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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.

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**International Journal of Office Administration and Information Management
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- e. References are expected in the 7th Edition of APA style.

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Library Styling and Its Effects on Library Users Information Seeking Behaviour

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Abstract

Previous works on library have provided insights into how library users could maximally benefit from library for academic purposes; however, from their scholarly investigations, it was discovered that many library users did not prefer to use library for academic purposes in the Contemporary age nor for any other reason(s) thereby the reading culture deteriorates on daily basis in Nigeria. Little or no scholarly investigation has examined reasons for library users' feeling about library from the perspective of Library Styles and its Effect on Library Users Information Seeking Behaviour. Therefore, the present study intends to explore library style and its effects on library users' information seeking behaviours. Specifically, the study also intends to find out what fascinates and motivates library users to visit library and as well cater for library users' other needs apart from academics. The study employed quantitative approach and twenty (20) respondents were purposively selected from Southwest and the Southeast geopolitical zones of Nigeria and they served as population for the study. The questionnaire for the study has two parts and simple percentages were used to calculate and analyze respondents' responses through SurveyMonkey version 2012. None of the respondents has less than university degree experience. Kuhlthaus 1991 model served as theoretical frameworks for the study. Findings revealed that 60% of the

respondents agreed that the physical appearance of library encourages library users to visit library. The study recommended that the libraries should have good physical structure that fascinate and encourage library users to maximize the opportunities that library has potency to provide.

Keywords: Library Style, Information Management

Introduction

The way of life of a nation is influenced by the percentage of its citizen who are literate. No doubt, reading stimulates imagination, encourage quick learning and expands horizon. Library is essential to learning and creative/attractive styles/designs are now a central consideration in creating an effective and innovative learning environment.

Today's library is now repositioning themselves from the traditional book hub to an energetic modern and innovative learning environment for sustainable development and global competitiveness. It is important to state that Users of today's library no longer need a library merely for access, instead they need an area that encourages collaborative learning and permits for co-construction of ideas and innovations from a range of sources. Libraries ought to become a learning hub for the varsity community that will encourage lecturers and students to collaborate, communicate and share. The libraries of the twenty first century should be repositioned to offer a hospitable and galvanizing setting that births exploration, creation and collaboration between users, information professionals and a broader community.

Style of a library starting from the design of the building, various fascinating sections of the library, painting, lighting, technology, recreation etc. no doubt affects the information seeking behaviour of users. This is because it has been said that first appearance lasts longer. So how a library appears determines the information seeking behaviour of the user's community of such library. This study intends to explore the importance of library style that facilitates information seeking behaviour of each library user.

Research Question

The following questions shall guide the study:

- i. Does library style encourage information seekers to visit the library?
- ii. Does library style increase library user's appetite in seeking for information?

Literature Review

Today's library is moving from resource centric to user centric. Library space has evolved into a brand new style that contributes to the informal learning setting our information seekers request in our building. Bennett (2003) **refers to this current phase of library style as “learner centered”**.

Our users' desires have become a determining factor in library space planning and designing. Developing such an interactive space needs understanding how today's information seekers learn with the objective of facilitating their learning within the space they opt for, invent and evaluate information in addition to the real and virtual ambience within which they do their research work in order to serve them effectively and with efficiency. Innovative and creative libraries is about investing in people, changing their perceptions about libraries and its purpose, reinventing the library interior designs and its layout. Scholars widely discuss the library as a place for social and collaborative learning. Libraries therefore, should be repositioned to offer spaces that inspire students to learn, unlearn and relearn from one another in addition to learning from our collections. In this relaxed atmosphere, open discussions and collaborative learning are inspired and encouraged.

Learning targeted researches identifies learning as a social expertise wherever people will come together and have interaction or dialogue (Oblinger, 2004). The library has reinvented into a space, where active learning happens which facilitates learners' collaboration with one another and with colleagues in a setting, outside the classroom (i.e. learning outside the classroom. LOTC) (Hunley & Schaller, 2009).

Hunley and Schaller (2009) studied the connection between learning space, academic programmes and learning. The study reveals that learning areas or spaces can motivate or negatively affect users' information seeking behavior. The library can be a setting to be with other information seekers in a learning/cultural setting (Demas, 2005).

Such spaces attract users providing them the chance to debate their learning and develop a sense of fulfilment. Libraries have additionally created their spaces more leisurely so as to boost their users' social learning. (Matthews et al., 2011) posited that learners are more involved in their learning areas wherever social learning is inspired.

The necessity of evaluating clientele's information seeking behavior as a result of smart library styles provides crucial insight regarding how our users understand the space in their learning.

This research aims to contribute to the ongoing discussion of library style and its effect on user's information seeking behaviour.

Why Quality Library Style/Design

McDonald (2003) posited that smart library space encompasses a variety of vital qualities and that, ideally, these new styles ought to be:

Functional: Recent style trends emphasize a people-centered approach to designing, for instance, Wu (2003) considers it as those who style (or design) libraries, people that deliver services and other people who use them. Above all, the user ought to be our focus. Dowlin (1999) affirms that the beauty of libraries is in connecting minds and fascinating library buildings within the twenty first century for real functionality to take place. For well-arranged library to be functional and dynamic, it should have a positive impact on user's information seeking behavior.

Adaptable: Dynamic style and space, the utilization of which might simply be modified and adaptable to meet the educational, recreational, cultural and other information needs of different groups of information seekers.

Accessible: The library is the heart as well as the academic focus of any institution and plays a robust educational and social role within the learning, teaching and research processes within the establishment. The library as a repository and fountain of information should be as accessible as possible, encouraging and inviting information seekers to make full use of the services it renders. It should cater for the ever increasing different kinds of more and harder to satisfy users and their numerous learning and research styles, and for ancient and electronic modes of delivery. Access ought to be as direct and non-ambiguous as possible with a self-reliant layout facilitating freelance study.

Varied: New library styles ought to make provision for a wide range of study environments to satisfy the growing diversity of our users and their completely different styles of learning and discovery. Users ought to be inspired to learn at their own pace and in their own time, with provision not just for quiet study and

freelance learning, but also, more and more, for group work and interactive learning. Indeed, the availability of social and collaborative spaces within which users will interact with one another is a very important trend.

The wide range of reader's places varies from single person to multi-person tables of varied shapes, casual seating, classrooms and cluster study facilities. Some readers like a bubbling or noisy social learning setting; others like a quiet study environment with smart acoustic and visual privacy and this may be achieved to completely different degrees with numerous furnishings styles, together with table dividers, bookstands, mesh screens and carrels. In some cases, interiors are becoming more like extension of the sitting room, providing the emotional area for social interaction among the educational community.

Interactive: there is need for well-organized area that promotes and facilitates contact between users and services. We must ensure that there is balance between the space for collections, services, readers and information technology. The well-arranged library not solely makes optimum use of the area or space available, however additionally promotes collaboration between individuals and encourages the utilization of its services. The circulation desk, reference points, cluster study areas and information skills rooms are all key areas of interaction in trendy libraries.

Conducive: Today's library should be home-away-from-home as that will motivate and encourage users. The library as the academic heart of the institution ought to portray a sense of quality, worth and place. The vicinity should be convenient for academic work and reflection and should encourage and motivate its users. Clienteles, several of whom study for long periods and in progressive numbers, ought to feel relaxed and secure. Innovative design, fascinating creativities and varied internal areas all contribute to the atmosphere of the environment. This can as well be enhanced by beautiful paintings, sculptures, decorative glass, recreational gardens and different cultural designs.

Environmentally suitable: Appropriate environmental conditions are necessary, not just for the convenience of information seekers, but also for the effective and efficient running of computers and also the conservation of library resources. Normally, human, biological, chemical and environmental factors ought to be controlled. Cross ventilation, currently popular in new buildings, provides an inexpensive, fantastic and a user-friendly environment.

Safe and secure: Every library infrastructure comes with safety issues connected to the library building, information seekers, resources, instruments and information (Quinsee & McDonald, 1991). The library style should adjust to current health and safety regulations and specific attention ought to be paid to the engineering science design of workstations, to securing information technology instruments, and to operation throughout non-standard operating hours. Sadly, smart security measures will typically conflict with convenience, aesthetics and even security.

Appropriate for information technology: 21st century library designs should permit the library and its clientele to learn absolutely from speedy advances in Information Communication Technology (ICT). So, we should always be designing buildings to replicate tomorrow's technologies instead of today's (JISC, 2006) and to exceed the yearnings of the web or internet generation (Fox, 1999). In planning and designing libraries for efficient and web-based learning, we must acknowledge the unavoidable difficulties that comes with new developments in mobile, connected, visual and collaborative as well as supportive learning (JISC, 2006).

The 'wow' factor: There should be provision of engaging spaces that captivates the minds and eyes of information seekers and the vision and mission of the institution. It implies that the university library design should cater for different categories of users. Information seekers should enter the library and express the 'wow' feelings. Skilled architects and planners can strike a balance between these qualities to design innovative buildings with attractive architectural layouts and design fascinating areas that captivates the minds of information seekers and also fulfil the vision and mission of the university.

Conclusively, today's users have great expectations, they expect customization, and are technology veterans that utilize new communication modes therefore, to accommodate these numerous and diversifying desires, library space must be versatile.

Buildings should be ready to demonstrate agility and to accommodate each of the social and individual learning from undergraduate to postgraduate degree level, while incorporating the technologies that transform how learning takes place. Today's library buildings should still offer the 'place' where individuals can come together to undertake variety of vital activities. Libraries should be styled to see increasing numbers of users who want to study or review, learn, reflect,

collaborate and exchange ideas. With these innovations, information seekers will visit the library more often, consult the resources, retrieve information and use the information technology equipment available. They will request the help and support of trained information professionals and make great use of the complete range of services available.

From the review of the prevailing literature, it's evident that the libraries of the information age should adjust to library style that enhances motivation to go to libraries and create use of libraries for knowledge improvement.

Methodology

The research was quantitative. Twenty (20) respondents were purposively selected from Southwest and the Southeast geopolitical zones of Nigeria and they served as population for the study. The respondents are first degree, Master's, doctoral students and lecturers in Nigerian universities. The test instrument has ten items and they were divided into two parts. Part one has nine (9) items that focused on the situations of their libraries in terms of physical structure, aesthetics, how frequently they visit library in order to infer from their responses factors that determine respondents' information seeking behaviour. Each item has three (4) options such as *Yes, No, I don't think* and *I don't know*. Part two has one item that was open-ended question in order identify respondents' expectations each time they visit library. The respondents' responses were collected, collated and statistically analyzed using SurveyMonkey version 2012. Kuhlthaus 1991 Information Search Process model served as theoretical framework for the study. Kuhlthau's model is an analytical model suggesting a relationship between process stages and feelings, thoughts and actions. The model was adopted as the theoretical framework for this research because information seeking behavior of users is determined by first the feelings (which is affective), thoughts (which is cognitive) and actions (which is physical).

Every user needs a motivational factor to use a source of information or the information itself. In other words, first impression they say last longer. If the library lacks good design that can attract users to the library, it would have negative effect on their feelings about the library as well as their information seeking behavior.

Analysis and Discussion

Library is an institution which holds books and or other forms of media for use by the public or qualified people often lending them out, as well as providing various others services for its users. However, from the definition of library, it showed that library is indispensable to knowledge development of any individual. Despite the significance of library, the study revealed that only 37.50% of the respondents who are first degree, second degree, doctoral students and lecturers in Southwest and Southeast of Nigeria regularly visit library.

Does library style encourage information seekers to visit the library?

Table 1: Do you visit library regularly

Answer Choices	Responses
YES	40%
NO	60%

Table 1 showed that only 40% of the respondents often visit library. The respondents are believed to be academicians whose focus should be on research for knowledge development and publications for others to read and understand certain things. If 60% as revealed (**Table 5.1.1**) said that they rarely visited library, it might project that many students in Nigerian higher institutions rarely use libraries. Their failure to use library would make them to miss opportunities that library offer every library user. In addition to that, it showed that the reading culture must have been affected and it failure to address and redress the situation might adversely affect many students career progression due to low performances. Institutions might need to encourage students because several factors might have been responsible for many library users refusing to use library for their benefits. For instance, it could be that the libraries are not in good shape for the library users, or libraries do not cater for their comprehensive needs.

Kuhlthau's 1991 model explains that physical component of library has tendency to affect how library users will perceive libraries. The model identifies that the physical beauty of libraries creates feelings that are affective, produce thought and actions that either motivate library users to visit.

Responses in Table 5.1.2 (below) provided insights into why the respondents rarely visit library. It is not sufficient to stock library with books and other

materials that library users need, it is important that the library should have good physical structure that encourage and motivate library users to visit. For instance, library users who intended to visit library for sightseeing if well-built might be encouraged to create interest visiting library for reading, doing assignment and for other reasons.

Table 2: Does the physical appearance of library encourage you to visit library?

Answer Choices	Responses
YES	60%
NO	35%
I DON'T THINK	5%

Table 2 revealed that 60% of the respondents are motivated to visit library because of the physical appearance and styling. It then means that if the libraries are not well-built and designed 60% of every student who supposed to use library because of their academics and other different purposes will not and it will affect their academic performances.

The effect might not be limited to their academic performances at the moment, but in future as well. If such students who are not academically sound during their academics become teachers, doctors, pilots or politicians, what will become of Nigeria as a country; that includes why every profession must render their duties to contribute towards nation-building.

From the analysis, only 35% which was 50% of those who categorically identified that the physical structure of library determines their frequent visitations mentioned that the appearance of library does not determine their visitation to library. The percentage was below average and it is possible that the respondents who belonged to this category might not often visit library.

It is possible that the 60% who emphasized on the need to have good physical library may have not been visiting library because of the way their libraries have been. Similarly, it might have affected their academics. Also, it is possible to imagine that such libraries with poor physical structures may not have sufficient library equipment that will cater for library users.

Furthermore, 85% and 15% of the respondents accepted that their schools' libraries were well built and constructed (**Table 3**). **Table 3** showed that the respondent's responses in **Table 2** were corroborated. For instance, if 85% of the respondents like the way their schools' libraries were built and 60% agreed that the way their school libraries look like determine their frequent or rare use of libraries, it connotes that students prefer seeing libraries that are well-built in physical structure.

It implies that the feelings (which are affective), thoughts (which is cognitive) and actions (which is physical) can be dependent on physical appearance of libraries.

Table 3: I like the way my school library was constructed and built

Answer Choices	Responses
YES	85%
NO	15%

Table 3 showed that many libraries in Southwest and the Southeast of Nigeria have good physical structure that motivated library user's patronage. However, this is expected to be replicated in every higher institution in order to motivate library users to visit library. It is important to mention, that despite the fact that respondents' libraries have good physical structure, yet only 30% regularly visit libraries. There is tendency for the percentage of those that prefer going to library to drop if library users are no longer satisfied about how library cater for their needs. It then implies that the library officers must continue to serve library users as expected.

Libraries in the contemporary period must have technology apparatus in order to cater for the needs of library users of the 21st century. Libraries that operate as traditional and analogue in the post-Covid era will not in any way assist the library users, because the challenges that library users encountered in the post-covid differed from before the covid-19.

Does library style increase library user's appetite in seeking for information?
Table 4: Does your school library have a technology rich area where you carry out online research, media production and app development?

Answer Choices	Responses
YES	65%
NO	25%
I DON'T THINK	10%

Table 4 showed that 25% of the respondents complained about the technological gadgets that their school libraries have. Even those that have, do they allow their library users to explore the technologies that were provided for the library? Other possible challenges may include the fact that the library officers may not be able to handle the technologies in the libraries.

Libraries in the post-covid should provide online opportunities for the library users harnessing information through internet remotely. It implies that the libraries that are not digitized are not fit for use in the contemporary period.

One of the benefits of digitized libraries is the ability to access library information and material through internet. Notwithstanding, the findings also revealed that 10% of the respondents were not aware that their academic libraries have technology that can enhance their academics. That is, officers in academic libraries may need to re-orientate library users in the post-Covid era in order for the library users to identify how libraries can be used in post-Covid. Otherwise, there is tendency for library users refusing to use libraries since post-Covid era negate crowd and it may adversely affect their academics.

Table 5 (below) intended to find out if libraries have place(s) for relaxation and creativity where library users can make use of after reading. 40% of the respondents said yes, but further may intend to inquire from the respondents if they have never used the place for its purposes. Reasons may not be farfetched as library users may not be aware of how it could be used.

Table 5: My school library has recreational centre for relaxation and creativity

Answer Choices	Responses
YES	40%
NO	50%
I DON'T THINK	5%
I DON'T KNOW	5%

From the **Table 5**, results revealed that 50% of the respondents have not been seeing any place for relaxation in their libraries. When libraries have spaces for relaxation, for example, library users will be encouraged to visit libraries and it will increase their appetite for information seeking. This inability might have been hindering many library users from using library for different reasons. After reading, there ought to be a place where library users can cool their heads and ponder on what has been read. The results as well revealed that 5% of the respondents did not know or think that such place existed in libraries. **Table 6** (below) was similar to **Table 5**.

Table 6: My school library has a place for end-to-end learning for collaboration and knowledge sharing

Answer Choices	Responses
YES	40%
NO	35%
I DON'T THINK	15%
I DON'T KNOW	10%

By inference, **Table 5** and **Table 6** have a lot of roles to contribute towards the library users. For instance, the open-ended question revealed that internet should be made available in the libraries. 95% of the respondents who attempted the open-ended emphasized on the need to have internet in the libraries. Responses in **Table 6** are germane and crucial as they determine productivity of the library users in the information age. It is not sufficient to display books on the bookshelves in the information age; importantly, there is need for library design that will cater for collaboration among library users in order to translate whatever they have read into reality. No wonder many students finished their academic programmes with little or no experience of how whatever they have studied in the schools can be made use of outside the school setting. If there are platforms for collaboration with others, library users would have helped one another. In addition to that, library users who rarely visit libraries would have had reasons to visit and make use of libraries.

Apart from the availability on technologies in the libraries which will motivate libraries users and contribute to their academics; libraries in the post-COVID should have what fascinate library users. Human sense of seeing appeals to whatever that is good looking. When university libraries as well have enough space and good paintings, there is possibility for such features to increase library users' information seeking behaviour and they will use the libraries for its purposes.

Table 7: Does your library space, paintings and designs have effects on your information seeking behavior?

Answer Choices	Responses
YES	55%
NO	40%
I DON'T THINK	5%

For instance, 40% of the respondents attested that the libraries do not have space, paintings and designs that could stimulate their interests for seeking information and to visit the library for patronage. Library officers should not demonstrate nonchalant attitude towards ensuring that library users visit libraries regularly. The library officers could as well have suggestion box and once in a while distribute feedback forms that can suggest what the library users expected to see in order to increase their information seeking behaviour and make them visit libraries frequently and maximally. Furthermore, responses among the respondents on **Table 7** (below) showed that the libraries in Nigeria are digitized except that library officers may need to evaluate activities of libraries that have been digitized.

Table 7: Is your school library digitized?

Answer Choices	Responses
YES	65%
NO	15%
I DON'T THINK	10%
I DON'T KNOW	10%

Table 7 showed that 65% of the respondents' libraries are digitized but 35% of the libraries are yet to be digitized. Every library in Nigeria ought to have been digitized when libraries in the developed world have advanced and made their libraries users friendly through digital platforms.

It implies that libraries in Nigeria are experiencing under-development and it would definitely affect information seeking behavior of today's users as well as library officer's responsibilities that cater for the welfare of every library user.

Table 8: Are your library officers friendly in their approach to library users?

Answer Choices	Responses
YES	65%
NO	30%
I DON'T THINK	5%

Table 8 supports that feelings, thoughts and actions of library users as well their information seeking behaviour might be affected by expression of library officers towards the library users (Kuhlthau 1991). It implies that library officers must be friendly in their approach. If librarians or information professionals are hostile it will have a negative effect on the information seeking behavior of library users.

Conclusion and Recommendations

Conclusively, today's users have great expectations, they expect customization, and are technology veterans that utilize new communication modes therefore, to accommodate these numerous and diversifying desires, library space must be versatile. Buildings should be ready to demonstrate agility and to accommodate each of the social and individual learning from undergraduate to postgraduate degree level, while incorporating the technologies that transform how learning takes place.

Today's library buildings should still offer the 'place' where individuals can come together to undertake variety of vital activities.

Libraries should be styled to see increasing numbers of users who want to study or review, learn, reflect, collaborate and exchange ideas.

The library as a place has become a key issue in modern librarianship as the library attempts to attract more users by being more than a collection of information resources but also a place where users can relax and study in peace and comfort.

1. Today's libraries should be repositioned from the traditional book hub to an energetic modern and innovative learning environment for sustainable development and global competitiveness.

2. Librarians should be involved in the architectural design of the library building right from the scratch.
3. Library users should also be consulted to know their information needs so that the library can be designed to meet their varying needs.



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Records Management Practices as Correlates of Job
Performance of Registry Staff in some selected
Tertiary Institutions in Oyo State, Nigeria

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Abstract

Job performance is important in achieving any institution's goals and objectives. Registry staff are faced with several challenge that hinder proper record management practices. The overall goal of this paper was to look into Record Management Practices as a predictor of Registry Staff Job Performance in Selected Tertiary Institutions in Oyo State, Nigeria. The study covered three oldest tertiary institutions in Oyo State. The study was conducted using a survey research design. The study's population consisted of 1800 registry employees. Using Krejcie and Morgan's sample size calculation, the sample size was determined to be 317. The questionnaire was utilized as a research tool, which was validated by professionals in the field of study. To evaluate the reliability of the research instrument, a pilot study was undertaken and the Cronbach's alpha reliability test was used to evaluate the data collected. The data acquired through the questionnaire was examined using the SPSS package's frequency distribution and basic correlation analysis. The major findings for the hypothesis revealed there is a significant relationship between record management practices and job performance of registry staff in tertiary institutions in Oyo State ($r=.357$, $n=313$ $p=0.000$ or < 0.05). The null hypothesis was rejected, and the alternative hypothesis was accepted. According to the findings of the research, job performance is critical to achieving the goals and objectives of any institution committed to maintaining high standards of records management practices. It was recommended amongst others that the management of tertiary institutions in Oyo State should upgrade facilities in the registry.

Keywords: Job Performance, Registry Staff, Records Management Practices

Introduction

Job performance is an important factor in determining the success and outcomes of a business. Knowledge, skills, motivation, ability, work environment, and numerous metrics used to evaluate job performance, such as quantity, quality, punctuality, and creativity, all play a role. (Osibanjo *et al.*, 2014). Job performance refers to staff's rate of accomplishment in comparison to the norm established by the employer, as well as the employee's contribution to the business. An organization is known for its successful performance, which can only be attained by high levels of individual performance. Job performance is the expected value derived from employees' actions throughout a specific time period (Udomisor & Haruna 2010). Job performance refers to how a person executes his or her roles, tasks, and obligations in relation to a specific job. (Hose, 2012).. According to Bullock (2013), Job performance can be viewed in three aspects based on outcomes, behavior, and personal characteristics. Additional research found a range of job performance characteristics, from general to specialized, as well as quantitative and qualitative aspects. Recent research has backed this up by defining job performance in terms of outcomes and behavior, which are easier to quantify and monitor than personal characteristics (Madukaoma, 2012).

Educational institutions serve as data generating and record-keeping hubs. Institutional record management practices included planning for the schools' information needs, implementing rules and regulations for record keeping. Records serve as an organization's recollection, they are an institution's resources that are generated, produced, utilized, stored, and recovered, and can be retained or destroyed. Any documented information or data in any physical format or media that an organization develops or receives throughout the course of its official business and preserves as evidence of policies, decisions, processes, functions, activities, and transactions is referred to as a record. In the primary, secondary, and tertiary phases, records allow a person to view what he or she has stored in the past, present, and future for easy retrieval and usage. (Atulomah, 2011). According to Audu (2014), the value of records, particularly to tertiary institutions is numerous. In Tertiary Institutions, good records management is the foundation for future planning. It helps the institution to benefit from their previous experiences and accurate records. Records management allows institutions to be responsible to their customers (Ibrahim, 2014). Records must be

completed and made available when needed; but, if records are not kept properly, they will not provide the necessary support, and vital information may be lost, causing further destruction to the institution. Furthermore, records that have been mismanaged or are incomplete are deceptive, making employee performance difficult. (Popoola, 2017).

Tertiary institutions generate a large amount of records, both paper and electronic, with student records constituting the majority of these records. (Banerjee, 2015). In order to ensure that the records management system runs smoothly, Asuquo and Kalu, (2015) pointed that, it is critical that records are collected, utilized, and archived in a systematic manner to protect their integrity. This may be possible if registry staff is up to date on global technological trends. Registry staff needs records management skill to produce professional and quality documents (Bake, 2015). The registry department is a critical component of any system because it is in charge of creating and maintaining student records (manual and electronic). The registry is in charge of important activities including admitting new students, confirming results, maintaining archive reports, generating and distributing transcripts, conserving course forms, preparing graduate academic records, issuing certificates, notifying or stating outcomes, and so on. Registry employees are responsible for recording, keeping, and managing these records in accordance with best record-keeping procedures.

Educational institutions serve as general data generation and record-keeping centers. Preliminary investigation revealed that records becoming irretrievable when needed has become a recurring issue, particularly in Nigerian tertiary institutions, the reasons for this are difficult to comprehend. It was observed in tertiary institutions in Oyo State that student's records are sometimes poorly stored, misplaced and irretrievable and this may be as a result of staff lackadaisical attitude to work, poor communication which affects their job performance. Previous studies established that tertiary institutions lack well established record management policy for records management practices. There is also the perception that some of the facilities needed for records management practices are unavailable for use by the registry staff in tertiary institutions in Oyo State and that registry staff face challenging situations such as training, inadequate funding, inadequate storage space, epileptic power supply and lack of ICT infrastructure to perform their job which may ultimately affect their job performance and the if not addressed may have a undesirable outcome on Records Management Practices in

Tertiary Institutions. The objectives of the study are to:

1. Examine the level of job performance of registry staff in tertiary institutions in Oyo State
2. Examine records management practices in tertiary institutions in Oyo State.
3. Ascertain the availability of facilities for use in records management in the registries of tertiary institutions in Oyo State.
4. Identify the challenges faced by registry staff in their job performance in tertiary institutions in Oyo State.
5. Determine the relationship between records management practices and job performance of registry staff in tertiary institutions of Oyo State.

Research Questions

To guide this study, the following research questions were developed:

1. What is the level of job performance of registry staff in tertiary institutions in Oyo State?
2. What are the records management practices used in the registries of tertiary institutions in Oyo State?
3. What are the facilities available for records management in tertiary institution registries?
4. What are the challenges that registry staff face in their job performance in Oyo state tertiary institutions?

Hypothesis

H_0 : There is no significant relationship between records management practice and job performance of registry staff in tertiary institutions in Oyo State.

Review of Related Literature

Concept of Job Performance

Tertiary institutions are rapidly changing as new innovations emerge. This transformation is attributed to people's dedication to achieving the goals and objectives for which their institutions were established. High job performance is always a top priority for any organization. As a result, organizations have a major impact on the people working for them, and some of these impacts are reflected in how people feel about their jobs. Job performance is a labor industry word that refers to an individual's entire expected value to an organization based on discrete actions performed over a particular timeframe (Rowe and Heywood, 2012). Job performance is described as an employee's capacity to execute successfully in a

job requirement that he possesses and understands, as well as the job performance criterion that he is required to meet. Based on these definitions, it was concluded that performance is defined by judgmental and evaluating procedures, rather than by the activity itself; hence, job performance is directed toward organizational goals that are relevant to the job. (Nagim, 2018). In order to attain their objectives, organizations hire qualified employees to carry out their day-to-day functions. Their ability to accomplish these tasks at a high level determines the overall performance of the organization and its continued survival to a large extent. In light of this, it is the management's responsibility in providing the essential facilities and environment for its staff to perform well on the job. Job performance is a crucial factor that deserves more attention because of the critical impact it plays in organizational results and success.

Concept of Records Management Practices

The technique of controlling, managing, and utilizing records in an organization is known as records management. It begins with the creation of the record and ends with the disposition of the record, encompassing the entire life-cycle of the record. Collecting, categorizing, prioritizing, storing, safeguarding, archiving, maintaining, retrieving, tracking, and destroying documents are all tasks that must be completed. This simply means that records management practices as listed above ought to be observed for an effective records management in an establishment. As a result, the Records Management Policy Framework places overall responsibility for the management of records generated by institutions' operations on the heads of institutions, schools, other units, and commercial functions within the institutions (Okoli and Onuigbo, 2014). In order to succeed in adhering to records management practices in institutional registries, Records management policies should be in place to act as a guide for personnel, as well as a records classification system to expedite sound retrieval and disposal of records, and training of records managers to equip them with the necessary skills to carry out their duties efficiently. In general, Organizations should create and retain records of any issues can affect more than one party, as well as identify and document every process that generates records, according to records management theory and practice researchers (Allison, 2017). This is what motivates tertiary institutions to create and maintain records so that designated users from within and outside the institution can access them when needed. The information obtained from these created records assists the institution in making quality and efficient decisions. Records management practices in tertiary institutions are

critical for all record keepers (e.g., registry staff) and, when well maintained, will aid in the achievement of the institution's goals and objectives.

Theoretical Framework

The life circle theory has been widely accepted as a viable conceptual framework for managing records, particularly in paper management. According to this theory, records can only live once at each stage of their lives. It now clearly shows who is responsible for record management at each level. This theory divides records into three stages: (1) generation or receiving (born or adopted); (2) usage and preservation (that is, they exist actively); and (3) elimination or transfer to an archival institution (they die) (they are reincarnated). Because registries at tertiary institutions generate, use/maintain (actively and inactively), destroy or transfer records to archival collections, the life circle of records is relevant to this study. Frank Upward presented a paradigm-shifting variant of the records continuum model. It has four axes and four dimensions. The four dimensions are generate, acquire, organize, and pluralize, whereas the four axes are identification, transactional, recordkeeping, and evidential. Digital records are not the same as paper-based records in that they are not tangible objects. Because records rely on technology, the content is susceptible to transformation and conversion. The continuum model appears to be the most effective concept for handling digital records. The records continuum model is important for electronic records that are susceptible to transformation and conversion.

Campbell's work, which depicted job performance as a criterion at the individual basis, is one of the most widely accepted theories of job performance. That is, performance is an individual's behavior and something that is done by a single person. Results/outcomes are not the same as performance. The aftereffects of an individual's execution/performance are called results (Campbell, 1990). Campbell's idea of job performance has several critical components that help clarify what performance entails. To begin, according to Campbell, performance is defined as conduct and the worker is the one who completes the task and this differs from the outcomes. When describing a performance as behavior, Campbell allows for some exceptions, he emphasizes that performance does not have to be a directly visible actions of an individual that it can include mental creations such as responses or options. Whatever the case may be, performance should be under the person's control, regardless of whether the fascination is psychological or

behavioral. The next important aspect of job performance is that it must be geared toward achieving corporate objectives that are significant to the job. As a result, it excludes tasks in which extra effort is expended to achieve secondary objectives, as a result, job performance can be considered as a multifaceted construct that encompasses a variety of behaviors. This concept is relevant to this research because the performance of tertiary institution registry staff is objective based, with a focus on fulfilling the institution's key goals, which include guaranteeing the accurate management of students' data.

Methodology

This study, which is also a correlation study, used a survey research design method. This is due to the fact that it is thought to be the most appropriate since it is a non-experimental descriptive study that might be useful when a researcher wishes to collect data on phenomena that cannot be studied, such as thoughts on records and information management procedures. The population of the study comprises of all registry staff in the three tertiary institutions under study which is 1800. The Registry staff are made up of Deputy Registrars, Assistant Registrars, Administrative staff, Secretaries and other categories of staff who manage students' records in the registry. Three hundred and seventeen (317) registry staff were based on Krejcie and Morgan's method of establishing sample size, a total population of 1800 was used to generate the sample size, which states that when a population is 1800, the required sample size is 317. For this study, it was decided to employ a proportionate stratified sampling strategy to select three categories of tertiary institutions in Oyo State. These are the University of Ibadan, The Polytechnic, Ibadan, and Emmanuel Alayande College of Education in Oyo. This was done to guarantee that the study used a representative sample of the population. To collect data from respondents, a structured questionnaire was used. The study used a four-point Likert-type scale, which allowed the researcher to list options (Strongly Agree (SA) - 4 points, Agree (A) - 3 points, Disagree (D) - 2 points, and Strongly Disagree (SD) - 1 point). Three hundred and seventeen questionnaires were distributed, four unreturned indicating 1%, and three hundred and thirteen retrieved showing 99%. Data was analyzed using SPSS. The demographic segment presented the descriptive statistics of tertiary institution, current position, age, marital status, gender, educational qualification and years of working in the institution. Four research questions were analysed based on the responses from the questionnaires distributed and one research hypothesis was tested.

Data Analysis**Table 1: Level of job performance of registry staff in tertiary institutions in Oyo State****Source: Field study 2021**

S/N	Item	SA	A	D	SD	M	S.D
Effectiveness and Efficiency in Students Record Management							
1	I perform technical tasks (record creation, filing, storage etc.)	141 (45.0%)	165 (52.7%)	7 (2.2%)		3.4058	.61360
2	I am able to fulfil assigned responsibilities	137 (43.8%)	162 (52.4%)	12 (3.8%)		4.2620	5.15482
3	I am able to display initiatives, resourcefulness, creativity and productivity.	149 (47.6%)	138 (44.1%)	17 (5.4 %)	9 (2.9%)	3.3642	.71719
4	I am able to adapt and implement new technology to provide improve services.	153 (48.9 %)	136 (43.5 %)	20 (6.4%)	4 (1.3%)	3.3994	.66766
Team Work							
5	I get along well with my coworkers who manage student records.	223 (38.7%)	180 (57.5 %)	8 (2.6%)	4 (1.3%)	3.3482	.61769
6	I contribute Meaningfully among my colleagues.	121 (38.7%)	159 (50.8%)	15 (4.8 %)	18 (5.8 %)	3.2236	.78517
7	I am capable of resolving issues with my coworkers.	125 (39.9 %)	167 (53.4 %)	17 (5.4%)	4 (1.3%)	3.3195	.63562
8	The registry's employees communicate effectively with one another.	102 (32.6 %)	134 (42.8 %)	68 (21.7 %)	9 (2.9 %)	3.0511	.81095

Table 1 reveal that 52.7% and 45.0% agree and strongly agree that their records management skills help me to perform technical tasks. The table shows that 52.4% and 43.8% agree and strongly agree that they are able to fulfill assigned responsibilities while 47.6% and 44.1% strongly agree and agree that are able to display initiatives, resourcefulness, creativity and productivity. Also 48.9% and 43.5% agree and strongly agree that they able to adapt and implement new technology to provide improve services, while 57.5% and 44.7% strongly agree and agree that the student's records are classified accordingly in the registry. The table also revealed that 48.6% and 38.7 % agree and strongly agree that their

knowledge of record management practices enables me to contribute meaningfully among my colleagues, respectively, and that 53.4 % and 39.9 % agree and strongly agree that they are able to solve problems by discussing with my colleagues who have knowledge of record management practices. In addition, 42.8 % and 32.6 % agree and strongly agree that there is effective communication among all registry workers.

Table 2: Records Management Practices used in the Registries.

S/N	Item	SA	A	D	SD	M	S.D
1	Students record are created in the registry at registration point	168 (53.0%)	125 (39.4%)	13 (4.1%)	7 (2.2%)	3.4633	.70217
2	There is a written records management policy in the registry.	141 (45.0%)	155 (49.5 %)	17 (5.4%)		3.3962	.59073
3	Students records are properly stored in the registry	136 (43.5 %)	169 (54.0 %)	8 (2.6%)		3.4089	.54200
4	There is proper security gadget to secure students records in the registry	113 (36.1%)	153 (48.9%)	39 (12.5 %)	8 (2.6 %)	3.1853	.74518
5	Students records are filed in a Proper manner in the school	115 (36.3 %)	179 (57.2%)	19 (6.1 %)		3.3067	.57889
6	Students records are preserved in the registry until approved stipulated period by management	90 (28.8 %)	170 (54.3 %)	33 (10.5 %)	20 (6.4 %)	3.0543	.80479
7	Students records are easy to retrieve whenever it is needed	38 (12.1 %)	58 (18.5%)	101 (32.3%)	116 (37.1 %)	2.0575	1.02057

Source: Field study 2021

Table 2 reveal that records management practices used for registries is in form of the following. The table shows that 53.0% and 39.4% strongly agree and agree that student's record is created in the registry at registration point. Also 49.5% and 45.0% agree and strongly agree there is a written records management policy in the registry. However 54.0% and 43.5% agree and strongly agree that student's records are properly stored in the registry while 48.9% and 36.1% agree and strongly agree that there is a proper security gadget to secure students records in the registry. The table also shows that 57.2% and 36.3% agree and strongly agree that student's records are filed in a proper manner in the school. Also 54.3% and

28.8% agree and strongly agree that student's records are preserved in the registry until approved stipulated period by management. However, 37.1% and 32.3% disagree and strongly disagree that student's records are easy to retrieve whenever it is needed. The responses showed that records management practices used in the registry of tertiary institutions in Oyo State is adequate.

Table 3: Facilities Used for Records Management

S/N	Item	VA	SA	NA	M	S.D
1	Computer	133 (42.5 %)	188 (52.4 %)	16 (5.1 %)	4.0639	5.05759
2	Printers	132 (42.2%)	181 (57.1 %)		3.3482	.61248
3	Photocopying Machine	92 (29.4 %)	221 (70.6 %)		3.1885	.60415
4	Internet	88 (28.1 %)	204 (65.2 %)	21 (6.7 %)	3.0032	.83397
5	Servers	40 (12.8%)	250 (79.8%)	23 (7.3 %)	2.6645	.79214
6	Laptops	105 (33.5%)	196 (62.6 %)	12 (3.8 %)	3.0224	.85268
7	Fireproof cabinet	62 (19.8%)	198 (63.3%)	53 (16.9 %)	2.5016	.99397
8	Scanner	21 (6.7%)	284 (90.7%)	8 (2.6 %)	2.5879	.65495
9	Shredder	40 (12.8%)	261 (83.4 %)	12 (3.8%)	2.5016	.76429

Source: Field study, 2021

Table 3 reveals that 42.5% and 52.4 % attest that desktop computer is very much available and sometimes available while 42.2% and 57.1 % agree that printers are very much available and sometimes available. The table also shows that 70.6 % and 29.4% agree that photocopiers are sometimes available and very much available while 65.2 % and 28.1% of the respondents indicate that internet connectivity is sometimes available and very much available. Also 79.8% confirm that servers are sometimes available while 62.6 % and 33.5% agree that laptops are sometimes available and very much available, While 63.3% confirm that fireproof cabinets are sometimes available. The table also shows that 90.7% agree that scanner is sometimes available while 83.4 % and 12.8% responds that shredder is sometimes

available and very much available. The result of the responses shows that most of the facilities used for record management practices are sometimes available.

Table 4: Challenges Faced by Registry Staff.

S/N	Item	Yes	No	M	S. D
1	Lack of professionally trained records managers	251 (80.0%)	62 (19.8%)	2.8882	.75338
2	Inadequate funding	262 (83.7%)	51 (16.3%)	3.0863	.67622
3	Inaccurate capturing of student's information	267 (85.3%)	46 (14.7%)	3.0543	.70728
4	Record tracking and retrieval	286 (91.4%)	27 (8.6%)	3.0096	.48361
5	Inadequate storage space	264 (84.3%)	49 (15.7%)	3.0128	.57163
6	Inadequate security measure	283 (90.4%)	30 49 (9.6%)	3.0447	.61335
7	Lack of records retention and disposition schedule	292 (93.3%)	21 (6.7%)	3.1310	.54781
8	Epileptic power supply	286 (91.4%)	27 (8.6%)	3.1757	.56425

Source: Field Study, 2021

Table 4 reveals that 80.0% indicated yes that lack of professionally trained records managers constitute challenges faced by registry staff. while 81.8% confirmed yes that rigours of training of new staff is a major challenge facing registry staff. The table also shows that 83.7% accepted that inadequate funding is a major challenge facing registry staff. Also 85.3% consent that yes inaccurate capturing of student's information poses a challenge to registry staff. Further, 91.4% indicated yes that record tracking and retrieval serve as a serious challenge. Also 84.3% attest that yes inadequate storage space is among the challenges faced by registry staff while 90.4% confirmed that inadequate security measure is a major challenge facing registry staff. Furthermore, 93.3% agreed that the lack of a records retention and

disposition schedule is a challenge, while 91.4% agreed that epileptic power supply is a challenge. According to the responses, the most common challenges faced by registry staff in Oyo State are epileptic power supply, inadequate storage facilities, a lack of records retention and disposition schedule, insufficient funding, records tracking and retrieval, and inadequate security measures.

Hypothesis:

Correlation between Record Management Practices and Job Performance

		Job Performance	Record Management Practices
Job Performance	Pearson Correlation	1	.357**
	Sig. (2-tailed)		.000
	N	313	313
Record management practices	Pearson Correlation	.357**	1
	Sig. (2-tailed)	.000	
	N	313	313

Source: Field work, 2021

According to the results in the table above, there is a significant relationship between records management practices and job performance ($r=.357$, $p=0.000$ $n=313$ or 0.05). The table revealed that records management practices have a positive relationship with the job performance of registrars in tertiary institutions. As a result, the null hypothesis is rejected and the alternative is accepted. This implies that if records management practices are improved, job performance will improve.

Discussion of Findings

The study examined records management practices as measures of job performance among registry staff at a few selected tertiary institutions in Oyo State, Nigeria. This study employed four research questions and one research hypothesis. The null hypothesis was found to be false. The study's findings

revealed an improvement in the level of job performance of registry staff in Oyo State's tertiary institutions. This is in harmony of opinion with Kemoni *et al.*, (2006), who considered job performance as how workers execute tasks effectively and efficiently.

Another finding revealed that tertiary institutions in Oyo state employ records management practices for the eventual aim of handling students records and ensuring that they are accessible whenever they are required and this is in line with Adu (2014), that records management practices in tertiary institutions are critical particularly for registry staff and when well-maintained would aid in the achievement of the institutions goals and objectives.

The findings also revealed that the needed facilities for records management practices in the registries of tertiary institutions of Oyo state which will enable the staff to improve on their performance and productivity is sometimes available. This finding is consistent with Dzifa (2015) that institutions are moving away from the manual system of handling records to the electronic system through the use of computers and the internet. The findings also revealed the challenges faced by registry staff in Oyo state such as epileptic power supply, inadequate storage facilities, security issues etc. this is consistent with the observations of Popoola (2013) who agreed that there are issues with creating records in tertiary institutions which if not effectively handled will make it difficult for institutions to achieve their purpose. Mwangi (2017) in supporting this revealed that managing records was a major challenge.

The hypothesis reveals there is a significant relationship between records management practices and job performance. Where $r=.357$, $p=0.000$ or < 0.05 , the table revealed that records management practices has a positive relationship with job performance of registry staff in tertiary institutions. The null hypothesis is rejected and the alternative accepted. This implies that when there is improvement in records management practices, job performance will improve and this is consistent with (Allison, 2017).

Conclusion

Job performance remains critical for any institution that is committed to maintaining high standards of records management practices. The study's findings have shown that records management practices plays significant part in the job performance of registry staff because when there is improvement in

records management practices of registry staff in Oyo State's tertiary institutions, job performance will improve. It was also established that registry staff face challenges in managing student's records and that most of the facilities needed by them to perform effectively are sometimes available.

Recommendations

- i. Registry staff should improve on their job performance by ensuring that they follow proper record management practices because it has been established that if records management practices improve, job performance among registry staff will improve.
- ii. There should be proper records management policy in place in tertiary institutions in Oyo State to guide registry staff in records management practices.
- iii. Management of tertiary institutions should provide the needed facilities for record management practices in the registry which will enable the registry staff to improve on their performance and productivity.
- iv. Registry staff of tertiary institutions in Oyo State face challenges in their record management practices. It is therefore necessary for institutions to do the following to reduce these challenges: train their registry staff, adequate funding of the registry, providing alternative power supply, providing storage space and facilities for records use, proper records retention and disposition schedule.



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Social Support and Productivity of Academic Staff of Polytechnics in Ogun State

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Abstract

Employees' productivity remains the basis for organisational survival, growth and sustainability. Organisational relationship culture, concern for people, people-oriented ideals and notions in work organisations, among others, emphasise the importance of social support. The purpose of this study was to examine the influence of social support on the productivity of academic staff of Polytechnics in Ogun State, Nigeria with particular focus on supervisors and organisational supports. A total of 300 academic staff of Polytechnics in Ogun State were randomly selected using systematic sampling technique. Data were collected with a 5-point likert scale questionnaire tagged "Social Support and Productivity Questionnaire (SSPQ). Two hypotheses were formulated and tested with multiple regression analysis at 0.05 level of significance. It was found that supervisors and organisational support engender different levels of variations in productivity of the academic personnel as organisational support accounted for higher productivity of the academic staff than supervisors support. It was concluded that the two forms of social support examined are essentially important to engender desired level of academic staff productivity in terms of job morale, commitment, good work attitude, qualitative teaching, research efforts, etc. It was recommended, among others, that Polytechnics in Ogun State and other institutions of higher learning, government and other employers of labour should adopt workers-oriented policies and practices, offer appropriate and adequate support to their academic and other categories of staff with a view to improving their productivity.

Keywords: Social support, productivity, academic staff, polytechnics

Background to the Study

Every organisation has specific goals to achieve either in short or long run. The achievement of such goals which depicts the performance of the organisation and an indication of the level of the organisation's growth, depends considerably on the attitude and productivity of workers. Thus, the productivity of people in respective of their status in an organisation is of fundamental importance to the workers themselves, employers, organisation (commercial or non-commercial) and to the national economy at large.

Employees' efficiency and effectiveness at work are directly tied productivity or performance. The general thought is for members of a work organisation to diligently utilize their work hours. Productive employees focus on the right things at the right times (Akinyele, 2010; Padayachee, 2021). When employees are productive, they will manifest positive inclination towards every aspect of the organisation and make efforts to contribute to work engagement without any feeling of frustration. Consequently, good performance reinforcement and outcome will result for the workers and their employer (Padayachee, 2021).

An important part of any national system is the education sector and prominent in the Nigerian education system is the Polytechnic sector. The Nigerian Polytechnic education is set essentially for the production of technical human labour that is required to achieve technological growth and sustain industrial expansion (Ibrahim, 2017). For the institutions in the Polytechnic sector to realize their fundamental objectives and strategic goals, it is crucial to have resources and mechanisms of engaging and utilizing competent and well satisfied teams of academic staff, among others. The academic staff in the Polytechnic sector are saddled with the mandate for the "promotion of technical and vocational education and training, technology transfer and skills development to enhance the socio- economic development of the country" in addition to teaching, learning, research (Amaniampong, 2014). However, Polytechnic academic staff, from time to time, face some constraints in terms of infrastructure, funding, lack of supportive research condition, uneven policy enactment and use among institutions owned by the Federal Government of Nigeria and those owned and funded by state governments, communication and decision-making problems, administrative style, workload, etc. As a result, many studies have examined different factors affecting the productivity of this category of workforce but little

or none addressed the issue of social support for academic personnel in the Polytechnic sector of the Nigerian educational system. This shows that despite a number of studies that have established the importance and need for perceived and received social support on workers' attitude and performance, there has been lack of focus and attention to these factors on the productivity of academic staff in Polytechnics. Hence, an investigation into the influence of social support on the productivity of academic personnel in Nigerian Polytechnics is significant.

Literature Review

Productivity is defined as “the contribution towards an organisational end result in relation to the amount of resources consumed” (McNeese-Smith, 1997). It is an indicator of desirable performance level of workers and a measure of work accomplished (Bain, 1982; Taiwo, 2010). Productivity remains a crucial determinants of organisation's bottom line in both public and private enterprises (Maarleveld & Been, 2011). Hence, the goal of every organisation to maximise earning or ensure quality service offering is only realisable through the effort and contributions of the workers (Balogun & Olowodunoye, 2012).

Various combinations of factors characterize the productivity of people in a number organisations and professions with varying level of impact on the productivity of the workforce (Gosnell, et al, 2019). One of such factors which remain a critical feature of the workplace is social support (Gottlieb, 2000; Rhoades, & Eisenberger, 2001; Eisenberger, et al., 2002; Chandra, 2012), yet a subject not popular explored in the discourse of employees' productivity (Pridgeon & Whitehead, 2013; Tommy, et al. 2019)

Since employees spend a major part of their time at workplace with a view to achieving economic benefits and meeting several personal and career needs, (Srivastava et al., 2007; Chou, 2015), the form of social support depicted by interpersonal relationship and workplace behaviour between workers and management as well work group and team supervisors can enhance both psychological and behavioural functioning of the workers and their productivity (Harris, Winskowski, & Engdahl, 2007; Lu, Gilmour, & Kao, 2001; Chou, 2015). Krause (2004) noted that most people either at work or any form of association characterised by the interplay of human interactions, often turn to social resources in the form of help, compassion, recognition and value. The more one is integrated, the more one can cope with the effects of stressful events. In this way, employees' perception of social support from the organisation reflects their

belief on how their employer or organisation portend either positive or negative disposition towards them and obviously shows how they are valued, how their efforts is recognized and the concern of the organisation for their welfare (Eisenberger, et al., 2002).

Social support is an intricate multi-faceted concept having diverse usage, types, source and foundational frameworks. It is described as the availability of individuals who show care, assistance, kindness and offer support to each other (Beehr & Glazer, 2001). It relates to the encounter which makes someone feel that he is recognised, valued, catered for and a notion of being a part of a group or team (Fernandes & Tewari, 2012). Gottlieb (2000) defined social support as “the process of integration in relationships which improves coping, esteem, belonging and competence through actual or perceived exchanges of physical or psychosocial resources”. It is the perception and reality of being cared for, assisted, and that one is part of a social network that is supportive (Taylor, 2012; Miguel, et al., 2014). Support can be received from a number of source and such as co-worker, friends, acquaintances, family, employer, etc. (Tamers, et al., 2011).

According to Williams (2005), social support entails the actuality of social relationships having structure, elements and forms that reflects the type and level of support that can be received. The supportive nature of any form of social network and relation depends on reciprocation among members, level of access to available support. Potential strong cooperation's might be deliberate or inadvertent and adversely either the recipient or the provider. The effect of possibly steady communications is affected by acknowledgment of a singular's need and the degree to which strong ways of behaving are seen to have fulfilled the need or brought about a positive result for the beneficiary.

Different forms of social support in literature explain the differential relationship this variable has with outcomes and other variables (Uchino, 2009). Researches indicate that there are at least two specific aspects of social support: perceived and received (actual) social support (Gottlieb, 2000). Perceived support refers to “a recipient's subjective judgement that providers will offer (or have offered) effective help during times of need”. Received (also called enacted support) “refers to specific supportive actions (advice or reassurance) offered by providers during times of need” (Gurung, 2006). Perceived and received social supports are affected by the attribute and factors of the recipient such as their emotional condition, need assessment, self-concept, resources available efforts put in place.

Characteristics and factors relating to the support provider such as willingness, enthusiasm for steps taken and confidence for possible outcome of their actions could influence social support (Williams, 2005).

Another two forms of support distinguished in literature are structural and functional forms of social support (Lakey & Cohen, 2000; Beehr & Glazer, 2001; Uchino, et al., 2012). Structural support (social integration) is the “mere presence of supportive others in various life domains, including families, organisation, social and religious groups. It provides a sense of predictability and stability and therefore impacts a person's overall sense of well-being” (Glazer (2006). Structural support addresses “the presence of supportive others without indication of how these structures are supportive and can be characterized by an employee's network of co-workers and supervisors without regard to the specific functions they may serve” (Lakey & Cohen, 2000; Beehr & Glazer, 2001). In contrast, functional support implies that supportive people are performing some function for the focal person, such as praise, positive feedback, approval or information (Uchino, et al., 2012). In other words, functional support is the actual provision of tangible or intangible support mechanisms.

According to Beehr & Glazer (2001), emotional and instrumental backings are different types of help that yield various results. As Ducharme and Martin (2000) noticed, basic encouragement is the arrangement of sensations of acknowledgment and care in a warm and amicable way and can be given deliberately or unwittingly and can be as simple as paying attention to somebody talking about their ongoing circumstance. Instrumental help is more directive and substantial than everyday support. it is characterized as actual assistance capable of solving problem or contributing to task accomplishment through the provision of necessary resources (Beehr and Glazer, 2001). This type of help incorporates arrangement of unmistakable assets, for example, monetary help, supplies to aid task performance as well as provision of essential information to aid job completion. A related type of instrumental help is alluded to as informational support, which covers the availability of information that could help organise, comprehend and adapt to problem situation (Cohen and Wills, 1985). For somebody to have the option to offer instrumental help, the person in question needs to know what the issue is, create time for it, exhibit good capacity and competence to manage it, and above all, truly wants to help (Glazer, 2006).

In an organisation, the different support types can be received from co-workers, supervisors and even the management of the organisation. Co-workers can provide emotional and instrumental support through the day to day interactions with their co-workers and healthy relationship among group members (White, et al., 2019; Sergeant & Terry, 2000). Support from supervisors often involves showing concern for the subordinates, offering encouragement, giving access to essential resources and tools, mechanism for control and feedback, opportunities for personal growth, information and assistance to deal with constraints and stress factors (Babin & Boles, 1996; Kaniki, 2003). This source of support might be more important to an employee than other sources of support because of the supervisor's position and hierarchy makes supervisory support more important to an employee than any other form of social support (Beehr & Glazer, 2001) as the supervisor is suitably positioned to guide and mentor the subordinate on group mandate, task behaviour, performance standard and goal accomplishment (Kaniki, 2003).

Perceived organisational support is the general feeling of employees about how they are valued by their employer, the significance of their role and how the organisation is interested in their wellbeing (Eisenberge, et al., 2002). Employees assign human characteristics to the organisation and perceive it as having a favourable or unfavourable orientation toward them. The extent to which employees perceive their organisation as supportive is influenced by promotions and developmental exercises, supervisor support (Wayne, Shore & Liden, 1997) involving fairness, organisational rewards and favourable job conditions. Numerous positive consequences arise when employees perceive organisational support, including reduced turnover, absenteeism, withdrawal behaviour and increase affective commitment and performance (Rhoades & Eisenberge, 2002). The present studies focus on supervisory and organisational forms of social support and determines their influence on the productivity of academic personnel of Polytechnics in Ogun State.

Objective of the Study

The objective of this study was to determine the influence of social support on productivity of academic staff of polytechnics in Ogun State. Specifically, the study aimed to determine the combined and relative influence of supervisory and organisational forms of social on the productivity of academic personnel of Polytechnics in Ogun State.

Hypotheses

In line with the objective, the following hypotheses were formulated:

- H₀1: There would be no significant combined influence of supervisors support and organisational support on the productivity of academic staff of Polytechnics in Ogun State.
- H₀2: There would be no significant relative influence of supervisors support and organisational support on the productivity of academic staff of Polytechnics in Ogun State.

Methodology

This study adopted a descriptive survey design in which questionnaire was employed as instrument of data collection on the variables under investigation. The population comprised all academic staff of the Federal Polytechnic, State Polytechnics and privately-owned Polytechnics in Ogun State. A sample of 300 academic staff was selected randomly from the Polytechnics in the State. In selecting the sample, 100 academic staff were chosen from the Federal Polytechnic Ilaro being the only Federal Polytechnic in the State, 140 from State Polytechnics and 60 from Private Polytechnics.

A structured questionnaire designed on a 5-point likert scale was used for data collection. The instrument was tagged "Social Support and Productivity Questionnaire (SSPQ) and used of existing structured scales with appropriate properties. Items for organisational support were adapted from Eisenberger, et al. (1986), Survey of Perceived Organisational Support; Shanock & Eisenberger, (2006) while items on supervisors' support scale were drawn from Chou (2015) Social Support Scale and Rhoades, et al. (2001). Workers' productivity scale consisted of 13 items adapted from Employee's Performance and Productivity scales of Teseema & Soeters (2006). The Pearson Correlation test of the instrument yielded coefficients of 0.84 for social support and 0.82 for employees' productivity.

Results and Discussion

Out of the 300 copies of the questionnaire administered, 290 were returned, 6 were improperly filled and thus rendered invalid. Therefore, 284 questionnaires were scored and the data were subjected to analysis. The prediction of the independent variables over the dependent variable was tested using regression analysis at 0.05 level of significance.

Table 1: Summary of Regression Analysis for combined influence of supervisors support and work environment to productivity

Statistics	Values
Multiple R	0.247
R-square	0.0618
Adjusted R square	0.054
F-value	9.148
Standard Error	5.97046

The result shows a positive relationship of between supervisors support and organisational support with productivity and indicates a regression value ($r = 0.618$) for the joint influence of the independent variables (supervisors' support and organisational support) on productivity, meaning that 61% variation in productivity of academic staff can be attributed to combined impact of supervisors' support and organisational support.

Table 4.8: Regression of supervisors support and organisational support with Productivity

	Sum of squares	Df	Mean Square	F-value	P-value
Regression	652.163	2	326.082	9.148	0.000
Residual	10016.636	281	35.646		
Total	10668.799	283			

Level of Significance $P \leq 0.05$

The result above indicates F-value of 9.148 and P-value of 0.000 which is significantly less than 0.05. Hence, the test is significant and the null hypothesis is rejected. Therefore, it was upheld that supervisors support and organisational support have significant combined influence on the productivity of academic staff of Polytechnics in Ogun State.

Table 3: Results of stepwise multiple regression analysis for relative influence of supervisors support and organisational support on productivity.

Variables	Parameter Estimates	Std. Error	T	Beta(β)	P
Constant	80.728	5.104	15.81	-	0.00
			5		0
Supervisors Support	-0.107	0.049	-2.185	0.130	0.03
					0
Organisational Support	-0.162	0.053	-3.076	0.183	0.00
					2

Level of Significance $P \leq 0.05$

Table 3 shows the relative influence of supervisors support and organisational support on productivity. Both supervisors support and organisational support have impact on productivity as supervisors support has a P-value of $0.030 < 0.05$ and β -value of 0.130 and organisational support has a P-value $0.002 < 0.05$ and β -value 0.183. The result suggests that supervisors support contributes 13% and organisational support contributes 18.3% to productivity.

Hypothesis one measured the combined influence of supervisors support and organisational support on the productivity of academic staff of Polytechnics. The result gives a positive combined relationship of $r = 0.247$ for supervisors and organisational supports with productivity of academic staff and it indicates that about 61% variation in productivity of academic staff can be attributed to the combined influence of supervisors support and organisational support in the Polytechnics.

Hypothesis two was postulated to determine the relative influence of supervisors support and organisational support on the productivity of academic staff of Polytechnics in Ogun State. The result shows that supervisors support and organisational will cause different levels of variation in the productivity of the academic personnel. The result is an indication that supervisors support has a

relative influence of 13% on productivity which implies a low contribution to the productivity of the academic staff. On the other hand, organisational support has a relatively high impact on productivity of academic staff and can cause an influence of 18% in the productivity of academic staff Polytechnics. The result implies that there is a difference in the relative influence of the two independent variables on the dependent variable, indicating varying extent to which each of the independent variables influences the prediction of productivity.

On the relative influence of supervisor support, the result suggests that when used alone will propel very low influence on productivity of academic staff. Other factors, such as gender, head of departments and other staff members, interpersonal relationship, status and job position, co-worker mutuality, etc. among members of the academic staff category could account for this. The result also revealed that perceived support from the organisation in terms of institutional policies and mechanisms for training and development, career progression, short and long term professional and academic advancement, teaching and learning policies, research interventions and grants, among others, drive academic staff to higher productivity. The results conform with Lakey and Cohen (2000), Beehr and Glazer (2001) and Kaniki (2003) that social support from co-workers, supervisors and the organisation as whole are important in reducing work-related negative outcomes and driving the workforce to higher productivity. The productivity of the academic personnel is reflected in how they engage in quality teaching, learning and research. Productive lecturers are enthusiastic and will put in extra effort into knowledge acquisition of students, provide students with quality learning materials, meet deadlines on institutional responsibilities, assignment and cultivate good disposition to standard of education.

Conclusion

Based on the findings of this study, it is concluded that social support (perceived and received supervisors and organisational supports) are important work factors that cannot be ignored for good and effective performance and productivity of academic staff of Polytechnics in Ogun State and other similar organisations. Both supervisors support and organisational support are essentially important to engender desired level of productivity of academic staff productivity in terms of job morale, commitment, good work attitude, qualitative teaching, remarkable research efforts, etc.

Interpersonal relationships and interactions and sufficient co-workers, supervisors and organisational support, among other things, within the Polytechnics are extremely important to the functionality of the institutions determine how resourceful, efficient and effective the Polytechnics are in meeting their mandates. The process by which the goals of institutions and those of the individual academic personnel become increasingly integrated is important and can be achieved in a supportive and rewarding work situation.

Recommendations

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

1. Academic staff of Polytechnics should be provided with adequate infrastructural support to promote effective classroom delivery. Management of Polytechnics should also provide adequate tools and conducive facilities to facilitate academic work effectiveness. In addition, new technology should be embraced to enhance a paradigm shift in work process and procedures and create a system that attracts, keeps and motivate the academic staff as well as encourage learning and research.
2. Efforts should be made by Polytechnics and other academic institutions to create effective work environment of creative, comfortable, satisfactory and motivating supports so as to give academic staff sense of pride and purpose in what they do.
3. Social interaction between heads of departments/units and academic staff should be encouraged and conflicts should be resolved immediately to improve employees' morale. Social events and interaction positively influence morale and generate enthusiasm to work.
4. Heads of departments and units should show empathy by actually entering into subordinates' experience and standing beside and for them in their feelings, rather than standing above them in pity.
5. Effort should be made to ensure that the social support desired by employees' match what is provided by the employers to avoid the psychological imbalances that may ensue if a different type of support is provided than what the recipient wishes to receive.

6. Employers should endeavour to emphasize the necessity and techniques of providing social support among members of a work group in different ways. Interpersonal relationship and social engagements should be encouraged by management of Polytechnics and other institutions. This will help to understand social exchange and how such exchange influences work related outcome positively.



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**Job Motivation, Leadership Styles and Job
Performance of Library Personnel in University
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Lead city university

Abstract

The work performance of university library staff has a great impact on the library service delivery to users globally. The way the university library personnel perform their duties effectually the more patrons satisfied in using the library and its resources. So also, the effectiveness of the leadership style adopted by library managers has an important value on the standard of the library outcomes and the motivation packages employed in the library also verify the effective operation service delivery of the library. Lack of flexibility of the leadership style, inadequate motivation for library personnel and failure in meeting their responsibilities of ensuring sufficient, accessibility and retrieval of information service becomes difficult for users to enjoy the services of the library. Based on this idea, this study aims to systematically investigate the impact of job performance, work motivation, and leadership styles of university library staff in Oyo State, This study will adopt a quantitative research approach, survey research design and consensus sampling technique to choose the entire 157 library personnel for the study due to manageable number of population. Data would be analyzed using SPSS and the test of relationship of the hypotheses between the variables will be levels of significance at 0.05, this study is anticipated to indicate however to show how job motivation and leadership styles contribute significantly to the work performance of library staff.

Keywords: *Job Motivation, Job Performance, Leadership Styles, Library Personnel*

Introduction

The performance of personnel in the university library goes a long way in either making an organization achieve success or drawback in relation to its vision and mission statement. The more the university library personnel carried out their duties effectively, the more the library patrons make use of the library and its resources which will encourage and improve the quality of their learning and research output. Job performance is the discharge of main tasks based on workers' specialization towards the achievement of an organization's aims (Fattah, 2017). The work done by library personnel is categorized into three which are managerial, practical and advisory. Managerial works dwell majorly on the administration of library consisting of development and management of the daily activities in the library. Whereas the practical services are concerned with the technical duties of library such as acquisition, cataloguing and classification, serials. The consultative service ensures that library users are contacted with the information materials they need through tasks at the lending desk or reference desk. Consistent with this, Researchers have identified various aspects of job performance including: Task performance, contextual performance, and adaptive performance.

Task performance is the discharge core duty which has direct implications on the accomplishment of vision statements of an organization. It covers real job description for which an organization is known and for which its employees performed. In the context of the library, task performance is the core duties discharged by the librarians such as: acquisition of information resources, reference services, cataloguing and classification, circulation services, user education and so on. Adaptive performance is the ability of employees to adapt to changes in the work environment. Modern librarianship requires a significant level of adaption due to the myriads of changes caused by emerging technology, dwindling funding and changes in the format and mode of information delivery. Lastly, contextual performance is the readiness of employees to help out one another; taking up the duty of an indisposed or busier person, being friendly, serving as mentors to new recruits and generally promoting the interest of the organization. In order to excel in all these dimensions of job performance, Library personnel must have a sense of self-actualization in job motivation with effective and acceptable leadership style.

Job Motivation is referred to as an incentive that drives library personnel to perform an assigned duty designated diligently (Ali & Ahmed, 2016). Thus, if the library wants its library personnel to perform effectively as information professional and achieve the university's goals, it must understand the kind of motivation factors that will help the library personnel to perform well. In this context, motivation is an effective task in the library where employees are happy, engaged and in the library when they are released from their duties.

Job motivational can be seen in various models and theories developed by scholars in the field of organizational behavior such as Herzberg's identification hygiene factors and motivators as the main components of employee motivation. The hygiene factors do not motivate employees but can reduce their level of dissatisfaction if the factors are not provided or not used the way they should be. These include organizational policies, management, pay, social relationships, and employee situations, among other things. Motivators factors make people happy when their needs for leaving and personal growth are meet. These factors include achievement, recognition, work itself, and responsibility. If the hygiene issues are taken care of, the motivators' factors will make the job more enjoyable and the organization productive. Therefore, leadership style implemented by the library management is highly significant in achieving the library objectives.

Library managers across the world have understood the importance of applying the right leadership style especially in an era of constant changes where the job descriptions as well as the skills requirements for librarians keep changing. Library management success or failure in Nigeria hinge on the impact of the leadership style on library management. There are different types of leadership styles including Autocratic, Democratic Leadership Style, Human Relations, Transformational, Transactional and Lassiez-Faire Leadership Style (Yaya, Uzohue, & Akintayo, 2016). This study discusses Autocratic, Democratic and lassiez -faire. The role of leadership is therefore very important to effectively manage change in libraries just as it is in any other organization this is because when the library managers adopted leadership styles that impact negatively on library personnel, it may lead to dissatisfaction, low job performance and high intention to quit. On the other hand, when the library managers adopt appropriate leadership styles, it creates a highly motivated workforce which enhances their ability and intent to perform their duties in the organization. Against this

background, this study tends to examine the impact of leadership styles and work motivations on the ability of library staff at university libraries in Oyo, Nigeria,

Problem of the Statement

Library is been considered as the backbone of any educational institution and the warehouse of knowledge , for library to perform excellently, such library must be well equipped, meeting the demand of their patrons, committed to University goal and objectives, increase in quality of work, adequate management of library resources, efficient and effective in their mode of operation on daily basis. Library personnel core duties which are: discharging of books, meeting library patron demand, ensuring quality of work, effectiveness and efficiency, commitment, the consistency of both leadership and performance need to be clarified through the style and approach that managers seek to achieve .this requires a specific leadership approach to unique performance challenges to achieve department's goals. This cannot be achieved if the leadership of the library fails to meet its obligations or if the style of leadership is mistakenly applied at a particular point in time.

Lack of flexibility of the leadership style by most University Librarians is the major problems observed by the researcher (Nnaeto & Ndoh, 2018). They often find that the style of leadership adopted in the library affects the efficiency, effectiveness, involvement and quality of their work.

Another problem is the absence or inadequate motivation for library personnel to do more on their daily work. If library personnel were not promoted as at when due, compensation for extra duties activity and work in an in-conducive environment, it will be difficult for them to performed that duties and such may have effect on their performance at the same time have effect on the library overall operations. The motivation packages used in the library also determine the operation service of the library (Martin, 2016).

The library personnel failure in meeting their responsibilities of ensuring sufficient availability.

Services becomes challenging for users to enjoy the services of the library. Efficient management of the library depend on library personnel for the daily running of library ,in other for them to be effectual in their jobs there is a need for sense of accomplishment in what they do. Sadly, this is not the case. Some libraries

experience poor leadership style which delays the useful performance of the library personnel. There are many factors that influence the job of library personnel; however the quality of leadership available could be the most critical determinants of final achievement. These styles and job motivation are subjected to test in the study to investigate the impact on the performance of library staff (Sougui, 2015). Nevertheless, it is necessary to consider whether to consider whether leadership style and job motivation can affect the job performance of these library personnel. Against this background, this research is being conducted on job motivation, leadership styles and performance of library personnel at the University libraries, Oyo State is carried out.

Objectives of the Study

The general objective of this study is to examine the impact of motivation, leadership styles and job performance of library personnel in universities Oyo State. The specific objectives are to:

- i. determine the level of performance of library staff among universities, Oyo State, Nigeria;
- ii. determine the level of job motivation of library personnel among universities in Oyo State, Nigeria;
- iii. examine type of leadership styles (autocratic, democratic, laissez-fair) adopted among university libraries in Oyo State, Nigeria;
- iv. ascertain influence of job motivation (promotion, compensation, conducive work environment) on job performance of library personnel among universities. Oyo State, Nigeria;
- v. examine the influence of leadership styles (autocratic, democratic, laissez-fair) on job performance of library personnel among universities in Oyo State;
- vi. determine the combined influence of job motivation (promotion, compensation, conducive work environment) and leadership styles (autocratic, democratic, laissez-fair) on job performance of library personnel among universities in Oyo State

Research Questions

- i. What is the level of job performance of library personnel among universities in Oyo State, Nigeria;
- ii. What is the level of job motivation (promotion, compensation, conducive work environment) of library personnel among universities in Oyo State, Nigeria;

- iii. What are the type of leadership styles (autocratic, democratic, laissez-fair) adopted among university libraries in Oyo State, Nigeria;

Research Hypotheses

H₀₁: The work motivation (promotion, compensation, comfortable working environment) of university library personnel in Oyo, Nigeria, is not significantly affected

H₀₂: There is no significant impact of leadership style (dictatorship, democracy, laissez-faire) on the ability of university library personnel in Oyo to perform their duties.

H₀₃: There is no combined effect of motivation (promotion, compensation, facilitating working environment) and leadership style (authoritarian, democratic, laissez-faire) on the ability of university library personnel in Oyo to perform their duties.

Literature Review

Scholars have conducted studies to evaluate the job performance of librarians from all over the world and the findings have varied just as the location and the types of libraries were different. Researchers from South-south Nigeria examined the effect of organizational features on performance of librarians. The study adapted the Value-based Performance Scale, developed by three European researchers to gather respondents' opinion on performance. Interviewing 38 library personnel from eight southern and southern institutions, the study found that the effect of Pearson product moments corresponded to an average score of 64.8 SD = 13.8. And $r = 0.762$; $p < 0.05$ indicates that the librarians surveyed have high job performance [7].

A group of researchers examined the effect of work environment on the performance of 189 academic librarians with the aid of research survey and questionnaire in public universities in South-West, Nigeria. The Analysis tested at 0.05 level of significant. job performance result indicate that librarians in South-West, Nigerian Universities are not satisfied with their level of performance 60 percent of them reported that performance can be rated as fair. Majority of the respondents (69%) also believed that they are unable to contribute as much as they would prefer to the growth of the library. In addition, respondents' ability to respond to user queries is disappointing (54%), and response times can only be

evaluated as fair. Librarians do not meet the minimum requirements for promotion in terms of research productivity, 52% say research productivity is reasonable, about 28% say it is lower, and only 20% say their production. He said it was highly sex (Amusa, Iyoro, & Olabisi, 2013).

Researchers in Delta have investigated that librarians in the northern central zone of Nigeria are likely to adopt a democratic leadership style. This is followed by a regulatory and much more dictatorial style of management. It has also been shown that the leadership style of university librarians does not significantly affect the ability of professional librarians to perform their duties (Arumuru, 2019).

Similarly, another Rivers State researcher investigated the style of democratic leadership in the performance of library staff in the library. An exploratory research design was used for the survey and the data collected. The study found that democratic leadership styles in academic libraries have a positive impact on library staff performance, as they lead to higher staff productivity. The style workgroup was very productive and the subordinates showed a high level of job satisfaction. A style of democratic leadership is encouraged and recommended by Academic librarians, as it leads to improved job performance of subordinates and, as a result, user satisfaction with library services (Kalu & Okpokwasili, 2018). When employees are motivated and positive, they are willing to serve their customers and provide quality service. This will certainly satisfy customers with the type of service they are receiving.

Researchers conducted a survey on compensation management and employee satisfaction in Nigeria. They find that compensation management influences job satisfaction (motivation), monetary and non-monetary compensation, and that staff job satisfaction is an important factor in determining librarian job satisfaction. The author investigated the impact of compensation and motivation on job satisfaction in Saudi Arabia through a questionnaire as a data collection tool, and 568 employees participated in the survey. Researchers used regression analysis to conduct studies to test the relationship between reward, motivation, and job satisfaction. The results showed that reward had a positive impact on motivation, motivation had a positive relationship with job satisfaction, and reward had a positive and significant impact on job satisfaction (Chiekezie, Emejulu, & Nwanneka, 2017).

Another study investigating the impact of motivation on the performance of associate professionals in the Kaduna tertiary institution Library. The survey used survey methods and used structured questionnaires and structured interview questions to collect survey data. Research results show that the main strategies for motivating paraprofessional library staff were fixed salaries, job design, job rotation, job expansion, job enhancement, promotion, education and training (Usman, Abdulraheem, Eromosele, & Olukade, 2018).

Methodology

Descriptive survey design will be used for the research because it narrates the facts and characteristics of an individual, groups or situation. The population for this study comprises all Librarians, Library officers and assistants' in the University libraries, Oyo State, Nigeria. The total number of library Personnel under study is expected to be one hundred and fifty seven (157). The sampling procedure of non-probability of consensus sampling method will be adapted to manageable number of population and this is used to select the entire 157 library personnel from the 8 universities in Oyo States. The use of consensus technique is because the population of the library personnel in the states is not much and it is the method suitable for sampling such manageable population. The study will make use of questionnaires to collect data and it will be analyzed with the descriptive statistics. Frederick Herzberg's theory of motivation identifies certain factors in the workplace that cause job satisfaction, but another set of factors causes dissatisfaction. Hygiene factors such as salary, physical workplace, security, status, relationships and oversight reduce employee dissatisfaction with the work environment, while motivations such as awareness and achievement drive employee productivity, creativity and involvement. Hygiene factors are designed to continue production, and motivation increases production. Motivational factors had to be incorporated into the work so that employees can be truly satisfied and perform minimum standards. This theory will be employed to underpin this study because it stated that Individual performance in the workplace is influenced by the basic needs needed to maintain performance and the needs of overrides needed to improve performance. It also states that in order to motivate employees, organizations must look beyond financial rewards. Theory identifies achievement, promotion, awareness, work itself, responsibility, environment, and development as motivational factors for individuals to enjoy and improve performance in the workplace.

Operationalization of Constructs in Frederick Herzberg

H₀₁: There is no significant impact on incentives on job performance of library staff among universities in Oyo State, Nigeria; stimulus

H₀₂: There is no significant influence of library management on job performance of library staff among universities in Oyo State;

H₀₃: There is no combined effect of job incentives and library management on the ability of job performance of library staff among universities in Oyo State

According to Nigeria University Commission, there are 8 universities in Oyo State and this is being considered for the work, focus population for the study will comprise all Librarians and Library Personnel University Libraries, Oyo State. Which include: Ajayi Crowther University, Oyo (15), Lead City University, Ibadan (17), Kola Daisi University, Ibadan (3), Dominican University, (6), Precious Cornerstone University, Ibadan, (2), Atiba Technical University, Oyo (1), University of Ibadan, Ibadan (76), Ladoke Akintola University, Ogbomosho (40). The total number of library Personnel under study is expected to be one hundred and fifty seven (157). However, inferential statistics such as linear and multiple regressions will be used to analyze the study hypotheses and test relationship between the variables at zero.05 levels of significance. This population of the study is described in Table 1.

Table 1 Population of the Study

S/N	Universities	Librarians	Library Assistants	Library Officers
1	Ajayi Crowther University, Oyo	7	3	5
2	Lead City University, Ibadan	9	2	3
3	Kola Daisi University, Ibadan	2	1	-
4	Dominican University	4	2	-
5	Precious Cornerstone University, Ibadan	2	-	-
6	Atiba Technical University, Oyo	1	-	-
7	University of Ibadan, Ibadan	27	-	49
8	Ladoke Akintola University, Ogbomosho	18	-	22
	Total	157		

Source: University Administration Office from each University (2021).

Source: University Administration Office from each University (2021).

Research Validity, Reliability

The research is checked by experts in the field of library science, doctoral students, and supervisors and lecturers in the information management department. Their comments, criticisms, useful advice, and inputs regarding both explicit validity and content validity are used and investigated to standardize the equipment and make it more appropriate for research based on those useful answers. The device will change before it is sent to the respondents. .. Pre-tests or pilots will be conducted with library staff at Joseph Ayo Babalola University ikeji Arakeji, Osun to ensure the reliability of the research tools. Thirty copies of the questionnaire will be distributed to library staff in the university's main building in one business day, and the data collected will determine the coefficients of the equipment.

Expected Contribution

Research results are expected to be useful in various fields. Such as policy makers in the field of librarianship as a field of study, practicing librarians, as well as being a significant contribution to knowledge regarding the factors driving the effectiveness of library personnel. The empirical data is expected to guide policy makers in their making process on how to improve or maintain optimal performance in academic libraries. The outcome of this study will enable University Librarian and the top managers to be aware of the role expected of them as leaders in shaping and tailoring the library to achieve its goals. It will also assist the management of the libraries in providing policies that will motivate library personnel to improve on daily duties and contribute meaningfully to library overall objectives and goal.

The findings are thus expected to be of benefit to overall development of librarianship as a profession by providing insights into how leaders can bring out the best in their subordinate and motivate them to be creative and innovative which will improve the quality of library services.

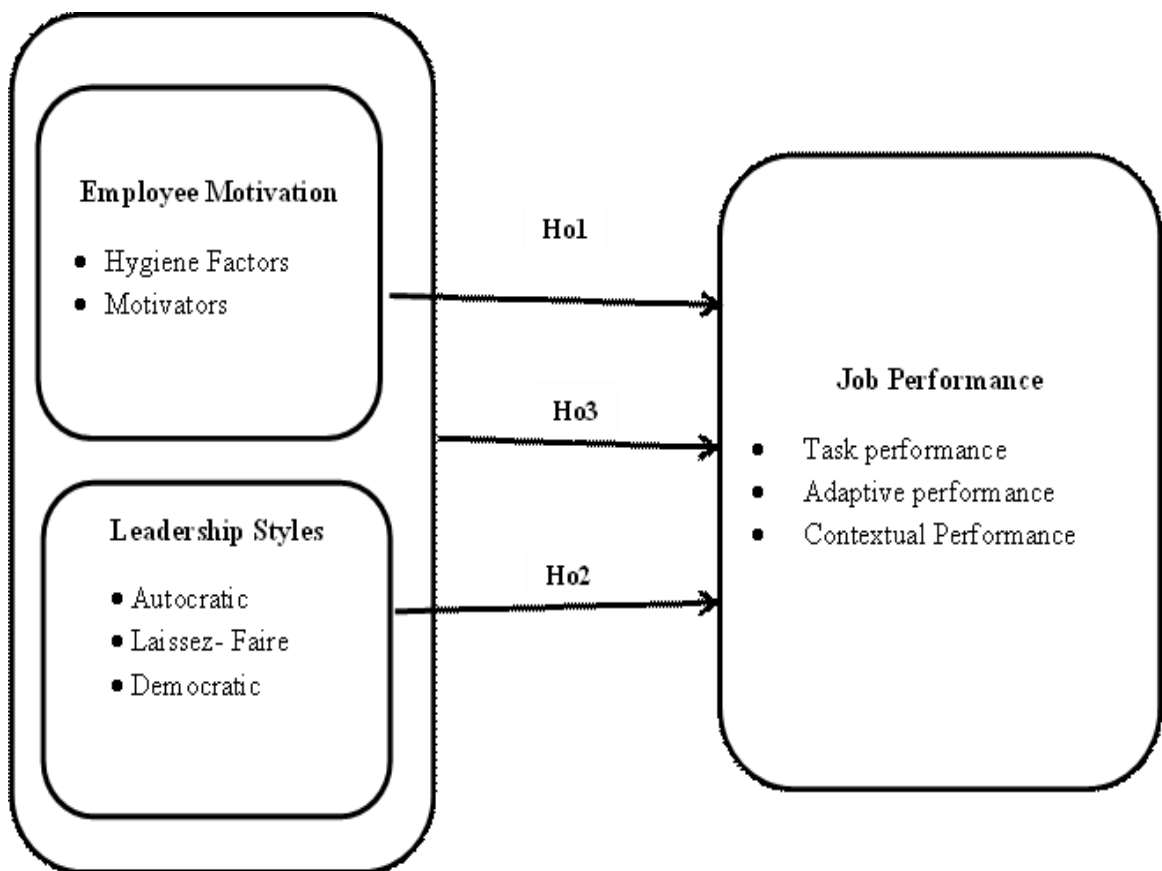
Furthermore, the study will expose practicing librarians, especially those in management, to the relevance of various leadership styles and guide them in discovering the right leadership style. In addition to work motivation packages for effectiveness and work performance improvement, to other researchers who may be focused on understanding the concepts of effective leadership and work

motivation. Research that is useful and has a great impact on society, as well as other researchers in related fields can use the findings for the future. Finally, it will serve as a benchmark for further research materials for student policy makers and other scholars and also serve as a reference and materials for further studies.

Conclusion

The importance of the job performance of the library staff in Nigeria university libraries cannot be over emphasized. If library management can adopt appropriate leadership styles and job motivation, it will create a highly motivated workforce which will enhance the job performance of library personnel and intention to stay subsequently in the library, helps library to achieve its vision and mission statement. Therefore, it is high time library management embraced these factors to improve job performance of the library which will go a long in redefining libraries in Nigeria university.

Conceptual Framework



Source: Authors' Compilation


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Roles of Technological Innovation in Enhancing the Service Delivery of Information Managers in Public Organizations in Ekiti State

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Abstract

Technological innovation enabled service delivery and having significant impact by generally being more cost effective than traditional supply investments. The broad aim of this study is to examine the roles of technological innovation in enhancing service delivery of information managers in public organizations in Ekiti state. The researcher used a survey method and sampled one hundred and fifty (150) respondents who are information managers from Federal Polytechnic Ado Ekiti (FPA), Ekiti State University (EKSU) and Federal University of Oye Ekiti. (FUOYE). Instrument used for this research work is questionnaires. Findings revealed that the use of technological innovations such as computers and other ICT facilities have and play a significant role on the service delivery of information managers. It was concluded that, with the advancement in technology, the performances of information managers in public organizations are better enhanced. Lastly the researcher recommended; The organizations should make available relevant modern office technologies to all the departments of the organization; The organization should give the information managers opportunities of training on the job to enable them operate with modern trend of office technology and also regular attention to the provision of adequate maintenance and constant review of the performance of these machines is necessary.

Keywords: Technological Innovation, Service Delivery, Information Management, Public Organization, ICT.

Introduction

Over the last fifteen years, the adoption of new technology by public institutions has resulted in widespread innovations and transformations across many parts of the public sector. Over this time period, the most significant technological advancement has been in information and communications technology (ICT), which has had a significant impact on public services and their delivery, both through websites and portals on the Internet, mobile phones, and particularly smart phones, and social media. ICT-enabled service delivery is having a big impact because it's often cheaper than traditional supply investments. They also provide information managers with significant advantages in terms of access, convenience (due to 24/7 availability), time and cost savings (because to less travel to physical locations), and the capacity to offer whole new sorts of services.

A development in the utilisation of technologies is required for an organisation to accomplish its defined objectives efficiently. In this era of technological advancement, the entry of sophisticated machines into the office has sparked questions among information managers about whether the traditional functions of information managers will be destroyed by the employment of machines. This horror led to acts of sabotage against office technologies, particularly when there was a communication gap between organisations, management, and workers prior to the implementation of such advances.

Western countries have fully embraced technology advancements, with machines now performing tasks that were previously performed manually by information administrators. The role of the information manager is one of the areas where technological progress and automation have an impact. Accounting and sales are two other areas that are impacted. As a vital instrument of an organisation, the information manager must be subjected to training on as many various types of office computers and technology as feasible. Technological innovation/innovation, according to Chouldhi (2016), plays a significant role in the development of organisations because it allows individuals exposed to perform certain operations. As a result, technological advancements make the job of an information manager more effective, appealing, and lucrative, while also improving the quality of the job.

Furthermore, organisations purchase advanced technical tools to improve the manager's job delivery, work-task facilitation, improved communication, increased efficiency, and higher levels of organisational effectiveness. The emergence of advanced technology has altered the way in which jobs are performed. Employee performance improved as a result of technological innovation, as did employee working effort and job completion time.

New technology is crucial not just for public organisations, but also for the country. Organizations cannot function using outdated technology. When humans or employees use technology for the benefit of the organisation and in accordance with ethical standards, it improves human performance. Individuals have a difficult time adopting technology; however, groups of people do. Technological innovation reduces the workload of managers.

Computers, electronic mail, word processors, telex machines, and other office machines are all used by an efficient and effective information manager. Despite this, some office managers oppose the introduction of office computers, claiming that they would result in job losses, while others welcome them, claiming that they will increase work efficiency and effectiveness. As a result, this claim must be investigated. Previously, the duties of an information manager were performed using manual machines such as a manual typewriter, filing, giving and receiving information, processing and editing information before it was dispatched, and writing reports, but technology has now automated the office manager's office to improve workplace activities. To utilise these systems, information managers require training. In the absence of such experience and skilled staff, the organisation may suffer a setback, or the information management may require training. This is the foundation of this research, which aims to determine the influence of technological innovation in improving the service delivery of information managers in Ekiti state's public organisations.

The overall goal of this research is to investigate the role of technological innovation in improving the service delivery of information managers in public organisations in Ekiti state, as well as to determine the level of technological tool availability and usage in improving the service delivery of information managers in public organisations in Ekiti state, and to identify the handicaps and challenges that information managers face when using modern technologies and machines.

Research Questions

1. To what extent would technological innovation affect the service delivery of information managers?
2. To what extent is the availability and usage of technological tools in enhancing the service delivery of information managers in public organizations in Ekiti state?
3. What challenges do information managers encounter in the office while using modern technologies and machines?

Conceptual Review

Service Delivery

Service delivery can be described as any interaction with the government in which customers — citizens, residents, or businesses – seek or supply data, manage their affairs, or carry out their responsibilities. These services should be given in a way that is efficient, predictable, dependable, and friendly to customers (Huselid, 2017). The distribution of basic services is referred to as service delivery.

Technological innovation and Employees Performance (Information Managers)

The act of merging and structuring knowledge to develop new ideas is known as technological innovation. The advancement of technology has an impact on the performance of managers (Mumford, 2016). Internal advancement originates from employee competence, and internal advancement comes from technological innovation. As a result, there is a strong link between technological innovation and the performance of managers. Only when human resources properly combine technology with other resources, or when technology is used productively and ethically, can it contribute to enhanced productivity or improved performance (Dauda & Akingbade, 2018). The performance of information managers is greatly influenced by technological progress. Technological innovation is a critical aspect in affecting performance improvement (Hitt, 2017).

Training and Technological innovation

Every organisation must have training; training corrects flaws identified at the time of employee appointment and prepares personnel to meet upcoming progression obstacles. Employee training not only stimulates them, but it also serves as a spark for completing any new assignment at work. According to Becker (2017), training allows employees to put their acquired abilities to use.

Organizational information managers with advanced expertise are valuable resources, and they are always learning new skills and knowledge to help with the creation of new technology. Training can help them increase their knowledge and skills for advancement.

Training is a long-term endeavour. It's a continuous and methodical procedure. Employees have been analysed, and the firm's needs have been assessed. Following that, the specified training programme is adapted. The organisation adapts a training approach that is consistent with the employees' needs while also meeting the organization's objectives (Singh & Mohanty, 2016). Training is not only useful to individuals in terms of improving their job abilities and skills, but it is also necessary for businesses to fulfil their objectives. Organizations must manage and develop highly qualified personnel in order to gain a competitive advantage over competitors.

Motivation and Technological innovation

Motivation is defined as a shift in behaviour that is not due to individual differences that are stable. Motivation refers to a person's willingness to put out effort toward a specific set of behaviours (Quinone, 2017). The motivation of information managers has a direct impact on technological innovation. To improve the progression process, information managers require organisational incentives (Harsanyi, 2019). Material and non-material incentives can be distinguished; material incentives are mostly based on financial gain, whereas non-material incentives are primarily based on social approval. Incentives that are both material and non-material can be used to suit the various needs of information managers involved in technological innovation activities (Gruber, 2016).

Internal motivation is a sensation that originates from within. When information managers are enthusiastic about their professions, they are more likely to work harder. When a person is not motivated by self-interest, he or she is at risk of being dismissed or not being promoted further. As a result, it is vital to establish such a workplace for Information Managers in order for them to feel inspired and perform at a higher level. Motivated information managers, according to research, are critical to an organization's success. Motivation is an important aspect in determining how well someone performs. Individuals are in charge of containing

this driving energy. It is concerned with individual behaviour, and people act in order to attain something in order to meet their wants (Saeed & Asghar, 2018).

Motivation and Manager's service Delivery

There is a lot of evidence that showing individuals that they are valued and that their contributions are essential and recognised is the greatest way to get a devoted and motivated staff to go the additional mile. Managers will perform better if they believe their accomplishments and efforts are recognised and rewarded. Our goal is to encourage a shift in pay culture and change the way people are handled by inspiring employees to achieve and offering more clarity on their objectives. Improvements in performance and improving standards are both important factors that contribute to an organization's success and ensure that we have the best people in the right jobs who are motivated to stay (Rudge, 2016).

Motivation is a factor that can influence service delivery in an organisation, according to the literature. Here we have another metric, motivation, which we must examine to see if it has an impact on service delivery, i.e., if increased or decreased motivation improves or degrades the performance of information managers in the business. Motivation is critical in persuading office managers to achieve organisational goals, as individuals set their own objectives. This inner drive and motivation drives individuals to generate constructive behaviour in the organisation, which has a beneficial impact on job delivery, in order to meet unmet and specialised demands. Recognizing employees' efforts and work while they are performing their jobs, providing a healthy work environment, and designing pleasant job designs based on their needs allows organisations to achieve their objectives more efficiently. Motivation improves performance in this way. (2016, Khan).

Training and information managers' performance

Training aids in the bridge-building process between information managers and management. It allows them to actively engage in decision-making and produce active output. After training, the information manager's coordination with peers, subordinates, and senior officers improves. These types of actions improve the organization's image in the eyes of think tanks that aim to maximise its value. Training not only improves an employee's mental abilities, but it also provides physical benefits, such as active participation in decision-making, which can help relieve mental stress (Farooq & Khan, 2015).

Employee loyalty to the organisation is also linked to the performance of information managers. Low commitment leads to low performance, while great commitment leads to high performance. So, in basic terms, when employees are deeply engaged to the organisation, we may infer that their performance is excellent. Employee commitment to the organisation improves as a result of training. Employees that are committed to an organisation work for it for a long time. Training boosts employee skills, which forces organisations to improve employee perks and pay. Scholars and researchers agree that training increases employee loyalty to the business, yet training does not generate the desired results.

Technology Acquisition

Acquisitions have an unmistakable impact on the organization's technical innovation. This assessment is critical from the standpoint of organisational learning and innovation, as it helps to define how companies receive and utilise external knowledge. Some theories of technological change claim that increased knowledge base leads to increased innovation (Griliches, 2020). The impact of acquisitions on a company's technological innovation output can be considered in the context of the acquisition's technological inputs. Acquisitions can have two different effects on technological innovation capacity. To begin, an acquisition of another organisation can be viewed as the absorption of the acquired organization's knowledge base into the knowledge base of the acquiring organisation (Ahuja & Katla, 2018).

Technology Exploitation

For organisations, especially public institutions, the timing of exploitation is critical. Window of opportunity closes quickly in public organisations, and having early access to know-how or technology that enable rapid exploitation can mean the difference between finishing first and dropping out (Reinganum, 2017). Previous study has demonstrated that collaborating to realise technical potential is the most effective way to get resources for exploitation. Early collaboration allows organisations to establish themselves and gain access to critical technology from her management. (Mosakowski, 2016).

The Productivity of Information Managers when Using Modern Technologies

Modern technologies have had a significant impact on the performance of information managers. Modern technologies are revolutionising office operations at an alarming rate due to technical progress around the world. So much so that no

two days at work are the same. Modern technologies are required for proper document management in every firm. Modern technology, on the other hand, have made people fearful. According to Olusegun (2018), in another fifteen years, there will be nothing left for workers to perform because technology and automation will have advanced to the point that machines will be able to operate themselves. Furthermore, managers in the 1960s predicted mass unemployment as a result of the introduction of computers that would allow them to perform their work more efficiently and in a shorter amount of time; however, by the end of the decade, fear had vanished because there was no mass unemployment, only changes in the nature of information management work.

Challenges of managers in the Usage of Modern technology

According to various authors, modern technology boosted and improved the Manager's efficiency and accuracy in achieving organisational objectives. It's embarrassing to learn that most office managers have a lot of issues with the sophisticated devices they're expected to deal with due to a lack of training on how to handle these technologies in today's office. If organisational objectives are to be met, proper attention must be paid to the use of office automation machinery. Despite the numerous advantages provided by new technologies, office managers nevertheless face some difficulties in carrying out their responsibilities. The difficulties are as follows:

Inadequate or lack of modern facilities and technologies: According to Ootobo (2017), the automated office employs sophisticated technology to deliver information more quickly. Nonetheless, it is costly, causing public companies to supply only a few whiles relying on other old devices to supplement the information manager's efforts.

Constant power failure: Computers, projectors, scanners, printers, smart phones, and other technological devices are used. These can't be used unless there's a power source. For the Manager to effectively execute and harness the benefits of such technologies, a constant power supply is required. Umar (2019) backed this up by claiming that energy in Nigeria has been unpredictable, making it difficult for technologies to function properly.

Lack of funds: Grace (2018) cited a lack of cash as another barrier to the procurement of new technology in some government offices, resulting in the Manager's office becoming impoverished due to a lack of technology.

Lack of training and retraining: Due to a shortage of money, training information managers has become extremely challenging. Any organization's unwillingness to send its office managers to training would stymie the learning of new skills and competences required to operate modern technologies. As a result, the development of new technology necessitates the learning of new skills. As a result, office managers must be trained and retrained in order to make use of new technologies.

Other challenges according to Ojohwoh (2019) are:

Conservatism, a poor internet connection, the high expense of new technologies, a lack of management support for acquiring technical innovations, and so on.

Theoretical Framework

Theory of Technological Innovation

The theoretical framework used in this study is Wolfensohn's (Wolfensohn, 2000). He claims that technical innovation refers to the finding of new and better ways to manufacture commodities. Changes in technology result in higher labour, capital, and other productivity. It can be utilised to boost value in a variety of areas, including financial, social, physical, and intellectual. He divided the technological stages in the office information and management field into four separate stages, which he believes advanced countries go through before reaching the stage of development. The stages are research and development, ascent, maturity, and decline, according to Wolfensohn 2000. Innovators, early adopters, early majority, late majority, and laggards are the five chronological demographics that make up the adoption of various technologies. To do so, you must first identify an issue, then produce various solutions, choose the best one, build a model, test it, tweak and retest it as needed, then present the final solution. As a result, the framework's assumption is based on the above-mentioned steps, which must be implemented to suit the needs of information managers and management in general.

Empirical Review

Various researchers have researched technological innovation, and multiple empirical studies on the impact of technical innovation on information managers' service delivery have been done. Gabriel (2000) explored the impact of technological innovation on office workers in private organisations in Edo State, collecting and analysing relevant secondary data to reach the paper's goal. The outcome demonstrates that technological innovation aids in the transformation of the office system in order to meet organisational objectives. Nwoye (2004) investigated the impact of technological innovation on office people in private firms in order to determine whether technological innovation may aid in improving office worker performance. The findings suggest that technology innovation has a favourable impact on office worker performance.

Adelusi (2008) looked into the impact of ICT on secretaries' service delivery in public institutions in Osun. According to the findings, information and communication technology (ICT) aids in improving secretarial performance and the office system's image. Adeoye (2012) examined the effect of technology education on information manager in private organisation in Oyo State. The study adopted the use of technological model analysis to explore the effect of technology evolution on office information and management. The result indicated that technology improves the efficient performance in office information and management. Hauben (2016) investigated on the roles of technological innovation on the performance of office personnel in tertiary institutions in Ekiti state. The study analysed the relationship between technological innovation and office employees using quantitative time series data and multiple regression approaches. According to the findings, every office worker needs to keep up with technological advancements in order to do their job properly.

In Kogi State, Enijini (2018) investigated the impact of technological innovation on the performance of information managers in government parastatals. The research is based on the science and technology studies (STS) tradition, which investigates how social interactions and institutions drive innovation in science and technology, as well as the technological qualities that affect social arrangements when implemented. The findings suggest that there is a social interaction between technology innovation and office information managers and management that can shape office information and management.

In light of the findings of previous research, the purpose of this study is to investigate the impact of technological innovation on the service delivery of office managers in Ekiti State's public organisations.

Conceptual Framework

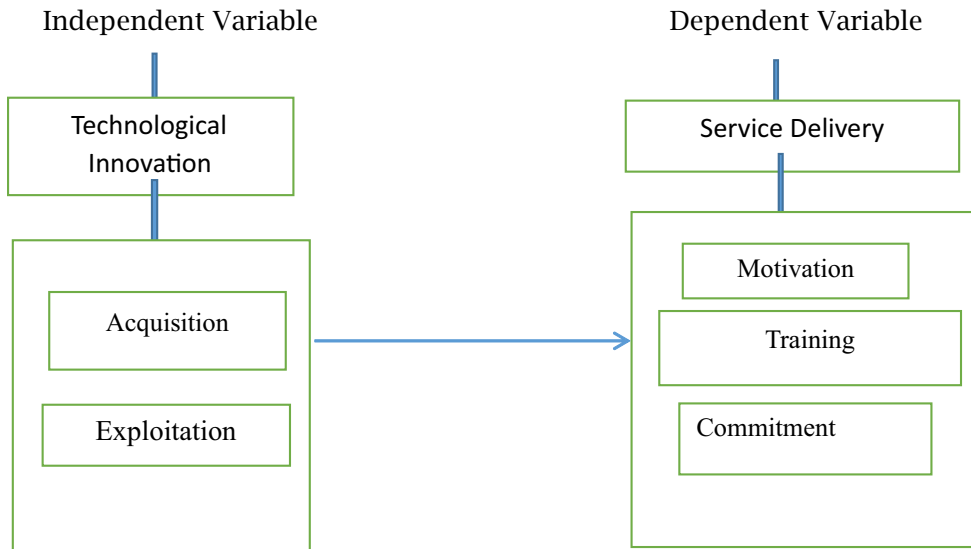


Figure 1: Conceptual Framework

Source: Researcher Design 2022

The model has two variables, as shown in figure 1, with the dependent variable being service delivery and the independent variable being technical innovations. These two variables are employed in this study. As adapted from Pavitt, the measures of service delivery are motivation, training, and commitment (2009). This study's independent variable is technical innovation, which is quantified through acquisition and exploitation. The study identified two indicators of technical innovation, which were adapted from Richard's (2010) work since they were relevant to the study.

Methodology

The study employed the survey research design. According to George (2017), survey is the investigation of behaviour, opinion or other manifestation of a group of people by questioning them. The study aims at collecting data for analysis in the most adequate way for the chosen population of the study. The main source of data was through administration of questionnaires. The data collected from respondents were analysed using simple percentage method.

Sample and Sampling Techniques

A total of one hundred and fifty (150) information managers were selected from Public organizations in Ekiti State and were used as sample population for the study. one hundred and fifty (150) questionnaire copies were administered to respondents which comprise selected information managers of the public organizations in Ekiti State. The questionnaires were distributed as follows: Federal polytechnic Ado Ekiti (50), Ekiti State University (50) and Federal University of Oye Ekiti. (50). All the questionnaires were returned for processing.

Validation of the Study Instrument

Two Directors at the Federal Polytechnic, Ado-Ekiti, were given a draft copy of the study instrument (questionnaire) for face and content validation. These resource persons' input was taken into account, and required changes were made.

Reliability of the Instrument

Following the validation of the study instrument, the test-retest reliability approach was used to administer 10 copies of the validated instrument to respondents who were not part of the sample. It took two weeks from the initial test (administration) to the final administration of the instrument on these selected respondents.

Data Analysis

The data collected was put into tables and analysed using the simple percentage approach. The total number of respondents to a particular item was divided by the total number of questionnaires returned, then multiplied by a hundred to get the percentages.

The following are the methods used in the analysis:

$$\frac{F \times 100}{N}$$

$$N = 1$$

Where F = frequency of Responses

Where N = total number of respondents

100 = percentage figure

1 = constant figure

Research Question 1: To what extent would technological innovation affect the service delivery of information managers?

Table 1: Roles of technological innovation on the service delivery of information managers.

S/N	Items	Total No. of respondents	Agree	%	Disagree	%
1	The use of ICT facilities ensures job accuracy.	150	111	74	39	26
2.	The use of computer eliminates time wasting.	150	123	82	27	18
3	Computer creates neat document.	150	97	65	53	35
4	The use of computer enhances productivity of information managers.	150	105	70	45	30
5	Computer ensures quick data processing.	150	131	87	19	13

Source: Field Survey, 2021

Interpretation of Data

From the above result, 111 respondents representing 74% indicated that the use of ICT facilities ensure job accuracy of the while 39 respondents representing 26% disagreed. In item 2, 123 respondents representing 82% indicated that the use of computer eliminates time wasting while 27 respondents representing 18% disagreed. In item 3, 95 respondents representing 65% indicated that Computer creates neat document while 53 respondents represent 35% went on disagreement. Item 4, stated that the use of computer enhances productivity of information managers 105 respondents representing 70% agreed and 45 respondents representing 30% disagreed. In item 5, 131 respondents representing 87% were of the opinion that computer ensures quick data processing while 19 respondents represent 13% disagreed.

Research Question 2: To what extent is the availability and usage of technological tools in enhancing the service delivery of information managers in public organizations in Ekiti state?

Table 2: Availability and usage of technological tools

S/N	Items	Total No. of respondents	Agree	%	Disagree	%
1.	The use of modern machines helps in easy passage of office information.	150	104	69	46	31
2.	Are technological tools available for information managers in your organisation?	150	60	40	90	60
3.	It enhances fastest means of communication in the office.	150	121	81	29	19
4.	It saves the cost and time of mail posts or information delivery.	150	109	73	41	27
5	The use of modern technologies reduces office fatigue for information managers.	150	103	69	47	31

Source: Field Survey, 2021

Interpretation of Data

From the above result, 104 respondents representing 69% indicated that the use of modern machines helps in easy passage of office information while 46 respondents representing 31% disagreed. In item 2, 60 respondents representing 40% agreed that technological tools are available for information managers in their organisation while 90 respondents representing 60% disagreed. Item 3 stated that modern technology enhances fastest means of communication in the office, 121 respondents representing 81% agreed while 29 respondents represent 19% disagreed. In item 4, 109 respondents representing 73% agreed that modern technology saves the cost and time of mail posts or information delivery while 41 respondents representing 27% disagreed. In item 5, 103 respondents representing 69% indicated that the use of modern technologies reduces office fatigue for information managers while 47 respondents represent 31% disagreed.

Research Question 3: What challenges do information managers encounter in the office while using modern technologies and machines?

Table 3: Challenges of information managers using modern technologies and machines in the office.

S/N	Items	Total No. of respondents	Agree	%	Disagree	%
1.	Lack of Access and Security	150	99	65	51	35
2.	Irregular power supply	150	120	80	30	20
3.	Lack of poor and further training.	150	117	78	33	22
4.	Inadequate Automation	150	100	67	50	33
5	Lack of technicians	150	116	77	34	23

Source: Field Survey, 2021

From the above result, 99 respondents representing 65% indicated that one of the challenges facing information managers in the office is lack of access and security while 51 respondents representing 35% disagreed. In item 2, 120 respondents representing 80% indicated that among the challenges facing information managers in the office is irregular power supply while 30 respondents representing 20% disagreed. In item 3, 117 respondents representing 78% indicated that that among the challenges facing information managers in the office is lack of poor and further training of employees while 33 respondents represent 22% disagreed. In item 4, 100 respondents representing 67% indicated that among the challenges facing information managers in the office is inadequate automation while 50 respondents representing 33% disagreed. Finally, in item 5, 116 respondents representing 77% indicated that among the challenges facing information managers in the office is lack of qualified technicians while 34 respondents represent 23% disagreed.

Key findings

- i. Based on the above analyses, it was found that, the use of technological innovations such as computers and other ICT facilities have and play a significant role on the service delivery of information managers.
- ii. It was also found that, there are no enough technological tools for information managers to effectively carry out their duties in such a way that will enhance good service delivery and progress of the organization.
- iii. The findings finally revealed that lack of access, problems of power supply, lack of training, lack of technicians etc. posed as the challenges facing information managers in public organizations in Ekiti State.

Conclusion

Based on the findings, the study concludes that technological innovations have become an important part of organization administration as these technologies standardize office routines, relieve managers, enhances quality and accuracy of service delivery. The study stressed that with the advancement in technology, the performances of information managers in public organizations are better enhanced. The study also concludes that technological innovations are of great assistance to the managers in the office and that information managers adapts very well to the modern technologies put in place. through proper training.

Recommendations

Based on the above conclusions, the following recommendations were made by the researcher:

- i.) The organizations should make available relevant modern office technologies to all the departments of the organization.
- ii.) The organization should give the information managers opportunities of training on the job to enable them operate with modern trend of office technology.
- iii.) Finally, regular attention by the management of the organization to the provision of adequate maintenance and constant review of the performance of these machines is necessary. The organization should contact with reputable companies in the areas of modern office technologies routine devices.


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Innovation Capability and Customer Perspective of
Deposit Money Banks in Ibadan, Oyo State, Nigeria

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Abstract

Customer perspective (CP) is an integral part of organizational objectives which must be fulfilled for an organization to retain its customers. Customer satisfaction is the key to the profitability of banking and other financial institutions in Nigeria as it involves bank customer's satisfaction and retention. Deposit money banks (DMBs) is critical for socioeconomic wellness of economies globally. However, studies have shown that customer perspective of DMBs is perceived to be low. With this decline, performance of banks has aggravated into bad customer service. Hence, this study investigated the influence of innovation capability (IC) on CP of selected DMBs. Cross-sectional survey research design was adopted. Population consists of 20,000 staff in the selected banks with a sample size of 377 staff determined through Krejcie and Morgan formula. Stratified random sampling technique was used to select employees from all management levels in the selected DMBs. A validated questionnaire was used to collect data. The reliability co-efficient for the constructs ranged from 0.77 - 0.97. Data collected was analyzed using descriptive and inferential statistics. Findings revealed that IC had significant influence on all measures of Customer Perspective ($Adj R^2 = 0.160$, $F(4,291)=10.271$, $p= 0.000$). This study concluded that IC significantly influences CP of DMBs in Ibadan, Oyo State, Nigeria. It was recommended that, management of the banks should re-energize their commitment to all IC dimensions for customer's retention, while they continue to adopt the appropriate strategies such as training and establishing communities of practice that will in turn aid customer satisfaction which in turn will lead to organizational performance of DMBs.

Keywords: Innovation Capability, Customer Perspective, Customer satisfaction, Money Deposit Banks;

Introduction

Banks and other financial institutions are one of the most crucial components of every country's financial system. They play a significant role in determining the efficacy and efficiency of the financial system and constitute the essential infrastructure through which money flows from savers to investors in different sector of the economy. They give a mechanical way to combine saving and transform them into investment. For almost a decade, banks have been influenced by developments linked with globalization and financial liberalization. Reacting to these developments, banks broaden the range of services supplied to the clients and increases their dependence on technology (Laketa, et al, 2017). (Laketa, et al, 2017). Financial institutions, notably banks, have been severely influenced by the assessment of technology; competition between banks has led them to find new market to develop, and the number of financial institutions that provide electronic banking products are on the rise. Internet banking has since been on the increase from every channel by which to conduct banking activity, for example, transferring funds, paying bills, viewing checking and savings account balances, paying mortgages and purchasing financial instruments and certificates of deposits (Haque et al, 2019). (Haque et al, 2019).

Internet banking is a consequence of researched possibilities to employ internet application in one of the numerous fields of business. It is impossible to discern if the internet technology has been employed for convenience of bankers or for the customers' convenience. But eventually it aids in boosting the efficiency of the banking operation as well giving additional convenience to clients. Without ever engaging with the lenders, clients transact from one part of the nation to another corner. In internet banking, trust, security and safety are the most significant challenges for the banks. Beside them, to create and keep the customers' confidence and contentment has become a big for banks notably in online banking (Aladwani, 2019). (Aladwani, 2019). Majority of the clients hesitant to utilize online banking services because of cybersecurity and privacy problems (Lee & Turban, 2019). (Lee & Turban, 2019). The security concerns have a big role to lower customer satisfaction which has led to bad attitude of consumers towards their banks. Satisfaction of bank clients via technological innovation alters consumers' perception favorably (Akinbo, Adenekan, & Ibiro 2021). (Akinbo, Adenekan, & Ibiro 2021).

Innovation capabilities affect customers' attitude towards banks to a considerable level, Innovation is recognized as a vital driver for long-term performance of organizations in today's competitive marketplaces (Baker & Sinkula, 2012; Darroch & McNaughton, 2002). (Baker & Sinkula, 2012; Darroch & McNaughton, 2002). Businesses with the potential to innovate are able to adapt to market difficulties quicker and better than non-innovative organizations (Brown & Eisenhard, 1995; Faiña Medín et al., 2016; Miles & Snow, 1978). The appropriate type of innovation and investments in new technology and tactics would assist banks increase their efficiency and overall performance and growth (Beck et al., 2012; Stiglitz, 2010). (Beck et al., 2012; Stiglitz, 2010). The usage of Innovation is well emphasized in all the operations of an entire business, from the creation of an idea through the presentation of a product or service to the market. Five phases have been shown to exist by certain academics as a continuing innovation process, this includes: concept development, study and extension, application, commercialization, and internalization (Hamel, 2016). (Hamel, 2016).

Innovation is claimed to be considered as a process through which key ideas are converted into new techniques of additional value for the firm, consumers, workers and investors. With relation to organizational innovation, it is not necessary that every worker as such desires to be innovative. Creativity should be considered as a group endeavor to enhance the degree of innovation as part of an asset of the company. This "refinement" between individual and the stakeholders is vital for organizational innovation. Consumer happiness cannot be underestimated since it affects much of customer viewpoint about banking services particularly electronically, a lot of money has been invested on the establishment of e-banking systems in several nations. However, studies demonstrate that prospective consumers do not use them despite their accessibility, which has generated worries among banks. Therefore, it is needed to uncover characteristics that effect people's predisposition to utilize Internet banking services in enhancing marketing techniques (Lundahl, 2018). (Lundahl, 2018). Moreover, as users' attitudes towards adopting new information technology have a fundamental effect on the success of information technology adoption, it is vital to know the elements that affect their opinions. With the increasing growth of e-commerce, the Internet, and the financial and banking sectors, clients are encouraged to utilize online banking (Mishkin, 2019). (Mishkin, 2019). Some of the measures that impact consumer viewpoint regarding the usage of electronic banking are security of transaction and speed of transaction. Security of transaction is any transaction obtained by one party from the other party in

connection with the transfer envisaged under this agreement. Speed of transaction is the amount of time a system takes to perform a transaction. In light of the foregoing debate, this article tends to examine the effect of innovation capabilities on customer impression of money deposit banks.

In addition, several scholars have focused on diverse areas of innovation capability and customer satisfaction in different sectors both in the developed and developing countries with various designs but not specifically on innovation capability and customer perspective in the banking sector within Nigeria (Onamusi, Ashihkia & Makinde, (2020; Levy, (2018; Damanpour, .2015; Samina, Nazir, Zaid & Fawad, 2018). This informs out that innovation is the only method to attain excellent customer satisfaction. Hence, this research explored the effect innovation capability may have on customer perspective of DMBs in Ibadan, Oyo State Nigeria. This research also will offer response to the main issue of 'what is the importance of innovation capacity in obtaining optimum customer's pleasure in the chosen banks in Ibadan, Oyo State, Nigeria?'

Literature Review

Theory and Hypotheses Development

Resource Based View evolved in 1980s and 1990s following the important works released by Wernerfelt, B., Prahalad and Hamel, Barney, J. et al. The resource-based view (RBV) is a management paradigm used to assess the strategic resources a corporation may use to achieve sustained competitive advantage. It concentrates management attention on the firm's internal resources in an attempt to discover those assets, talents and competencies with the potential to offer superior competitive advantage. Achieving a durable competitive advantage sits at the basis of most of the literature in strategic management and strategic marketing. Resource-Based approach provides strategists a technique of examining prospective elements that might be employed to bestow a competitive advantage. A major insight originating from the resource-based approach is that not all resources are of equal value, nor do they exhibit the potential to become a source of sustained competitive advantage. A large lot of management work must be put in discovering, understanding and categorizing essential abilities. In addition, management must engage in organizational learning to build, nurture and preserve essential resources and capabilities.

In this idea, strategists pick the strategy or competitive stance that best leverages the internal resources and competencies compared to external opportunities. Given that strategic resources reflect a complex network of inter-related assets and competencies; firms might take numerous alternative competitive postures. The key managerial tasks are as follows: identify the firm's potential key resources, evaluate whether these resources fulfil the following criteria (valuable, rare, imperfectly imitable and non-substitutable), develop, nurture and protect resources that pass these evaluations (Adenekan, Ibrionke, & Onamusi, 2022). (Adenekan, Ibrionke, & Onamusi, 2022). By inference, innovation capability from the perspective of RBV, is a strategy through which banks may obtain competitive advantage at this era and period.

Innovation capability and customer satisfaction

Innovation is the use of resources to generate value for the consumer and the organization by creating, enhancing and commercializing new, current goods, processes and services (Hassan, 2015). (Hassan, 2015). Base on the previous study, the definition of Innovation Capability would be a capability of organization to generate new idea, process, product and service effectively. Schumpeter (1995) discovered that Innovation Capability has a large and positive influence on Customer Satisfaction. Cummings (1998) said that creative indicates that firms are generating something new to improve their consumer share and to meet their demands. Because innovation implies coming up with something distinct and different from competition, it should be the outcome of a great consumer experience. (Dodgson et al., 2008) study consumer happiness in connection to service innovation and customer value. The findings reveal that both service innovation and customer value have strong positive correlations with customer satisfaction and that service innovation has a significant intervening (or moderating) influence on the link between customer value and customer satisfaction. It shows that better customer satisfaction develops when hotel consumers sense more customer value and higher service innovation.

Talaja (2013) gathered data from 264 Croatian enterprises that were big and mid-sized to evaluate the performance-effect of foreign firms' innovation capabilities. The research demonstrated that organizations that possess innovative knowledge obtain superior success, and this is independent of the size of the company. Further investigation indicated the foreign business had greater potential to produce new product and therefore enjoy higher product performance, which boosted their customer trust and happiness. In a comparable research, which

connected Talaja's work, was Tuan, Nhan, Giang, and Ngoc (2016) study. The authors analyzed data from 118 Vietnamese enterprises in diverse sectors, discovered that every dimension of innovation (marketing, process, organization) had a positive effect on customer satisfaction. Moreover, the author pointed out that a larger degree of inventive activities would cause an increase in the firm's fortune. In a similar research, but concentrating on medium-sized enterprises in Northern Nigeria, Mohammed et al. (2017) gathered data from 280 firms. The outcome using PLS-SEM indicated that innovation capabilities explained considerable variance in customer satisfaction. This results further reinforced the suggestion of previous experts (Jiménez-Jiménez & Sanz-Valle, 2011), who mentioned that innovation is a vital aspect for organizations eager of obtaining corporate success. On the foundation of this debate, the research predicted that:

H2 - Innovation Capability has a substantial effect on the customer viewpoint on organizational performance in the chosen deposit money banks in Ibadan, Oyo State

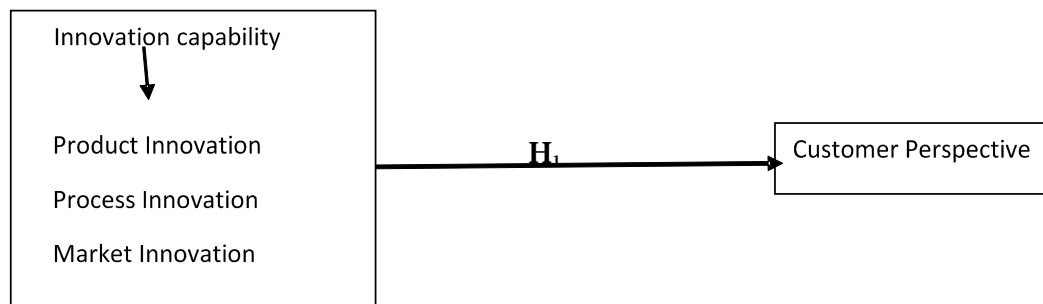


Fig 1: Conceptual Model

Source: Researcher's Model 2022

Methodology

A cross-sectional survey approach was utilized for the investigation. The population of this research comprises of twenty thousand (20,000) personnel which constituted of all staff of the chosen eight money deposit banks in Ibadan, Oyo State that are presently functioning in Nigeria. The sample size of this research is three hundred and seventy-seven (377) made up of employees of eight (8) selected money deposit banks in Ibadan chosen to reflect the overall population from the three levels of staff (top, middle and operational levels) (top, middle and operational levels). This sample size was derived from Krejcie and Morgan (1970)1 sample size table. The Banks covered include Keystone Bank Limited, WEMA Bank Plc, Union Bank Plc, Fidelity Bank Plc, Unity Bank Plc, Heritage Bank Plc, Polaris

Bank Plc and First City Monument Bank Plc in Ibadan, Oyo State. These banks were chosen because the observed gaps which comprise the goal of this investigation has been identified to exist there. The research will also enroll respondents from chosen banks especially from the top, middle and operational cadres of the banks. This research uses proportional stratified random sampling. A proportional stratified random sampling splits the population into smaller groups based on common criteria that capture the essential population uniqueness in the sample. This sampling strategy is used to choose independent samples from subsets of the population also known as strata and it frequently boosts the accuracy of survey data. The whole personnel of the chosen eight banks will be split into distinct strata. Each stratum was employed to gather reliable information that better reflect the observation of each type of personnel. The sample size is proportionally allotted for splitting a sample among the strata in a stratified sample survey.

Structured questionnaire was developed to acquire data from the respondents. The study employed the likert-type-scale design which permitted the researcher in listing possibilities (1=strongly disagree and 4= strongly agree). To validate this study, instrument was acquired from relevant literature analysis and adaption from questionnaires that have been utilized by other studies. Content validity was employed to examine the internal validity of the research instruments which were determined by the supervisor and other specialists in information management sector. Corrections made were included in developing the final questionnaire which were sent out to the respondents for the research.

Three research assistants were co-opted for the physical distribution of the questionnaire with a follow-up for the duration of two months. 322 answers were obtained and judged suitable for the analysis of the research using SPSS. The indicators for each variable in the research were derived from available literatures. The dependent variable is Customer Perspective mentioned in Kaplan Balanced Scorecard Perspective (Kaplan & Norton, 1992). (Kaplan & Norton, 1992). The independent variable is innovation capabilities with measurements like process, product, marketing, and organizational innovation identified in Awan and Akram (2012). (2012).

Data Analysis

Validity and Reliability Test

Three hundred and seventy-seven (377) questionnaires were distributed, fifty-five copies unreturned indicating 14.6 percent, three hundred and twenty-two (322)

retrieved but only two hundred and ninety-six (296) showing 78.5 percent were found useful as 26 copies of the retrieved questionnaires were not properly filled showing 6.9 percent while some were left unfilled. Data was analyzed using SPSS version 24.

Table 1: Response Rate

Response Rate: Deposit Money Banks	Frequency	Percent (%)
Returned and used	296	78.5%
Returned but not used	26	6.9%
Not returned	55	14.6
No of distributed Questionnaire	377	100

Source: Field Survey Data (2021)

Demographic Data Analysis

Table 2: Demographic Characteristics of Respondents

Variables	Category	Frequency	Percentage
Gender	Male	174	58.8%
	Female	122	41.2
Age	20-25yrs	24	8.1
	26-30yrs	69	23.3
	31-35yrs	81	27.4
	36-40yrs	57	19.3
	41-45yrs	44	14.9
	46 and above	21	7.1
Educational Level	NCE	68	23.0
	Bachelor's degree	141	47.6
	Master's degree	75	25.3
	Ph.D.	12	4.1
Year of Experience	5-10	152	51.4
	11-15	92	31.1
	16-20	34	11.5
	21-25	18	6.1

Source: Field Survey Results (2021)

Table 2 displays the demographic and personal data of respondents utilized for this investigation. Demographic and personal profile of respondents as provided in table 4.1 by gender indicated that 174 respondents representing 58.8 percent were male while 122 respondents representing 41.2 percent were females, showing that majority of the respondents were male. Furthermore, 68 respondents representing 23.0 percent indicated to have had NCE, 141 respondents representing 47.6 indicating to have had BSc, 75 representing 25.3 percent had M.Sc., 12 respondents representing 4.1 percent had Ph.D. From the above data, it was stated BSc holders are with the greatest proportion. As regards duration of service, 152 respondents representing 51.4 percent were between 5-10 years, 92 respondents representing 31.1 percent were between 11-15 years, 34 respondents representing 11.5 percent were between 16-20 years, 18 respondents representing 6.1 percent were between 21-25 years.

Profile of age shows that 24 respondents representing 8.1 percent were between ages 20-25 years, 69 respondents representing 23.3 percent were between 26-30 years, 81 respondents representing 27.4 percent were between 31-35, 57 respondents representing 19.3 percent were between the ages of 36-40, 44 respondents representing 14.9 percent were between 41-45 and 21 respondents representing 7.1 percent were 46 and above years, indicating that there were more respondents within the age 31-35 years.

In order to test null hypothesis, linear multiple regression analysis was utilized. In the study, the values of customer viewpoint were regressed on the values of each of the values of innovation capability. The data for innovation capacity (independent variable) was obtained by summing answers of all items for product, process, organizational and market innovation while that of customer viewpoint (dependent) was generated by adding responses of all items used to assess the variable. The regression test results are reported in Tables 4.2

Table 3: Summary of multiple regression analysis for the influence of innovation capability on customer perspective of MDBs in Ibadan Oyo State, Nigeria

Model	Beta	T	Sig.	R	R ²	Adj. R ²	Anova Sig.	F(df)
(Constant)	2.603	7.379	0					
Product innovation	0.065	2.308	0.019	.488 ^a	0.239	0.223	0	14.962 (4,291)
Process innovation	0.084	4.613	0.018					
Organizational innovation	0.032	0.571	0.569					
Market innovation	0.346	5.989	0					

a. Dependent Variable: Customer Perspective

b. Predictors: (Constant), Product innovation, Process innovation, organizational innovation, Market innovation

Source: **Researcher's Field Survey Results (2021)**

Table 3 displays the findings of multiple regression analysis for the effect of innovation capabilities on customer perspective of MDBs in Ibadan Oyo State, Nigeria. Table 4.2 gives a model summary which indicates how the model equation fits into the data. The Adj. R² was utilized to determine the predictive strength of the study's model. From the data, innovation capabilities (Product innovation, Process innovation, organizational innovation, Market innovation) show modest positive statistically significant link with customer viewpoint of DMBs ($R = 0.4$, $p < 0.05$).

The Adjusted coefficient of determination (Adj. R²) of 0.239 shows that innovation capability explained 23.9 percent of the variation in customer perspective of MDBs under study while the remaining 76.1 percent variation in customer perspective is explained by other exogenous variable different from innovation capability examined. This research reveals that innovation capabilities affect 23.9 percent of customer perspective of MDBs in Ibadan Oyo State, Nigeria. Table 4.2 displays the

findings of ANOVA (overall model significance) of regression test which demonstrated that the combined innovation capacity has a substantial effect on customer viewpoint of MDBS in Ibadan Oyo State, Nigeria. This may be explained by the F-value (14.962) and low p-value (0.000) which is statistically significant at 95 percent confidence range. Hence, the conclusion stated that innovation capabilities used by MDBs in Ibadan Oyo State affected their client viewpoint.

Furthermore, the findings of regression coefficients which demonstrated that a positive relative effect was recorded for all the components of innovation capacity. Further, the findings indicate that at 95 percent confidence level, Product innovation ($\beta = 0.065$, $p = 0.00$) and Market innovation ($\beta = 0.346$, $p = 0.00$) of the MDBs in Ibadan Oyo State were statistically significant as the p-values were less than 0.05 and the t-values larger than 1.96. The study also implies that putting all other independent variables at zero, a unit change in product innovation will lead to a 0.065 gain in customer perspective for MDBs assuming that all other parameters are maintained constant. Similarly, the findings also demonstrated that a unit change in market innovation would lead to a 0.392 rise in customer perspective of MDBS in Ibadan Oyo State assuming that all other components are maintained constant.

Overall, from the data, market innovation had the biggest proportional effect on the customer viewpoint of MDBs in Ibadan Oyo State, Nigeria with a coefficient of 0.346 and t value of 5.989, followed by product innovation coefficient of 0.214, and t value of 2.359. Based on these data, this research may infer that innovation capability greatly effects the customer viewpoint of MDBs in Ibadan Oyo State, Nigeria. On the basis of this conclusion (Adj R² = 0.223, F(4,291)= 14.962, p= 0.000), this research rejects the null hypothesis which claims that innovation capabilities have no significant affect customer viewpoint of MDBs in Ibadan Oyo State, Nigeria.

Discussion, Conclusion, and Recommendations

The research hypothesis explored the effect of innovation capabilities on the customer perspective of MDBs in Ibadan, Oyo State, Nigeria. The findings of multiple regression analysis reveals that innovation capacity has a favorable and substantial effect on customer viewpoint of the banks under examination. Conceptually, considering the customer's viewpoint into mind, innovation capability is regarded a critical success component that generate bank's profit. This means that customer's pleasure should be one of the priorities of the banks. A

pleased client will bring in another consumer which in turn will have a rippling effect on the entire success of a firm. These results found that all aspects of innovation capabilities with marketing and product innovation taking the lead as most widespread in the banks under consideration while process and organization innovation rated lowest. It illustrates how banks employ more methods into marketing of their varied goods and every inventive concept is suited to new items. Process and marketing innovations are most likely to concentrate on generating a consistent cause which make consumers viewpoint in these banks more solid and it will certainly rob on the overall performance.

Furthermore, this study is in line with another study on constructing a strategy map for banking institutions with key performance indicators of the Balanced scorecard using the four BSC perspectives, the most important evaluation indicator of banking performance is synthesized from experts (Hazeu, Yunhongh & Chen, 2012). (Hazeu, Yunhongh & Chen, 2012). A numerous criterion analysis technique was applied and according to the expert assessments, the three most critical key performance indicators for banking success are customer satisfaction, sales performance and customer retention rate. This suggests that with customer happiness taking the lead, management may do well in allocating limited resources in the areas that required development most. Using the provided framework for other institutions in other sectors, this further verifies the outcome of the current research on the effect of innovation capacity on customer viewpoint of the deposit money banks under consideration.

This research results also link with a study done out on supply chain integration, organizational performance and Balanced scorecard: An empirical study of the banking industry in Jordan (Miklos, et al., 2019). (Miklos, et al., 2019). The outcome of multiple regression analysis was acquired via primary data from Jordanian banks using exploratory factor analysis and reveals that organizational performance includes of the following viewpoints, customers, internal processes, organizational capacity and stewardship. Internal integration effects all four organizational performance aspects; however, customer integration has impact solely on customer viewpoint. The findings imply that enhanced consumer participation might assist grow the banks' performance with reference to the current research carried out in eight different banks but not in Nigeria but in Jordan.

This work gives substantial addition to literature philosophically, theoretically, and empirical. Conceptually, the research focuses on discovering gaps in literature related innovation and consumer viewpoint. The conceptual framework of this

study equally gives intellectual contribution as it was developed by the researcher investigate the gaps noticed in literature. Being the first model to incorporate dependent (customer viewpoint), independent (innovation capacity) variables with measurements spanning from dimensions of innovation capability (process, product, organizational and market) and consumer perspective. The model also may be changed to fit future investigations.

From the theoretical stand point the RBV was reinforced. The RBV which in an inside-out viewpoint stress that for company to attain superior and competitive performance, such organization must have creative capacity skills that are incredibly distinctive. This study's findings are in concomitance with this theoretical approach. Empirically, the research is able to contribute to current literature on the interplay of innovation capability and consumer viewpoint. Though, research on innovation, customer satisfaction abounds in develop economic environment, yet empirical study from emerging nations like Nigeria appears to be scarce in this area. This imply not much is known regarding the importance of innovation capacity to obtaining customer satisfaction of chosen deposit money banks in Ibadan Oyo State, Nigeria. Hence by the outcomes of the null hypothesis explored, the research became a foundation for reference for future study on innovation capabilities, consumer viewpoint. Moreover, the research gives insights which following academics might utilize to bolster the empirical contributions in their study. Study advised that management of the studied banks adopt more and suitable innovation capabilities techniques to cover the gap for improvement in terms of organizational requirements and in developing novel goods that would retain and attracts new consumers to the chosen banks. Overall, these above-mentioned factors put stress on the fact that this research makes substantial addition to knowledge and has practical relevance for the administration of the deposit money banks in Ibadan that were studied.



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Influence of Internet Usage on the Productivity of Secretaries in an Organisation

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Abstract

Many organizations spend a lot of money to ensure internet connectivity is readily available to employees to compete effectively in global environment and maximize productivity; but factors like fear of virus/malware attacks, hacking, poor internet connection, among others are discovered to still be militating against internet usage in organizations. This study examined the influence of Internet Usage on the Productivity of Secretaries in Federal Polytechnic Ede (FPE), Osun State, Nigeria. A survey research design was used. The population of the study comprises of 60 Secretaries. No sample size was drawn because of the smaller number of the respondents. The research instrument was questionnaire. Out of the 60 questionnaires administered, 56 representing 93% were retrieved. Data was collected and tested with linear regression analysis at 5% significant level of confidence. The result revealed that secretaries' productivity level was high, but Internet usage level was low. Therefore, the researcher concludes that there is significant influence of internet usage on the productivity of Secretaries in FPE. Recommendations were made that management of FPE and other organizations should ensure that Secretaries continue to be well motivated, so that their productivity will be more enhanced. Secondly, internet facilities should be incorporated into the workplace to enhance better productivity of Secretaries and training should be given to Secretaries to enhance their knowledge on safe internet usage. Lastly, Secretaries should keep expanding their knowledge on internet usage for better productivity.

Keywords: Internet usage, Internet, Productivity, worker's productivity.

Introduction

Productivity of workers refers to the amount of work completed by an employee in a given period of time. Organizations often measure employee productivity through goals, quality of work, tasks completed, etc. Many organizations improve productivity of workers by improving workplace conditions, allowing flexible schedules and meetings, set clear deadlines and expectations that workers can meet up with, allow annual leave, sick leave or time off, give incentives and rewards to best performing workers, among others. Employee productivity is described as an assessment of a worker's or a group of employees' efficiency, which may be measured in terms of an employee's production within a given time frame. Increased productivity leads to increased economic development, profitability, and social advancement, which can also improve wages and salaries, working conditions and bring better opportunities for workers (Sharma and Sharma 2014). Organizations utilize the internet to satisfy their urgent business demands and to compete effectively in a global context. The Internet has aided businesses by converting the workplace into a global network and allowing them to gain a competitive advantage over their competitors (Hsu and Yen 2016; Chong, et al. 2018; Baturay and Toker 2015). Internet in organizations has been helping organizations increase improving communication, employees' productivity, enhancing performance, strengthening the image of the organization and improve customer relations (Koay 2018). Organizations use the internet to meet pressing business needs and to compete effectively on a global scale. Businesses have benefited from the Internet since it has transformed the workplace into a worldwide network, allowing them to acquire a competitive advantage over their competitors. Therefore, this study therefore intends to establish the influence of internet usage on productivity of Secretaries in Federal Polytechnic, Ede, Osun State, Nigeria.

Despite much effort to ensure that workers' productivity is improved upon to achieve organizational objectives, there is no significant improvement on productivity in many organizations. Poor management (reported by 58 percent of employees and 61 percent of HR professionals), lack of motivation (reported by 38 percent of employees and 63 percent of HR professionals), having to do coworkers' jobs, customer negativity, lack of recognition, and work overload, among other factors, according to a report released by the Society for Human Resource Management (SHRM 2005). Past literatures consulted also revealed that unhappy employees often cannot perform well at work; due to financial stress, job insecurity, illness, excess workload, lack of annual or short leave or holiday to rest,

among others. Also, despite the numerous benefits of using Internet at workplace, past literatures revealed that there are many factors militating against the use of Internet, for example virus or malwares attacks, hacking, unwanted advertisements, identity theft, poor internet connection, among others. The specific objective is to examine the influence of Internet Usage on the Productivity of Secretaries in FPE.

Concept on Productivity

Productivity is the amount of work completed by an employee over a given period of time. Employees required working conditions that allowed them to work freely without being hindered from completing assigned tasks. Productivity is a measure of the efficiency of production. (Raziq and Maulabaksh, 2015). High productivity can lead to greater profits for businesses and greater income for individuals. For workers to be productive, there are some factors that need to be put in place, firstly, employees should have sense of belonging, (Skare, Kostelic and Jozicic, 2013); secondly, to improve employee's productivity, there should be cordial relationship between the management and its employees (Cording, Harrison, Hoskisson and Jonsen, 2014); the good relationship management has with its employees will foster further customer relations, and in return, the customers, employees and the management will attain their desired goals. (Terry, Myster, Davis and Wegleitner, 2014). Effort as a measure of productivity is like a fuel that empowers people to perform better on the job, it involves the use of energy to get something done. Efforts put into use at work can be linked to identifying tasks to be performed, setting priorities to know which tasks should be accomplished first, and taking track of time to help in managing time spent on each tasks. (Ernesto Tavoletti 2019). Wright and Gendolla demonstrated a causal relationship between an individual's current level of ability and the amount of effort required to complete a difficult task; that is, "lower ability performers are like possessing an effort currency that has less value than the currency of high ability performers." (Gendolla et al 2012; Wright 2014).

Performance as a measure of productivity is often evaluated by responsibilities assigned to check ability of the worker in decision making, creativity, leadership, teamwork, quality of work, ethics compliance, problem solving, etc. Low performance often result from lack of motivation, lack of competence, lack of resources, and lack of conducive work environment, among others. Organizations frequently use training as a strategy to improve individual productivity and communicate organizational goals to them in order to achieve organizational

goals. (2009) (Ekaterini and Constantinos-Vasilios). According to Rohan and Madhumita (2012), investing in employee training in decision-making, problem-solving, teamwork, and interpersonal relations have significant effect on organizational growth and employee productivity.

Lastly reward as a measure of productivity is an incentive given in return for a deed done. Rewards and incentives are found to be a contributive factor to high productivity from workers. Businesses utilize it to motivate staff by rewarding them for their accomplishments and success. The overall return offered by an employer to an employee for activities completed is known as reward. It is perceived to motivate workers to perform more tasks. Rewards is perceived to help organizations in retaining employees, avoid cost of new hires and employees training, encourages positive attitudes and behavior, etc. A specific monetary return, object, or event that an employee receives in compensation for his or her work or for having done something successfully can be characterized as a reward (Schultz, 2006). Human Resource Management is centered on reward systems, which are intended to recruit talented personnel, encourage them, and retain those who are a better match for the firm; they also have a direct influence on the financial statement and capable of influencing people's attitudes, behavior to perform optimally. Franco-Santos et al (2015).

Concept of Internet Usage

Internet usage can be defined as the measurement of the amount of data used through an electronic device and the Internet network over a period of time. Internet usage involves surfing the web, sending emails, downloading, or involved in any activity on the Internet. The Internet offers for more flexibility in working hours and location, especially with the widespread availability of unmetered high-speed connections, and it can be accessed from practically anywhere via a variety of devices, including mobile phones. Organizations have discovered that using the internet may help them increase staff productivity, improve performance, improve communication, build their brand image, and improve customer relations. The Internet is a global network of interconnected computer networks that communicate with one another using the Internet protocol suite. Perceived usefulness as a measure of Internet usage is a level at which some technology users believe technology enhances their performance. Enu-Kwesi et al (2020). Some of the perceived usefulness of internet in business includes; e-commerce, social media, customer relationship management (crm), video conferencing, market research, cloud hosting, etc.

One of the most important aspects in technology usage and adoption is perceived simplicity of use (Tarhini et al., 2016). It is described as a person's belief that implementing a certain system would improve his or her job performance. 24-hour worldwide access, cost savings, faster product delivery, reduced waste of paper, greater customer interactions, and so on are some of the perceived advantages of using the Internet for business activities. Actual use as a measure of Internet usage reveals the extent of use of Internet for businesses worldwide, for example, marketing and advertising, publicity, research and development, direct online selling, collaboration, communication, etc.

Anchor Theories

Edward C. Tolman (continued by Victor H. Vroom) formulated the Expectancy Theory was adopted as measures of productivity. The theory states that people are motivated to do something in order to achieve desired outcome. (Redmond 2014). Expectancy theory asserts that when workers are motivated, individuals modify their behavior towards achieving organizational goals, with a mindset of been rewarded. (Chen and Fang 2008). The theory explains further that organization has a set of goals and that workers; hence, workers are to be motivated to achieve them. The theory states that there is a link between effort and performance; that good performance will lead to a desirable reward; and, finally, that the reward will satisfy a critical need.

TAM theory was used as a measure of Internet usage, and it is a standard paradigm for study on the acceptance and use of new information technology. According to the TAM, when users are presented with new technology, a variety of factors influence their decision on how and when to use it. Davis was the one who initially presented TAM. It contrasts between two concepts: perceived usefulness, which indicates the predicted advantages of adopting a particular technology, and perceived ease of use, which reflects perceived behavioral control.

Methodology

Federal Polytechnic Ede (FPE), Osun State, Nigeria, is the research site. This is an example of a survey research method. The study's population consists of 60 Secretaries from FPE given to the population's modest size, no sample size was calculated. Data was collected using both primary and secondary methods; primary data came from questionnaires mailed to respondents, while secondary data came from textbooks, journals, and internet articles, among other sources. A

structured questionnaire was used as the study tool. Other specialists in the area checked the instrument's validity. The data was analyzed using the simple percentage method and tested using linear regression analysis at a confidence level of 5%.

Result

Table 1: Level of Productivity of Secretaries in FPE?

Variable	Frequency	Percentage
High	33	59.00%
Low	11	20.00%
Medium	07	13.00%
No response	05	8.00%
Total	56	100%

The above table showed most respondents (33 representing 59%) indicated that productivity level is high; which shows that many of them are comfortable with the working conditions of the institution, and have lesser reasons to be unproductive.

Table 2: Level of Internet Usage by Secretaries in FPE?

Variable	Frequency	Percentage
High	20	36.00%
Low	30	54.00%
Medium	06	10.00%
No response	-	-
Total	56	100%

The above table showed that most respondents (30 representing 54%) indicated that Internet usage at the workplace is low; which shows that they rarely use internet for official activities.

Test of Hypothesis: There will be no significant influence of Internet Usage on Productivity of Secretaries in Federal Polytechnic Ede (FPE), Osun State.

Table 3: Model Summary of Linear Regression of Internet Use and Productivity of Secretaries in FPE

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	.582 ^a	.338	.326	.824	.338	27.594	1	54	.000

a. Predictors: (Constant), What is the level of Internet use by Secretaries in FPE

The R and R² values are displayed in the above table. Simple correlation is represented by the R value, and 0.582 (R column) indicates a modest degree of correlation. The R² value (R Square column) revealed how much the independent variable "internet use" can explain variance in the dependent variable "productivity." 32.60 percent can be interpreted as low in this scenario. This indicates that Secretaries use the Internet for official purposes at a relatively low rate.

Table 4: ANOVA Table of Linear Regression Analysis of Internet Use and Productivity of Secretaries in FPE.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.745	1	18.745	27.594	.000 ^b
	Residual	36.683	54	.679		
	Total	55.429	55			

a. Dependent Variable: What is the level of productivity of Secretaries in FPE
 b. Predictors: (Constant), What is the level of Internet use by Secretaries in FPE

The table above is ANOVA table, which indicated how well the regression equation fit the data (that is, predicts the dependent variable). The table shows that the regression model significantly predicts dependent variables when P is less than

0.0005, which is less than 0.05, indicating that the regression model statistically significantly predicts the outcome variable, indicating that it is a good match for the data.

Summary, Conclusion and Recommendations

The Secretaries in the Federal Polytechnic Ede (FPE) have high productivity levels even with seldom use of internet at work, this indicates that the Secretaries are comfortable with the working conditions of the workplace either with or without adequate use of internet engagement or not; in as much as they are given incentives, salary, and continue to enjoy other benefits like annual leaves, etc. On the other hand, the low internet usage by the Secretaries can be as a result of some of the factors mentioned earlier, for example, lack of adequate internet facilities, poor connectivity, fear of malware or virus attack and so on. The researcher thereby concludes that there is significant influence of internet usage on the productivity of Secretaries in the FPE.

And recommendations were made that management of FPE and other organizations should ensure that Secretaries continue to be well motivated, so that their productivity will be more enhanced. Secondly, internet facilities should be incorporated into the workplace to enhance better productivity of Secretaries and training should be given to Secretaries to enhance their knowledge on safe internet usage. Lastly, Secretaries should keep expanding their knowledge on internet usage for better productivity.


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**Information and Communication Technology: A
Teaching and Learning Tool –
Its Challenges and Prospects**

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Abstract

Nowadays, ICT usage in the classrooms is seen as a tool to enhance teaching and learning skills. ICT helps teachers to develop an effective planning and an organizational skill. On the other hand, it exposes the students to relevant and related materials that can be used to buttress on areas of difficulty. Despite ICT numerous advantages in the classrooms, there are several challenges that hinder its usage and prospects that are yet to be discovered and utilized in education. This study aims to throw more lights on those ICT usage challenges and prospects in education and provide appropriate solutions. The study covered some ICT challenges in education like poor networking, limited accessibility, and lack of technical support and training amongst others. The study concluded that sufficient ICT facilities and resources will enhance instructors' teaching skills and students' technical-know-how and competencies. It was then recommended that government should provide enough ICT facilities and resources at the tertiary level and should ensure the accessibility and acceptability of these ICT tools.

Keywords: *Information and Communication Technology, Educational Management, Training and Development.*

Introduction

Nowadays, most organizations rely heavily on information and communication technology (ICT) (Zhang, 2013). In early 1980s, computers usage became famous in school and scholars believe that ICT is an imperative tool in education for upcoming learners because modern technologies serve as alternative means of

improving classroom teaching and learning. New technologies do not only improve classroom learning but also enhance academic curriculum and provide opportunities for student-teacher effective communication across the globe. ICT changes teaching techniques and boost students' line of thought. This potency is easily accomplished, Akhilele (2021) cites Dawes (2001) states that problems arise during teachers' attitudinal change and implementation under adverse conditions. Because ICT is so important, to identify potential challenges of ICT integration in schools would be a critical step towards enhancing education standard. Yusuf and Onasanya (2013) assert that teachers appear to realize the benefits of ICTs as they continue encountering various challenges when in educational process.

Teaching is essential to the development of education, particularly higher education. The goal of teaching is to encourage learning. As a result, teaching and learning refer to a process that allow numerous stakeholders to participate in students' knowledge development and skills enhancement and build a variety of learning perceptions that will bring about a change in their actions and attitudes. Learning environment, tasks, students' attitudes and behaviours toward teachers, teacher behaviour like personality, teaching style, and many others are examples of variables.

Technology is an electronic device which allows individuals to manipulate data like words, sound, images, or numbers. It has enabled people to communicate with people all over the world within a twinkling of an eye. Technology enables teachers and learners to share thoughts, improve knowledge, solve basic problems and concrete make decisions, ICT is critical in educational activities. Owhotu (2006) cited UNESCO that defines ICT refers to the tools and processes used to obtain, organize, store, retrieve, manipulate, present, produce, and share information. ICT was born from the marriage of two technologies - communication and computer technology are examples of these technologies (Edwards, 2007). Communication technology includes television, radio, and phone, whereas computer technology includes computers, wireless, satellite, and internet. Computer technology receives, transmits, and processes, while communication technology provides the mechanism by which information is sent. It also provides for information storage and retrieval. Telecommunications, storage, audio-visual systems, and computers and software are all connected by ICT, allowing users to access, store, send, and alter data (Okeh & Opone, 2007). As a result, ICT encompasses both ancient and contemporary ICTs such as telephones, radios, and televisions, as well as satellite, computers, wireless technology, and internet. The

integration of these is what transformed the world to a global village. ICT enables worldwide interchange of views, important to develop relevant educational initiatives, training of labor forces, and comprehending difficulties relating to both education and economic growth (Ololube, Ubogu & Ossai, 2017). Many Nigerian higher institutions are now striving to utilize ICT as teaching and learning tools. To collaborate learning environment, ICT must be inclusive in its teaching and that will enable the students to gain information (Ifinedo, 2006).

Education encompasses around the level of interactions that exist between teacher and students in a suitable and conducive environment whereby the teachers use techniques and media to transform the students' skills, knowledge, skills, behaviour and attitude. Prior to the twenty-first century, traditional teaching method was adopted for teaching and learning such as the face-to-face communication. In some parts of Nigeria, is ancient method of teaching is still in use (Kayode, 2019). It is similar to pragmatic rhetoric practiced (Oduma & Chika, 2014) whereby communication is done directly to the recipients without any reasonable and acceptable fact as a response. In this sense, the teachers are seen as experts while students' ideologies and thoughts are not enhanced. Rhetoric pragmatic process of communication is unidirectional as it flows from teachers to students whereby the students are not encouraged to express themselves and gain self-confidence and self-knowledge (Galbreath, 2000). It is common in tertiary institution and it is viewed as a teacher-centered method (lecture method).

ICT is an energetic tool that has transformed many areas of human life. Considering its impact on banking, medicine, travel, tourism, business, engineering, law, and constructing in the last couple of decades (Yusuf and Onasanya, 2013). ICT is an essential world modern component. At the moment, society and culture must be reshaped to tackle the needs of global age. Institutions, particularly those in advanced countries, use ICT for teaching and learning. If ICT can help with unified equity in education, access to higher education, delivering equality in research and education, professional development for teachers, and much more efficient education management, administration, and governance.

ICT in Tertiary Institutions

Nigerian education has witnessed various developments especially in the area of ICT usage (Akhilele, 2021). In the National Policy on Education (Federal Republic of Nigeria, 2004), the Federal Government of Nigeria recognizes the importance of

ICTs in today's world and has integrated ICTs into Nigerian education. To achieve this goal, the fourth edition of the National Policy on Education (2004) states that the government provides infrastructures and manpower development in all institutions; computer education has been designated as a pre-vocational elective as well as a skill - based elective. The National Universities Commission (NUC), the regulatory body of all Nigerian universities, mandated that universities should have a computer to four students and a computer to two lecturers below the grade of Lecturer 1, a computer to every Senior Lecturer, and a notebook computer to every Professor/Reader. The National Open University of Nigeria (NOUN), founded in 2002, has established 55 study centers throughout the country. NOUN's ambition is to establish study centers not only in each of the federation's 36 states, but also at local government levels, in order to make tertiary education accessible to all citizens. Each NOUN study center has various computer labs café with at least 25 computers connected by a local area network (LAN). The centers have not been linked to NOUN's REPRODA (repository, reproduction, distribution, and administration headquarters) via a wide area network (WAN) in order for the following activities to be mainstreamed:

- i. Assessment and testing
- ii. Training and learning
- iii. Communications (e-mail, chat, forums)
- iv. Interactive sessions
- v. Access to virtual library
- vi. Internet access
- vii. Other computer applications

The WAN is used by NOUN to deliver virtual classroom courses to all of the study centers. Facilitators (instructional and tutorial) and student counselors are assigned to each study center to provide guidance and counselling to students. The counselors are recruited within the community or from neighboring communities. NOUN's ICT applications currently include: student record management (on-line application, admission, registration, and examination procedures) System for managing students' learning (e-learning and the virtual library) interaction (SMS, e-mail, video-conferencing, and Internet) Courses in human resources and finance are delivered. These two courses' pdf files are already available online. NOUN's goal is to eventually use REPRODA to package all learning materials as an electronic form. NOUN received government budgetary allocation for its programs for the first time in 2007. To date, NOUN has primarily relied on outside funding to carry out its projects and programs. Other government agencies that use ICT lament the poor funding as well.

Challenges of ICT as teaching and learning medium

ICT integration is a complex process that can be fraught with difficulties. In education sector, it appears that ICT utilization has little impact. The Nigerian education system has struggled in recent decades due to various challenges of ICT integration in education (Esoswo, 2011). The following are some of the most significant challenges:

1. **Poor network connection and lack of accessibility:** A significant obstacle that stops instructors from incorporating new technologies into education, according to various research papers, is a lack of access to resources, particularly home access. Several research studies have identified various reasons that cause the inaccessibility of technological tools. Teachers were of the opinion that it was difficult accessing computers in their schools (Sicilia, 2005). These reasons include the need to schedule computers in advance, which instructors sometimes fail to do, and the inability to book them for many periods in a succession when working on multiple projects with students. Few of these teachers have access to ICT materials while most of them do not. Becta (2004) opines that lack of ICT resources is often not due to unavailability of software, hardware, or other ICT components within the school. It could be due to a number of factors, including low-quality hardware, poor resource organization, incompatible software, or a lack of personal access for teachers. According to studies, the most significant barrier to teachers' use of ICT in the classroom is a lack of access. These barriers included an insufficient number of computers and accessories, no internet connectivity, age or slowness of ICT systems, and a scarcity of educational software in the school.

2. **Lack of technical support:** Teachers cannot overcome the obstacles that hinder them from utilizing ICT on their own unless they have adequate technical support in the classroom (Lewis, 2003). Technical issues were found to be major barriers for teachers (Sicilia, 2005). These technical barriers included waiting for websites to open, failing to connect to the internet, printers not functioning, malfunctioning computers and teachers having to work on old computers. "Technical barriers impeded the smooth delivery of the lesson or the natural flow of the classroom activity" (Sicilia, 2005). Korte and Husing (2007) argued that ICT support or maintenance contracts in schools help teachers to use ICT in teaching without losing time fixing software and hardware problems. Becta (2004) report stated "if there is lack of technical support available in a school then it is likely that technical

maintenance will not be carried out regularly, resulting in a higher risk of technical breakdowns”. In teaching, several studies indicated that lack of technical support is a main barrier to using technologies. According to Gomes (2005), ICT integration in teaching needs a technician and if one is unavailable the lack of technical support can be an obstacle. Sicilia (2005) argued that whatever kind of technical support and access teachers have and whether they have twenty years of experience or are novices to the profession, technical problems generate barriers to the smooth lesson delivery by teachers.

3. **Ineffective training:** Pelgrum (2001) found that there was an inadequate training opportunities for teachers in using ICTs in a classroom environment. Recent research found that the main problem with implementing new ICT in education was the insufficient amount of in-service training for teachers. According to Becta (2004), the issue of training is certainly complex because it is important to consider several components to ensure training effectiveness. The result of the research by Cox (1999) showed that after teachers had attended professional development courses in ICT they still did not know how to use ICT in their classroom; instead they just know how to run a computer and set up a printer. He explained that this is because the course only focused on teachers acquiring basic ICT skills and did not often teach teachers how to develop the pedagogical aspects of ICT. Fundamentally, when there are new tools and approaches to teaching, teacher training is essential (Osborne and Henessy, 2003) if they are to integrate these into their teaching. However, Teachers who get insufficient or improper training are not adequately prepared nor confident in their ability to fully integrate ICT into the classroom.

4. **Limited time:** In some latest surveys, many instructors are competent and confident in utilizing computers in the classroom, yet they still utilize them sparingly due to a shortage of time. Time constraints and the difficulty in organizing enough computer time for courses were noted by a large number of studies as a barrier to teachers' use of ICT in their classrooms. According to Sicilia (2005), the most common problem that instructors mentioned was a lack of time to organize technological classes, investigate numerous internet sites, or examine various features of educational software. Becta's study (2004) found that inadequate timing influence teachers' effectiveness and efficiency at workplace; hence, appropriate time is needed to locate

internet advice, preparing lessons, exploring and practicing using technology, dealing with technical problems, and receiving adequate training.

5. **Unskillful teacher:** Another challenge linked to teacher confidence is teacher competency in integrating ICT into educational practice. Many teachers lacked computer experience and talents, and were unenthusiastic about the changes and integration of extra learning that came with bringing computers into their teaching practice (Newhouse, 2002).
6. **Capital-intensive:** It is expensive to train students on ICT applications, and couple with the country's current financial commitment and stand, it may be difficult to achieve.
7. **Lack of effective process to ICT implementation:** To incorporate ICT into the functions of an institution is a complex and needs to be conceptualized from the onset.
8. **Administrative assistance:** To successful integrate ICTs in education, administrators must provide the enabling facilities and safeguarding policies for sustainability. important factors in the effective adoption of ICT.
9. **Inadequate fund:** Many underdeveloped nations, such as Nigeria, are finding it difficult to support the costs of integrating and using ICT in teaching and learning. Higher education institutions might use lobbying to persuade their governments to provide extra cash and diversify their financing sources to address this. Other difficulties include unreliable power supply and high equipment costs etc.

Prospects of ICT as teaching and learning medium

The prospects of ICT as teaching and learning medium are;

1. When ICTs are used correctly in education, they can improve basic abilities in reading, writing, science and mathematics by enriching, speeding up, and deepening them.
2. ICT encourages students to learn new things and expand their knowledge which enable them to connect academics to work activities and experiences.
3. ICT enables students to be technically inclined workforce with a positive attitude toward technology use, as well as the capacity and competency to perform in a seamless knowledge-based economy.

4. It has been discovered that ICT network technologies support innovative teaching, activate learning, and instigate students and teachers to become active scholars and learners.
5. ICT helps teachers reduce their workloads through effective preparation of lesson notes and worksheets; help to write students' reports and education plans, collate and analyze students' attainment data for target setting, and record and analyze attendance and disciplinary data.
6. It can be used to obtain subject-specific instructional content and to ensure global collaboration with teachers. Furthermore, teachers can bring up-to-date topic knowledge to the classroom.
7. ICT, such as the internet, can aid in teacher development. E-learning can be used in the context of teacher development for knowledge development through courses, seminars and so on. There are a few global tools to online resources that can help instructors' teaching skills. Anderson (2004) states that these include ICT in education, established by UNESCO in Paris, the Education Network of Australia, developed by the Education Institute in Adelaide, and the Institute of Education Technologies in Education, developed by UNESCO in Moscow. Users can use these portals to post materials, ask questions, and submit assignments.
8. Using ICT, teachers and students are attempting to change the focus from teacher-centered to student-centered learning, in which learners are active involved in learning process, share and produce knowledge, and contribute to learning through collaboration. As a result, rather than simply transmitting knowledge, teachers become learning facilitators and collaborators.
9. For instructional delivery, ICT can be multi-media. Textual, audio, visual, and audio-visual content can all be used to deliver instructional content. As a result, equity can be ensured for all types of learners.
10. ICT can help students provide opportunities for student-construct learning, improve their problem-solving skills, boost student collaboration, vocational and professional skills enhancement, prepare students for most vocations and careers, and boost their self-esteem and attitude (Cradler and Bridgforth, 2004).
11. ICT attempts to eliminate distance barriers with its Internet facilities; students also gain access to information even in remote locations, thereby facilitate and initiate learning at any time and from any location. With this provision, students can learn on their own. This helps slow learners understand concepts that are difficult for them to grasp.

12. Teleconferencing facilities are also important in bridging the learning gap. This removes the physical distance barrier that would have hampered effective use of ICT tools.

Conclusion

With the right strategies, ICT is a powerful tool to improve teaching methods, research and learning in Nigerian schools. Classroom teachers, school administrators, curriculum developers, researchers, and others can use ICT to improve school administration and provide a solid foundation for innovative education in Nigeria. ICT usage in teaching will significantly improve the standard of education. To meet the demand for teachers, teachers, trainers, and policymakers will need to develop a well-designed training program.

Recommendations

Based on the above discussions and views, to achieve education for all, these recommendations are made:

1. ICT investments should always be used to promote ICT development and basic skills like operational competencies, communication, problem-solving, and critical thinking, problem
2. Teachers' professional development should be prioritized to improve lecturers' competencies in ICT applications
3. Integration of ICT into the teaching profession and educational programme must be a must. This will necessitate the creation of a document and provide a framework for ICT in education, as well as a proper description of the essential standards that are set for successful technology integration.
4. Teachers should be adequately trained on ICT usage because Nigeria's education system is gradually prioritizing ICT literacy.
5. ICT usage in Nigerian tertiary institutions should be monitored and evaluated on a regular basis in order to meet a range of educational objectives.
6. Stakeholders should analyze and mitigate risks, prepare for, and implement essential change management procedures to express the added value of ICT from the innovations.
7. Tertiary institutions should be well equipped to face the difficulties and possibilities that ICT will bring by aiding education systems in achieving not just the Millennium Development Goals, but also boosting the world's technological and knowledge-based economy.

8. Well-developed standards should be in place to guide the implementation of ICT programme for teachers
9. Digital and Internet facilities should be accessed by all stakeholders and be more adequate in schools.
10. The establishment of ICT resource centers for teachers in each local education authority, as well as the provision of necessary ICT facilities in schools as envisioned in the National IT policy.
11. Private-public partnerships should be encouraged in the delivery of ICT literacy to teachers in rural areas.
12. Education administrators and staff in ministries and education departments should be trained to be ICT literate and competent alongside teachers.


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PROFESSIONAL ETHICS AND MORAL STANDARD OF
FEMALE SECRETARIES AT THE UNIVERSITY OF
IBADAN, OYO STATE, NIGERIA

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Abstract

The study examined professional ethics as well as the moral conducts of female secretaries in the University of Ibadan. Total enumeration technique was adopted to select 78 secretaries as respondents to the study instrument (questionnaire) titled "Professional Ethics and Moral Standard Questionnaire" (PEMSQ) that was used for data collection. Descriptive statistics that comprised of simple percentages and mean was used in analyzing the study research questions while inferential statistics as Pearson's product moment correlation (PPMC) was used to analyse the hypothesis. It was revealed that appropriate behaviour/attitude/communication, corporate appearance, adherence to codes/regulations/protocols, punctuality, membership of professional body, confidentiality and intellectual development were the professional ethics found among female secretaries in University of Ibadan. The major moral standards are completing task as at when due, good team work abilities and avoiding using official time for leisure. A significant positive relationship was established among professional ethics and moral conduct of secretaries in the university of Ibadan ($r=0.203$; $p <.05$). To get the best out of secretaries, their employers should always remind them of the ethics of their profession through the human resource office..

Keywords: Professional Ethics, Moral Standard, Gender Inequality, Tertiary Institution

Introduction

Over the decades, the concept of professional ethics among secretaries has been seen as a burning issue that has pervaded most academic discusses especially as it relates to academic circles like the university of Ibadan currently ranked number one in Nigeria and a highly rated institution both in Africa and to a large extent in the world. Poor secretarial conduct can lead to a decline in secretarial standards seen today as a cankerworm that has eaten deep into the goodwill of most organization which is inhibiting the growth of many functional organizations. According to Kehinde (2010), many firms are facing issues in today's world, as indicated by unlawful and unethical secretarial transactions. As is well known, the secretary is the eye of any administration hence if there is a challenge with secretarial duties, the organization has commenced a downward decline.

Organizations have created ethical codes to deal with difficult ethical dilemmas instead of the aforementioned. Professional ethics can be defined as a collection of moral guidelines developed by an organization to influence employee behavior both inside and outside of the organisation or workplace. No doubt, displaying professional ethics in the workplace have been seen to have aided companies to meet up with their envisaged profit margin over the years. As described in the literature on organizational performance, such evaluations serve as common measures of organizational performance (Amakiri & Gogo, 2018). Every organization places a high value on ethics. Any organization's ethical conduct or legislation are just as important as its mission statement. Managers do not appear to be interested in determining if their activities are correct or incorrect. Again, it indicates that they are less concerned with employees' comprehension of the phrase ethics, despite the fact that compliance looks to be low (Oladunni 2002).

It is observed that as organizations attempt to uphold ethical standards, there is a level of agreement around the world which according to Steinberg (1994), described ethics as "everyday decency" that encompasses integrity, honesty, and fairness. According to Segunda (2019), some of the professional ethics expected of secretaries that must be adhered to includes but not limited to confidentiality, honesty, loyalty, reliability, responsibility, work unsupervised, multi-tasking, flexibility among others. It is further expected that adherence to professional ethics and moral standards could assist secretaries and improve secretaries in the performance of numerous office functions including administrative, human relation functions, information and communication technology functions among others (Ikelegbe, 2018).

Behaving ethically is considered as part of an organization's social responsibility, which is based on the notion that businesses should have an impact on society that goes beyond the traditional profit maximization goal (Onyije & Nweke, 2017). It frequently affirmed that acting in a way that recognizes the importance of moral and ethical substance in managerial decisions is in a company's best interests because it will help the organization in the long run.

Review of Related Literature

Professional ethics on the other hand is the own values and principles of a profession, while secretarial ethics is the values and principles of secretaries and authorities. Morals and ethics, on the other hand, have a close original meaning. Morals and ethics are derived from the Latin words "moralis" and "ethos," respectively. Both phrases refer to "a way of life or a custom." Morals and morality, on the other hand, refer to the behavior itself, whereas ethics and ethical refer to the study of moral behavior or the system or code that is followed (Ilori, 1994). The term "ethics" refers to a set of norms and guidelines that are intended to serve as guiding principles for any profession or organization (Adeyinka, 2014). It is also a rational investigation into or theory of the criteria of right and wrong, good and evil in terms of character and conduct, that should be recognized by a group of people. It is worth noting that the goal of ethics is to determine the laws that regulate human behavior. Every ethical decision is based on the underlying and guiding principles of individual values.

The ethics of a professional secretary or office manager, according to Ugoji (2006), are those moral principles connected to the office manager's employment that he is required to adopt upon accepting the appointment. The following ethics are elucidated:

Confidentiality is derived from the latin derivative of the term "secretarius," which means "confidential employee." A secretary must always keep information about the firm he works for and its clients discreet. Even if you are in a discussion where everyone is asking what is going on and you have facts, never share critical information.

Honesty: don't take credit for something you didn't do, and don't give credit to someone else for your efforts. It also entails always stating the truth. As a result, you establish credibility with your supervisor and coworkers.

Loyalty: Be loyal to your boss and your organization at all times. At all costs, do not sell them out.

Your employer, on the other hand, must demonstrate that he is deserving of your

trust. Do not get swept up in office rumors.

Reliability: demonstrate your dependability by completing tasks or jobs on schedule. Also, always strive to be on time for work and meetings, and remember to bring any pertinent documents with you.

Responsibility: demonstrate your responsibility by prioritizing duties and completing them on time. To put it another way, always meet death lines. **Work unsupervised:** always keep your work up to date and be productive. Meet deadlines. Every day write out the list of tasks you need to perform to ensure none is overlooked.

Cooperative: Be willing to help and share your professional knowledge with colleagues when the situation calls for it, but know when to politely decline.

Flexibility: Your work schedule and arrangements with your supervisor must be flexible. The best jobs are those that require you to give and take. You never know when you'll need to take a break.

Multi-Skilling: Make it a point to learn on the job, particularly about computer programs and various job responsibilities inside the company. You might need this information if you apply for a promotion.

Bribery: keep an eye out for Greek gifts or favors from clients in case there's a hidden agenda. Always make an effort to follow the company's policies and procedures.

A study conducted by Obi (2013) on the professional ethics of secretaries in Southeast Nigeria found that professional ethics and office etiquette are the foundation for good human relation in modern day office work. In another study conducted by Christensen (2009) on professional ethics of secretaries who revealed that the application of professional ethics has succeeded in enhancing and increasing the output and productivity of secretaries and office managers. Agholor and Agholor (2020) did a study on application of professional ethics on job effectiveness of secretaries in Delta state polytechnics and found that application of professional ethics has positive impact on moral standard among secretaries. The author affirmed that organizations should always lay emphasis on the need for their secretaries and office managers to uphold and always apply all professional ethics in the delivery of official assignment for effectiveness and improved performance. Joe (2019) examined moral standard of secretaries in

Nigeria and found that good behavior, diligence, obedience, loyalty and courtesy, and maintaining and defending security were some of the moral standard exhibited by secretaries. The author affirmed that the good and bad image of the secretary depends on the ethical reflection of the secretary.

Statement of the Problem

Several studies have been conducted on professional ethics and moral standard, but limited studies have been conducted on professional ethics and moral standard of female secretaries. secretarial profession has come a long way from change in gender dominance (female) to technologies that have improve work output and increased job opportunities, and administrative office roles have also remained an integral part of business operations, and all signs indicated that the secretarial profession is here to stay. However, there are set backs as observed by literature that there was no empirical evidence to show that the objectives of the office technology and management curriculum are realized especially with respect to professional ethics and moral conduct. Also employers of labour have often complained of absence of professionalism in most trained secretaries that, some of those employed have not performed to expectation and are without ethical standard expected from them. There are death of study that examined professional ethics and moral standard among female secretaries, this is the gap to be filled in this study.

Objective of the Study

The main objective of the study was to examine the professional ethics and moral standard of female secretaries in University of Ibadan, Nigeria. The specific objectives of the study are to;

- i. examine the professional ethics of female secretaries in University of Ibadan, Nigeria.
- ii. examine the moral standard of female secretaries in University of Ibadan, Nigeria.
- iii. investigate the relationship between professional ethics and moral standard of female secretaries in University of Ibadan, Nigeria.

Research Questions

The following were the research questions:

1. What are the professional ethics of female secretaries in University of Ibadan, Nigeria?
2. What are the moral standards of female secretaries in University of Ibadan, Nigeria?

Hypotheses

The following were the null hypothesis

H_{01} : There will be no significant relationship among professional ethics and moral standard of female secretaries in the University of Ibadan, Nigeria?

Methodology

The descriptive survey design was adopted in the study. This type of design is usually preferred for these type of research where the researcher cannot manipulate the variables of interest. It is also very useful in analyzing large populations. One of the advantages of survey research and relevance to the present study is the fact that it makes evaluation of existing conditions as well as collection of factual information possible. The study population comprised of seven (78) female secretaries in the University of Ibadan. Total enumeration technique was employed to ensure a robust participation of all female secretaries in the university. The use of total enumeration technique is further in line with the position of Byrman (2003) who posited that the use of this technique arises when the respondents for the study are relatively large.

The questionnaire which was the instrument used in the collection of data was titled "Professional Ethics and Moral Standard Questionnaire" (*PEMSQ*). The questionnaire is preferred because of the high literacy level of the study population. In a non-experimental study, the questionnaire is an acceptable instrument. *PEMSQ* consisted of open and closed item questionnaire made up of four parts 'A to C'. Part A contained information on the demographic characteristics of respondents while part B consisted of items on professional ethics and moral standards of female secretaries that was researcher (10) test items. Face and content validity of the instrument was established by sending copies of *PEMSQ* to two test and measurement professionals in the Department of Office Information Management, Lead City University, Ibadan. The instrument was well validated as it was found to measure what it designed to measure as it

established the instrument in clarity and adequacy. The final draft of the questionnaire used in this study was drafted based on their suggestions. In testing the reliability of the scale, a trial test was conducted on other subjects outside the target group of the study in Lead City University, Ibadan. Responses were subjected to the statistical tool Cronbach Alpha that yielded a reliability coefficient of $r' = 0.79$.

The researcher administered the instrument to the respondents in their respective departments in the university with the help of a trained research assistant. 68 questionnaires well responded questionnaires were retrieved representing 87% considered good enough were used for the study. Descriptive statistics of frequency counts, percentages, mean and standard deviation were used to answer research questions 1& 2 while inferential statistics of Pearson's product moment correlation (PPMC) was used to analyze hypothesis 1.

Results and Findings

Table i1: Demographic information of the Respondents

Variables		Frequency	Percentage
Educational qualification	OND	11	16.2
	HND	21	30.9
	B.Sc	27	39.7
	Masters	4	5.9
	Others	5	7.4
Years of service	0-5	13	19.1
	6-11	31	45.6
	12-17	16	23.5
	18 and above	8	11.8

Table 1 revealed that 16.2% of the respondents had OND as their highest educational qualification, 30.9% had HND, i39.7% had B.Sc. while i5.9% had masters and the rest i7.4% had other qualifications. This means that respondents who had B.Sc as their highest educational qualification participated more in the study. Also, 19.1% had spent between 0-5 years as secretaries, 45.6% had spent between 6-11

years while 23.5% had spent between 12-17 years and the rest 11.8% had spent 18 years and above. This means that respondents whose years of service fell between 6-11 years participated more in the study.

Answer to Research Questions

Research question 1

What are the professional ethics of female secretaries in University of Ibadan, Nigeria?

Table 2: Professional ethics of female secretaries in University of Ibadan, Nigeria

S/N	Items	SA	A	D	SD	Mean
1	Adherence to codes/regulations/protocols	36 (52.9%)	29 (42.6%)	3 (4.4%)	-	3.49
2	Corporate appearance	35 (51.5%)	28 (47.1%)	1 (1.5%)		3.50
3	Appropriate behavior/attitudes/communication	38 (55.9%)	28 (41.2%)	2 (2.9%)	-	3.53
4	Membership of a professional body	31 (45.6%)	35 (51.5%)	1 (1.5%)	1 (1.5%)	3.42
5	Punctuality	37 (54.5%)	25 (36.8%)	6 (8.8%)	-	3.46
6	Confidentiality	30 (44.1%)	25 (36.8%)	13 (19.1%)	-	3.25
7	Maintaining accountability	28 (41.2%)	36 (52.9%)	3 (4.4%)	1 (1.5%)	2.75
8	Qualification	23 (33.8%)	40 (58.8%)	3 (4.4%)	2 (2.9%)	2.60
9	Admitting and correcting mistakes	29 (42.6%)	36 (52.9%)	2 (2.9%)	1 (1.5%)	2.91
10	Intellectual development over-time	22 (32.4%)	27 (39.7%)	16 (23.5%)	3 (4.4%)	3.00

Result from Table 2 revealed the professional ethics of female secretaries in University of Ibadan, Nigeria. It showed that appropriate behavior/attitudes/communication = x (3.53) was ranked highest by the mean score rating and was followed in succession by corporate appearance 3.50), adherence to codes/regulations/protocols 3.49), punctuality 3.46), membership of a professional body 3.42), confidentiality 3.25), intellectual development over-time 3.00), admitting and correcting mistakes 2.91), maintaining accountability 2.75) and lastly qualification 2.60).

It could be inferred that some of the professional ethics of female secretaries in University of Ibadan are; appropriate behaviour/attitudes/ communication, corporate appearance, adherence to codes/regulations/protocols, punctuality, membership of a professional body, confidentiality, intellectual development over-time.

Research Question 2

What are the moral standards of female secretaries in University of Ibadan, Nigeria?

Table 3: Moral standards among female secretaries University of Ibadan, Nigeria

S/N	Items	SA	A	D	SD	Mean
1	Loyalty to your boss and organization	20 (39.7%)	27 (39.7%)	12 (17.6%)	9 (13.2%)	2.51
2	Completing task as at when due	21 (30.9%)	37 (54.4%)	7 (10.3%)	3 (4.4%)	3.35
3	Maintaining cordial relationship with your colleagues	29 (42.6%)	36 (52.9%)	3 (4.4%)	-	2.56
4	Commitment to your job	27 (39.7%)	31 (45.6%)	7 (10.3%)	3 (4.4%)	2.38
5	Good team work abilities	21 (30.9%)	37 (54.4%)	6 (8.8%)	4 (5.9%)	3.07
S/N	Items	SA	A	D	SD	Mean
6	Avoid using office time for leisure	17 (25.0%)	30 (44.1%)	12 (17.6%)	9 (13.2%)	2.76
7	Accept mistakes when they occur	16 (23.5%)	24 (35.3%)	15 (22.1%)	13 (19.1%)	2.50
Average mean: 2.73						

Result from Table 3 revealed the moral standards of female secretaries in University of Ibadan, Nigeria. It showed that completing task as at when due =x(3.35) was ranked highest by the mean score rating and was followed in succession by good team work abilities 3.07), avoid using office time for leisure 2.76), maintaining cordial relationship with your colleagues 2.56), loyalty to your boss and organization 2.51), accept mistakes when they occur 2.50) and lastly commitment to your job 2.60).

It could be inferred that the moral standard of female secretaries in University of Ibadan is high with an average mean of 2.73. The major moral standards are completing task as at when due, good team work abilities and avoid using office time for leisure.

Hypothesis

Hypothesis 1

There will be no significant relationship among professional ethics and moral standard of female secretaries in the University of Ibadan, Nigeria?

Table 4: Relationship between professional ethics and moral standard

Variable	Mean	SD	N	Df	r	Sig	Remark
Professional ethics	15.56	3.42	68	66	203**	0.000	Sig.
Moral standard	13.30	2.41					

*significant at 0.05

Table 4 shows the relationship between professional ethics and moral standard of female secretaries. Result revealed that there is significant positive relationship between professional ethics and moral standard ($r = 0.203^{**}$; $p < 0.05$). This means that being aware and abiding by ethics of the profession could make secretaries to be morally upright in their various organisations.

Discussion of Findings

Result from research question one showed that the professional ethics of female secretaries in University of Ibadan are; appropriate behaviour/attitudes/communication, corporate appearance, adherence to codes/regulations/protocols, punctuality, membership of a professional body, confidentiality, intellectual development over-time. The finding lends credence

with that of Segunda (2019) who found in his study that some of the professional ethics which secretaries must adhere to include confidentiality, honesty, loyalty, reliability, responsibility, work unsupervised, multi-tasking, flexibility and so on. Result also revealed that moral standard of female secretaries in University of Ibadan is high with an average mean of 2.73. The major moral standards are completing task as at when due, good team work abilities and avoid using office time for leisure. The finding corroborates that of Joe (2019) who examined moral standard of secretaries in Nigeria and found that good behavior, diligence, obedience, loyalty and courtesy, and maintaining and defending security were some of the moral standard exhibited by secretaries. The author affirmed that the good and bad image of the secretary depends on the ethical reflection of the secretary. Result also showed that there is significant positive correlation between professional ethics and moral standard. The finding supports that of Agholor and Agholor (2020) did a study on the influence of application of professional ethics on job effectiveness of secretaries in delta state polytechnics and found that application of professional ethics has positive impact on moral standard among secretaries.

Conclusion and Recommendations

It could be concluded that professional ethics and moral standards are a worldwide phenomenon which has become so crucial for every employees and employers of labour to keep tab on. It is a critical issue for business organizations, and corporate executives must take aggressive actions to address it. Unethical office practices have cost organizations the ability to improve their performance. However, it is a well-known fact that ethical behavior in the workplace leads to improved performance and, in the long term, organizational growth. It could be recommended that:

1. Employee of labour should build an ethically pleasant workplace for all employees, address ethical concerns, serve as role models, and put in place mechanisms for employee development.
2. Organizational ethics and punishments for their breaches should be clearly explain and made available to each employee on the first day of his/her resumption of duty in the organization, while at the same time organizations should always enlighten their employees about ethical standards and create ethical awareness and reasonings.
3. To get the best out of secretaries, their employers should always remind them of the ethics of their profession through the human resource office.

4. Secretaries should join their professional bodies, to enable them to be involved in their activities in order to have new insight on new areas of training and development.
5. Employees should be educated on ethical standards, proper behavior, and how ethical issues will be addressed by their employers. This will set the tone for all decision-making at all levels and under all conditions.


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Machine Learning for Sustainable Development

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Abstract

This paper presents machine learning as a tool for sustainable development. In 2015, the sustainable development goals (SDGs) were adopted by the United Nations as a global call to eliminate poverty, keep the planet safe, and ensure peace and prosperity for all people by 2030. Machine learning basically focuses on design of algorithms that enable machines to learn from data and make predictions based on the attributes of the data. Hence, one of the major approaches in machine learning is the adoption of artificial neural network (ANN) learning algorithm. With this in mind, we discussed the machine learning process and also reviewed scholarly work on how machine learning has been adopted in sustainable development. This paper shows that machine learning, together with appropriate data mining techniques, can help to gather and summarize data for decision makers. It can also help decision makers at every sector to make predictions and projections into what is expected in the future.

Keywords: Machine Learning, Artificial Neural Network, Sustainable Development Goals, United Nation, Data Mining.

Introduction

Machine learning has its root in artificial intelligence. It basically refers to the design of algorithms which aids machines to learn and predict attributes of data. Hence, machine learning helps in solving issues associated with traditional programming approach, in which decisions are based on input samples. According to Levin, Pomares and Alvarez (2016) "Machine learning procedures use statistical

tools to find patterns in the data that reveal new and relevant information that may prove useful for performing an action or task”.

In 2015, leaders from 193 countries of the world came together to look at existing situations and plan for the future. They realized that their own countries, together with other countries around the world, needed to navigate a path out of famines, drought, wars, plagues and poverty. So they inaugurated some goals. The goals, which are seventeen in number, focus on “ending poverty and hunger; good health and well-being; quality education; gender equality; clean water and sanitation; affordable and clean energy; decent work and economic growth; industry, innovation and infrastructure; reduced inequalities; sustainable cities and communities; responsible consumption and production; climate action; life below water; life on land; peace, justice and strong institutions; and partnerships for the goals” (Abata-Ebiri, Adebowale and Ojokuku, 2018). These 17 goals encapsulate five key areas which are “people, planet, prosperity, peace and partnership”.

Achieving the sustainable development goals require a coordinated approach from all development organizations and institutions (Maepa and Marumo, 2016; Mojapelo, 2018). Without doubt, thorough analysis of data generated at every sector is important for the actualization of the United Nations 2030 Agenda for Sustainable Development. Hence, this paper focuses on presenting machine learning as a tool for sustainable development. Specifically, we also examined the origin of machine learning, discussed the concept of artificial neural network, and examined the machine learning process.

Background on Machine Learning

Machines are not designed to be intelligent. The question of intelligent machine started with Alan Turing in 1955, this birthed the artificial intelligence field. Alan Turing proposed a test that starts with three people: a man, a woman and an interrogator with the aim of answering the question: can machine think? The test summarily involved a machine fooling an interrogator into believing that it was a woman. However, some scholars are of the opinion that the question “can machine think?” be replaced with “can machine do what humans can do?”

Machine learning basically focuses on design of algorithms that enable machines to learn from data and make predictions based on the attributes of the data. Hence, one of the major approaches in machine learning is the adoption of artificial neural network (ANN) learning algorithm. ANN is based on modelling human brain with

the use of artificial neurons for processing information. ANN has been widely accepted and used basically because of these two reasons: ability to learn and ability to generalize. The different approaches adopted in ANN learning algorithms are “supervised learning, semi-supervised learning, unsupervised learning and reinforcement learning” (Mohammed, Khan and Bashier, 2017).

Supervised learning is guided learning by training dataset (supervisor) and it is similar to the learning experience of students in school. This learning approach uses labeled (classified) data. The objective of this approach is to make predictions from the labeled data.

In semi-supervised learning, the training dataset provided is a mixture of labeled (classified) and unlabeled (unclassified) data. This is similar to the learning experience of a child. A child is provided with unlabeled data from the environment as well as labeled data from parent or tutor in school. The objective of this approach is to allow the machine to learn a model that will predict data better than that from the labeled data alone.

There is no training dataset or supervisor in unsupervised learning. Hence, the machine learns from unlabeled (unclassified) data or input data. The system uses the data to learn about the patterns without any previous knowledge about it. This is similar to the learning experience of employee or employer in an organization. The objective of this approach is to discover patterns or features in the unlabeled data with no help from a supervisor (training dataset).

In reinforcement learning, data is usually not given but it is generated by interactions with the environment. The objective is to use observations gathered from the interaction of the machine with the environment to make decisions that maximum reward or minimize risk.

The common types of machine learning algorithm include Naïve Bayes; K-means clustering; Random forest; Q-learning; and Neural network training algorithms. Naïve Bayes makes use of classifying algorithm (Holloway and Mengerson, 2018; and Aissaoui et al., 2019). The target of classification is to group data with similar features into groups. Although these classifying algorithms can be extended and adapted for semi-supervised learning, they are mostly used for supervised learning. K-means clustering, on the hand, is widely used in solving clustering problems in both semi-supervised and unsupervised learning algorithms. The focus is to classify a given dataset through a number of clusters. A random forest

algorithm is a classifier with a number of decision trees. It can also be used for unsupervised learning. Q-learning algorithm adopts a stochastic approximation method and it is used in reinforcement learning.

The different neural network training algorithms are multilayer perceptron, training multilayer perceptron and back propagation algorithm. The multilayer perceptron is used for unsupervised learning while the back propagation algorithm is widely used for supervised learning.

Machine Learning and Sustainable Development

Porciello et al (2020) used machine learning approach for network of seventy-seven researchers from 23 countries in gathering and summarizing data (evidence syntheses) towards achieving United Nations Sustainable Development Goal 2. Goal 2 is focused on “ending hunger, achieving food security and improved nutrition, and promoting sustainable agriculture”.

Also, Holloway and Mengerson (2018) were able to show that earth science and statistical domains have well defined interface, as machine learning was applied to remote sensing data to derive key metrics for agriculture and the environment. They focus particularly on “applications related to the United Nations World Bank Sustainable Development Goals, including agriculture (food security), forests (life on land), and water (water quality), providing a review of useful statistical machine learning methods and how they work in a remote sensing context”.

In another study on machine learning for sustainable development, Al-Abadi and Alsamaani (2020) focuses on using machine learning technique to model groundwater artesian condition in an area of Iraq. They used “an inventory map of flowing and non-flowing groundwater wells along with six explanatory factors (distance to faults, faults density, lineament density, aquifer saturated thickness, well depths, and ground surface elevation)”. Their approach could help in successfully drilling artesian wells with little cost and efforts.

Lee and Tae (2020) also developed a “decision support model based on machine learning for applying greenhouse gas reduction”. Their study also suggested an effective method of controlling greenhouse gas emissions based on a comparison of predictive power. Their study identified optimal greenhouse gas reduction technologies and also supported efficient greenhouse gas emissions control when considering the energy consumption patterns and environment of a building.

Machine learning has also been applied to tax reform for sustainable development. Zheng, Zheng and Ye (2016) discussed how machine learning could be used in designing tax instrument for controlling environmental pollution. Their study also addressed issues related to environmental taxes, environmental policy and economic development. They used quantitative methods in machine learning to evaluate Environmental Fee to Tax reform effect in a province in China. They “quantitatively assesses the impact of environmental tax reform on SO₂ emissions. By creating a synthetic control city for every pilot city, their study simulates the pollutant trend under a scenario with no EFT reform for each target city, which allows the authors to assess the actual impact of pollution intensity”.

In addressing sustainable education, Abidi et al (2018) Incorporated substantial and sustainable development issues into teaching and learning by developing a machine learning tool called an Intelligent Tutoring System. The machine learning tool could assist teachers in identifying groups of students who were confused attempting homework exercise. This tool also highlights which skills need more attention for further practice. Furthermore, teachers can also govern learning behaviors and student performances during various mastery skills, allowing them to focus only problematic skills in the next day of the class, which will save a lot of time and effort for both tutors and students.

In a related study, Aissaoui et al. (2019) focused on developing a method which automatically detect learning styles using machine learning algorithms. According to them, “Learning styles refer to the preferred way in which an individual learns best”. Their approach was based on the following two steps: “in the first step the learners' sequences were extracted from the log file then transformed to an input of the K means algorithm. The k means algorithm was used to group students into sixteen clusters based on FLSM (Felder and Silverman learning style model), where each cluster was labeled with a learning style combination. The second step consists in performing an unsupervised algorithm (Naïve Bayes) to predict the learning style for a new sequence”.

Conclusion and Recommendations

The reviewed literatures have provided evidence to the application of machine learning to agriculture, education, greenhouse gas reduction and environmental tax reform. Hence, synthesized information gathered through data mining and machine learning could guide decision makers in designing appropriate

framework and making right policies in agriculture, education and human capital development, environment, health and nutrition and management of natural resource. This implies that there would be food security, preserved environment and sustainable development.

The United Nations' Sustainable Development Goals (SDGs) are guideposts for providing better life for all people, irrespective of their race. This paper has shown that machine learning, together with appropriate data mining techniques, can help to gather and summarize data for decision makers. It can also help decision makers at every sector to make predictions and projections into what is expected in the future. It is our submission that machine learning can thereby provide objective recommendations to stakeholders towards achieving the SDGs.


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