimulate the nation's library development

Public Library

It is a non-profit library that is supported and maintained by the government or the general population. The public library meets the requirements of the general public by making all types of knowledge and information available to all members of the community, regardless of race, nationality, age, gender, religion, language, disability, economic situation, or job status. Other services that it may provide to their communities include children's storytelling, after-school programs, language instruction, seminars, workshops, and other community services.

Public libraries have been around since the beginning of time. Greeks, Romans, North Africans, and Middle Easterners all knew and used them. They didn't appear in Europe and America until the 18th and 19th centuries (UK Essays, 2018). Many private donors, such as Andrew Carnegie and Benjamin Franklin, contributed to the establishment of public libraries in the United States and Europe. Both Benjamin Franklin and Andrew Carnegie, like other philanthropists, knew that books and the knowledge they convey should be used to serve the public and anybody who wished to learn. Similarly, public libraries' role and mission have moved from recreational reading to active educational, economic, and social agents.

Functions of Public Libraries

The role of public library in the community and society at large cannot be overemphasized in accessing information and a place for knowledge creation. Public libraries play the roles of communal information dissemination, educational and promotion of cultural and social heritages. According to Wijentunge and Alahakoon (2005), the functions of the public libraries has brought the public library from the periphery to the centre of information power and acquiring of knowledge. This is to support the public education through the provision of books and other materials for people to read and use. The materials are education and may lead to self-development to develop basic literacy skills. The educative role of public libraries has expanded to include supporting both

formal and informal education.

Public library also helps to develop in both young and adult people in the society the habit of reading both for pleasure and for the purpose of gathering information for themselves. As the concept and contents of education continued to systematically and rapidly change over the years, and the advancement in the standard of living of people, the functions of public libraries have also rapidly changed and expanded to include the following:

a. **Provision of Information Services** One of the information services rendered is in the area of organizing outreach programmes within the host community to ensure adequate publicity as to avail the people of the information resources and services available to them through the library. Various media are also explored to enhance publicity to the grassroots.

b. **To support non-formal education system.** The non-formal education is an unsystematic form of learning and educational activity that occurs outside of traditional organization or institution. Adeyemi (2010) describes the public library as welfare centre, which provides useful services to the community by fostering education, promoting culture, and recreation and dissemination of information to all sections of the society. He seen the public libraries as the most appropriate centers through which non-formal education can be achieved. Systematically organize its materials for easy retrieval, access and utilization.

c. **To enhance the economic development of the nation.** Public libraries do not only promote education but also contribute immensely to the economics of the nation. As a result of the economic development and globalization, public libraries started by supporting business and economic development through discharging effective economic service through the provision of entrepreneurship literature that develop individuals on the area of business, to be able to provide effective business service, resource and literacy programs to their business communities (Liu, 2004).

Library in the 21st Century

The 21st century is the noted as the “millennium of information. It is seen as the era of explosion of information output and information sources”. It is referred to as the beginning of the knowledge age. In the 21st century library, “the emergence of ICT has redefined the library's role. Print materials are no longer sufficient to

store information. CDROM databases, electronic document delivery, automated cataloguing, circulation systems and online information retrieval" (OPAC) have become the norm and most of these storage facilities are already becoming obsolete.

The libraries in the 21st century are gradually changing to fit into their user's information seeking patterns (Emezie & Nwaohiri, 2013). The situation has brought about the establishment of digital libraries to compliment traditional ones. This is evidenced in the attempt to digitize library resources to cater for the information needs of new generation users that is, the 21st century library users who exhibit much dexterity in using new sources and new technologies. Moghaddam (2009) view that "as information technologies, information systems and information networks have been developing". Ahmed, Umar &Dewa (2020), sited that this century has "witnessed a dramatic change in user's information seeking pattern" and library services delivery in the following ways:

Information packaging: "Packaging of information in various formats has become the norm in the digital era. This has created new opportunities for the library to provide value added services in the academic environment". Library users in this century are comfortable at using electronic sources of information which allows multiple use by different users of a material at the same time.

Reference service: "Reference service is the assistance given to a user in search of information in a library. In the Nigerian situation, many users shy away from the catalogue because they do not know how to use it. Some are oblivious of the importance of a catalogue in the retrieval process". The failure to find the needed material could cause frustration and apathy to continually use the library.

Smart Devices and phones: Smart "devices like cell phones have improved communication and enhanced the way information is being created, delivered and accessed. The 21st century librarian can provide effective library services through mobile telephones like the GSM (Global Systems for Mobile Communication)".

Social Media Platforms Services: Social media creates virtual reality for libraries, a web manifestation of the library as a place, taking library service online through social media networks such as Facebook, WhatsApp, Instagram, Messenger, Twitter, LinkedIn, Podcast, and Flicks etc., it provides creative ways in which libraries can offer effective information services to meet user's expectations. The

social media tool require are computer, internet connectivity and a trained professional to manage the system via interactive, collaborative and dynamic technological space.

Current Awareness Service (CAS): This is a service for alerting users and the people in the community on new publications acquired by the library. It's a service directed towards all users of the library services, these may include accession list (a list of recent acquisitions), bibliographies, literature surveys, table of contents of periodicals received in the library, current awareness bulletin, etc. Current awareness service is a source of information dissemination. For example, current pages selected in Newspapers, Magazines, Periodicals, or Textbooks are produce via photocopy and sent to the users.

National and Public Library in the 21st Century towards National Development

According to Gboyega (2003), described development "as an idea that embodies all attempts to improve the conditions of human existence in all ramifications" and also implies improvement on the material well-being of all citizens. Nwanegbo and Odigbo (2013) assert that "development could be seen as the process of empowering people to maximize their potentials and the ability to exploit nature to meet daily human needs. It can also be seen as a process by which quality of human lives and capacity to surmount daily needs are considerably improved".

However, both nation and public library in Nigeria have been repositioning in this 21st century towards national development, improve quality and better human living standard because the library can handle nearly all the activities that can enhance the development of the people in community including: preservation of cultural heritage, knowledge and histories of the past and tourist centre (artifacts, world book of records etc.), collaboration and scholarship thereby sustaining readership, research, and publishing output, promotion, creation and publishing of digital content through electronic databases, digital commons, repositories, which can enhances education, science, public health and environmental issues in any nation. Thus, libraries are the major determinants in repositioning towards national developmental activities since it engages training citizens in various capacities to enable them become critical thinkers, problem solvers, lifelong learner and independent information seekers, poverty eradication and equality, "family planning, HIV/AIDs, personal hygiene etc, initiative skills in the area of

agriculture, entrepreneurship skills, unemployed youths empowerment programmes that will avail them the opportunity of developing the creative minds for the conversion of jobs creations" (Ahmed, Umar &Dewa 2020).

National library services have been repositioning in the 21st Century through the integration of digital services into their functions. Collections are stored in digital formats, as opposed to prints, microforms or other media, and are accessible through computers. Their contents may be stored locally or accessed remotely. Most national libraries have keyed in to this initiative. These collections enhance wider outreach to users nationally. In the 21st century digital efforts and initiative need to be effectively coordinated at national and global levels for visibility and impact. More so, high bandwidth internet connectivity should be increased for quicker access.

Challenges Facing Repositioning of the National and Public Library in the 21st Century towards National Development

National and public libraries in Nigeria face some problems in their efforts to promote national development. In agreement with Ebiwolate (2010), a slew of issues plague Nigerian national and public libraries in their efforts to deliver effective services. The following are some of the difficulties:

Inadequate Funding: Finance is a major issue influencing the activities of Nigeria's national and public libraries. The government does not fully fund these libraries, which has resulted in numerous issues. It obstructs the delivery of effective and efficient services. According to Ebiwolate (2010), this issue might be compared to a lack of political will. He noticed that a lack of political will leads to government neglect in adequately funding public libraries, budget non-approval, and budget non-release or non-implementation (where approved). Inadequate funding has resulted in poor service conditions, a shortage of professional employees, poor human resource management, old structures and facilities, antiquated resources, difficulty in extending services to remote areas, and other issues.

Insufficient ICT Infrastructure and Staff technical knowhow: ICT skills are lacking in the majority of national and public library workers. Inadequate levels of ICT literacy have constantly been identified as one of the primary issues confronting libraries in Nigeria as they transition into the twenty-first century. Poor ICT infrastructure development and finance, as well as a lack of ICT skills among workers, have been identified as issues (Ebiwolate, 2010).

Competency: Some librarians in Nigeria are unprepared to take on the hard duty of delivering information services in the twenty-first century. They despise technology and consider the use of computers in libraries to be an abnormality. Because of this, people are hesitant to adopt new technology. Many librarians, according to Tanawade (2011), lack the confidence to face the challenges of this millennia as regard information and technology.

Power supply: Nigeria's power situation is a disaster. A continual power loss has hampered the effective delivery of information services. To operate, most libraries depends on alternate sources of electricity, such as power generators. However, these machines have maintenance issues, as well as expensive diesel and gasoline costs.

Poor Conditions of Service and Prospects: In some public libraries, there is a shortage of employees due to poor service conditions. Young librarians prefer working for the federal government for the following reasons: higher compensation, more opportunities for advancement, and paid study leave, which is not available in public libraries. Poor service circumstances contribute to poor personnel employment, which can obstruct service delivery.

The National and Public Library: The way forward

For the national and public library to actualize their mandates, they need to be adequately supported by the establishing authorities as well as by members of the community for whom it is established. Some concrete strategies to achieve these are:

1. **Adequate funding:** Adequate budgetary allocation is needed to cover stock building and other overhead costs. The library fees that public pay, should be used specifically for running the library. This was supported by Ayeni and Oyebonji (1997) who noted that improved budgetary allocation to Nigerian public libraries will definitely reflect positive changes in their service and resources.

2. **Attitudinal change by leaders in favour of library development:** There should be attitudinal change by all citizens of Nigeria in favour of all types of libraries especially national and public libraries also, Integration of ICT to the libraries. Libraries need to be computerized and internet facilities provided.

3. **Cooperation between various stakeholders:** The various stakeholders in the educational sectors should cooperate to see that public libraries are built in towns and cities and also made functional.

4. **Specialized Agencies:** The help of specialized agencies like the Non-governmental organizations (NGOS) should be sought so that public libraries are built in towns and cities and equipped with ultra-modem facilities with recreational activities that can attract the Nigerian child to be a habitual user of the library.

5. **Nigeria Libraries Association:** The Library Association which is an arm of the Nigerian Library Association should be empowered as a regulatory body for libraries in Nigeria with the responsibility of ensuring that every town and city has a functional library that meets IFLA standards.

6. **Recruitment of qualified librarians:** Both national and public library should employ qualified librarians that have the competent skills needed for the provision of efficient library service. Also, librarians are expected to make personal efforts to improve their skills like "computer literacy skills, metadata skills, information literacy skills etc should be acquired". These skills are desired to efficiently serve users and remain at our best in order to defend their profession.

Another solution is that librarians has to be trained and retrained in the 21st century by ensuring that they are exposed to seminar, conferences and workshop. This is due to the fact that the development of the library service depends on the caliber of staff. As information providers, they are expected to be capable and well-informed.

Conclusion

National and public libraries have a brighter future in their operations and services and the advent of information and communication technologies has changed the face of these libraries. These two libraries, play a key determinant in repositioning libraries in the 21st century towards national development in our society in terms of national, political, economic, educational, social and cultural value towards improvement in the general well-being of citizens. Library services play a significant key role in contributing improvement of equitable quality and better living standard through a number of services provided some are; providing

intellectual support to the nation, providing recreational facility for the "public reference and information service (RIS), answering users' questions, user education (UE), internet services, web tools services i.e. emails, video conferencing, social media platforms". These services are key to a survival of human and a better society in areas of community public health and emergencies, quality education, agricultural innovations, environmental issues like climate change, girls child education, drug abuse, and security. All these and more are the key determinants in repositioning of Libraries.

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Instructional Facilities and Perceived Academic Performance of Office and Information Management Students in Lead City University, Ibadan

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Abstract

Purpose: The study examined the influence of instructional facilities on perceived academic performance of undergraduate students in the department of Office and Information Management (OIM) Lead City University, Ibadan.

Design/Methodology/approach: A descriptive survey design was adopted for the study and the population was 101 undergraduate students in OIM department. A total enumeration method was adopted given the small population. The adapted questionnaire was reliable given the Cronbach Alpha's coefficient which range from 0.712 and 0.763.

Findings: Results of the findings revealed that instructional facilities which include books, computers, multimedia and shorthand laboratory have significant effect on perceived academic performance of undergraduate students in OIM Lead City University Ibadan (Adj R^2=0.505; p=0.000, Q^2=0.145). **Conclusion:** This study concluded that instructional facilities had significant effect on perceived academic performance of undergraduate students in OIM Lead City University Ibadan.

Practical Implications: The study recommended that management of Lead City University Ibadan should refocus their commitment on the computer facility and the shorthand laboratory facilities because of the four instructional facilities examined, books and multimedia facilities had significant relative influence on perceived academic performance. Concerted effort in material and in manpower resources need to be reinvested to enjoy the benefit of computer and shorthand laboratory instructional facilities.

Keywords: Instructional facilities, Perceived academic performance, Office & Information Management

Introduction

Students' perceived academic performance is an essential part of education. It is considered as the center around which the whole educational system revolves. Furthermore, it is suggested that students' views of their academic accomplishment serve as a basis for knowledge acquisition and the learning of skills as well enhancement of talents. Perceived academic achievement, according to some writers, relates to the information learned as measured by a teacher's grades and/or educational goals set by students and instructors to be achieved over a set period of time. They went on to say that continuing evaluations or examination outcomes are used to evaluate these objectives.

More data suggests that perceived academic performance is a good predictor of educational achievement. It shows and assesses how far a school, its instructors, and students have progressed toward their educational objectives. Similarly, some academics believe that a student's perceived academic achievement over time is a measured and observable activity. He went on to say that it is comprised of a student's performance in assessments such as class activities, class tests, mid-semester, mock examinations, and end-of-semester exams. Another author said that a student's perceived academic accomplishment is defined by their exam, test, and course work results. The authors' criteria show that quantitative outcomes like class activities, tests, and exam results characterize perceived academic achievement. Accordingly, the results obtained by a student at the end of a specific term in all subjects are used as the operational definition of perceived academic performance in this study; a student who receives a total of aggregate 6-36 in six of his or her subjects is considered academically good; and the percentage pass is 50% and above.

Other studies estimate student success depending on the outcome of a given topic or the previous year's outcomes (Farooq, 2011). The following factors have been identified as contributing to students' poor perceived academic performance in the Department of Office and Information Management: lack of instructional facility maintenance and students' attitudes toward instructional facilities, lack of instructional facility maintenance as most equipment and instructional facilities in Nigerian institutions are in despair and decay due to poor maintenance culture (Akinsolu, 2004). Furthermore, there is a shortage of this upkeep in our different tertiary institutions, which has resulted in a substantial setback in effective acquisition that would increase student perceived academic achievement in the department of Office and Information Management. When students are given with required facilities, they may not utilize them as they should, leaving the existing facilities outdated, particularly if they are not handled with care. Stakeholders in the educational sector are required to work together to maintain school equipment and instructional facilities, with parents and the government giving financial assistance. In a same spirit, school authorities must find weaknesses and make optimum use of the available equipment. The availability, care, and continuance of instructional facilities at Nigerian tertiary institutions are impacted by students' views regarding educational facilities, where they think that government property belongs to no one. The "Its government property" mindset has become a canker-worm eating deep into the fabric of educational institutions, as students mishandle equipment and are rarely penalized, enabling them to get away with it. This leads to inadequate instructional facilities, and educational officials are held accountable. Government, faculty, and students show little or no interest in upgrading the present level of infrastructure at higher institutions. Students must be taught how to properly care for educational facilities in order to support successful teaching and learning, which will have an influence on their perceived academic achievement.

Classrooms, seminar rooms, instructional labs, computer laboratories, on-campus clinics, libraries, and other places utilized largely for the delivery of formal education to students are designated as instructional facilities. All things that are deployed to assist, enable, influence, or promote the acquisition of knowledge, competences, and abilities are termed instructional facilities (Owoeye, 2011). These educational establishments include: Computers in the classroom, which play a vital influence in the career development of pupils. The most powerful tool that kids can exploit to acquire new talents and more sophisticated versions of existing teachings is a computer with internet connectivity. Students are taught

the principles of computers and the internet in schools all throughout the globe. Another is multimedia in the classroom, which is especially beneficial in office and information management owing to the usage of multimedia technology in the classroom (OIM). Suitable books in the library are another example of an educational facility that supports lecturers in educating students; yet, if there are no suitable books in the library, it becomes a common room, hurting the morale of students to widen their horizons beyond what they are taught in class. Every person's life revolves around literature. Books are supposed to be our best friends. The necessity for a computer keyboarding room in the Information Management (IM) Department is vital for schools to have and receive the most up-to-date and high-quality computer supplies. Students may engage directly with the data obtained through computers, and they can get practical experience by practicing on their own.

It is hard to exaggerate the relevance of instructional facilities in the learning process. This is because such facilities enhance, assist, and make learning straightforward, bright, and tangible. The availability of instructional facilities, according to one expert, is vital to creating effectiveness in educational delivery and monitoring in the school system (Olumorin, 2010). Another author stressed the poor inadequacy and underutilization of instructional facilities required to compensate for sense organ limitations and promote dominant organ ability (Mathew, 2013). He suggested that lecturers should try their utmost to give locally manufactured facilities in lieu of conventional ones in order to promote their lessons. Textbooks, a whiteboard, and key equipment such as a computer, projector, television, and video should all be widely accessible in classrooms. Lecturers can give their lessons more quickly, and students may study without difficulties owing to instructional facilities (Ogbondah, 2013). They argued that all sense organs are in direct relationship with educational facilities. When learners employ at least three of their sense organs, namely sight, hearing, and touching, learning is improved. He advised that instructors seek for extra teaching tools to enhance what textbooks give in order to extend ideas and ignite students' interest in the topic.

Several investigations on the influence of instructional facilities on student perceptions of academic performance have been undertaken in Nigeria and other areas of the globe. However, empirical studies on the impact of instructional facilities on perceived academic performance of Office and Information Management (OIM) students are uncommon, necessitating the need for this study,

which aimed to investigate the impact of instructional facilities on perceived academic performance of Office and Information Management students at Lead City University, Ibadan.

Literature Review

Individual students' psychological traits and their immediate psychological conditions have an impact on educational results, according to Walberg's theory of perceived academic performance. Student ability/prior success, motivation, age/developmental level, quantity of teaching, quality of instruction, classroom atmosphere, home environment, peer group, and outside-of-school exposure to mass media are among the nine major characteristics highlighted by Walberg's study. Student evaluations have recently been included into teacher and course assessments in higher education. According to studies on learning environments, psychosocial features of classroom learning settings have additional value in predicting student growth.

According to instructional facilities theories, there is a direct link between the facilities that instructors use and the learning results of their students. These impacts include increased learning capacity, superior learning and completion skills, and a positive attitude toward learning. Furthermore, these theories assume that educational institutions have the ability to develop students' highest level of intellectual skills by clearly demonstrating, step by step, how to follow rules/principles and elaborate on concepts, all of which have a positive impact on solving new problems by analyzing the situation and formulating a plan. According to the authors, instructional facilities can be used to boost learners' learning capacity through self-teaching or assisted learning (Gagne, Wager, Golas, and Keller, 2005). This implies that "eliciting performance" and "offering feedback on performance accuracy," as well as "giving learning direction," are the primary instructional facilities for guided exploration learning. For educators, many of Gagne's insights have far-reaching implications. Many of these ideas, such as the development of critical thinking and problem-solving skills in students, have capacity-building implications. By implication, the instructional facilities hypothesis is noteworthy since it established a link between instructional facilities and academic performance perception.

Instructional Facilities and Perceived academic performance

According to a research, there is a high association between instructional facilities and perceived academic success (Adeogum, 2001). Schools with greater teaching facilities, he believes, fared better than schools with fewer instructional resources. This finding was supported up by a research that revealed private schools outperformed public schools owing to the availability and appropriateness of teaching and learning resources. Because there were limited instructional facilities available in public schools, it was noticed that both teaching and learning resources were in low supply (Adeogun, 2001). He went on to add that if fundamental instructional facilities are not provided, effective teaching and learning cannot take place in the classroom. The quality of education is defined by the quality of educational practices that a student experiences. Quality instructional facilities, they argue, should be incorporated into the learner's quality learning experience (Fuller, 1994). Student achievement is influenced by the quantity and quality of teaching and learning resources. This indicates that schools with proper teaching and instructional facilities, such as textbooks, charts, drawings, and real items for students to see, hear, and experience with, have a greater likelihood of attaining academic success than schools without such resources (Mwiria, 1995).

A research of physical instructional facilities and teaching instructional facilities in Tanzanian primary schools backs up the aforementioned assumptions (Ngwenya, 2015). On the effects of instructional facilities on successful learning, the author conducted interviews with instructors and students. According to his study, a school's perceived academic achievement may be related to competent teaching and instructional resources. He argued for the provision of adequate instructional facilities in order to deliver high-quality education. This was the first research of its type in Tanzania to relate the function of physical facilities with students' evaluations of school success. However, it only looked at physical infrastructure, neglecting educational facilities. Physical facilities, such as classrooms, seats, and desks, do not, in my view, adequate to promote effective teaching and learning. In addition, educational facilities are necessary. A researcher's study validates my thoughts that a school's success is contingent on its capacity to offer relevant and appropriate text books and other teaching and learning materials.

According to research, an improvised medium of modest technology facilities and resource-centered learning may enlarge any course of study's constrained knowledge base and increase teaching to a guaranteed quality (Keller, 2005). It may also promote approaches to guarantee that technology is introduced into the teaching and learning of core scientific disciplines. Their results are in accordance with those of a researcher who concluded that employing simulation equipment opens up new vistas for individual learning tools, environmental resources, and services. The employment of ICT may also assist to reduce some of the problems in acquiring access to educational facilities. The usage and fast expansion of electronic communications, according to UNESCO (2004), has the potential to affect the quality and efficiency of basic education across the globe. The ease with which instructors and students may acquire knowledge on practically any subject through the Internet has the potential to revolutionize instructional content and practice.

Furthermore, courses created by the best academics in a given country might be made available to students all over the world. As a result, modern technology-based instructional strategies that use the Internet and the World Wide Web (WWW) to improve communication and resource availability may be used more frequently. According to one professor, ICT has the potential to increase access and enhance the relevance and quality of education in underdeveloped nations. He goes on to say the following about the possibilities of ICT: ICTs dramatically speed up the learning and absorption of knowledge, providing impoverished countries with hitherto unimagined opportunities to overhaul educational institutions (Tinio, 2002).

The majority of research on student performance does not link it to inadequacy or a lack of instructional resources. Despite the fact that studies in Tanzania have lamented low school performance, none have linked it to a lack of high-quality instructional tools. These findings suggest that there is an issue in schools that is linked to insufficiently high-quality instructional facilities, and so they will contribute to the body of knowledge on educational quality. A wealthy society will establish good schools with competent professors, learning infrastructures, and easy-to-learn children, resulting in good academic performance or success. (Owoeye, 2011).

As the name indicates, instructional facilities are visual and audiovisual technology that assists in the concretization of abstract concepts and ideas during the teaching or learning process. They are also materials that the speaker utilizes to augment his or her presentations. Equipment or resources used to promote learning for optimal student performance are referred to as instructional facilities. Hardware, software, and telecommunications in the Department of Office and Information Management include personal computers, scanners, digital cameras, phones, faxes, modems, teleconferencing, compact disks, projectors, digital video disk players, recorders, radio and television programs, and data base systems used in education, as well as digitalized laboratories, workshops, and model offices.

The phrase "instructional facilities" refers to a planned collection of experiences within a learning environment, such as a lecture hall, computer lab, or workshop, with the objective of supporting learners in attaining desired changes in behavior or performance in response to specified demands. Various office apparatus, equipment, and technologies are employed in communication and information sciences programs with the objective of imparting knowledge and training to students (Oyinloye, 2014). Although instructors utilize textbooks, charts, models, graphics, actual objects, and improvised facilities to encourage pupils to study, they do it in a number of ways. The compatibility, sufficiency, and effective usage of educational facilities impact the effectiveness of accomplishing what they set out to achieve in a classroom context. It is evident that instructional facilities affect students' judgments of their academic accomplishment in teaching and learning. It gives the learners with the required sensory experiences for successful and persistent behavioral change. Instructional facilities are meant to boost the quality of education so that students in schools may attain their best potential academic performance. The validation – loop on the success of the interaction and teaching is supplied by the students' performance on the defined learning objectives. According to one author, instructional facilities are vital in teaching and learning as they are employed to augment a teacher's efficiency and effectiveness in delivering courses (Omabe, 2006). It was discovered that educational facilities help in the learning of abstract notions by aiding in the concretization of ideas and inspiring the imagination of learners (Enukoha, 2004).

H1: Instructional facilities greatly impact academic achievement of students in the Department of Information Management, Lead City University, Ibadan.

Conceptual Model Instructional Facilities Perceived Academic Performance

Conceptual Model

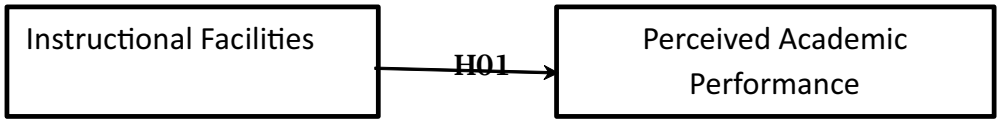

Figure 1: Conceptual Model

Source: Researcher Work 2021

Methodology

To explain the influence of instructional facilities on perceived academic performance, this research employed a descriptive design technique. One hundred and one (101) undergraduate (300 and 400 level) students of Office and information management from the college of Information science at Lead City University in Ibadan, Oyo State, Nigeria made up the study's population. The full enumeration approach was adopted in this investigation owing to the limited population. The data collecting instrument is a structured questionnaire prepared by the researcher utilizing relevant literature and based on the study's goals. The questionnaire was utilized to acquire information on instructional facilities and perceived academic achievement of undergraduate student of Office and Information management department Lead City University Ibadan Oyo State, Nigeria. The research utilized the Likert scale design and the instrument is made up of three pieces. The questionnaire was tested to face validity which examined how well the content of the instrument assesses what it is supposed to measure. It was also employed in establishing a scale's validity, which is a procedure that actually assesses the face value of the measuring device. To achieve the reliability of the instrument, Cronbach alpha which is the coefficients of all scores from different methods of splitting scales items are averaged and the average of the coefficients between (0.0 and 1.0) was used to test the internal consistency reliability of the Likert scale items. The empirical survey study methodology was aligned to guarantee the items under variables in the questionnaire were assessed by professionals and experts in the department of Information Management, Lead City University, Ibadan.

Result and Discussion of Findings

Path Description	Original sample (o) Unstandardized Beta	t	Sig.	R^2	Adj. R^2	Sig.	Q^2
Books → Perceived Academic performance	0.465	4.369	0.000				
Computer Facilities → Perceived Academic performance	0.150	0.127	0.241	0.530	0.505	0.000	0.145
Multimedia → Perceived Academic performance	0.252	2.584	0.010				
Shorthand Laboratory → Perceived Academic performance	0.118	1.018	0.309				

The results of the multiple regression analysis for the influence of instructional facilities on perceived academic performance showed that instructional facilities have positive and significant influence on perceived academic performance of undergraduate students in the Department of Information Management, Lead City University, Ibadan Oyo State, Nigeria.

This study's results are consistent with earlier studies. Adeogun (2001), for example, revealed a high positive association between instructional facilities and academic achievement. This conclusion validated Babayomi (1999) revealed that private schools outperformed public schools owing to the availability and appropriateness of teaching and learning resources. Fuller and Clark (1994) have postulated that the quality of instructional procedures that a learner experiences influences the quality of education. Mwiria (1995) also feels that the quality and quantity of teaching and learning materials have an influence on students' performance. This indicates that schools with appropriate teaching and instructional facilities, such as textbooks, charts, drawings, and actual items for students to see, hear, and experiment with, have a greater likelihood of succeeding

well in academics than schools with poor teaching and instructional facilities.

Chonjo (1994) did a research on the physical instructional facilities and teaching instructional facilities in Tanzanian primary schools, which backs up the aforementioned findings. Chonjo conducted interviews with teachers and students to understand more about the effects of educational facilities on successful learning. Academic performance may be linked to competent teaching and instructional facilities in a school, according to his findings. Maundu's (1987) research confirms my idea that in order for a school to function effectively, it must be well-equipped with relevant and adequate text books and other teaching and learning materials.

The conclusions of this research corroborate Walberg's theory of academic performance, which highlights the relevance of instructional facility quantity and quality as a critical success factor for student academic progress. Similarly, instructional facilities theories argued that there is a direct relationship between the instructional facilities employed by instructors and the learning outcomes of their pupils. The conclusions of this inquiry were strengthened by these hypotheses. Therefor this research might infer that instructional facilities have a favorable and substantial impact on perceived academic performance of undergraduate students in the Department of Information Management, Lead City University, Ibadan Oyo State, Nigeria.

Conclusion

The study looked at how instructional facilities affected undergraduate students' opinions of their academic accomplishment at Lead City University in Ibadan, Oyo State, Nigeria. According to the results of this research, instructional facilities are a vital component in boosting student academic attainment. This implies that the correct amount and quality of contemporary instructional facilities have a direct and meaningful influence on student academic progress, fostering self-efficacy and self-confidence both during and after graduation.

Recommendations

Because of the four instructional facilities examined, books and multimedia facilities had a significant relative influence on perceived academic performance, the management of Lead City University Ibadan should refocus their commitment

on the computer facility and the shorthand laboratory facilities, according to the findings of the study. To benefit from computer and shorthand laboratory instructional facilities, a deliberate effort in material and personnel resources must be reinvested. Overall, educational facilities should be assessed on a regular basis in order to achieve the intended influence on students' learning and development.

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Professional Ethical Standard: A Tool for Optimal Job Performance of Office Managers in an Organization

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Abstract

Office manager plays a pivotal role towards the achievement of organizational goals. As a result, Office Managers are required to be honest, loyal, confidential, diplomatic, multi-tasking, and cooperative, according to the ethics that govern their work. Thus the need to study their professional ethical standard becomes indispensable. This paper therefore, examines professional ethical standard as a tool for optimal job performance of Office Managers in an organization using The Federal Polytechnic, Ilaro as the case study. The study was descriptive in nature and used a survey method to collect data through a questionnaire. The population comprised all Office Managers in the Institution. Using a basic random selection technique, a sample size of one hundred (100) Office Managers was randomly picked from the population. The instrument used to collect data for the study was constructed from two research questions and two hypotheses. The data acquired for the study was analyzed using the mean and standard deviation method, while the hypotheses were tested using linear correlation and regression analysis at the 0.05 level of significance. Based on the data gathered, it was observed that a professional ethical standard is required for maximum performance of Office Managers. Consequently, he researchers recommended, among others, that Office Managers should be updated on ethical norms demanded of them in carrying out their jobs in order to improve their performance.

Keywords: *Ethics, Professional Ethics, Professional Ethical Standard, Office Manager, Job Performance*

Introduction

Businesses of all sizes employ Office Managers to help oversee the front office and handle administrative matters. These services substantially aid organizations in carrying out their primary functions in order to achieve their goals.

The Office Manager is a critical member of any organization's success and growth. He/she serves as an executive assistant in various organizations. In addition to shorthand and computer word processing skills, he or she should be able to handle various forms of correspondence, office procedures, and give communication support. Furthermore, an Office Manager should also be able to handle other routine tasks with less supervision and display initiative within the boundaries of his or her responsibility. (Onifade, 2010 & Pat, 2021). In performing his/her functions, the Office Manager is expected to be honest, loyal, confidential, diplomatic, multi-tasking and co-operative which are parts of the ethics guiding the job performance of Office Management personnel.

The term "ethics" refers to a set of rules and guidelines that act as moral principles for any profession or organization (Adeyinka, 2014). It is also a reasonable investigation or theory of what constitutes right and wrong, good and evil in terms of character and behavior that should be accepted by a group of people. Ethics and morality are synonymous, according to Ikelegbe (2018) who posited that ethics should be an integral element of all corporate activities. To Braimoh (2017), knowing the difference between right and wrong and opting to do the right thing constitutes ethical behaviour. He emphasized the importance of workplace ethics, particularly in the secretarial profession, because ethical standard when adhered to, promotes corporate culture based on common values of integrity, commitment, transparency, and love. Furthermore, ethical standard improves teamwork, provides emotional stability, protects institutional property and enhances positive public image (Ikelegbe, 2021).

Professional ethics are rules and regulations bordering on what professionals should or should not do (Olugbemi, 2015). Ethics, according to Ede (2015), are principles that influence a person's or a group's behavior in a business context. Like values, professional ethics sets parameters on how a individual should interact with others. According to the Encyclopedia, professional ethics is

concerned with the standards and moral conduct that govern a profession and its members. More specifically, professional ethics examines issues, problems and the social responsibility of a profession as a whole as well as its individual practitioners. Professional ethics is a rule of behavior that applies to a variety of professions and is established by knowledgeable members of those professions or professional organizations (Pat, 2021). The basic principle of professional ethics is to ensure that those doing such tasks adhere to good, standardized ethical conduct (Adebayo, 2012). The concept of professional ethics according to Braimoh (2017) includes everything a professional should and should not do in the workplace and professionals are expected to follow professional ethics by avoiding any form of conflict of interest. As a result, professional ethics might be understood as professionally recognized standards of personal and business conduct, beliefs, and guiding principles. In the submission of Agholor & Agholor (2020), the professional ethics of Office Managers involve the moral standards related to their functions for which they will be held accountable.

There are some requirements which are automatically expected from anyone occupying the position of an Office Manager. Among these are confidentiality, honesty, loyalty, reliability, responsibility, unsupervised work, multitasking, flexibility, commitment, teamwork, accountability, reliableness, strong character exhibition, and dedication to the job. (Segunda, 2019). This implies that adherence to professional ethics standard would assist Office Managers in the performance of their functions. This is accomplished by establishing anticipated behaviors in the form of professional ethics. According to Donaldson & Davis in Braimoh (2017), in any organization, a professional ethics program legitimizes managerial decisions, reinforces the cohesiveness and stability of the organization's culture, improves trust in interpersonal relationships, promotes consistency and transparency in product standards and quality, and fosters greater sensitivity to the firm's values and messages.

From the foregoing, it is evident that professional ethical standard has a vital impact on Office Managers' overall job performance and the achievement of corporate goals. However, the office manager faces numerous challenges as a result of the nature of his or her profession. For instance, some employers of labor have frequently complained of issues such as lack of professionalism among Office Managers, underperformance and failing to meet the ethical standards

expected of them. It is against this background that the researchers tried to examine professional ethical standard as a tool for optimal job performance of Office Managers.

Objectives of the Study

The primary objective of this research work was to examine Professional Ethical Standard as a tool for optimal job performance of Office Managers. The following were the precise goals:

1. To examine professional ethical standard expected of Office Managers for optimal job performance in an organization.
2. To evaluate the extent to which professional ethical standard contributes to job performance of Office Managers in an organization.

Research Questions

1. What are the professional ethical standards expected of Office Managers?
2. To what extent does professional ethical standard contribute to job performance of Office Managers in an organization?

Hypothesis

H_0: Professional ethical standard has no significant contribution to effective performance of Office Managers.

Methodology

The study was descriptive in design and was carried out at Federal Polytechnic, Ilaro, in Ogun State. The population comprised all Office Managers in the Institution. A sample size of one hundred (100) Office Managers was randomly selected from the population using simple random sampling technique. For the purpose of this study, two (2) research questions and two (2) hypotheses were developed. The main instrument used to gather data for the research work was questionnaire. The instrument was validated by experts to determine the consistency of the instrument and its ability to answer the research questions. All the suggestions of the experts were incorporated into the final draft of the questionnaire that was used for data collection. Cronbach's Alpha technique was used to establish the reliability of the instrument which yielded an overall reliability coefficient of 0.86. This indicated that the instrument was reliable in collecting data used in answering the research questions for the study. The instrument contained twenty-five (25) questions relating to the research questions. The items on the questionnaire were provided with four (4) options in

Likert Rating Scale with a nominal value of 4, 3, 2 and 1. A minimum score of 2.5 was used to determine the acceptability of each research question. Any item that does not meet the criteria was rejected. A total of one hundred (100) questionnaires were printed and administered to respondents, while eighty-two (82) were duly completed and returned. The data for the study was analyzed using mean and standard deviation methods, while the null hypothesis was tested using linear correlation and regression analysis at 0.05 level of significance.

Data Presentation and Analysis

Table 1: Mean and standard deviations of data from respondents on the professional ethical standard expected of office managers.

S/n	Items	Mean	SD	Remark
1	Honesty and Loyalty to boss and organization	3.66	0.43	Accepted
2	Regularity and punctuality to work	3.46	0.53	Accepted
3	Keeping information private and confidential	3.61	0.47	Accepted
4	Maintaining cordial relationship with colleagues	3.60	0.66	Accepted
5	Being brave in dealing with critical situations	3.35	0.59	Accepted
6	Working without supervision	3.03	0.55	Accepted
7	Accepting responsibility for actions taken rather than shifting blame to colleagues.	3.56	0.70	Accepted
8	Strong character exhibition and dedication to the job.	3.65	0.73	Accepted
9	Having self -control and offering useful suggestions when needed	3.45	0.64	Accepted

10	Working cheerfully	3.07	0.85	Accepted
11	Respect for superiors, colleagues and subordinates	3.43	0.77	Accepted
12	Multi-task ability and flexibility	3.13	0.83	Accepted
13	Open mindedness,	3.70	0.68	Accepted
14	Reliability and promptness in task completion	3.71	0.71	Accepted
15	Team Spirit	3.56	0.67	Accepted
	GRAND MEAN	**3.47**	**0.65**	Accepted

Source: Field Survey 2021

The table above revealed that majority of the respondents believed that the items mentioned as part of the professional ethical standard expected of Office Managers for effective work performance are valid. This was evident in the respondents' responses, which indicated a grand mean score of 3.47 with a standard deviation ranging from 0.43 to 0.85, signifying that the respondents' opinions are homogeneous.

Table 2: Relationship between Professional Ethical Standard and Job Performance of Office Managers in The Federal Polytechnic. Ilaro

		Professional Ethical Standard	Job Performance
Professional Ethical Standard	Pearson Correlation	1	.283
	Sig. (2-tailed)		.004
	Sum of Squares and Cross-products	23.560	8.360
	Covariance	.238	.084
	N	100	100
Job Performance	Pearson Correlation	.283	1
	Sig. (2-tailed)	.004	
	Sum of Squares and Cross-products	8.360	37.160
	Covariance	.084	.375
	N	100	100

Source: Field Survey 2021

Table 3 shows the relationship between professional ethical standard and job performance. It reveals a correlation coefficient of 0.283 and covariance of 0.084 with p-value of .004, which implies that the test is significant because p-value is less than the significance value of 5%. Hence, the alternative hypothesis is accepted hence the conclusion that there is significant relationship between professional ethical standard and job performance of Office Managers.**Table 3: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.979[a]	.959	.958	.100	.959	2271.640	1	98	.000

a. Predictors: (Constant), Professional Ethical Standard

b. Dependent Variable: Contribution of PE on Performance

The result of Table 3 shows a very strong relationship between the independent variables and the dependent variable. It was observed that 95% job performance of Office Managers is caused by the effect of the independent variables. The standard error of the estimate is 0.100

Table 4: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.806	1	22.806	2.272E3	.000[a]
	Residual	.984	98	.010		
	Total	23.790	99			

a. Predictors: (Constant), Professional Ethical Standard

b. Dependent Variable: Contribution of PE on Performance

Table 4, gives adequacy of the model used. The p-value is 0.000, this indicates that the model

From Table 5, the model shows that professional ethical standard contributes positively to job performance of Office Managers with coefficient of 0.984 and p-value of 0.000 ($p<0.05$).

Discussion of Results

The first research question sought to identify the professional ethical standard expected of professional Office Managers. It was observed from the data collected and analyzed that honesty, loyalty, perseverance and tact, neatness, diplomacy etc. are some of the professional ethical standard that aid Office Managers in the performance of their jobs. The finding of this study used is a good model and adequately relate the relationship between the variables. The F-value is 2.272E3

Table 5: **Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	.065	.096		.673	.503					
	Professional Ethical Standard	.984	.021	.979	47.662	.000	.979	.979	.979	1.000	1.000

Source: field survey

is therefore, in agreement with Olannye & Dickson (2020) who identified golden rules for workplace professionalism to include punctuality and regularity at work, sticking to meeting time, dressing appropriately, wasting time on social media, having good customers' relation, commitment to the job and accepting faults whenever it happens.

On the result of the second research question and the hypothesis which sought to determine the contributions and correlation between professional ethical standard and job performance of Office Managers**.** The result showed that there is a very strong relationship between the independent variables and office managers' performance with r=value of .979 and standard error of the estimate is 0.1 with adjusted R^2 of .959 were obtained which implies that 95% of the variation in job performance was accounted for by the independent variable. This corroborate the view of Agholor & Agholor (2020) in a study titled "Influence of application of professional ethics on job effectiveness of secretaries in Delta State Polytechnics", that professional ethics enhances job effectiveness in supervision, organizing work schedules, and ensuring that all materials to accomplish a task are available. It also agreed with the view of ICC (2021) Center for Entrepreneurship Workshop that secretarial professional ethics allow Office Managers to set a baseline expectation for what is socially acceptable and how they should approach problems. It also helps Office Managers to work with honesty and integrity which are essential to the creation of a healthier work environment. The mean square of 22.806 and $p = .00$ ($p<05$).

Conclusion

In conclusion, professional ethics is a guideline for the exhibition of the right attitudes and behaviors in the discharge of professional duties, both inside and outside the office. It also supports growth in an organization hence proper attention should be given to it in the workplace. In view of the importance of Office Managers whom happen to be the alter ego of their principals as well as the first point of contact of clients in an organization, all hands should be on deck towards ensuring that all Office Managers imbibe and adhere to the ethical standards which would enable them perform optimally in their various organizations. Towards this end, all the stakeholders in the training and development of Office Managers have one role or the other which they have to play with high sense of purpose bearing in mind that an organization can only succeed to the extent of the job performance level of the officer in charge of its day to day administration.

Recommendations

Based on the findings and conclusions of this study, the following are the recommendations of the researchers:

- Office Managers should be regularly updated with ethical standards required of them in carrying out their duties in order to enhance their performance.
- The relevant Professional Associations especially NIOAIM should ensure the adherence of their members to the professional ethical standards that will help enhance the job performance of their members.
- Organizations should develop effective ethical programs and ensure that excellent ethical behavior is rewarded while appropriate disciplinary action is taken against unethical activity by any employee.
- Managers should foster an ethical work environment for all employees, convey ethical problems, and serve as role models for employees.
- Workers generally should not be given unrealistic tasks or targets as this could lead to unethical practices in an effort to meet such unrealistic demands or expectations.

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Information and Communication Technology (ICT) As A Tool for Records Management and Security Improvement in Business Organizations

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Abstract

Records Management has to do with everything involving how records are controlled right from when they are created down to when they are finally disposed of. It is very important for the success of any business organization. Records security is a critical issue since businesses deal with sensitive information daily. This paper therefore described how Information and Communication Technology (ICT) has helped business organizations on how to properly manage their records as well as security of the records for improved performance of their businesses. The paper explored the concept and importance of records and records management together with the life cycle of both physical and digital records management in an organization. With the advent of ICT, physical records can be read and converted automatically into electronic records. This saves cost and labour. The paper explained the importance of security in records management and how to quickly access electronic files. It was suggested amongst others that digital records should be properly kept and maintained in their own form. This is to preserve the records as well as have access to them when needed. Also, when electronic records still have value, they should be properly secured so as prevent accidental or deliberate alteration or even total deletion of such records.

KEY WORDS: Record Management, ICT, Information Security

Introduction

Records management has to do with everything involving how records are controlled right from when they are created down to when they are finally disposed of. It involves how records are created, received, maintained, used and finally disposed of. It is very important for the success of any business organization. When we say a record, we are simply referring to a document that involves business transaction which has to be documented. This may be letters, memoranda, reports etc that exist both in the paper form and electronic form. Records in paper form may be physically saved in cabinets, boxes or other means while records in digital form may be saved using electronic storage devices or cloud (Association of Information and image management 2018).

Managing records has to do with making sure that records are systematically managed throughout their lifecycle. Since records are the life and sole of any business organization, they should be efficiently and systematically controlled from their creation, reception, usage as well as their disposition. Oyedokun (2012) stated that records management has to do with the way an organization systematically controls its records throughout the records' life cycle. This is necessary in order for business organizations to meet all the requirements for the successful operation of their businesses including the legal aspects as well as what the community expects of them. In all business organizations, to be a good records manager means recognition of the significance of records and how to manage such records together with a good strategy on how to make sure that the records remain safe and also in a good format. This is necessary for the successful operation of any business. For this reason, an organization needs to keep the necessary documents that will be accessible for both business operations and other matters.

Before the era of electronic records, organizations had only physical records. These physical records are often kept in filing cabinets, shelves, boxes, rotary trays etc. This system has its strengths and weaknesses. One of the advantages of keeping records in filing cabinets and other systems is that almost every staff of the organization can access the records. There is no need for specialists to handle the records of the organization. The system is very simple to understand and operate. Another advantage is its cost effectiveness. The system saves organizations money as it is a very cheap system. One of the challenges of managing physical records in organizations is that records are not easily found

when needed. This is due to the fact that as almost every staff has access to the records, anybody can take any records without authorization. This often leads to loss of vital records which may cause harm or damage to the organization. Another challenge of this system is that sometimes, the records get damaged due to damp or water or can even get burnt through fire outbreak. These and other challenges led to the adoption of electronic records in the era of ICT. The process of creating, using and managing records has undergone series of changes since this adoption.

Concept of Records and Records Management

Records are any official documents that have value and are useful for the growth and development of any business organization. They are any form of written correspondence. Since records are important and valuable documents, they need to be stored or kept and managed properly for future use. Records therefore, are sources of documentary evidence.

According to Bello (2015), the word record is anything that provides proof of decisions taken or action performed. It must have been documented on certain medium that has been created and saved for governmental, organizational or individual support. Though records are forms of evidences, this does not mean that they are the only forms of evidences available to individuals or organizations. As forms of evidences, they need to be protected against all odds or danger so as to serve their purpose which is to help in the day-to-day operations of an organization. Daine (2010) observed that a record is a documented transaction and that information is what a record contains, stores and transmits. Management is the art of planning, organizing, leading and controlling the resources of an organization in order to realize the objectives set by that organization. For this to be effective, up-to-date records or information must be readily available to management in the exact form they were kept for effective decision making (Read and Ginn, 2007).

Usman (2009) on the other hand, sees records as anything that can be used to prove the state of existence of something. This is to say such a thing must represent proof of existence irrespective of the means or nature. A record is something that is either created or received by an organization and must comply with the legal obligations as it relates to transacting businesses. The records that relates to governmental agencies must be such that contain information that can

be used in protecting the rights and interests of all concerned i.e. the citizens, the government itself as well as the business entities. Such records should also have the characteristics of preserving the historical and cultural values together with a proper documentation of information about important places, events and people.

Solomon (2019) defined records management as an organized way of controlling the records of an organization from their creation to their final disposition. This is necessary to meet the operational business needs as well as the statutory and fiscal requirements and expectation from the community. When an organization's records are managed effectively, it gives room for accuracy and reliability, thus, ensuring fast access to records as well as quick disposition of information that have outlived their usefulness. This enables proper identification of vital records so as to give them the protection they deserved. Records management ensures easy access to information, routinely destroys information that have outlived their usefulness and helps organizations fulfill all their legal and financial requirements in addition to ensuring that such organizations function on a day-to-day basis. This is because information is an essential asset to every organization and when such information is recorded, it must be effectively managed (Solomon, 2019).

Concept of Information and Communication Technology (ICT)

Information and Communication Technology (ICT) has to do with all the technologies that are used in communication ranging from internet, cell phones, social networking, computers, wireless networks, video conferencing, telecommuting etc that have the capability to enable users to have access to information, retrieve information from storage medium, store information, distribute information etc using digital format. ICT also refers to all audio and visual technologies as well as telephone networks through computer networks using cable system or link system. ICT is the wider term for Information Technology (IT). It is the transmission and manipulation of information using scientific or technological methods (Anderson, 2017).

The era of ICT has made the world to be interconnected and interdependent. It is obvious that a highly developed ICT is a necessity for the attainment and sustenance of global relevance of every nation including the business world. The way and manner businesses operate has changed due to changes in technology. Also, ICT has made it very easy for everybody in the world to exchange goods and services thus, helping to create a global market place. ICT has also created a lot of

threats to the business world as the information system can easily be vandalized or sabotaged through computer-assisted fraud. There is also the damage as a result of computer viruses and hacking that has become increasingly common among the cybercrimes. When organizations depend so much on information systems and services, such organizations can be highly exposed and vulnerable to these security threats.

Records management is a way of making sure that records are systematically managed throughout their lifecycle. Since records are the life and sole of any business organization, they should be efficiently and systematically controlled from their creation, reception, usage as well as their disposition. Before now, organizations manage their internal records in an old fashion way devoid of any modern touch. In this era of technology, it is clear that for organizations to be capable of handling the demand of the numerous records created there is need to adopt a records management approach that will be comprehensive enough and also consistent in its dealings. This is the focus of this paper as it tends to discuss the significance of ICT with regards to records management and security of records in business organizations.

Importance of Records Management in an Organization

Management of records is very important in an organization as it helps in maintaining the organization's records. It is through the management of records that the information and other vital records of an organization can maintain their authenticity as well as safety and usability. It ensures that any records used within the organization is valid and accurate. This is because it ensures the safety and authenticity of all records that are created, received and utilized by the organization both now and in the future.

Ukunegbu (2013) stated that "records management helps an organization to be efficient, effective, accountable and transparent. Organizations that develop and maintain a sound and well-planned records management programme are efficient – they work at peak performance; they are effective – they accomplish tasks successfully; they are accountable – they are able to justify their actions or decisions; and they are transparent – they operate in an atmosphere of openness and inclusiveness". However, Popoola (2010) opined that what actually keeps

business organizations going is information that is recorded which is called "records," and which are utilized for effective planning and decision making as well as controlling for the realization of targets. This recorded information has to be properly managed in order for them to serve their purpose.

According to Alex (2017), an organization can do the following through records management:

1. By establishing a strategy, policy and procedure for making and keeping records.
2. By managing records effectively through allocation of resources.
3. By ensuring the accuracy and reliability of records regardless of their nature.
4. By ensuring the consistency of records created and managed.
5. By separating obsolete records from valuable records and evidence.
6. By ensuring safety storage and appropriate disposal of records.

Classification of Records

Records are classified according to their nature, forms or medium. Letters, memoranda, reports, circulars and books are common records because they appear on paper. They can also appear on digital or optical storage media or the firm's intranet. These records can be received regularly through physical mail, electronic mail or through other means. Edwin (2010) classified records under the following three basic ways:

- **Use**: This refers to both the routine (day-to-day) transaction documents as well as the periodic (reference) documents. Every organization deals with records such as invoices, requisitions, orders, bank cheques, etc. These are the transaction documents as they are meant for the day-to-day running of the business. In addition to the routine records, organizations also deal with information that can stand the test of time such as e-mail, reports, business letters, etc. These are the reference documents meant to take on business for a long time.

- **Place of Use**: The place of use simply means whether the records are external or internal. In all organizations, external records are meant for the outsiders' use such as business letters, fax messages and e-mail; while the internal records are meant for the insiders who are staffers of the organization. These records are needed to operate the organization and the records include circulars, bulletin, memoranda etc.

- **Relevance to the Business Organization**: The relevance of any records to a given business organization is determined by the manager of that organization. Special protective measure is required for all valuable records.

Transfer and Elimination of Files

It is important to know when records are to be transferred and when they are to be eliminated as well as the type of elimination they should go through. Inactive or Non-Current Records and evidence that are rarely used but which may be required for reference purposes should not be eliminated but taken to the archives. Records that are of obsolete nature that have outlived their usefulness should be destroyed by shredding them with the use of a shredding machine. They can also be destroyed by burning the documents or burying the records. Records that are valuable should be kept active while current records and evidence regularly accessed and used should be retained. Whether records should be retained or disposed should be determined by the retention schedules and disposal authorities.

The Role of ICT on the Management of Records

Records management has gone through series of advancements for a long time now as a result of the adoption of ICT. This has improved the way tasks are performed in organizations (Alex, 2017). Tusubira and Mulira (2012) argued that the integration of ICT in the performance of functions at the organizational level is necessary for increased efficiency, competitiveness and cost effectiveness. On the other hand, ICT which is computer-based technology has to do with the processing, storage and distribution of data. It refers to technology used for collecting and processing various forms of information (Olayemi, 2007). The adoption of technology has changed the management of records in organizations. Lyman (2014) stated that most organizations in today's world now use ICT in their businesses. This is necessary so as to cope with the increase in the volume of information the organizations generate.

Solomon (2019) stressed further on the role of ICT on records management when he stated the necessity to fully understand the positive changes taking place in the world today as a result of technology. When ICT is applied to the management of records in offices, it will ensure a quick accessibility and usability of such records.

Read and Ginn (2017) believe that more businesses are investing in new technology in order to deal with the increasing number of records as a result of the current explosion in information creation.

Zafar (2020) outlined the following roles of ICT on records management:

1. ICT enables information and knowledge management through the use of electronic technologies and techniques.
2. ICT facilitates the creation, storage, processing, exchange and distribution of information through the use of information handling tools.
3. It has a superior data storage capacity as it ensures faster data retrieval and quicker data analysis.

According to Katulwa (2019), the application of ICT has positively impacted the records management profession and life cycle of records. Some of these impacts are enumerated below:

1. Improving productivity as a result of easy and fast access to document as well as document sharing.
2. Records are protected from damage or loss and also from deterioration.
3. Reduction in physical space with electronic storage system.
4. Ensuring convenience as information are accessed anywhere and at any time.
5. Ensures backup of information thus recovery disaster.
6. Facilitates the setting of access level of information thus improving security
7. Facilitates flexible retrieval and indexing together with monitoring records retention schedule thereby improving internal operation.
8. Enhances improved customer service and satisfaction.

Records Storage

Records storage simply means how records or information is kept in a certain location till when such records or information is needed. Records storage is an important aspect in records management. To have a good records storage system, there should be a programme in the organization that determines the type of storage medium to be put in place based on the nature of the records to be stored. In choosing the medium, the strengths and weaknesses of the medium should be considered. For hard copy documents, filing cabinets and shelves are appropriate. These should be chosen with care for easy retrieval of information which is the ultimate aim for records storage in the first place. Electronic records should be stored appropriately using electronic media.

White, (2015) outlined the following as ways of storing records:

- **Paper**: This is referred to as hard copy. Paper records should be stored using filing cabinets, shelves or the rotary tray. Some small organizations store their hard copies in drawers or boxes. Paper records are stored for ease of reference as it ensures immediate reading of the information stored even though it takes up a lot of the firm's space for storage as well as misfiling of information.

- **Micrographics**: Micrographics storage has to do with taking a photograph of records or information in order to reduce its size to a fraction of its original. This is to enable it fit into film or microfiche. A major advantage of this storage media is that it ensures a great saving in an organization's floor space. Micrographics transfer information into film and it involves the techniques and processes associated with the production, handling and use of microfilm of different types and in different formats.

- **Magnetic Media**: This is soft copy storage of records as it ensures the electronic storage of information. Information stored in a magnetic media like the computer hard disks, floppy disks, tapes and flash drives are often reusable.
  - **Floppy Disks**: These are portable to use though they are not very durable and their storage capacity is low. They can be used between computers.
  - **Tapes**: Tapes are used primarily for backing up data. This is usually done in hard drives. They can also be used to hold high volume of information especially when such information is rarely used.
  - **Flash Drives**: USB (Universal Serial Bus) flash drives are smaller that the floppy disks and are usually removable and rewritable drives used for copying information for immediate use as well as for future use.
  - **Compact Discs (CDs)**: Computer Compact Discs drives are disks that store information and are assessed by the computer.

Records Security

According to Nwoko and Oseni (2021), security is the extent to which something is protected from all dangers including theft or loss. Records security on the other hand, is the extent to which records are protected from all dangers including theft or loss. Many companies have records that are confidential which they need to secure. Records management improves the security of these records by adopting security protocols featured by various records management systems to protect

sensitive records. This increases the accountability of the employees as they ensure that the documents are handled as they should be. One of the top priorities of a good record manager is the implementation of a good security measures for safety of such records and also to prevent them from being vulnerable to any breach of agreement. This is necessary as any breakdown of security measure can put the company at risk.

Measures used to Protect Records

Different security measures are used to protect the records of an organization. Among them are the following according to Ryan (2020):

- **Lock Everything Down.** The drawers and cabinets as well as the room records are kept should be locked for the records to remain safe and secured. This is necessary in order to prevent unauthorized entrance and hence illegal possession of the files. Also ensure that additional measures are taken for the records to be properly secured.

- **Installation of Security and Fire Alarms.** The installation of alarms for security and fire is necessary to drastically minimize the danger of the records being consumed by fire. It also ensures that nobody enters the records storage room without permission. There should also be a proper backup in place especially if you have set up a records management programme.

- **Limiting Access to Critical Records.** Handling and disposal of organizations' records should be done by employees who are experts in this field. There should be some limitations as to who has access to some important records and who is in charge of filing and copying of such records. This reduces human error of loss or theft of the records.

- **Labelling All Records, Files and Cabinets Appropriately.** It is important that all records, files and cabinets are labelled appropriately in order to avoid misfiled or misplaced documents as this act costs the company money. It is also necessary in order to reduce the time it takes in searching for a particular record or information. Consistency in the labelling system also reduces wrong placement of a file in a place other than its own.

- **Conducting Regular Audits.** Regular audits of vital and important records should be conducted from time to time in order to maintain the records management system put in place by an organization. This is necessary for the smooth running of the organization.

- Proper Destruction of Records. Records should be destroyed properly and securely once it has been ascertained that such records have outlived their usefulness. Firstly, determine the records management system to adopt. Then, adhere to whatever retention plan you have decided and carefully and safely destroy the records. Lastly, ensure proper documentation of any document destroyed in order to avoid legal prosecution.

Protecting Electronic Records

According to Solomon (2019), the following steps are necessary for safeguarding electronic documents:

1. Do not use computer hard drives (C: drives) to store sensitive information. Instead, store sensitive information in formally established electronic record-keeping systems or in the absence of such systems, in secured network drives.
2. Regularly clean up computers and network locations by destroying superseded or obsolete records that have met their retention periods.
3. Recognize that deleting electronic records is not the same as destroying them.
4. Contact specialists for guidance and ensure your computer systems are configured with appropriate security systems, anti-virus software, password protection and automatic time out/lock features to restrict access to password holders only.
5. Also contact the specialists for guidance about how to create, store, and manage electronic records so that they are safe, accessible and authentic now and in the future. Remember, secured records-keeping involves protecting records as long as they need to be kept, then disposing of them appropriately. Good record-keeping also involves keeping full and accurate documentation about which records were destroyed and which were sent to the archives for permanent preservation.

Just as you may keep physical documents locked in fire-resistant file cabinets, protect your computers by putting passwords and changing the passwords regularly. Also encrypt the computers and put antivirus computer software that is up-to-date and scanned regularly for viruses.

Conclusion

Records, which are essential to the smooth running of an organization, are great assets of the organization. Organizations perform their tasks through proper records. These records may be physical papers (hard copies) or electronic records (soft copies). Whether physical or electronics, records need to be properly cared for in order for them to serve their purpose. For the records to be readily and easily available in their exact format when needed, proper care and attention must be given to them. Records need to be protected from unauthorized usage and from prying eyes as well as theft or loss. This is records management.

As the volume of work in organizations increase, the need for a more viable records management system became paramount. This necessitated the use of technology for the management of records in business organizations. ICT has impacted positively on the management of records in today's organization. The adoption of ICT has resulted to an easy retrieval of records using digital means. This saves time, space as well as cost. Also, management of records improved tremendously with ICT.

Suggestions

The following suggestions were made:

1. Digital records should be properly kept and maintained in their own form. This is to preserve the records as well as have access to them when needed.
2. Sensitive information should be kept in a well secured digital form rather than computer hard drives.
3. When electronic records still have value, they should be properly secured so as prevent accidental or deliberate alteration or even total deletion of such records.
4. Organization should ensure that only authorized personnel have access to both physical and electronic records.
5. Organizations should always retain and save backup copies in a different location. This is to avoid loss of vital records especially when the computer system fails.
6. Confidentiality in computer systems should be maintained by the use of passwords.

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Assessment of Students' Perception of Office and Information Management as a Course of Study at the Lead City University, Ibadan, Oyo State

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Abstract

The study investigated the effect of students' perception on the choice of Office and Information Management (OIM) as a course of study at the Lead City University. The study adopted a descriptive survey design to achieve the purpose of the study. The population consisted of all OIM students from 100 - 400 level in Lead City University, Ibadan, Oyo State which was ninety-one (91). The entire students were adopted as the sample size using the purposive sampling technique. The demographic data were presented with the use of distribution table while the hypotheses were tested using the inferential statistics - independent sample t-test and one-way ANOVA at p-value 0.05 level of significance. The result revealed that gender [f(89) = 1.916, p >.05], age [f(89) = 7.781, p > 0.05], and level of study [f(89) = 0.944, p > 0.05] have no significant effect on students' perception towards their field of study. The study revealed that students' perception towards studying OIM was high and positive and would significantly enhance their academic performance. It was concluded that self-interest, parental influence, peer pressure, finance and economic and social status were the main factors that might prompt OIM students from not developing positive perception towards the programme. Hence, it was recommended among

others that students should have high perception and develop right attitude towards their course of study; the parents should give them proper attention and guidance while the management of institution should ensure they provide modern learning and teaching facilities and resources for OIM programme.

Keywords: *Office management, information management, knowledge acquisition*

Introduction

Education is seen as a critical factor in achieving success and contributing to national development. According to Abuya (2014), the goal of any educational program's goal is to provide society with human resources with knowledge, specialized skills, work attitudes, psychological, social, moral, and political values to support the nation's anticipated progress. The corporate world has seen significant changes in the last few decades as a result of the fast growth of technology. Previously, all information transactions had to be manually recorded in order to generate financial statements for review by stakeholders (Akyeampong, Malink & Marktin, 2017). Tertiary institutions, as a result, include information management as a course for students, which is especially important for management students in their undergraduate studies since it may provide them with the skills they need to pursue a career in office and information management (Alegbeleye, 2017). Any size organization has a function that is in charge of the technology, activities, and personnel that support the organization's technologically enabled work systems as well as its information and communication needs. There is an academic subject that trains individuals who design, acquire, run, and maintain systems, as well as those who utilize systems to access and manage information.

Office management entails designing, implementing, evaluating, and maintaining work processes inside an office in order to preserve and increase efficiency and production. OIM is largely focused with technology that assist office employees in their job. It is an academic subject concerned with the study of offices and their application to the creation of office systems. In the future, OIM graduates will be the face of this profession (Almutairi, 2011). In this context, newcomers may never have the position of office manager or work in a typical organization. Instead, they serve as future information managers who may work in multinational firms, the government, or as consultants to small enterprises (Almutairi, 2011). Office managers with ICT skills and entrepreneurial traits can play an important and leadership role in the networked information society. They can serve as a

protector of digital information and digital services in the next era (Adesoji, 2011). Many of them may serve on information search committees in an organization at some time, thus choosing a qualified and engaged office and information manager is critical to carrying out the obligations listed above.

Although OIM is a field with a lengthy history, there are ongoing attempts for legitimacy, mostly owing to the discipline's ill-defined limits, and maybe as a result, the public has misunderstandings about the nature of OIM research (Almutairi, 2011; Ampiah, 2012). As a result, enhancing general or special group knowledge of the potential of OIM discipline is required. Understanding what draws individuals to the field, as well as what people anticipate in terms of things like salary, can assist organizations and administrators make smart decisions regarding hiring and retention. As a result, selecting the OIM program as an interesting subject of study at the institution may affect administrators' decision to recruit a person.

The study focused on Lead City University students' perceptions about the course of office and information management. This survey's content scope covers students' perceptions, and some of the indicators that would be evaluated include degree of satisfaction, gender, age, and level of study. The respondents were all the undergraduate students in the Department of Office and Information Management, Lead City University.

Statement of the Problem

Over time, students are typically faced with the issue of deciding on their preferred course of study at university. This might be as a result of peer and parental influence. Students who are compelled or persuaded to pursue a specific course at university, particularly office and information management, may not perform well in that course. This is because that was not their desired course, and the problem that could arise as a result of this is that such students could have a consistent records of poor academic performance, which could also affect their future career aspirations. As a result, such students may decide to leave school due to their lack of interest in such discipline and their negative perception of the course. This may cause some other students to lose interest in the field because it is not in great demand among students. The result is that the discipline may become dormant as a result of low demand, and it may have a negative impact on the information management profession as a result of students' perceptions of the discipline. Although office and information management has gained traction at

several colleges and other higher education institutions, students have a negative opinion of the field. This might have a detrimental impact on the discipline's acceptability in other Nigerian universities. It would also dissuade other students who are presently enrolled in the course at other colleges from pursuing a second degree in a different field. Regardless all the research that have been undertaken on students' perceptions of studying a certain field at the university, no study has been conducted in Nigeria on students' perceptions of studying Office and Information Management (OIM). This study will address a vacuum by providing empirical evidence on students' perceptions of studying office and information management at Lead City University in Ibadan, Oyo State.

Objectives of the Study

The study aims at investigating students' perception towards office and information management (OIM) programme in Lead City University, Ibadan, Oyo State. The specific objectives are to establish the significant difference in:

i. gender based on students' perception towards office and information management
ii. age based on students' perception towards office and information management
iii. level of study based on students' perception office and information management

Hypotheses

$H0_{1:}$ There is no significant difference in gender based on students' perception towards office and information management

$H0_{2}$: There is no significant difference in age based on students' perception towards office and information management

$H0_{3}$: There is no significant difference in level of study based on students' perception towards office and information management

Concept of Information Management

Information management (IM) is the process of gathering and managing information from one or more sources, as well as delivering it to those who need it (Opoku, 2015 citing Robertson, 2005). Management refers to the organization and control of the structure, procedures, and information delivery in this context. Identifying informational needs, acquiring and creating information, organizing and storing information, analyzing and interpreting information, accessing and disseminating information, and using information are all part of the continuous

cycle of information management (Adetunji & Adebimpe, 2019; Opoku, 2015 citing Robertson, 2005).

Identifying informational needs entails recognizing the critical functions of information in achieving organizational goals and planning for them ahead of time. One could argue that good information management combines technological advances and intelligent procedures to provide cost-effective information compliance and data protection. This entails using information technology and other accessories to create, organize, store, process, and disseminate information to people who must use it to achieve organizational goals (Adetunji & Adebimpe, 2019). According to Opoku (2015), information management can be defined from both a technical and managerial perspective. Management defines information management as the organizational, social, cultural, and strategic variables that must be considered in order to improve information in organizations. This emphasizes the importance of managerial and technical roles in any successful information management effort (Opoku, 2015). Information management is a corporate responsibility that must be addressed and followed from top level managers to lower level employees in order to ensure effective and efficient information creation, storage, processing, and distribution to support operations and other decision making activities in an organization (Ismail & Hussin, 2017).

Office and Information Management (OIM) as a Course of Study

Technology has added a new dimension to many areas of human endeavor. This fact has been widely acknowledged by some scholars who have conducted research on the subject. According to some academics, it is impossible to deny the profound impact of emerging technologies on people's lives in today's society (Maceviit & Wilson, 2018). Previously, the course was known as Secretarial Studies. The only thing that has changed is the nomenclature, not the scope of the course. Secretaries, confidential secretaries, executive secretaries, office managers, and others are examples of professionals in the field. Office and information management as a course of study is well recognised both locally and internationally. It is a course of study that prepares the students to become a secretary and/office manager who could work for an organisation in ensuring that its objectives and goals are met by using the skills that are learnt in the course of undergoing the programme.

Prior to the advent of Information Technology (IT), professionals in the field of OIM dealt with a great deal of paper work, and the typewriter served as the primary working tool. IT has recently introduced a new dimension to the field through computer and other electronic devices that give the profession a day-to-day transformation, as it has been hypothesized that these new computer technologies have changed the way we engage in common activities (Abuya, 2014). The importance of technology in education cannot be overstated. Students have benefited greatly from technology, particularly in information management, as this may encourage them to study office and information management (Macevičiūtė & Wilson, 2018).

It has been observed that "when students meet face to face, technology can still provide them with physical space to share information and engage in substantive conflict." When collaborators are in different locations and cannot meet face–to–face, technologies enable them to share information and discuss issues. In essence, technology is useful in bridging information gaps when necessary and in creating information gaps when necessary (Khalili, 2020; Adetunji & Adebimpe, 2019). In the hospitality industry, technology has aided in improving operational effectiveness and increasing customer satisfaction with the property.

Students' Perception of Office and Information Management (OIM) Programme

Perception is viewed as the level of regarding, understanding and interpreting a programme or profession (Adesoji, 2011)). Students' perception towards a course of study is seen as the way students perceive and understand the chosen course. There are different views of knowledge management in OIM. This assertion is consistent with the statement that, where they demonstrated that perceptions differ among information science professionals regarding the relationship between knowledge management and library practice, there is no universally accepted consensus as to what level and how the two concepts are interwoven or linked up (Mahon, Devonish, Alleyne, & Alleyne, 2006).

Knowledge management is defined as an information management by another name (Ali & Khan, 2015). Knowledge management could also be viewed as a new name for what librarians and information scientists have been doing for years. Similarly, knowledge management has been defined as "office management in new clothes" (Abuya, 2014; Ampiah, 2012). In light of this, knowledge management has been observed to be a case of old wine in a new bottle in terms of information management (Sarrafzadeh, Martin & Hazeri, 2010). In contrast to the foregoing,

knowledge management is regarded as an oxymoron concept and another management fad (Ali & Khan, 2015). Consideration for this assertion is not far away; because there is no universally accepted definition of knowledge management, some people regard it as a management fad that only became popular for a short period of time (Koloniari & Fassoulis, 2017).

According to Siddike and Munshi (2012), most office and information science professionals learned about knowledge management from the literature and have not taken any related courses, so they regard it as a management fad. In line with that observation, office and information management professionals have positive attitudes toward the application of knowledge management in offices, as it is the best approach to improving office functions and meeting the organization's goals and objectives (Ali & Khan, 2015). It is believed that one of the benefits of knowledge management for office and information management professionals is the opportunity to break new ground and leverage organizational knowledge. Participation of office and information management professionals in knowledge management improves career development, status, and position in the organization.

Factors that prompted Students towards Studying OIM

Office technology and information management are intertwined with a variety of courses geared at the development of students' skills and competences. It has been discovered that there are specific requirements that students must meet before enrolling in the course. According to the literature, some students who study office and information management did so because they were interested, while others were persuaded by their parents and others by their classmates. According to Ajibola, Emeghe Oluwumi, and Oni (2017), Odia & Amoor & Aliyu, (2014), and Ogiedu (2013), parental control/influence in their children's job related concerns is one of the primary variables that drives students to participate in more intensive and effective information seeking activities. Parents who are concerned about their children's interests, skills, and personalities tend to have a strong effect on their children's decisions. According to some, women have a greater influence than dads on their children's and wards' employment choices and goals (Amoor & Aliyu, 2014; Ogiedu, 2013).

Another important factor is peer influence. Peer influence may be defined as the effect of a peer group on a person to modify his or her beliefs, values, or conduct in order to adapt to a group of individuals who are basically of the same age and

come from the same social group, such as school, ethnicity, religion, and so on. Pitan and Olugbenga-Adedeji (2014) define a peer group as a group of colleagues who are acquainted with one another and act as a source of reference or comparison for one another. Peer groups represent the different ways in which persons of comparable age, height, class (if the course of study is inside the school), and status relate to and adjust to one another. It should also be mentioned that, while teenagers may have friends in different neighborhoods or towns, the peer group that has the most direct influence is the one that dominates the adolescents' daily living surroundings (Ajibola, Emeghe Oluwumi & Oni, 2017). Peers have an impact on kids in a variety of areas, including academic adjustment and course selection.

Challenges of OIM students

Students pursuing a degree in office and information administration face a variety of challenges. Some of these problems include insufficient ICT equipment and facilities, poor supervision, inadequate career counseling, and limited access to school information, among others. Insufficient IT Tools/Equipment – Some higher schools do not have access to modern and cutting-edge resources such as computers, phones (Android/iPhones), photocopiers, fax machines, overhead projectors, and so on (Adesoji, 2011). Occasionally, such equipment is taken from sister schools during accreditation, denying students the opportunity to get the operational skills and knowledge that they are meant to gain from the practical use of such equipment. Integration of ancient and new technologies.

There is no other sector that experiences advancement as technology across the globe. As a result, integrating old and new technologies presents a significant challenge to professionals and OIM students. Such integration of newer electronic with older manual components of office technologies has been observed and opined to be frequently difficult, even in developed countries with well-developed IT cultures (Adeyemi, 2018); it is much more tough to accomplish in developing countries, where newer technologies are perceived as foreign and too expensive, and are either poorly understood or mistrusted. Furthermore, in underdeveloped nations, modern technologies are frequently introduced in insufficient dosages or without the necessary infrastructure (Adeyemi, 2018; Abuya, 2014; Adesoji, 2011).

According to the literature, the mass media, schools, instructors, and certified office managers have not performed their vital and effective responsibilities in promoting the sector to society (Asunka, 2008). In Khalili's (2015) study, it was also advised that OIM be taught to students and other people through media and workshops, as this would provide students with a thorough understanding of OIM and so boost their perspective of OIM. The term "student perception" relates to their knowledge and comprehension of the discipline OIM. Students' attitudes about OIM will affect whether or not they perform well in that discipline. Having a negative perception and comprehension of OIM studies may result in poor academic achievement as a result of a lack of understanding of the field. Students' perceptions have a significant role in deciding their motivation in studying a specific topic, particularly OIM. However, if they are pressured or persuaded by their parents or friends, they may do poorly and opt to modify their discipline (Berry, 2016). Individuals who choose OIM may face some tough challenges that can reduce their motivation like using non-expert managers and staff in the organization despite the presence of information manager experts, and it is one of the most significant issues for graduates, office managers, and even organizations.

Empirical Review

Vitoria, Mislinawati & Nurmasyitah (2018) assessed students' attitudes regarding different courses offered at colleges. 135 undergraduates were chosen using a descriptive survey methodology and simple random selection. The questionnaire was employed as the tool. The findings demonstrated that students' attitudes about studying various courses were positive, albeit they varied based on aspects such as the lucrativeness of the courses, students' interest, and so on. A descriptive survey design and simple random sample were used to conduct a study on students' perceptions of courses in universities among undergraduates in Ghanaian institutions. The questionnaire was used to collect data. The survey discovered that the majority of students believe that choosing a subject is an original notion that should be promoted; yet, there are a few worries, such as the worry of employers discriminating against individuals who study certain courses (Asunka, 2008). Adesoji (2011) investigated students' perceptions on course selection in the university using a survey design and a purposive sampling approach to establish sample size. The questionnaire is the instrument used to

collect information from respondents. It was revealed that students regularly use internet cafes as access points for knowledge obtained through ICT teaching and learning, particularly students of office and information management.

According to a research conducted in the Netherlands, female involvement in ICT professional employment is not only low but also declining in most Western nations. Because it's dull, unimportant, and I'm not fond of computers': Why do high school girls reject career-oriented ICT subjects? The study also discovered that, while most gender and computer research has focused on the effect of non-school related issues, there is no empirical evidence that schools or instructors may alter girls' attitudes about ICT. It was suggested that girls' interest in computers and ICT-related careers might be promoted at school if female instructors who are confident ICT users are encouraged to serve as good role models for females (Meelissen & Drent, 2008). In comparison to psychology students, the majority of OIM students chose their academic subject without adequate understanding or genuine interest, resulting in lower motivation and satisfaction. Students at OIM were more positive about their job and career prospects. According to OIM students, the course content and syllabus were inadequate and out of date; however, Psychology students did not share this viewpoint. According to the findings, the attitudes of OIM students have improved during their studies. When students' attitudes in the two groups were compared, it was found that their attitudes at the start and end of the course differed significantly.

Methodology

For this study, a descriptive survey design was used. This research design is useful for gathering data on phenomena that cannot be directly observed on students' perception of OIM programme. The population consisted of all OIM students from 100 - 400 level in Lead City University, Ibadan, Oyo State which was ninety-one (91). The entire students were adopted as the sample size using the purposive sampling technique. The demographic data were presented with the use of distribution table while the hypotheses were tested using the inferential statistics - independent sample t-test and one-way ANOVA at p-value 0.05 level of significance.

Table 1: Office and Information Management Students' Population

Level	Class Size
100	17
200	24
300	18
400	32
Total	**91**

Source: Registry/Establishment unit of LCU (2021)

Considering the size of the population, the total enumeration technique was used, and the sample size was the total number of OIM undergraduates which was 91. The total enumeration sampling technique was used to ensure that all students in the department participated fully. A questionnaire was used to collect data, which was divided into five sections A through E. Section A covered the demographics of respondents, while Sections B through E elicited information on students' attitudes toward office and information management studies. The scale was created to assess students' perceptions of the course they are currently enrolled in, and a four-scale Likert format response ranging from strongly agree, agree, disagree, and strongly disagree was used. A pilot study was conducted to test the reliability of this study by administering 30 copies of the questionnaire to Office Technology and Management (OTM) students from the Polytechnic of Ibadan, Oyo State, who were not part of the study. The collected data were analyzed using frequency counts, percentages, mean, and standard deviation, and the hypotheses were tested using inferential statistics - independent sample t-test and one-way ANOVA at a p-value of 0.05 significance.

Results

Table 2: Demographic Data Analysis

Characteristics		Frequency	Percentage
	Male	19	20.9
Gender	Female	72	79.1
	Total	**91**	**100.0**
	16-19 years	13	14.3
	20-23 years	44	48.4
	24-27 years	23	25.3
Age	28-31 years	4	4.4
	32 years and above	7	7.6
	Total	**91**	**100.0**
	100	17	18.7
	200	24	26.4
Level	300	18	19.7
	400	32	35.2
	Total	**91**	**100.0**

Source: Field survey (2022)

In Table 1.2, 19 (20.9 %) of the respondents were males, while the remaining 72 (79.1 %) were females. This means that females participated in the study at a higher rate than males. According to Table 4.2, 13 (14.3 %) of the respondents were between the ages of 16 and 19, 44 (48.4 %) were between the ages of 20 and 23, 23 (25.3 %) were between the ages of 24-27, 4 (4.4 %) were between the ages of 28 and 31, and the remaining 7 (7.7 %) were between the ages of 32 and above. This implies that respondents aged 20-23 years participated in the study at a higher rate than their older counterparts. It was also showed that 17 (18.7 %) of respondents were in the 100 level, 24 (26.4 %) were in the 200 level, 18 (19.8 %) were in the 300 level, and the rest were in the 400 level. This means that respondents who are in 400 level participated more in the study.

Testing of Hypotheses

The following hypotheses were tested at 0.05 level of significance

$H0_{1:}$ There is no significant difference in gender based on students' perception towards OIM

Table 3: Summary of t-test for independent samples showing the differences in male and female perceptions towards OIM

	Gender	N	Mean	Std. Dev	df	t	Sig.	Remark
Students' perception	Male	19	58.6	8.49	89	1.916	<.187	Not sig.
	Female	72	61.3	7.86				

Source: Field survey (2022)

Table 3 shows that gender has no significant effect on students' perception towards OIM [t (89) = 1.916, p >.05]. This means that males and females in the study did not significantly differ in their perception towards OIM. The result also shows that females have high perception towards their field of study (**x**= 61.30) compared with their male counterparts (=58.60). Hence, the null hypothesis is accepted.

$H0_2$: There is no significant difference in age based on students' perception towards OIM

Table 4: Summary of significant difference in age based on students' perception towards OIM

	Age	N	Mean	Std. Dev	df	f	Sig.	Remark
Students' perception	16-19 years	13	61.69	9.05	89	7.781	<.000	Not Sig.
	20-23 years	44	58.75	6.99				
	24-27 years	23	62.13	6.98				
	28-31 years	4	78.00	0.00				
	32 years and above	7	56.57	4.28				

Source: Field survey (2022)

Table 4 shows the significant difference in age based on students' perception towards OIM. The result shows that there is a significant difference in age based on students' perception towards OIM f(89) = 7.781, p > 0.05). This implies that age does not significant influence students' perception for OIM programme. Therefore, the null hypothesis is rejected.

$H0_3$: There is no significant difference in level of study based on students' perception towards OIM

Table 5: Summary of significant difference in level of study based on students' perception towards OIM

	Level	N	Mean	Std. Dev	df	f	Sig.	Remark
Students' perception	100	7	62.86	9.69	89	0.944	<.423	Not Sig.
	200	32	59.16	7.46				
	300	18	60.00	5.35				
	400	34	62.09	9.30				

Source: Field survey (2022)

Table 5 shows the significant difference of students' perception towards OIM based on level of study. The result shows that there is no significant difference in students' level of study of OIM programme. OIM f(89) = 0.944, p > 0.05). The result also shows that those in 100 level had higher perception towards their field of study (**x**=62.86) compared with those in 400 level (=62.09). Hence, the null hypothesis is accepted.

Discussion of Findings

Result of HO1 sought to examine the significant difference in gender based on students' perception of OIM programme. The result showed that OIM [t (89) = -1.916, $p > .05$]; hence, the study revealed that the was no significant difference in gender based on OIM students' perception as regards their course of study. Though, OIM female students are more than their male counterpart. The finding supports the study of Thouin, Hefly and Raghunathan (2018) where they investigated students' attitude and perception towards information management. They found that the perception of students towards studying information

management as a course of study was high and a better understanding of students' attitudes towards a course of study is inevitable and it would assist academic administrators with valuable insights on how to positively impart knowledge. This finding contradicts a study that discovered gender differences in attitudes toward studying OTM skilled courses such as ICT, webpage design, shorthand, and keyboarding (Adesuwa & Joy, 2022). The finding also validates a previous finding that girls likely embraced OIM programme than the boys; though, the boys are confident in using ICT (Egwali & Igodan, 2012). Meanwhile, Mahon, et. al. (2006) discovered in their study that female students also develop more interested in ICT-related courses.

Result of HO2 sought to examine the significant difference in age based on students' perception towards OIM programme. The result showed that OIM $f(89) = 7.781$, $p < 0.05$]; hence, there was no significant difference in OIM students' age based on their perception for the programme. It could further be inferred that most respondents were between 20 – 23 years and those older and younger than them were still satisfied and develop positive perception for the programme.

Result of HO3 sought to examine the level of study based on students' perception towards OIM programme. The result showed that OIM $f(89) = 0.944$, $p > 0.05$]; hence, the study revealed that the was no significant difference in students' level of study of OIM programme. It could further be inferred that majority of the respondents were satisfied with their present course of study as they have better understanding of the programme. On the other hand, students have an in-depth knowledge of technologies develop positive interest for the programme and have a high level of perception as well. This finding is consistent with another study that found no significant difference between students' level of study and choice of OIM as a course of study. The students' level of study differed significantly from its start to the end of the programme (Pitan & Olugbenga-Adedeji, 2014).

The study also examined those factors that prompted students to study and embrace OIM. It was found that student-interest, parental influence, peer pressure, economic and social status were most influencers that compel the students to embrace the programme. The finding validates Khalili (2020) study where he assessed the students' decision in joining a profession at Indiana University. The study found that intrinsic interests, such as enjoyment of the nature of office work, had a greater influence on the students' decision-making. Also, Adesoji (2011) carried out a study in University of Ado Ekiti to ascertain the

significant reason for OIM students to have preferred the programme. His found that the high degree of job satisfaction motivated them. However, the opportunity to serve others (95 percent), intellectual challenge (82 percent), the nature of the office work, previous experience, and only about 25 percent of respondents listed salary as a significant incentive in choosing office management as a profession. (Bilawar & Jadhav, 2015).

The study also examined those challenges encountered by OIM students during their course of study. The study revealed two of these challenges which were OIM students' poor utilization of e-learning and lack of career counselling. These challenges are likely to affect the students' perceptions of e-learning which is likely to have a negative impact on their effective learning as well as success and completion rates (Khalili, 2020; citing Amraie, 2019).

Conclusion

Based on the above findings, it is concluded that students' perception of towards OIM programme is high and positive and to have high perception towards a course of study in the tertiary institution enables the students to concentrate more and give the course of study their best. Thus, the students' skills and competencies will be easily enhanced and sharpened within will in turn boast their academic performance. Though, an excellent academic performance can be hindered especially when the students encounter some challenges like lack of parental support towards their chosen field, inadequate learning facilities and resources, peer pressure to give more attention to social activities than academic activities, and when the students approach learning environment with negative habits and thoughts.

Recommendations

Based on the findings, it was recommended that:

Students should:

a. have high perception towards their field of study
b. develop right attitude towards learning for better performance
c. align their passion with their interest and being guided by the 21st Century office skills and competencies while deciding on a course to choose

Parents should:

a. allow their children and wards to choose the course of their interest and not to dictate or choose for them
b. provide enabling tools and materials required to excel in their course of study
c. properly guide their children on how to pay full concentration in their course of study

University management should:

a. ensure OIM curriculum is regularly updated so as to meet the 21st Century office required skills and competencies
b. provide enabling teaching and learning facilities and resources in OIM department
c. constantly train and retrain OIM lecturers and non-teaching staff

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An Appraisal of the Role of Information Communication Technology (ICT) for Quality Education in Nigerian Tertiary Institutions

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Abstract

In many facets of human existence, including education, information and communication technology (ICT) has become an inseparable element. ICT has begun to make an appearance at Nigerian higher institutions, although its influence has been limited. The transition of the world to digital media and information has increased the importance of ICT in education, which will continue to expand and develop in the twenty-first century. ICT is an integral aspect of today's world. By replacing old methods of teaching and learning with modern, computer-based procedures, ICT alters the educational system. This study emphasizes the importance of information and communication technology (ICT) in tertiary education in Nigeria. In Nigerian higher institutions, ICT has unquestionably influenced the quality and quantity of teaching, learning, and research. The study goes on to explore the benefits of having ICT infrastructure in Nigeria tertiary institutions, such as e-learning/virtual libraries, and access to excellent education for learners with special needs. The many barriers to ICT adoption must be given special consideration. Government financing of ICT

infrastructure, good policy legislation, and execution and development of necessary skills are all critical for ICT to continue playing its high role as a change agent in bringing about excellent education in Nigerian tertiary institutions, according to the report.
Keywords: Education, ICT, Electronic Learning, Quality Control, Tertiary Institutions

Introduction

Quality education is defined as education that meets the pedagogical and developmental needs of each individual; it is inclusive and organized to help each individual fulfill their full potential, regardless of location or economic condition. Quality education is a single UN Development Programme objective (SDG4) focusing only on education, with the purpose of ensuring inclusive and equitable quality education and promoting lifelong learning (Sean Slade, 2017). Education is described as the process of gaining or enabling information, skills, values, morals, beliefs, habits, and personal growth. It is a potent tool for social, political, and economic improvement, without which no individual or society can achieve professional advancement. *It is the foundation for human progress and civilisation. Tertiary education, which includes post-secondary education, is the third layer of the educational system.*

Tertiary education is defined by the Federal Republic of Nigeria (2014) as education provided beyond secondary school at universities, colleges of education, polytechnics, and monotechnics, as well as institutions that provide correspondence courses. Tertiary education is critical for promoting growth, alleviating poverty, and increasing shared prosperity. It is highly significant since it benefits not just the person but the entire community. The integration of ICT into higher education allows students to access more sophisticated and broad fields of study in order to improve their analytical skills. ICT is an essential component of today's world. It's a force that's altered many elements of people's lives. ICT has had a massive influence on all disciplines during the last two or three decades. The use of ICT in education as a way of improving skills and increasing capacity for economic growth is crucial to bringing about sustainable improvements in the educational system (Damkor Matthew, Irinyang Danjuma Joro, Haruna Manasseh 2015). Professionals in the field of education have stated that when correctly employed, ICT has enormous potential for improving teaching and learning, resulting in the expected quality education.

Nigeria has demonstrated consistent its commitment to the SDGs promise via leadership and ownership of the implementation process, as it strives to maintain its leadership role in Africa and the globe at large. In order to achieve SDG4, significant efforts have been made to focus greater attention on improving education, particularly in Nigerian tertiary institutions. Adoption of ICT in Nigeria's tertiary education is one of the ways to achieve this. The ICT is a priceless contemporary intervention. Its intrinsic characteristics, including as precision, high-speed performance, dependability, and the capacity to store extremely vast volumes of data, have allowed it to be used to all human endeavors, including education and research. This research aims to assess the function of ICT as a motivator for excellent education in Nigeria's higher institutions.

Review of Related Literature

Concept of Education

Education is a crucial national development investment. It is the process of acquiring knowledge, which encompasses all of the processes through which an individual develops talents, attitudes, and other types of behavior that are beneficial to the society in which he or she lives (Oluwagbohunmi, 2013). It is the transmission of culture in terms of continuity and expansion, or the dissemination of information to ensure the logical direction of society, or both" (Adu, Emunemu, & Oshati, 2014). The importance of education in development cannot be overstated, since it provides the drive for development to harness human resource development and material resources (World Bank, 2005). Education is compatible with national growth in this way. Sustainable education's revolutionary potential boosts national development. This just supports the argument that education is critical to national growth.

Tertiary Education in Nigeria

The federal, state, and municipal governments in Nigeria are in charge of education. Nigeria's education system is divided into three tiers: basic education, post-basic/senior secondary education, and post-secondary/tertiary education. The Federal Ministry of Education is in charge of general policy formation and quality supervision. The National University Commission (NUC) is a government-run body that governs higher education administration in Nigeria (Nina Arnhold 2021). Tertiary education encompasses all forms of official post-secondary education, including public and private universities, colleges, technical training

institutions, and vocational schools. The development of applicable high-level personnel, the growth of individual intellectual potential, and the learning of physical and intellectual skills are all purposes of higher education. These aims are pursued by tertiary educational institutions through teaching, research, knowledge development, and dissemination, which they do through a range of programs such as certificate, diploma, undergraduate, and postgraduate courses (Oyebade & Dike, 2013).

University education, in particular, helps to produce high-level workers in a variety of professional fields, as determined by national development needs. University education also focuses on building a sense of community among students through projects and action research. Tertiary education is in high demand, owing to a growing awareness of its value for a country's economic and socio-cultural growth, among other factors. Tertiary education enriches society as a whole, not just the individual. It helps to promote growth, reduce poverty, and increase shared wealth.

In any civilization, a highly trained workforce with lifetime access to a quality tertiary education is required for innovation and progress. Graduates with higher education are more ecologically concerned, have better habits, and participate in civic activities at a higher rate. Increased tax revenues from greater salaries, healthier children, and smaller families all contribute to nations being stronger (Terlumun Mark Ijov and Wombu Ruth Nguzan, 2019). In short, higher education institutions equip people to be active citizens of their communities and societies in addition to providing them with necessary and relevant employment skills (Nina Arnold, 2021).

Quality Education

The term "quality education" refers to a form of education that is concerned with its quality. In education, quality implies "fitness for purpose," which means that the quality of education in any community must be measured against what that culture views to be the aim of education (Anikweze 2011). The clarified objectives of section 20 of the 1979 Nigeria constitution state that the educational system shall be of the type that motivates and stimulates creativity and draws heavily on our traditions of moral principles that include honesty for positive Nigerian moral and religious values, ensure consistency of traditional family values and their

progressive upgrading to meet modern concept, produce professional competence and a decided to order society, and so on. This means that the educational system should assist students in developing the habits, skills, opinions, tastes, and virtues required for the maintenance of our cultural norms and the thriving of moral principles (Oluwagbohunmi, 2013).

The capacity of a school to offer the essential facilities to enhance teaching and learning that can lead to the attainment of educational goals in accordance with mandated accepted worldwide standards is referred to as quality education (Pius & Aii, 2019). It is an investment in individuals with significant societal benefits. One of the United Nations Development Programme's (UNDP) Sustainable Development Goals (SDG 4) agreed in 2015 is quality education. By 2030, it aims to offer universal access to high-quality education and encourage lifelong learning across the world (Slade, 2017). In a statement in support of the SDGs and the pursuit of quality education for all, the Association for Supervision and Curriculum Development (ASCD) and Education International (EI) defined quality education as education based on the child benefit of the entire, that is, the social, mental, emotional, physiological, and cognitive development of each student irrespective of gender, race, ethnicity, economic status, or geographical area. It not only prepares the youngster for testing or examination, but also for life.

Quality education provides resources and directs policy to ensure that each child enters school healthy and learns about and practices a healthy lifestyle; learns in an environment that is physically and emotionally safe for students and adults; is actively engaged in learning and is connected to the school and broader community; has access to personalized learning and is supported by qualified, caring adults; and is challenged academically and prepared for success in college or further study and employment and participation in a global environment. Quality education provides the outcomes needed for individuals, communities, and societies to prosper. It allows schools to align and integrate fully with their communities and access a range of services across sectors designed to support the educational development of their students. Each child enters school healthy and learns about and practices a healthy lifestyle; learns in a physically and emotionally safe environment for students and adults; is actively engaged in learning and related to the school and broader society; has access to essential learning and is substantiated by qualified, responsible adults; and is challenged

scholastically and equipped for success in co-curricular activities. Individuals, communities, and society prosper when they have access to high-quality education. It helps schools to align and integrate fully with their communities, as well as access a variety of resources from many sectors that promote their kids' educational growth.

Information Communication Technologies (ICT)

ICTs are technologies that employ electronic methods to transmit, alter, and store data. E-mail, SMS, text messaging, and video chat (e.g., cellphones, desktops, and laptops) are examples of communication and information technologies (Mathevula & Uwizeyimana, 2014).

Computers, software, networks, satellite linkages, and associated systems are referred to as ICT. They allow individuals to access, analyze, create, share, and use data, information, and knowledge in previously inconceivable ways (Barakabitze et al, 2019). It refers to telecommunications-based technologies that give information access. The internet, wireless networks, cell phones, and other forms of communication are all examples of this. ICT is cutting-edge and active. It has transformed society into a global village over the previous few decades by providing a huge array of communication options. It has handled information effectively and efficiently using a variety of technical tools and resources, and it is quietly contributing to society's general growth and development. ICT has been identified as a worldwide driver for change. In current day of globalization, it is a necessary component of the growth of every aspect of any nation. In the twenty-first century, it is acting as a catalyst for change in the manner and quality of learning in academic institutions across the globe. It has quickly become one of the fundamental building blocks of modern society.

ICT and Education

The use of ICT in education as a way of improving skills and increasing capacity for economic growth is crucial to bringing about sustainable improvements in the educational system (Aduwa-Ogiegbaen & Iyamu, 2005). Computers and their peripherals such as printers, software, scanners, and projectors are used in education to teach and learn. Indeed, ICT represents a paradigm change in how humans use computers and the internet to interpret information. It has changed the model of information sharing from static to dynamic. The integration of ICT into higher education allows students to access more sophisticated and broad

fields of study in order to improve their analytical skills. Because of its dynamic interactive and interesting content, ICT improves teaching and learning. It has the ability to stimulate, enrich, and strengthen skills, engage and motivate students' learning, aid to link school knowledge to work procedure, and help to develop economic potential for today's workers; it adds to the tertiary institution's developmental process; it enhances student learning; and it creates opportunities for correlation between the higher education institution and the rest of the world (Dave & Tearle, 2010). Through a range of technologies to enhance and facilitate instructors' professional activities, ICT may help tertiary institutions become more efficient and productive (Adeoye, Oluwole, & Loto, 2013). It allows students to contact with each other via e-mail, mailing lists, chat rooms, and other means. It allows for faster and more convenient access to more comprehensive and up-to-date information. ICT may also be utilized to complete more difficult jobs since it offers researchers with a consistent means of disseminating research papers and conclusions (Owoyale-Abdulganiy & Olaniyii, 2021). Ghavifekr, Kunjappan, Ramasamy, & Anthony (2016) described th three important motivations for ICT in education, as follows:

i. As a tool for resolving issues in effectively teaching: ICT provides the capabilities for effective teaching and learning delivery, management, and support.
ii. ICT can change the content, methods, and overall quality and quantity of teaching and learning, reducing teachers' workload and ensuring constructivist inquiry-oriented classrooms; and iii. As a central force throughout economic competitiveness:
iii. As a crucial component in economic and social shift patterns that have technological skills important to today's students' employment prospects.

Theoretical Review

Theory of Technology Acceptance Model (TAM)

The technology acceptance model (TAM) is a theory of information systems that describes how people adopt information systems. It asserts that users' behavioural intentions, which are defined by the perception of technology's utility in accomplishing the job and perceived ease of use, predict users' adoption of technology.

It was one of the most important models of technology adoption, developed by Fred Davis and Richard Bagozzi (1989), with two major elements affecting an individual's desire to utilize new technology: perceived ease of use and perceived

utility. An older adult who views digital games as too difficult to play or a waste of time is unlikely to want to learn how to use them, but an older adult who views them as offering required mental stimulation and being simple to learn is more likely to want to learn how to use them. TAM has been challenged for a variety of reasons, but it is a helpful overall framework that is compatible with a number of studies on the elements that impact older individuals' willingness to embrace new technology (Braun, 2013). This theory is well-placed in this research since the goal of the study was to assess the impact of information technology in attaining excellent education in Nigerian tertiary institutions.

Empirical Review

Ifeakor (2021) investigated the impact of information and communication technology (ICT) on teaching and learning English in Nigerian tertiary institutions during the COVID-19 pandemic. During the COVID-19 epidemic, the research looked at the impact of adopting ICT in teaching and studying English in Nigerian postsecondary institutions. The study found that students could do very well using one or both of the mediums of classroom instruction because academic achievement is regardless of the media, institutions that really do not incorporate ICT into learning are now embracing this technology, and ICT learning can completely consider replacing classroom experience of the English language. According to the findings, greater effort should be done to improve the learning process in general and prepare for future pandemics like this one.

In the middle of the COVID-19 pandemic in Kwara State, Owoyale-Abdulganiy and Ayuba (2021) investigated the use of information and communication technology for teaching Islamic studies. During the Covid-19 lock-down in Kwara State, Nigeria, the research looked into the use of information and communication technology (ICT) tools for teaching and studying Islamic studies. The three senatorial districts of the state were sampled using a basic random sampling approach. Smartphones, radio, television, and a variety of programs like as Whatsapp, Zoom, Telegram, Facebook, Google, 2go, Twitter, Instagram, and a slew of others were all heavily utilized to teach and learn Islamic studies in Kwara State during the Coronavirus lock-down. It was proposed that in order to improve the effectiveness and efficiency of Islamic studies teaching and learning through virtual learning, instructors and students should receive extensive training on how to make the most use of ICT resources.

During the COVID-19 Pandemic, Alaa and Abd Rahman (2020) investigated the impact of ICT on knowledge sharing among academic staff. The influence of ICT and ICT infrastructure on knowledge sharing among academic personnel was investigated in this study. The stratified sample approach was used in this investigation. ICT and ICT infrastructure have a favorable and considerable influence on Knowledge Sharing among academic staff at Iraqi public institutions. The research proposed that the government and universities work together to strengthen and improve ICT infrastructure, which would boost both the reputation and ranking of Iraqi institutions.

During the COVID-19 Pandemic, Alaa and Abd Rahman (2020) investigated the impact of ICT on knowledge sharing among academic staff. The influence of ICT and ICT infrastructure on knowledge sharing among academic personnel was investigated in this study. The stratified sample approach was used in this investigation. ICT and ICT infrastructure have a favorable and considerable influence on Knowledge Sharing among academic staff at Iraqi public institutions. The research proposed that the government and universities work together to strengthen and improve ICT infrastructure, which would boost both the reputation and ranking of Iraqi institutions.

Kehdinga (2019) investigated the role of ICT in African higher education. The study looked at the role of ICT and its capacity to improve education quality in African higher education institutions. The study discovered the benefits of having ICT infrastructure at higher education institutions across Africa, such as e-learning/virtual libraries, and access to excellent education through customized tools for physically challenged students. The study found that government funding of ICT infrastructure is critical for improving the quality of education in tertiary institutions, and it recommended that the government implement ICT policies, provide adequate funding for ICT infrastructure, and monitor ICT infrastructure in various tertiary institutions to ensure that ICT appliances is not neglected but is in use.

The Impact of ICT on Tertiary Institutions was investigated by Ijov and Wombu (2019). The study looked at the varied effects of ICT on tertiary institutions as well as the primary roadblocks to ICT use and implementation in higher institutions. According to the study, tertiary institutions should be equipped with modern and advanced technological infrastructure to allow for the effective use of appropriate technologies for teaching and learning programs, and government at all levels

should make adequate funds and resources available, particularly for the funding and sustainability of tertiary education.

Mailuno and Mimi (2019) looked at Nigeria's Vision 20:2020 and the Implications of Quality Education in Nigeria for Sustainable Development. The study looked at education as a concept, as well as quality education, national stability, and long-term growth. The study concluded that Nigeria's vision to re-energize the education sector and restore the country's educational standards is consistent with the Transformation Agenda and the Vision 20-2020 of the Federal Republic, and that the noble policies of the Transformation Agenda and the Vision 20-2020/Vision 15- 2050 of the Federal Republic of Nigeria should be religiously followed and implemented, as well as the issue of quality assurance in the educational sector.

ICT Awareness among Faculty Members of Pakistan's Public Sector Women Universities was researched by Shahida and Kiran (2018). The study looked at faculty members' knowledge, attitudes, and skills in using ICTs at Pakistani women's institutions. The research employed a questionnaire-based survey design. Faculty members have a good attitude toward computers, although they have a poor degree of competency in utilizing ICTs, according to the survey. The study stated that faculty members at Pakistan's public sector women's universities are aware of the need for and importance of ICTs in the education sector, and that the institution should provide ICT training for them so that they may influence the country's future.

The role of ICT in the Nigerian educational system was investigated by Damkor, Irinyang, and Haruna (2015). The study looked on the role of ICT in Nigeria's educational system. According to the research, Nigeria still has a long way to go in terms of implementation, which is widening the digital and knowledge gaps, and access to ICT infrastructure remains a key concern for most African nations. Despite the importance of ICT in education, the study found that Nigerian schools have yet to fully use technology for teaching and learning. Efforts to integrate ICT into the educational system have had little impact, and it has been recommended that the government should post and give ICT-skilled instructors to each school to impart ICT skills to students, as well as stabilize Nigeria's energy supply.

Methodology

This is an exploratory study that considers the educational sector's experiences, perspectives, and socially constructed realities in Nigeria. The study takes a secondary research strategy, in which the researchers make their decisions fully based on a survey of the literature on the use of ICT to attain excellent education in Nigerian tertiary education.

Discussion of Findings

Role of ICT in Quality Education in Nigeria Tertiary Institutions

In Nigeria, the integration of ICT into higher education institutions is progressively taking shape, with some institutions recognizing its potential to improve, enrich, and support both professors and students in their teaching and learning processes (Murgor, 2015). Recognizing the significance of ICT in the development of skills, talents, and competencies for successful development, the Federal Republic of Nigeria's National Policy on Education (the Federal Republic of Nigeria, 2018) recommends that it be incorporated into education in Nigeria at all levels. Computers, the internet, television, radio, video conferencing, and mobile learning are all used to integrate (Lubega, 2017). Government and non-governmental organizations, such as banks, as well as individuals, have contributed to the deployment of ICT in Nigerian Tertiary Schools. Firms such as the Nigeria Communications Commission (NCC), Education Trust Funds (ETF), MTN Nigeria, and Zinox Computers, for example, have shared laptops and other ICT gear with instructors and students at higher institutions at various intervals and at different periods. In Nigerian higher institutions, the use of ICT for excellent education is pervasive and ubiquitous.

ICT has been determined to have had a significant impact in upgrading and modernizing the procedures and methods utilized in the management and administration of higher institutions. The majority of administrative and clerical tasks, such as admissions processing, course registration, fee payment, and academic material procurement, have been computerized and are now completed remotely. Most postsecondary schools offer websites where students may accomplish a variety of tasks on their own and submit them to the university remotely. In Nigeria, the majority of tertiary education institutions are currently using ICTs to handle the majority of their administrative concerns as well as deliver qualitative and quantitative guidance. Previously paid in cash or by bank draft, tuition, lodging, and other charges are now primarily paid online. This

means that when ICT is applied at tertiary institutions, administrative services are delivered faster and more effectively, increasing the efficiency and efficacy of the institutions' service delivery.

Researchers efficiently use ICT at tertiary institutions as a source of knowledge and a reliable way of acquiring research materials, which benefits students in their studies by expanding the frontiers of learning beyond traditional classroom studies. ICT has made it possible to collaborate with researchers from various higher institutions throughout the world (Barakabitze et al, 2019). As researchers can readily connect for interaction and comparison of their findings with specialists, ICT has created greater options for research cooperation and networking among scholars all over the world. As a result, national and worldwide dimensions of research topics are being examined. Researchers are consequently confronted with an abundance of data rather than a scarcity of data. As e-mail services, web-based files, data sharing, weblogs, and collaborative workplaces have become the standard, data sharing, peer review, and creating a network of contacts are no longer bound by distance. As a result, information and communication technology has made academic research considerably easier and more engaging among researchers.

ICT has largely replaced old, out-of-date, traditional teaching and learning techniques that do not represent modern reality in university teaching and learning processes. In higher institutions, ICT has revolutionized how education is delivered (Hamilton- Ekeke & Mbachu, 2015). It has prepared the way for a new educational approach in which students are expected to play more active roles in the learning process than previously, i.e., students are more involved and active participants in knowledge generation rather than merely recipients. ICT has also led to the internationalization of higher education by increasing chances for quick information interchange, which has facilitated teaching, research, and lifelong learning. ICT reduces stress and inspires students and teachers by simplifying complex topics for kids (Barakabitze, et al 2019).

Web-based conferencing, video conferencing, audio conferencing, and open and distance learning are the four ICT media through which learning and teaching activities can take place (Ratheeswari 2018). The live or real-time exchange of audio or voice communications via a network is known as audio conferencing. The telephone and WhatsApp platforms are examples of technologies employed. Pictures or images can be delivered and received over the network using a more

advanced version of this media. Audio-graphic is the name given to this sophisticated media. In addition to voice communications and audio conferencing, video conferencing allows users to exchange films or moving pictures. A video conferencing tool like Zoom is a good example. Web-based Conferencing differs in that it lets two or more people to communicate voice messages, images, and videos over the internet using a computer and browser (Bakare, Orji, Wogu & Ogbonna, 2018). During the learning and teaching process, open and distance learning allows for more contact and engagement among individuals. Performing activities based on the tutor's directions, solving issues, and studying at one's own speed can also help with learning.

This study discovered that postsecondary school students now have easy access to learning thanks to the introduction of ICT. For people who are unable to attend school or college due to financial or cultural constraints, distant learning education programs are now widely available. Nigeria, like many other nations, now offers Open Universities that provide students with education via the internet and other forms of communications. Students at open universities have the option of studying with or without teacher supervision. In contrast to traditional teaching approaches, ICT-based learning boosted student involvement (both young and elderly) (Murgor 2015). E-learning and virtual learning were born as a result of ICT. E-Learning is a technique of learning that uses an information technology network, such as the internet, or an intranet (LAN) or extranet (WAN), in whole or in part, for the delivery, interaction, and or facilitation of a study course. Participants can gain information by cooperating in a virtual learning environment. A course curriculum, pre-requisites registration, teacher, and distance learning apps are all part of the ecosystem (Deka & Jena, 2017). Interdisciplinary courses allow students to obtain information and improve their educational quality at a lower cost (Mikre, 2011). Individual students throughout the world benefit from e-learning systems since they assist in educating and offering training chances on a variety of topics (Mahlangu, 2018). Computer-based learning, virtual classrooms, video conferencing, and digital collaboration are examples of e-learning applications where information is given via the internet, intranet/extranet, audio/videotape, satellite TV, and CD-ROM (Olusanya and Oluwasanya 2014). As a result, pupils have enough learning aids, which improves their access to knowledge resources.

Additionally, the use of ICT in education has enabled online examinations. Exams can now be administered to students online using computers, the internet, and other ICT tools (Dabas, 2018). This strategy has been shown to save time and

money while also increasing security and promoting impartiality and justice. In Nigeria, for example, most postsecondary institutions were forced to use online tests during the Covid-19 pandemic and subsequent shutdown. Teachers can now conduct lectures in the classroom through audio or DVD. This also allows students to access these notes whenever they choose, from the comfort of their own homes. With the use of devices like webcams and videoconferencing, ICT has fostered cooperation and partnership between professors and students from all over the world. ICT has also shown to be an effective library tool. Unlike conventional libraries, where actual books are stored and students attend to seek knowledge, ICT has enabled students and even teachers to use libraries from anywhere in the globe at any time.

ICT has aided in the future planning process. Advanced degrees like M.Sc. and Ph.D., necessitate extensive study (both offline and online), and most employment now demand ICT. For example, in the field of accounting, the usage of manual data processing and financial report preparation has become outdated. Financial statements are now prepared with the push of a button using ICT resources such as Sage, Peachtree, and Manager Accounting software. Accountants nowadays, regardless of their degrees, do not have a chance in the employment market unless they are adept in at least one of these tools. Other fields have experienced something similar. Learners are better equipped to accomplish future activities requiring the use of computers when they study using computers and other ICT tools. With the introduction of ICT, hard copy textbooks have become obsolete, whereas digital copy resources have been widely accepted. E-libraries are available online and may be accessed at any time by anybody from anywhere in the globe. This eliminates all of the rigors and stress of conducting research in a traditional library, which may be intimidating and restrictive. ICT has revolutionized the job of librarians and the purposes of libraries. Given the abundance of learning materials accessible on the Internet, the majority of which are free, librarians are becoming into information managers or cybrarians. Computer professionals and information brokers will be among the cybrarians. (2019, Fomunyam).

ICT has also been critical in promoting high-quality postsecondary education for students with impairments (Martinez, 2011). Learners with special needs and impairments, who were formerly disenfranchised owing to a lack of adequate learning resources, are now fully assisted by ICT. Customized application packages and tutorials have been developed and made available. ICT allowed an atmosphere in which these individuals found it simpler to overcome obstacles in

their academic studies and attain their particular educational objectives and ambitions.

Look keys, Qualikey, adapted keyboard: intel keys, virtual keyboard, head/mouth stick keys, and other ICT solutions for a variety of impairments are examples. Frog-pad (keyboard for persons with one hand, 15 keys, with three different level overlays), World of Quails (software for accessing computer without conventional keyboard and mouse), KB foot pedal (Programmable 3 keyboard), (On-screen cursor controlled by basic body movement) Eye-tracking software Software for quail-clicking (Programmable mouse click). A normal USB Webcam catches user movement and software converts it to mouse movement, allowing operation of any program and complete control over the computer/device. Magnification S/W (1.1x to 36x, bulls' eye for aiming, screen split, large print keyboard, change in background colors, inversion of color for persons with negative vision, network based), JAWS (The most popular screen reader worldwide, Braille Embossers (Hardware device used for printing computer generated text in raille format), and JAWS for Windows works with PC to provide audio and visual support for learning), WYNN/Kurzweil 3000 (for persons with dys) (Fomunyam, 2019). Any of these methods will make it simple for any student having special needs to learn with the fewest amount of trouble. These should make educational services for teachers, and learning processes will become faster and smoother as a result.

ICT has evolved into a useful and vital instrument for educational modernization. It empowers students, professors, and specialists to engage and collaborate regardless of their location. Apart from simulating real-world interactions, ICT-supported learning has allowed pupils to collaborate with students from various cultures, hence improving communication skills (Fomunyam, 2019).

Impediments to the role of ICT for Quality Education in Nigeria Tertiary Institutions

Despite the progress made in Nigeria on the impact of ICT on quality education, some factors identified as impediments (Rivers, et al, 2015) include a lack of infrastructure that supports ICT, which has made it nearly impossible to implement these technologies and improve education institutions; limited financial resources, making the establishment and even maintenance of ICT infrastructures difficult; a lack of human and physical resources to support ICT; irregular power supply; high cohesion; and high cohesion.

Advantages of ICT Role in Quality Education Nigeria tertiary Institutions (Talebian et al. (2014):

1. Students can gain 21st-century skills and improve their ICT literacy and competency.
2. Both students and instructors increase their academic performance.
3. Students and instructors are well-prepared for the future, which will be dominated by ICT innovations in an interconnected society.
4. Students can acclimate to the idea of utilizing ICT as a tool for continuous learning and accept it.
5. Flexibility in terms of time and location: Students can attend lectures at their own speed and from any location.
6. Equality: students have equal access to study materials. In terms of the teacher's competency, they have the same access as everyone else.
7. Improved Group Cooperation: It has been demonstrated that online or electronic learning increases student engagement and collaboration.
8. Easy access to extra learning resources: Students have direct access to supplementary content.
9. The increased international character of education: ICT allows students to connect with and share information with students all over the world.
10. Course advancement rates are simple to calculate: The usage of ICT considerably reduces anxiety caused by a fear of failure.

Disadvantages of ICT Role in Quality Education Nigeria tertiary Institutions

Talebian et al. (2014) identified the following as main drawbacks of ICT in the educational system:

1. Unlike traditional face-to-face schooling, there are no teachers.
2. Access to an abundance of information, the majority of which may be false, unproven, or unsupported.
3. Students' assessment, evaluation, and feedback are limited.
4. Inapplicability in practical subjects like engineering, agriculture, and medicine.

Conclusion

Nigeria is progressively adopting and enacting national ICT policy. It is impossible to overestimate the advantages of incorporating ICT into Nigeria's educational system. In this extremely competitive period of globalization, ICT has been recognized to enhance access to current learning methodologies, which improves knowledge. By providing virtual services, ICT plays an important role in Nigerian

Tertiary Education, bringing learning closer to students. ICT provides a wealth of learning options for children who may not have access to a classroom. Nigeria's tertiary education system is incorporating ICT. Due to various roadblocks, this is progressing slowly. If the government implements ICT policy and provides appropriate financing for ICT infrastructure, ICT in tertiary education in Nigeria is a possibility. Students will be able to participate significantly to innovation and ground-breaking research thanks to government financing. Finally, national governments must keep an eye on ICT infrastructure at various tertiary institutions to ensure that it is not unused. ICT might become a potent stimulant of excellent education in Nigerian higher institutions with appropriate policy legislation and implementation.

Based on this conclusion, recommendations are as follows:

1. Students and staff in higher education institutions should be encouraged to learn how to operate and use ICT equipment and facilities in teaching and learning.
2. The government and players in the Nigerian ICT industry should address the disparities in the distribution of ICT devices in the wider community.
3. The management of Nigerian tertiary institutions should make every effort to provide students with access to accessible internet networks on campus. This will encourage students to use online e-materials to accomplish their tasks.
4. Outdated ICT equipment and facilities should be replaced with contemporary technology and facilities.
5. The government should make an effort to provide money for the procurement of ICT equipment by tertiary institutions. In addition, the management of Nigerian tertiary institutions should work to collect funding from within the country and dedicate a portion of that revenue to ICT education.
6. Management of tertiary institutions should instill a maintenance culture to guarantee that the existing ICT facilities and equipment are always in excellent working order.
7. Staff and students should be regularly educated on how to use the digital library and other ICT tools for research and study.

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The Editor-in-Chief

International Journal of Office Administration and Information Management (IJOAIM)

An official publication of the National Institute of Office Administrators and Information Managers (NIOAIM)

NIOAIM Secretariat, Department of Information Management,

Lead City University, Ibadan, Nigeria

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The Editor-in-Chief
International Journal of Office Administration and Information Management (IJOAIM)
An official publication of the National Institute of Office Administrators and Information Managers (NIOAIM)
NIOAIM Secretariat, Department of Information Management,
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E-mail: ijoaimpapers@gmail.com, nioaiminfo@gmail.com, info@nioaim.org,
Website: https://nioaim.org/
+234-803-060-8685; +234-909-339-2575

ISSN: 2955-1269 (Print) and ISSN: 2955-1277 (Online)