

**DIGITAL OFFICE TOOLS USAGE AND ADMINISTRATIVE EFFECTIVENESS OF STATE-OWNED TERTIARY INSTITUTIONS IN RIVERS STATE**

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**ABSTRACT**

The study assessed how digital office tools usage relates to administrative effectiveness of State owned Tertiary Institutions in Rivers State. The descriptive survey research design was adopted. The study is conceptualized given the dimensions of digital office tools as routers/modems, computer, and wireless printing machines while measures of administrative effectiveness are actionable decision/implementation, effective communication and task accomplishment. Three (3) objectives, three (3) research questions and three (3) hypotheses were raised to guide the study. The population of the study was 260 administrative staff in the two tertiary institutions from where a sample size of 155 was drawn. Random and purposive sampling methods were used in selecting the respondents. A structured questionnaire was distributed to respondents. Mean standard deviation and percentages were used to analyze responses from the questionnaire while Pearson's Product Momentum Correlation (PPMC) was used to test the hypotheses. For the data analysis, SPSS (22.0) was used. The findings of this study revealed that there is a statistically significant moderate relationship between digital office tool usage and administrative effectiveness. The study thus, concludes that the use of digital office tools is a veritable tool for effective administration of tertiary institutions. Additionally, there is a commensurable report of use of digital office tools and the manifestation of administrative effectiveness in the tertiary institutions. Based on the findings, it was recommended that there should be annual evaluation/appraisal of office and Information Managers on the use of digital office tools in other to monitor the implementation of a sound organizational succession as well as monitor the knowledge level of office administrators on digital office tools and subsequently their output.

***Key Words: Digital Office, Administrative effectiveness***

**INTRODUCTION**

In recent times, organizations have no other choice but to deal with the digital age needs through implementing computer systems, information technology and advanced media. With the quick widespread availability of computers and information technology and advanced media, no country can be able to handle economy of the twenty first century without twenty first century electronic infrastructure. Accordingly, Lucas (2017) opines that the conditions are constantly changing, we must change, and otherwise we will pay a heavy price for not going to change. As an inevitable consequence of progress and complexity in the industry, serious challenges in handling and management of affairs of private and public sectors were created. One of the actions adopted by governments to deal with such challenges is the implementation of the popular digital office system. The necessity of digital system was to provide utilizable tool to undertake the administrative processes with proper speed and precision. Computers as well as other technological aids play very important roles in the effective discharge of functions. The world is undergoing a rapid change due to the innovation of office digitalization as the new millennium and the evolution continue, in order to cope with the digital age needs and to know the effects of all these digital machines. These advantages make it a must for every organization including the higher educational institutions to implement office digitalization at all levels of administration.

Moreover, the dream of any institution in an effective and efficient managerial process is to accomplish their needs and goals. More so, the knowledge of computer application software's such as spreadsheet excel, computer-aided design and database are important skills which enables institutional administrators in processing relevant data for the governing bodies, institutional agencies for decision making towards quality assurance and transformational development. The value of digital office tools in higher educational institutions was recognized when many projects were initiated by the governments in many developed countries that provided a model to enter a higher development process and these projects were directed towards the production of better educational system (Christiana, 2018). As such, it is arguable that the task of managing higher education in such an effective manner that it leads to sustainable development cannot be attained if the full use of digital office tools related educational initiatives are not explored.

The full use of digital office tools results in the reduction of workload of organization, quality improvement of teaching and learning process; as well it provide better access to information and easy way of communication (Christiana, 2018). It can also be used to improve the quality of education by enhancing educational content development, supporting administrative process and other educational establishments. Therefore, digital office tools have become a major component for educational administration, which provides several facilities and possibilities for administrators to do their tasks easily. It also contributes to the efficiency and effective infrastructure to manage the whole process.

Administration is perceived as activity done in order to plan, organize and successfully run a business, school or other institution, a process or act of organizing the way that something is done. Administration according to Eden (2016) involves planning activities which aim at the fulfillment of the goals of a particular organization or institution. It calls for the ability of the administrators to make the right decisions to fulfill the required goals. In institutional setting therefore, administration has been extended as a service activity or tool through which the fundamental objectives of the institutional process may be efficiently optimized when allocating human and material resources as well as to make the best use of existing resources (Liverpool and Jacinta 2013). Many studies revealed the need for the integration of digital office tools into administrative activities of higher education institutions.

As opined further by Christiana (2018), digital office tools foster the dissemination of information and knowledge by separating content from its physical location. This flow of information is largely impervious to geographic boundaries allowing remote communities to become integrated into global networks and making information, knowledge and culture accessible in theory to anyone. It is also mentioned that digital office tools enhances day-to-day management of institutions and the various functional areas in which it could be used are Procurement and Store management; Timetabling, Student admission; Data distribution and management Tracking, Financial Management, and Medical services. Based on the literature reviewed, three main functional measures of administrative effectiveness are of great significance for day-to-day management of higher education institutions, they are actionable decision/implementation, effective communication and task completion.

Effectiveness has to do with achievement of a goal set by administrative leaders through their leadership strategies to help organization reach certain achievements across the board and technology applications in educational administration will help them to achieve their goals easily (Mwalongo, 2014). Moreover, effectiveness is a degree to which an organization's desired goals are correctly achieved in HEI's administration (Ghavifekr, 2013). The administrators face various challenges in their daily work performance particularly if there is inappropriate utilization of technology or in manual process. These challenges are the obstacles towards an effective administration. Therefore these problems need to be solved by administrators to establish a productive administrative process within universities and with the help of more ICT integration and its maximum utilization they can resolve many of those challenges. In terms of taking full advantage and for effectively utilizing ICT resources, there should be availability and accessibility

of all basic ICT resources including the basic digital office tools such as computer, wireless printers, modem/routers among others which are the fundamental need of an educational administration and everyone should be well equipped.

Nevertheless, digitalized office tools according to Tinio, (2013) entail the use of diverse set of technological tools and resources. These resources are used to communicate, create, disseminate, store and manage the information such as radio, television, computer, modems and routers, internet, mobile phones, printers and fax machine. In the age of booming technology, running a business without or less technologies is like trying to breathe without lungs as observed by Christiana (2018). Similarly, educational institutions are expected to play a crucial role as the engine for knowledge generation and learning environment where digitalization has become one of the most effective factors by helping not only in teaching and learning process but also in administration process. Moreover, digitalization provides several facilities and possibilities to educational administrators for their task performance. It is mentioned that digital resources have changed the very nature of higher education administration by allowing any information to be shared, stored, retrieved and processed easily by all who work, study or interact with the institution (Zainally, 2018). Moreover, administrative process at higher education institutes still faces a number of problems which indicates the ineffectiveness of technology. Therefore, it is important to conduct a research that may help to examine the status of effectiveness of digital office in university administration. Hence, this study examined the relationship between the utilization of digital office tools and administrative effectiveness in tertiary institutions in Rivers State.

### **Statement of Problem**

Owing to the period of pragmatic and competitive science and technology, there is an urgent need to pay more prominent attention to the improvement in the administration of tertiary institutions by the incorporation of digital office tools to ensure continuous interaction between administrators and their partners/clients. Digitalized office is the key in improving effectiveness of employees in an organization. In the 21<sup>st</sup> century, tertiary educational institutions have always being at the fore front of new scientific discoveries and innovation brought about by the activities of teaching learning and research. More so, it is not uncommon to find some organizations still subjecting administrators to rigorous menial work using analog systems. When administrators are not provided with efficient and effective working tools, efficiency in job performance and productivity is definitely bound to be low.

The provision of efficient and effective office tools entails the adoption of digital office tools in the institutions. The digital office tools are invaluable intervention of this digital age. Its inherent attributes such as accuracy, high speed performance, reliability and capability to store and transmit very large amount of data have made it possible for its applicability to all human endeavors including teaching, learning and research in educational institutions. On the other hand, administrators need to meet the challenges by acquiring new skills and competencies for efficient utilization in the use of digital technology noting that there is continuous advancement in technology which has affected the administrative profession in terms of the quality, speed and accuracy of works performed (Eden, 2016). More so, many scholars both local and international had made advances in the study of ICT, its use and influence on students' performance, business enhancement among others. None of these was aimed at assessing the impact digital office tools has on the administration of tertiary institutions especially in Rivers State. It is in consideration of this lacuna in literatures this study is embarked on.

Despite the perceived relevance of digital office tools to the effectiveness of tertiary institutions' administration, the digital office tools conceptualization has gained limited attention by scholars and practitioners of office and information management studies in Nigeria. As such, it is extremely not clear if these digital technologies (especially as it pertain to digital office tools) is correlated with positive change in the administrative effectiveness of tertiary institutions. It is on this premise

that the study seek to investigate if any relationship exist between digital office tools usage and administrative effectiveness.

In line with the above, the conceptual framework is displayed in figure 1 below:

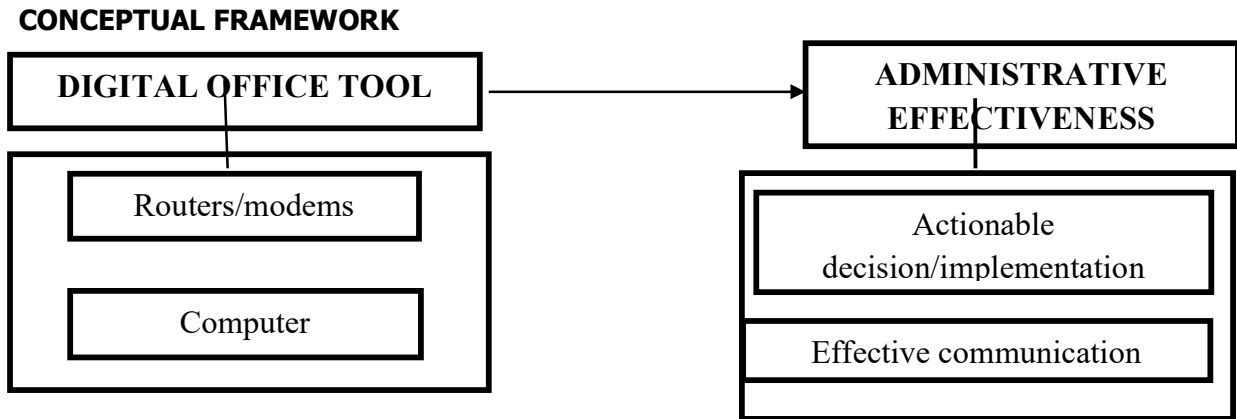


Figure 1: Conceptual Framework showing relationship between dimensions of Digital Tools Usage (Independent Variable) and Administrative Effectiveness of State owned Tertiary Institutions in Rivers State (Dependent Variable).

**Source:** Researcher's Conceptualization, 2020

### Purpose of Study

The purpose of the study was to investigate the relationship between digital office tools usage and administrative effectiveness in state owned tertiary institutions in Rivers State. Specifically, the study examined:

1. The relationship between the use of routers/modems and actionable decision/implementation in state-owned tertiary institutions in Rivers State.
2. The relationship between the use of routers/modems and effective communication in tertiary institutions in Rivers State.
3. The relationship between the use of computer and actionable decision/implementation in tertiary institutions in Rivers State.
4. The relationship between the use of computer effective communication in tertiary institutions in Rivers State.

### Research Questions

In order to achieve the set objectives of the study, the following research questions guided the study

1. To what extent does the use of routers/modems correlate actionable decision/implementation in tertiary institutions in Rivers State?
2. To what extent does the use of routers/modems correlate effective communication in tertiary institutions in Rivers State?
3. To what extent does the use of computer correlate actionable decision/implementation in tertiary institutions in Rivers State?
4. To what extent does the use of computer correlate effective communication in tertiary institutions in Rivers State?

### Hypotheses

The following null hypotheses which were tested at 0.05 significant level was postulated for the study:

H<sub>01</sub>: The use of routers/modems does not significantly correlate actionable decision/implementation in tertiary institutions in Rivers State.

H<sub>02</sub>: The use of routers/modems does not significantly correlate effective communication in tertiary institutions in Rivers State.

H<sub>03</sub>: The use of computer does not significantly correlate actionable decision/implementation in tertiary institutions in Rivers State.

H<sub>04</sub>: The use of computer does not significantly correlate effective communication in tertiary institutions in Rivers State.

### **Benefits**

The essential implication of this research is that its findings will contribute immensely to the achievement of administrative effectiveness. It will also add to the body of knowledge as the study will act as a literature to researchers who intend to research in areas related to this study. Therefore, the result of the study is expected to have direct benefit on office administrators, managers, principal and non-principal officers of tertiary institutions and students of office information and management, business management, public administrators. Also, the findings of the study will contribute to the proper utilization of digital office tools to add value instead of losses resulting from the use of Digital Office Tools (DOTs). Finally, we hope that the findings will urge educators and policy makers to rethink the advantages and disadvantages of online digital office tools and make a lead to the improvement of programs, policies and regulations.

### **Area of coverage**

This study focuses mainly on digital office tools and administrative effectiveness in tertiary institutions in Rivers state. The study covered two tertiary institutions in Rivers state. That is, Rivers State University and Ignatius Ajuru University of Education all domiciled in Port Harcourt metropolis. The study unit entails mainly administrative officers of the institutions including the Office of the Deputy Registrar, Admission Officers and Administrators of various units/department of the institutions.

### **Content coverage**

The content scope of the study covers the relationship between digital office tools and administrative effectiveness. The independent variable in this study is online digital office tools. The dimensions are modems/routers, computer and wireless printing machine. On the other hand, the dependent variable for this study is administrative effectiveness. The measures of administrative effectiveness include; actionable decision/implementation, effective communication and task accomplishment.

### **Geographical coverage**

The geographical scope covers two tertiary institutions in Port Harcourt which includes Ignatius Ajuru University of education and Rivers State University.

### **Unit of Measurement**

The study unit is the administrative staff in the two tertiary institutions including principal officers (Vice Chancellor, Deputy Vice Chancellor, Registrar, Bursar and Librarian), Middle Management (Deans, HODs, Directors, and Provosts) and Administrators from which data was generated. And only those who are in the institution for at least one year and above were considered for this study.

### **Conceptual Review**

Technology is the key in improving performance in an organization. The advent of digital office tools has helped to make the administrative career path cleaner. For an administrator to be employable in an automated office, Merony (2013) argues that such an administrator must be well equipped in specific digital office equipment training such as:

- i) Knowledge of the categories of equipment and their intended uses and differences.
- ii) The concept and theory of specific automated office equipment.
- iii) The skill to use resource or reference materials properly.
- iv) Hands on equipment training, etc.

There are a wide range of digital office tools which now enable administrators to improve their performance. Such machines are electronic typewriters that replaced the manual ones, photocopiers, word processors with multipurpose facilities, computers, wireless printers, modems, routers and other sophisticated office machines and equipment currently provided by management of organizations. Some of the physical equipment includes communication equipment and electronic pocket organizers. Dulek and Fielden (2019) explained that Microsoft computer software programme help the user-administrator to write and edit memos, letters and reports, data management or databases, which help the user-administrator to use long list of data and spreadsheet programme which handles tables and numbers. Akpomi and Ordu (2019) opined that new technological equipment has altered the procedure and technique for office functions. They mentioned electronic mail/commerce, voice mail, smart phones and internet as examples. Akpomi (2013) further confirmed that this technological advanced office equipment enhance proficiency and productivity. Digital office tools according to Davenport (2013), ensures continuous interaction between administrators and their subordinates.

### **Dimensions of Predictor Variable**

#### **Modem and Routers**

A modem is a device that enables you to hook up your PC to a local cable TV line and receive data at about 1.5 Mbps. This data rate far exceeds that of the prevalent 28.8 and 56 Kbps telephone modems and the up to 128 Kbps of Integrated Services Digital Network (ISDN) and is about the data rate available to subscribers of Digital Subscriber Line (DSL) telephone service. A modem can be added to or integrated with a set-top box that provides your TV set with channels for Internet access. The actual bandwidth for Internet service over a cable TV line is up to 27 Mbps on the download path to the subscriber with about 2.5 Mbps of bandwidth for interactive responses in the other direction. However, since the local provider may not be connected to the Internet on a line faster than a T-carrier system at 1.5 Mbps, a more likely data rate will be close to 1.5 Mbps.

A router is a device that communicates between the internet and the devices in your office that connect to the internet. As its name implies, it "routes" traffic between the devices and the internet. With the right kind of router in the office, employees may be able to enjoy faster internet service, help protect your organization from cyber threats, and avoid those maddening Wi-Fi dead spots. When most internet service was delivered over telephone lines, modems enabled communication between the digital devices in the office and the analogue signals used on telephone lines. With today's internet connections, including cable and satellite, modems play a similar but different role.

#### **Wireless Printers**

Wireless communication uses radio frequencies (RF) or infrared (IR) waves to transmit data between devices on a LAN. For wireless LANs, a key component is the wireless hub, or access point, used for signal distribution. To receive the signals from the access point, a PC or laptop must install a wireless adapter card (wireless Network Interface Card). Wireless signals are electromagnetic waves that can travel through the vacuum of outer space and through a medium such as air. Therefore, no physical medium is necessary for wireless signals, making them a very versatile way to build a network. Wireless signals use portions of the RF spectrum to transmit voice, video, and data. Wireless frequencies range from 3 kilohertz (kHz) to 300 gigahertz (GHz).

The data-transmission rates range from 9 kilobits per second (kbps) to as high as 54 Mbps. (Wikianswer, 2017).

### **Concept of the Criterion Variable**

The task of managing higher education in such an effective manner that it leads to sustainable development cannot be attained if the full use of ICT related educational initiatives like the digital office tools are not explored (Bassey, 2019). This is due to the fact that technology promotes; reduction of workload of organization, quality improvement of teaching and learning process, provides the better access of information and easy way of communication (Christiana, 2018). It can also be used to improve the quality of education by enhancing educational content development, supporting administrative process in HEIs and other educational establishments. Therefore, digital office tools have become a major component for educational administration, which provides several facilities and possibilities for administrators now to do their tasks easily. It also contributes to the efficiency and effective infrastructure to manage the whole process.

According to, Krishnaveni and Meenakumari, (2017), ICT extensively covers whole process of administration of higher education. Based on literature review the three major functional areas of HEI's administration that are of great significance for day-to-day management is identified as: Student administration, Staff administration, and Teachers administration. Effectiveness is a goal set by administrative leaders through their leadership strategies to help organization reach certain achievements across the board and technology applications in educational administration will help them to achieve their goals easily. Moreover, effectiveness is a degree to which an organization's desired goals are correctly achieved in HEI's administration. The administrators face various challenges in their daily work performance particularly if there is inappropriate utilization of technology or in manual process. These challenges are the obstacles towards an efficient administration. Therefore these problems need to be solved by administration leaders to establish a productive administrative process within universities and with the help of more ICT integration and its maximum utilization they can resolve many of those challenges (Kawade, 2014).

The concept of administrative effectiveness has been defined differently by different authors due to its complex nature. Some researchers defined it as "administrative effectiveness is the positive response to administrative efforts and actions with the intention to accomplish stated goal (Besong, 2014). It is also defined as the product of a series of complex nested relations and an interaction pattern (Elving and Hansma, 2015). The term can be explained in simple language as the administrative skills possessed by an individual to run an organization in an easy and effective manner. The term effective may be seen in a variety of dimensions viz. the economic dimension, the political dimension, the social dimension and many more.

Administrative effectiveness also refers to the ability of a manager to plan, organize and coordinate many and often-conflicting social energies in a single organization so adroitly. It implies that, it is the right and duties attached to an individual irrespective of the gender of the incumbent. Effectiveness in administration is equivalent to achievement muted by incumbent administrator. It implies that, it is an antecedent of function or role's achievement of the manager or administrator. It could be identified as a plan proposed in advance and accomplished later but within a stipulated time or duration. Ipay in Besong (2015) noted in his study of effectiveness, that effectiveness is a part of function assumed by someone, a set of specific responsibilities, assumed by a professional in a setting. The implication is that when a manager or administrator maintains high morale discipline and decorum among his staff, he exhibits a personality of effectiveness worthy of emulation. In a series of studies relating to effectiveness, Uche (2012) holds that effectiveness is a symbol of good administrative style of the incumbent, team work, morale or motivation of staff, good teaching conducive social climate and counseling as well as rules and regulations. The manager's ability to control and maintain the firm's facilities, initiates projects and completes both the new ones and also those abandoned by his predecessor(s) is example of effectiveness. Equally, monitoring performance regular staff meeting, interaction, encouraging staff participation in

decision-making is an evidence of effectiveness. There are different measures of administrative effectiveness, but for the purpose of this work just-in-time information, targets/task accomplishment and effectiveness in record keeping has been adopted.

### **Measures of the Criterion Variable**

#### **Decision Making**

Decision making can be defined as choosing between alternatives (Clavecilla, Maria and Villafior, 2016). It can be regarded as an outcome of mental processes (cognitive processes: memory, thinking, evaluation) leading to the selection of a course of action among several alternatives. Decision making involves mapping the likely consequences of decisions, working out the importance of individual factors, and choosing the best course of action to take. Decision making is almost universally defined as choosing between alternatives. (Luthans, 2014). The classical theorists however, did not generally present decision making in this way. Pioneering management theorists such as Fayol and Urwick cited in Luthans (2014) were concerned with the decision making process only to the extent that it affects delegation of authority, where as the father of scientific management, Taylor cited in Luthans, (2014) alluded to the scientific method only as an ideal approach to making decisions. Each decision process must build consensus among team members, because without understanding and commitment successful implementation of the decision will not take place. When there is consensus, the employees are satisfied with the organization and that finally improves their performance.

To improve the organizational performance, teams must cultivate both quality and consensus on every decision (Amason, 2016). Decision style is defined as how people make decisions in various situations. It refers to the degree of employee's involvement in a firm's strategic planning activities. In order to increase the workers commitment and humanize the workplace with the intention of improving work performance and good citizenship behavior, managers need to permit a high degree of employee involvement. Thus, the involvement of workers in decision making is considered as a tool for inducing motivation and satisfaction in the workers leading to positive work attitude and high productivity. Top management teams make strategic decisions, the quality of these decisions influences employee individual and organizational performance. Because consensus among team members facilitates the implementation of those decisions and also influences employee and organizational performance. Furthermore, to sustain their ability to produce and implement strategic decisions, top management teams must maintain positive affective relationships among their organizational members/employees.

Decision making is a fundamental activity of choosing from among two or more available options that can lead to a desired state of affairs (Onwuchekwa, 2018). Actually, making decisions is at the very center of the process of administration. It is the administrative function that pervades the entire task of the administrator. The administrator cannot make all the decisions alone. He needs to involve others so as to realize the goal of the organization. It is not therefore an overstatement that in any organization, including schools, the staff will feel more involved and put in their best when they are carried along or are informed about the workings of the organization. Ivibhogben (2015) said that participation is seen as actual sharing in the making of decisions.

#### **Effective Communication**

Admittedly, the entire administrative function of Office and Information Manager revolves around information dissemination. As data/information bankers of tertiary institutions, Office and Information Managers are saddled with the responsibility of making data and information accurately and timely available for the system. This study conceptualizes information dissemination as the effective process of making accurate and reliable data and information resources securely available to designated or authorized persons, units, partners, and other consumers on time. Information dissemination as a measure of Office and Information Managers' effectiveness is

closely associated with communicative skills of an administrator (Barber, 2013). As opined by Sharp in Lawal, (2010), the chief aim of communication is to effect change in someone, that is, to shape action or to secure inactiveness in the total interest of a business enterprise. It is a cord that binds people together in an organization.

Discussing information dissemination as a measure of office and information managers' effective job performance, Ekiye (2017) pointed out that "a major aspect of secretarial job is maintaining the communication flow in the office or unit depending on the area covered. A good secretary always sends letters, circulars, notices and mails online using the right format and channel." The ability of the secretary to effectively communicate official decisions, procedures and developments to designated persons is an indicator of his/her efficiency and effectiveness.

In organizational communication, information dissemination is said to be effective when it is sent, received and well-understood by both parties (sender and receiver). There is the need, therefore, for an administrator to systematically and carefully choose the medium and language or words to be used in passing information to employees. In ascertaining communication effectiveness, Communication is effective when it reveals the understanding of the ideas or contents of information or accurate interpretation of all that is contained in the information. Effective communication is thus not just the giving of information, sending of a telegram, writing of a memo, or face-to-face conversation, rather it is the sending of a clear message and receiving and understanding the intent of the message

### **Theoretical Review**

The introduction of digital office tools is seen as a new technological innovation adapted in the management of tertiary institutions. The usage of digital office tools is an important variable in IT acceptance as it appears to be a good surrogate measure for effective deployment of IT resource in schools. The process of integrating digital office tools in administration of tertiary institutions depends on whether or not it gets embedded or built into the structure and practice of institutional management. The system theory first employed by Kast and Rosenzweig (1985) in the study of organizations provides useful frame work for the introduction and use of digital office tools in schools. The managerial sub system include: goal setting, planning, organizing, assembling resources staffing, directing, coordinating, budgeting, evaluating implementing and controlling (Kast and Rosenzweig, 1985). As observed by (Beheshtia and Abolhasan, 2018). ICT implementation in schools management provides teachers, administrators and other employees with new tools for carrying out their duties. This will present new opportunity for improving overall school administration

The modern management theory propounded by Henri Fayol in (1987) is the theory adopted for the study. The theory focuses on the development of each factor of workers and organization. It emphasized the use of systematic mathematical techniques in the system while analyzing and understanding the inter-relationship of management and workers in all aspect. This theory posits that an organization is a system that changes with the change in its environment, both internal and external. However, the structural sub-systems comprise the school's organizational structure, role, working relationships and rules. ICT introduction in school would impact on the school's structures, working relationships and even roles of individuals in schools. of immediate need would be recruitment of an ICT coordinator, to stimulate the implementation process within the school (Crawford, 2011).

In tertiary institutions' administration, digital office tools integration may result into a number of psychosocial issues which includes lack of capacity to cope with technological change inadequate knowledge and skills in the use of computers by administrators and resistance to new technology. These issues can be overcome by appropriate training programmes, effective flow of information, adequate communication and constant assurance that the existing social benefits among staff will not be disrupted by the new innovation or change. Element that shape the technical sub-system

include knowledge, techniques, facilities and equipment each of the elements would need to be adopted to fit into the new technological setting of the institution. Some of the adjustment that needed to be made in the technologically changed institution would be the creation of computer rooms for organization of computer systems, software and a data bank. Therefore, systems theory thus guided the study in linking the variables under study.

### Method

The study adopted the descriptive survey research design to assess the correlation between digital office tools and administrative effectiveness in tertiary institutions in Rivers. The population for this study comprises of all the two hundred and sixty (260) administrative staff of the two tertiary institutions in Rivers State. These are regarded in this study as the three levels of administrative staff(s) such as Senior Management, Middle Management and Non-Management. This study adopted the stratified random sampling blended with purposive sampling. Stratified random sampling involves dividing the population into homogenous subgroups and there after taking simple random sampling in each sub group to determine the respondent. A sample size of 155 respondents was selected for the study using Krejcie and Morgan (1970) Sample Determination Table. The main instrument for this study is a 14-item researcher's designed questionnaire titled: Digital Office Tools Usage and Administrative Effectiveness of State owned Tertiary Institutions in Rivers State Questionnaire code-named: (DOTQUEST).. It was designed along the Likert format of Very High Extent (VHE), High Extent (HE), Moderate Extent (ME) and Low Extent (LE).

Face and content validity was done by experts in Office and Information Management who scrutinized it to ensure its validity. A test-retest method was adopted in establishing the reliability of the study instrument. To do this, copies of the questionnaire were administered to respondents outside the sample area. After two weeks interval, the same was re-administered and retrieved. The scores of the two tests were correlated using the Pearson Moment Correlation Coefficient to establish a reliability index of 0.74

### Univariate Analysis

**Table 1: Item and Score of Responses on the use of Router/Modems**

S/N	To what extent are the following facilities available and used to achieve actionable decision/implementation in your office?	VHE 4	HE 3	ME 2	LE 1	Mean	SD
1	Intranet/Extranet	34	57	18	5	3.05	.796
2	Wi- Fi routers/hotspot computers	36	50	23	5	3.03	.836
3	Internet modems	36	56	17	5	3.08	.800
4	Improvised wireless routers (Android)	5	19	61	29	2.00	.776
5	Local Access network (LAN)	28	59	21	6	2.96	.803
<b>Set mean</b>						<b>2.83</b>	<b>.494</b>

The table above presents the responses of the respondents on the questionnaire items on routers/modems. The respondents were asked to indicate the extent to which the itemized facilities are available and used for administrative purposes in their offices. Based on the rated scores of the options item 1-5 presents mean of  $3.05 \pm .796$ ;  $3.03 \pm .836$ ;  $3.08 \pm .800$ ;  $2.00 \pm .776$ ;  $2.96 \pm .803$ . All the items presented mean above the criterion mean of 2.5 except item 4 which had a lower mean indicating the non-availability and use of improvised wireless routers. However, the table presents a set mean of  $2.83 \pm .494$  which depict a moderate extent of availability and usage of router/modem.

**Table 2: Items and Score of respondents on use of router/modem for Effective Communication**

S/NO	How does the use of routers/modem enable effective communication in tertiary institutions in Rivers State?	VHE	HE	ME	LE	MEAN	SD
7	With the aid of various types of routers/modem information flow across my institution adequately and enables effective communication	17	59	34	4	2.78	.738
	The use of routers/modem enables timely verification of accuracy of information received in my institution	46	50	15	3	3.22	.773
8	In my institution, information is provided to the right people in sufficient detail and on time to enable them to carry out their responsibilities efficiently and effectively using different routers/modem.	27	58	25	4	2.95	.774
9	In my institution information received from one source is consistent with information received from another as a result of the use of routers/modem	29	51	25	9	2.88	.884
10	In my institution, there is clarity of purpose and direction among administrators and other employees as a result of the use of routers/modem	16	49	27	22	2.52	.961
	<b>Set mean</b>					<b>2.87</b>	<b>.474</b>

The table above presents the responses of the respondents on the questionnaire items on the use of router/modem to achieve effective communication. All the responses have mean score above the criterion of 2.5 indicating that the use of router/modem contributes immensely to effective communication in tertiary institutions in Rivers State.

**Research Question 3: To what extent does the use of computer correlate actionable decision/implementation in tertiary institutions in Rivers State?**

**Table 3: Items and Score of respondents on use of computer for Effective Communication**

S/NO	QUESTION ITEMS	VHE	HE	ME	LE	MEAN	SD
11	With the aid of various types of computers in use, information flow across my institution adequately (e.g. from top management to other employees) to enable people to discharge their responsibilities effectively	27	58	25	4	2.95	.774
12	The use of computers enables timely verification of accuracy of information received in my institution.	35	30	27	0	<b>3.65</b>	<b>.654</b>
13	In my institution, information is provided to the right people in sufficient detail and on time to enable them to carry out their responsibilities efficiently and effectively using different computers	46	50	15	3	3.22	.773
	<b>Set mean</b>					<b>3.87</b>	<b>.445</b>

Table 3 sought responses on the extent to which the use of computer correlate actionable decision/implementation in tertiary institutions in Rivers State. All the question items had mean score above the criterion mean of 2.5. This also indicate that the use of various types of computer correlate actionable decision/implementation.

**Research Question 4:** To what extent does the use of computer correlate effective communication in tertiary institutions in Rivers State?

**Table 4: Item and Score of respondents on use of computer for Effective Communication**

S/NO	QUESTION ITEMS	VHE	HE	ME	LE	MEAN	SD
14	In my institution, information is provided to the right people in sufficient detail and on time to enable them carry out their responsibilities efficiently and effectively using different computers.	29	30	28	0	3.0	.56
15	In my institution information received from one source is consistent with information received from another as a result of the use of computers.	28	29	27	2	3.4	.68
16	In my institution, there is clarity of purpose and direction among administrators and other employees as a result of the use of computers and other digital tools	27	30	26	0	3.0	.70
	<b>Set mean</b>					2.88	.470

**Table 4** above have response rate of 2.6 and a mean/standard deviation of 2.88/.470 and above. This implies that the respondents are in agreement that the use of computer correlate effective communication in tertiary institutions in Rivers State to a high extent.

### Test of Hypotheses

This section presents the result of the null hypotheses which test the relationship between the dependent and independent variables using Pearson Product Momentum Correlation. In order to reduce the number of pages, the four hypotheses were combined as shown in table 5.

**Table 5:**

Variables	Mean	SD	N	R	Sig	Decision
Routers/modems and Actionable Decision; Implementation	2.82	.494	114	.442**	.000	Reject Null Hypothesis
Routers/modems and Effective Communication	2.41	.596	114	.433**	.000	
Computers and Actionable Decision; Implementation	2.64	.670	114	.433**	.000	
Computers and Effective Communication	2.84	.560	114	.456**	.000	

\*\* Correlation significant at 0.01 level

Source: SPSS Data Output based on Field Survey (2019)

### Discussion of findings

From the analysis on the questions and hypotheses, the study found positive relationship between digital office tools and administrative effectiveness in the state owned tertiary institutions in Rivers state. A moderate extent of the use of digital office tools and moderate extent of the manifestations of administrative effectiveness was reported in the study. Thus it is inferred that the respondents' perception of use of digital office tools does influence their job effectiveness. This finding further supports Akpomi (2013) position that modern office equipment enhances proficiency and productivity.

These findings is in line with the findings of Zain (2014) who observed that the functions and effectiveness of business managers in today's business organizations depend largely on the availability of office technologies, and on the skills and competencies of the office administrators.

It also corroborates the findings of Chux-Nyeche (2020) who found that technological literacy is key to achieving success in the 21<sup>st</sup> century office practice.

#### Conclusions/Recommendations

Based on the analysis of data and literature reviewed, the study therefore concluded that digital office tools usage has a significant relationship on administrative effectiveness of tertiary institutions in Rivers State. It therefore recommends that:

1. Staff-training programme on the use of digital office tools should be developed for all administrators in the tertiary institutions and that all those in the administrative unit of the institutions should attend compulsory office managerial training on digital lifestyle.
2. Digital office equipment should be adequately provided in the tertiary institutions so as to improve the standard and job performance of Office Administrators.

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