APPLICATION OF ICT IN SERVICE DELIVERY AS PREDICTOR OF STAFF JOB EFFECTIVENESS IN NIGERIA UNIVERSITIES

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ABSTRACT
Information and communication technology (ICT) utilization has been recognized as one of the drivers of effectiveness in service delivery. The study considered the emails and computer sets as ICT tools for effective service delivery in Anambra State Universities. Private and public Universities in Anambra state participated in the study. The study adopted correlational survey design. The study population comprised 5,038 Staff of public and private universities in Anambra State. 645 teaching and non-teaching were drawn from the Faculties of Education and Management Sciences participated in the study. The study employed the Questionnaire on Effectiveness of Service Delivery Scale (QESDS) and Questionnaire on Utilisation of ICT Scale (QUIS) for data collection. The instruments were validated and reliabilities were established at 0.814 and 0.767 using Cronbach Alpha. Multiple regression technique was employed for data analyses wherein the coefficient of regression and its corresponding t-values were used to answer the research questions and test the hypotheses respectively. The results revealed that staff use of e-mail did not significantly determine the effectiveness of service delivery in both public and private universities, and that use of computer set significantly determined the effectiveness of service delivery in both public and private universities. The study recommended that staff of organizations should be trained on use of ICT gadgets to enhance job effectiveness.

KEYWORDS: Information and Communication Technology, University, Job effectiveness, Service Delivery.

1. INTRODUCTION

The university is a service industry providing professional training for high-level jobs, as well as the education necessary for the development of the personality. The concept of service is used to describe any valuable action, deed, or effort performed to satisfy a need or fulfil a demand (Kotler, 2015). To buttress the above point, service, for Cordella and Tempini (2015), may be conceived as something that the public needs such as transport, hospitals, energy supplies, security, education and counseling, which are provided in a planned and organized way by personnel, staff of organisation, an official body or the government. The end point of every services is to meet the needs for which they are delivered. Job effectiveness connotes that service delivery is provided in a useful, dependable, authentic, reliable, expandable and timely manner. Service delivery also defines job effectiveness as the efficiency and effectiveness with which the university staff delivers services (Akpan, 2014).

Given the advancements in ICT, staff are expected to be ICT competent and should be able to apply it efficiently in the process of service delivery. As regards to the study, Service delivery is seen as the provision of services such as teaching and learning, information exchange, documentation, security and health services by members of staff of the university. Thus, service delivery in higher institutions has to do with effectiveness with which universities discharge their academic services to yield the desired dividend.

The world of information and communication is rapidly changing, and today their convergence with one another can be seen more than ever so that data is transferred quickly and incredibly made available to users all over the world. ICT has presented an easy means for students and teachers to access the world quickly, to obtain or disseminate information. The higher education institutions around the globe have increasingly adopted ICT as tools for public service deliveries such as teaching, curriculum development, staff development, and learning (Sakar, 2012). Specifically, application of ICT to higher education institutions has redefined activities in teaching and learning process, research and information sourcing, administrative services/management of students' records, as well as communication among teachers, students and non-academic staff and others in these institutions.

Recent studies on service delivery show that effective service delivery is achieved by integrating the use of information and communication technology (ICT) (Ntui, 2015; Balarabe & Fadip, 2018; Temboge & Sani, 2018). In the study of the application of ICT in public service delivery in Federal and State Ministries in Adamawa State, Temboge and Sani (2018) discovered, among other things, that effective public service delivery and accountability were the major reasons for ICT application. The study further revealed that ministries are deficient in the area of government services covered by ICT application in public service delivery.

To buttress the point above, Cordella and Tempini (2015), reappraising the role of ICT in service delivery, avowed that the adoption of ICTs in the public sector has often been driven by a narrow view which favours non-bureaucratic organizational arrangements rather than questioning whether or not ICTs can improve the ability of public administrations to deliver efficient and effective services. This view, though prospered, takes another viewpoint. In the light of this advancement, Mathew and Felix (2016) found a strong positive relationship between ICT application/usage and service delivery.

The extent of ICT usage and service delivery as reported in previous studies (Egessa & Musau, 2016; Onobrakpeya, Nana & Odu, 2018) is unanimously advocated by employers in different works of life. Given the advancements in ICT, employees are expected to be ICT competent and should be able to apply it efficiently in the process of service delivery. In the education sector, ICT plays significant roles in delivery of services such as examination (Computer Based Test), lectures (power point presentations, online tutorials and blogs), security checks (keeping logs of information of entrance and exit of cars in the environment), administrative duties (keeping information about staff and students, examination records, personnel management, information circulation through emails, social media

chats and fax) among others. Thus, the university staff are expected to be computer savvy and ICT compliant. The ability of university staff to use ICT in service delivery is so important that, in recent times, employment into the university, whether as academic or non-teaching staff, requires that applicants must be at least, computer literate.

This requirement is based on the fact that the quality of any university product depends on the services rendered by the university through her academic and non-academic members of staff. Thus, the academic and non-academic staff of the university play key roles in the services delivered by the university to the students, the immediate community and the society at large. In order to be efficient therefore, they are expected to be proficient in the use of ICTs and their accompanying gadgets to improve their service delivery. There is need however, to ask the fundamental question of whether or not the ICTs required for service delivery are available for use by academic and non-academic staff of the various universities.

However, ICT is applied in the exchange of information among employees and between employees and customers, resulting in effective communication in service delivery (Onobrakpeya, Nana & Odu, 2018). From the forgoing, Minael (2014) averred that the use of ICT by staff resulted in increased administrative efficiency which ensured better service delivery to customers. Going further, Bhatnagar (2014) in another study, asserted that improving governance through the use of information and communication technology (ICT) in delivering services to the poor resulted in improved efficiency, accountability, and transparency, and reduction in bribes in delivery of services. Notably, Nigeria, as a case study, had a frightening number of ghost workers a few years back; a situation whereby those at the top, in the public sectors, inscribed non-existent names to vouchers and subsequently pocketed huge sum of money presumed to belong to those listed (Cordella & Tempini, 2015). On another note, still in the private sectors, people would be working in one government enterprise, and can also be working elsewhere at the same time (World Metrological Organization, 2019). This could be checkmated using ICT. Yator and Shale (2014) concluded that customer quality, variability in demand, customer service management, forecast accuracy, client loyalty in services offered are lacking in the immigration services to a large extent due to lack of ICT. Thus, proper ICT framework and its integration in service delivery are necessary pre-requisites for job efficiency.

On another note, the concept of informational and communications technology (ICT) has no single universal definition. The various conceptual definitions of ICT result from the fact that ICT is a broad subject; the concepts are evolving and the list of ICTs is broad. The term however, is generally accepted to mean all devices, networking components, applications and systems that combine together to allow people and organizations to interact in the digital world (Hilbert, 2016). The term ICT, according to Mathur (2017), refers to the convergence of audio-visual and telephone network with computer networks through a single cabling or link system. Among the ICT resources available for service delivery in universities are emails and computer sets.

The e-mail, a short word for electronic mail, is information stored on a computer that is exchanged between two users over telecommunications (Computer hope, 2020). Email services refer to all the Internet facilities that assist in communication and collaboration, they include e-mail, File Transfer Protocol (FTP), Bulletin board, Discussion group, chart rooms Newsgroup, Telnet, and Usenet. Emails enables messages using text, files, images, or other attachments to be sent through a network to a specified individual or group of individuals. With respect to the purposes for which academics use individual Internet services, the focus has been on e-mail use. In a study involving six small universities, Liebscher (2005) reported a low frequency of use of e-mail for teaching purposes, but use for social purposes was high. This was followed by use for current awareness, research and administrative purpose. Most faculty members indicated they communicated with both international and departmental colleagues by email. In an interview with some of the respondents, the researchers discovered that e-mail rather than telephone or fax was preferred because it reduced the language barrier in terms of having to deal with clerical and secretarial staff at the remote site in their own language before being connected to the appropriate person. Most universities in recent times create and manage email addresses for their staff. With such email address, staff can sends and receive documents such as massages, images, graphics form one department to another.

Electronic email will be an advantage to any institution for efficient service delivery and also for long storage and retrieval of information. Bankole and Oludayo (2012) maintain that Universities globally made a lot of investment on the provision of email because it saves time in the production and utilisation of knowledge and for delivery of service. Mohamed-Nour (2010) revealed that email gives the knowledge of a new and different technological base which has radically changed the condition for knowledge creation and sharing of information. He further noted that, email is transforming the ways in which universities work, seeing their revival as veritable centres of advanced learning and effective delivery. Oliver (2010) emphasized the impact of email on educational practices in higher education and pointed out that it is a tool with capacity to transform education from staff directed enterprise to more student centered models. He observed that the use of email in higher education settings could enhance knowledge creation and efficiency in service through increased use of email among staff.

Email has provided institutions the opportunities to communicate with one another through mailing list, chat room and other facilities (Yusuf & Onasanya, 2004). It provides quicker and easier access to more extensive and current information. Email can also be used to do complex tasks as it provides delivering of information with a steady avenue for the dissemination of receiving reports and findings. Many academics and students now rely on emails to sustain interaction and improve communication between and among them. Through emails, these days, assignments are given to students and also submitted to tutors, research such as e-interview can be conducted, academic questions can be asked and tutors can reach out to their students, among others. For instance, the recent COVID 19 pandemic has proven email as indispensable in teaching and learning. Students now share their assignments and

project works through emails and other social media platforms for makings and corrections. Email therefore has useful and vital to higher education.

Digitalisation of School Processes as part of the push for a green economy, higher educational institutions in Nigeria willingly is forced to imbibe digitalisation as a global best practice. Nowadays, application and admissions into higher institutions in the country are conducted via online processes and these include payments, registration, admission, confirmation of acceptance and publishing of information for stakeholders. Similarly, e-communication channels (e-mail) are gradually replacing face-to-face communication processes and these make for speed, ease and time-saving advantages. Thus, higher education in Nigeria is not left behind in this regard. Perhaps, if email were being used in the school, it will be an advantage to any institution for effective service delivery and also for long storage and retrieval of information.

Computer is an electronic device which accepts data as an input, process it automatically, store and retrieve it as at when due or needed and bring out results or information through the output device. The impact of computer in the past two or three decades has been enormous. The way the fields operate today is vastly different from the way they operated in the past. But if one looks at education sector, there seems to have a little impact of computer utilisation and far less change, than other fields have experienced. Guzel (2011) discovered that the effectiveness of the use of computer through the teaching process has contributed to the teaching of mathematics. Therefore, there is the need for the mathematics teachers and students to familiarise and acquaint themselves with computer tools to enhance effective teaching and learning of the subject. Teaching is becoming one of the most challenging professions due to rapid expansion of knowledge which requires modern technologies that necessitate the use of computer. Computer usage has become within a short time one of the basic building blocks of a modern society to aids effective service delivery to the customers in the difference higher institutions.

Computer can make the staff more efficient and productive, by organising a variety of gadgets to enhance and facilitate staff professional activities (Kirschner & Weperies, 2013). Computer is an invaluable intervention of this modern time. Its inherent attributes such as accuracy, high speed performance, reliability and capability to store very large amount of data have made it possible for its applicability to all human endeavors including teaching and learning, research and information delivery in educational institutions.

Furthermore, the need for effective use of computer gadgets, most especially, among Nigerian tertiary institutions is highly fundamental. However, it could be a fundamental one only when authorities of these institutions realised that all the ICT facilities found in their institutions are categorised into computers, storage media and telecommunication (Mondal & Mete, 2012). When they realised that the computer in their offices performed processing operations on data, they process store and retrieve information as well assorted data, and that storage media such as memory cards and flash drive are

also used to provide additional storage media for information. Though studies have shown that computer plays indispensable roles in facilitating and making workloads of university staff easier at any given time thereby making their job more effective, reliable and durable, however the extent of services rendered by University staff may be both frustrating and discouraging depending on extent of effectiveness of services which were covered using computer.

Job effectiveness is viewed as the provision of services in such a way to achieve the intended goals or results (Ohiwerei, Azih & Okoli, 2013). Effective service delivery determines efficiency of the job. In this connection, effectiveness of job, according to Ntui (2015), could be referred to as the power of the job to produce an effect. In the context of this study the effectiveness with which university staff deliver services such as teaching, records and security services is underscored in relation to ICT utilisation. Such measure is geared, most importantly, towards the assessment of staff performance in the provision of the required services. In Nigeria, university services required include, effective teaching, research, security, record keeping among others. It has been observed that these services are not carried out effectively (Temboge & Sani, 2010). To locate a student's record that is up to ten years may present problems which can be addressed simply through the use of ICT. Many lecturers do not use ICT in teaching, resulting in poor achievement among students (Godwin, 2012). In the final analysis, the utilisation of ICT by staff for service delivery may differ in private and public institutions given that there is undoubtedly disparity in the management of public and private universities.

The cruise of this study is informed by the believe that ICT plays indispensable roles in enhancing effectiveness of job or staff ability in producing the desired result in the discharge of duties when carefully and effectively harnessed. Emailing and computer services are amongst the common ICT resources in use in universities in Anambra State. This study have aimed to empirically determine the effect of emails and computer sets on the effectiveness of service delivery in the universities in Anambra State.

RESEARCH METHOD

The study adopted correlational research design. The population for the study comprised the 5, 038 faculty members of the private and public universities in Anambra State Nigeria. Purposive sampling was used to select 645 staff from the two existing public universities and two private universities in Anambra state, Nigeria. Computer Operators and Secretaries were selected because they are the staff that mostly makes use of computer in their daily work and activities. Two instruments, Questionnaire on Effectiveness on Service Delivery Scale (QESDS) and Questionnaire on Utilisation of ICT Scale (QUIS), were developed for data collection. Both instruments are structured in a 4-point Likert format as follows: Highly Effective/ Large Extent (4 points), Moderately Effective/Moderate Extent (3 points), Fairly Effective/Fair Extent (2 points), and Minimally Effective/Minimal Extent (1 point). The instruments were face validated by the experts from Chukwuemeka Odumegwu Ojukwu University and Nnamdi Azikiwe University Awka. Cronbach Alpha technique for measuring the internal consistency of the instruments and coefficient of internal consistency of reliabilities of QUIS and

QESDS were found to be 0.767 and 0.841, respectively. The instrument was administered to the respondents with the help of four briefed research assistants for the administration of the questionnaire and respondents were given sufficient time to ensure it were duly completed thus, it was correctly filled and returned. The multiple regression technique was used to address the objectives of the study. Coefficient of regression and coefficient of determination (R2) were used to answer the research questions while T-statistics and F-statistics tested the hypothesis at .05% level of significance.

RESULTS
The extent of e-mail usage for effective service delivery

Table 1: Regression coefficients and corresponding t-values for the extent of E-mail usage effectiveness of services delivery, in private and public universities

	Coefficient of Regression	T-Test		Remark	**Decision**
		T-Statistics	P.value		
Private Universities	.005	.086	.931	p > .05	Accept
Public Universities	.090	.763	.446	P > .05	Accept

Dependent Variable: Staff Service Delivery

Table 1 showed the result of coefficient of regression and t-statistics with corresponding p.values on the extent of E-mail usage for effectiveness of services delivery, in private and public universities. The results showed a coefficient of .005 for private universities and .090 for public universities. These indicate that there is a positive relationship between use of e-mail and effectiveness of services delivery, in private and public universities. This implies that a unit increase in use of e-mail leads to about .05% and .9% increases in effective service delivery in private and public universities, respectively. From the above interpretation, staff use of e-mail did not significantly determine the effectiveness of service delivery in both public and private universities in Anambra State.

The extent of computer usage for effective service delivery

Table 2: Regression coefficients and corresponding t-values for extent of computer usage for effectiveness of services delivery, in private and public universities

	Coefficient of Regression	T-Test		Remark	Decision
		T-Statistics	P.value		
Private Universities	.016	4.187	.002	p < .05	Reject
Public Universities	.083	2.901	0.041	P < .05	Reject

Dependent Variable: Staff Service Delivery

The result on Table 2 showed the coefficients of regression and the t-statistics with corresponding probability values, for the extent of computer usage for effectiveness of services delivery, in private and public universities. The coefficients for private and public universities are 0.016 and 0.083,

respectively. Both coefficients indicate positive relationships in both private and public universities. This means that a unit increase in extent of utilisation of computer sets will have about 1.6% and 8.3% rise in effectiveness of service delivery, in private and public universities, respectively. Thus, the study posits that utilisation of computer set positively determines effectiveness of service delivery in both private and public universities in Anambra State. To test for hypothesis four: the result of the t-statistics are: 4.187 ($p = .002$) and 2.901 ($p = .041$) for private and public universities, respectively. Since the p.values for both universities sets are less than the benchmark of .05 level of significance, the study rejected the null hypothesis for private and public universities, respectively. The study therefore concludes that use of computer sets significantly determined the effectiveness of service delivery in both private and public universities in Anambra State.

DISCUSSION OF FINDINGS

The findings revealed that staff utilization of emails do not have a significant effect on the job effectiveness in both private and public universities in Anambra State. This supposes that the application of emails has not being impactful on the effectiveness of service delivery in universities in Anambra State. Previous studies like Liebscher (2005) also found that emails could have an insignificant effect on service delivery. Liebscher noted that there was low frequency of use of email for teaching purposes, but high usage for social purposes in the sampled area of his study. This supposes that the extent of ICT application is a determining factor on its effectiveness on service delivery. Hence, as posited in Oliver (2010), averred that use of email in higher education settings could enhance knowledge creation and efficiency in service through increased use of email among staff, and that the ICT has the capacity to transform education from staff directed enterprise to more student centered models.

More so, findings showed that use of computer set significantly determined the effectiveness of service delivery in both public and private universities. This means that computer sets is one of ICT gadgets that stimulates effective service delivery in all universities. This supported the previous findings of Guzel (2011) which averred that the effectiveness of the use of the computer through the teaching process contributed to the teaching of Mathematics. Therefore, there is need for the teachers and the students to familiarize themselves with computer tools to enhance effective teaching and learning. Consistent use of ICT resources, such as e-mail, computer, internet and PowerPoint has been found to have found to enhance staff job effectiveness in library services (Ntui, 2015). These go to suggest that accurate use of ICT in service delivery is a veritable tool for enhancing job effectiveness.

CONCLUSION AND RECOMMENDATIONS

ICT can be a veritable tool for effective service delivery in higher citadel of learnings in Nigeria. A mindful utilization of emails and computer sets in the universities drives effective job delivery. The use of emails of should be institutionalized as a standard means of correspondence in the universities.

However, the management of higher institutions in Nigeria should organise and train their staff to acquire skills on how to ICT gadgets including computers and email in order to offer efficient services.

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