

# Service Automation and HealthCare Service Delivery among Public Tertiary Health Care Institutions in Lagos State, Nigeria

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## Abstract

The advancement in technology, competition, and the need for organizations to meet varied customers' wants, so as to provide quality service to customers have increased the need for service organization to adopt the application of service automation to service process. This has proven to be very beneficial to service organizations as they are able to reach out to customers with efficient and quality service. This study dwells on service automation and service delivery in tertiary public hospitals in Lagos State. A total of 110 questionnaires were sent to respondents of the two public tertiary hospitals in Lagos State (LASUTH and LUTH). A cross-sectional descriptive survey was adopted for the study. Data collected were analysed using descriptive statistics (Mean, Standard Deviation and a linear regression model using their coefficients value for testing hypotheses. The findings of the study revealed a positive and statistically significant coefficient and probability value obtained at ( $\beta = 0.125$ ,  $t = 1.220$ ,  $p = 0.02$ ), ( $\beta = 0.067$ ,  $t = 1.728$ ,  $p = 0.04$ ) indicated that the Access and application of computer and Internet AC, AIS, has a positive association with service delivery. This implies that the application of AC, AIS to service process can enhance service delivery in the public tertiary hospital in Lagos State. While electronic health record eHR system with values of ( $\beta = 0.039$ ,  $t = 0.391$ ,  $p = 0.06$ ), was not statistically significant. Based on the findings of this study, it recommended that Public tertiary hospitals in Lagos State should ensure they invest adequately in service automation process by applying tools like the computer and Internet, to service process in order to enhance service delivery in hospitals. Also, there should be adequate investment that will make available a functional internet service at all time that can be applied to service process in order to improve work process such as sending of mails and patients record from one location of the hospital to another in order to impact and improve service delivery of the hospital.

**Keywords:** Service automation, Computer Application, ICT Facilities, Internet Accessibility and Service Delivery.

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## **INTRODUCTION**

The increase in competition and customers' needs for product and service in today's global market, has necessitated the efforts for companies to adapt service models that will help them meet today's varied and changing customers' needs (Mbaya, Ondiek & Alala, 2017). It is important that organizations are determined to deliver good quality service so as to remain competitive and to continue in business. Manual application to services operation can be very cumbersome which are often characterised by long waiting queues, poor communication, delays, time wastage and poor performance. This ultimately impact service delivery, resulting in company's inability to deliver services in the location, forms and at the time as needed by customers, at competitive prices, while earning at least the opportunity cost of returns on resources employed (Frohberg, & Hartmann, 2017). Consequently, Service automation (SA) model has become critical in enhancing service delivery by increasing the efficiency in most service processes and operations. It leads to the extent to which organizations are able to provide satisfaction, better their relationship and enhance the quality of services value to their customers (Lifehack, 2012). With the application of modern technological tools such as the computers, internet and others software, to service process and operations, service organizations have the leverage to access and send adequate service information with less time and speed, make prompt reliable and detailed information, reach out to their customers with adequate service information in an efficient and effective ways, and are able to keep track of customer's activities and deliver appropriate services at the right time and place (Puspita & Rohedi, 2018).

Specifically, with reference to health care service delivery, the application of the computer and internet service, combined with the Electronic Medical Records (eMR), system, gives a wider range of services that can be offered in public service including the public health service (Ng'Ang'a, 2023). The Electronic Health Records (eHR) system for instance, can be used to transfer and send patient's clinical history, Patients test results, vital signs check and other report can be sent directly from the medical laboratory or nurses to the doctors for quick actions, and support clinical actions by health professionals. However, there are many healthcare providers who still prefer written medical records over the electronic software and programs that many hospitals especially in developed nations use today (Ndubuisi, Onwubiko, & Akwaraonwu, 2022). Thus, health care service delivery in Nigeria falls short of international standards with several challenges including poor state of health care infrastructure, and lack of technological application to service process (Ndubuisi, et al 2022). This is evident in the frequency most elites including the political class travel out to other developed countries to seek for medical treatment (Gumus, et al 2023). This existing failure of service delivery in public service is due to the existing traditional manual methods to cope efficiently with the increasing volume of work (Ozioma Monica, Helen & Maxwell 2019).

While contemporary health care service providers in developed countries around the world are re-strategizing to deliver quality healthcare service and remain competitive through the usage of basic technological tools like computers, internet and other software applications, Nigeria is still lagging in adopting and applying basic automation tools in enhancing their services (Gumus, Andah & Muhammad 2023). Extant review carried out with respect to service

automation and its outcome in organization indicates that service automation variables like the computer, internet and others were used independently or in isolation, within a single study, with their outcomes focused on either performance, customer's satisfaction, and retention. Most of these studies were carried out largely in the some Southern and Eastern part of Nigeria (Yusuf, 2012; Ikegwuro, 2017; Victor, et al 2015). However, as far as it can be determined, no study have attempted to examine the relevance of service automation with particular reference to service delivery in tertiary public healthcare service in Lagos State using combinations of several basic automation tools. Hence, this paper tends to examine the relevance of service automation on service delivery in public tertiary healthcare service in Lagos, with the specific objectives to;

- i. determine the extent to which basic computer applications can enhanced service delivery in tertiary public tertiary healthcare service in Lagos State.
- ii. examine the extent to which the application of internet facilities can impact service delivery in tertiary public tertiary healthcare services in Lagos State.
- iii. find out if Electronic Health Records (eHR) can have significant impact on service delivery in tertiary public healthcare service in Lagos State.

## **LITERATURE REVIEW**

### **Concept of Service**

The term service indicates any activity or benefit that one party can offer to another that is essentially intangible and does not result in the ownership of anything (Kotler & Armstrong 1989). Services occur when efforts to put together resources, which including time, tools, equipment's, staff, management, planning, performance, bond the gap between customer expectations and the expected delivery (Nzenwata, 2020). The outcome of the resources put together in order to meet customers' expectations is regarded as delivery (Nzenwata, 2020),

### **Service Delivery**

According to Justina, Ozioma Monica, Helen and Maxwell (2019), what is regarded as service delivery may constitute a framework, or some guiding principles, standards, policies and constraints that is used to guide specific service with the aim to provide service experiences through the offering of service in a business environment. It depicts the willingness and effort to provide the actual promised of service to customers (Abdullah, 2007, *cited* in Agbonifoh, & Osifo, 2017). Service delivery is important be it in the private or public environment. In the view of Kayode, Adagba and Anyio (2013), it implies the provision of tangible and intangible goods and services provided by the government in order to improve the wellbeing of the citizenry. The goods and service are meant to improve the well-being of the citizen. This process is regarded as support system which are actually referred to as government responsibility, thus highlighting what service delivery is with reference to public service. Such service can be social in nature which include provision of basic infrastructure like good roads, housing water, sanitation, electricity and healthcare. In the context of this study, service delivery refers to the use of specified technological tools to create satisfactory service

experience in the Public healthcare service in order to improve the efficiency and meeting patient's expectations with respect to the quality of health received.

### **Service Automation**

The term automation can be defined as the use of technological equipment to control operational processes so as to reducing the need for human intervention (Nof, 2009). In a simple term, automation can be seen as deploring, or using technology do things needed to be done by humans so that they don't have to. Service automation is very interactive process which focused on the content of web-based activities through technology to enhance the relationship between service seekers and organization (Victor, Ng, Giam, Nurdina & Izya 2015).

### **Computer Applications**

Basically, computer may be described as an electronic device, which receives and processes data using specific set of instructions (PROGRAM) to produce an accurate and efficient result (INFORMATION) (Yusuf, 2007). A computer device processes information and store them for further and future uses. Some basic characteristics of the computer is the ability to process information with speed, store very large files and data, and it's very precise with unflinching accuracy. This indicates that the computer is very accurate and reliable and can impact the quality of service in the healthcare service. According to (Yusuf, 2012), computer can assist and improves the delivery of services in public service due to the high qualities of processing, service delivery and maximum efficiency in all areas that involve the knowledge of computer and is also relevant to both public and private organization. Suleiman, and Mustapha, (2016) observed that the importance of Computers is a productivity tools which is growing in popularity using word processor, databases, spreadsheet, graphic programs and desktop publishing to enable organisations deliver quality service more productively.

*H<sub>1</sub>: The use of computer service do not enhance services delivery in tertiary public healthcare services in Lagos State*

### **The Internet Service**

The internet is a worldwide based network consisting of inter-connected computer networks service that operates by means of a standardized set of communication protocols called TCP/IP (transmission control protocols/internets protocols) (Martyns, 2021). The Internet can be used basically for information sharing and channel that connects business services and organizations using computers (Uloaku, 2017). It provides a golden opportunity for organization to improve their communication and process of passing and sharing information and also provides an extra value to service seekers as they seek for better service.

In recent times, authors have attempted to study the impact or application of internet to business operation. Uloaku (2017) revealed that internet based activity like e-mail, chat groups, file Transfer Protocol, chat and instant messaging and World Wide Webs are possible functions that enhance service delivery in healthcare services. Attah, (2017) explained that the Internet connectivity can transform the flow of information in the health sector through

effective data management systems, picture archival, and communication systems, and is specifically important for running of radiological information systems and teleradiology. Access to the internet has dramatically improved in the last 10 years, and all countries in Africa now have direct access to the internet (Bukachi and Pakenham-Walsh 2007). But the low speed and expensive internet bandwidth in Nigeria (Osuagwu, Okide et al. 2013) will hinder the implementation because a high bandwidth is required for transmission of large images between institutions and as well as accessing the internet itself especially if they contain videos and images (National Research Council 2000). According Ikegwuro, (2017), internet facility is used to propel service delivery in developing country like Nigeria.

*H<sub>2</sub>: Internet facility does not have significant impact on service delivery in tertiary public healthcare service in Lagos State*

### **Electronic Health Record Applications**

Electronic Health Record System (eHRs) is an electronic software that provides for the storing of information with regards to patient care and vital medical information (Gumus, Andah, & Muhammad 2023). This definition emphasizes the structure of eHR systems. According to Hayrinen et al. (2018) eHRs can be seen as a collection of retrospective, contemporaneous, and prospective data with the primary goal of facilitating continuous, efficient, and high-quality healthcare delivery. eHRs encompasses the process of managing the entire patient's information needed for patient's care, and reducing the need for paper version of patient record (Luo 2016). It is highly efficient for the tracking of patient demographics, which includes; progress notes, issues, prescriptions, vital signs, past medical history, vaccines, laboratory data, and radiological reports. It also helps to automates the process of workflow and create a complete record of clinical patient interaction (Allen, Ceolin, Ouellette, Plante, and Vaillancourt, 2017). Other additional support service provided by the eHRs are related to care management such as the provision of evidence needed in taking effective health decision, support, quality monitoring, and outcomes reporting directly or indirectly via an interface (Allen, et al 2017). Despite these benefits and functions of the eHRs, Elikwu et al. (2020) found out that most public hospital still use and rely on the tradition paper based record systems. Adagunodo et al. (2004). Berg and Toussaint (2013), posited that for the eHR to be useful, it must be based on accessibility and functionality which is the ability to display needed data, to analyse them, and to share them among colleagues and with secondary users of the record who are not involved in direct patient care. With this benefits, patient's delivery is effectively enhancing (Ambrose 2017).

*H<sub>3</sub>: the use of Electronic Health Records (eHR) has no impact on service delivery in public tertiary healthcare service in Lagos State*

### **Theoretical Framework**

This study is anchored on the Technology Acceptance Model (TAM) because it recognizes the uses, applicability and capability of technology in organizational operational process in order to achieve better service delivery.

### **Technology Acceptance Model (TAM)**

Davis, in 1989, first propounded the technology acceptance Model (TAM). The rationale of the model is based on two factors which determine if a computer system will be accepted by potential users. The two factors include the perceived usefulness and ease of use. Technology Acceptance Model (TAM) is one of the most popular methods for gauging how well people really use computers (Ughovero, Ogundare, & Akparobi 2021). Technology adoption is a result of a number of characteristics, such as relative benefit and simplicity of use, which is compatible with TAM (Rogers as referenced in Ughovero, et al. 2021). The perceived usefulness of technology is very important. This is because how the user perceives the technology determines its applicability to basic service process. Where users for instance (doctors, Nurses and clinical record staff), in the healthcare services perceive that it is reliable and useful in terms of providing safe, timely and convenient service to service process, it will be adopted and applied in service process so as to deliver speedy, timely accurate and quality service to service seekers. On the other hand, particularly with the ease of use, technology like smart computers internet and eHRs can be easy to navigate to direct and send direct service to health practitioners and seekers irrespective of their distance as fast as possible. This makes it flexible and easy to use. This study is anchored on this model because it has the ability to explain why the application of basic computers, internet facility and sHRs software can be adopted in the healthcare services with relevance of service automation and how it affects the effectiveness of service delivery.

### **Empirical Evidence**

Victor, et al. (2015) examined the impact of service automation on customer satisfaction and customer retention in Malaysia. The study adopted a quantitative research design method. With the use of questionnaires, primary data was collected and distributed to the respondents. SPSS18.0 software was used in conducting the analysis which includes descriptive analysis and inferential analysis. The findings showed that attributes of convenience and customization contribute towards the service encounter satisfaction with automated services, which then lead to customer retention. It further highlighted that convenience of automated service is a major determinant of technological acceptance as well as customer adoption.

Mbaya, Ondiek and Alala, (2017), investigate how the process automation impact the operational performance of functional areas of seed companies in Western region in Kenya. The study applied descriptive and causal correlational research design to determine the cause-effect relationship of the study. The study was carried out in two seed companies in Western Kenya. The total population of the study were 50 managers. The result of the study showed that the process of automation contributed greatly to the improvement of operational performance in the units of production, operational efficiency, production flexibility and quality of the service as well as services delivery.

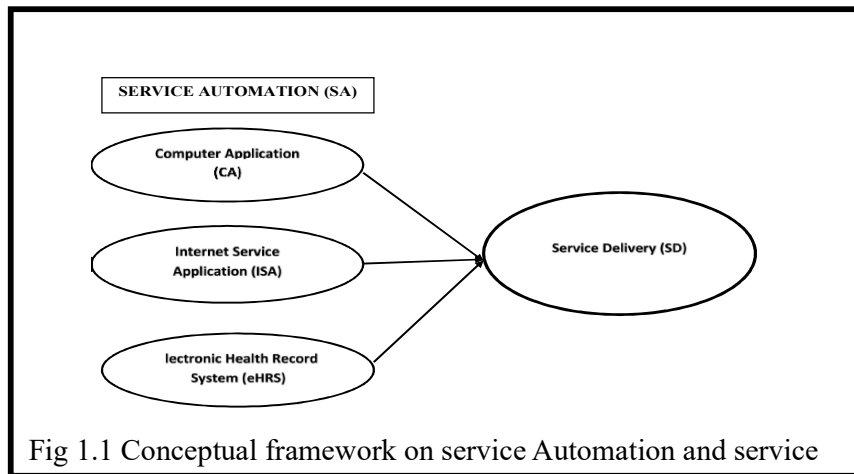
Martyns (2021), investigated the application of Internet Services for Effective Service. Delivery in University Libraries in Plateau State Nigeria. The study adopted a survey research design with a total of 285 library staff made up of professional and non-professionals in the university libraries. A structured questionnaire titled "Internet Services and Library Service Delivery

Questionnaire” (ISLSDQ) was used in the study. Outcome of the study indicated a list of internet services that can be applied for effective service delivery in Plateau State University. The list includes; Electronic Mail (email), World Wide Web (www), Internet Chat, Internet Telephone, Online Public Access Catalogue (OPAC), Electronic Library (e-library), Own Website, Web 2.0, Archie and Mailing.

Aduma, Onah, and Njoku, (2022) investigated the application of (ICT) in Nigerian Teaching University. The objective of the study was to determine how ICT can improve service delivery and income drive in University of Nigeria Teaching Hospital. Using a random selected sample, twenty (20) I.T. consultants and one hundred (100) patients formed the respondents whom questionnaires were administered. It was revealed in their study that the application of ICT in UNTH Ituku Ozalla increased a high level of service delivery and net increase in the hospitals income. This resulted to an increase in the operational efficiency and transparency. The study further recommends that all the departments in the hospitals should be automation.

### Variables and Conceptual Framework

The study conceptual model provides the framework and direction of this study. The two variable of the study as identified in figure 1 below are; service automation which is the predictor variable are proxied with access to basic computer application (ACA), Internet facility (ISA) and electronic health record software (eHRs). While, service delivery as the criterion variable (SD).



### METHODOLOGY

This paper adopted descriptive cross-sectional designs. It provides a clear, detailed and vivid description of the situation and phenomenon under investigation (Oyeniya, Abiodun, Moses, Obamiro and Osibanjo 2016). It was considered appropriate because of its ability to illicit direct response from the sampled respondents which comprises of Doctors, Nurses and record staff from two Public Tertiary hospitals (LASUTH and LUTH) in Lagos State. The total population

of the study constituted of a total of 220 health practitioners which comprises of Doctors, Nurses and record staff of both hospitals at the General Out Patient Department (GOPD). The GOPD department is central to the various medical department in both hospital and has the highest numbers of medical consultants and practitioners in comparison to the other department. The sample size of the study constituted of (110) respondents which were proportionately selected. This was considered appropriate to give equal chance of participant representation in both hospitals. It comprises of Doctors, (41) Nurses (41) and record staff (28) in the General Out-Patient Department (GOPD) of both hospitals in Lagos State. Both hospital (LASUTH and LUTH) remains the only tertiary hospital and are regarded as the apex of all hospital in Lagos State because of the presence of most categories of medical specialization. Student doctors and nurses attached in the (GOPD) were also considered. Briarley Mac-Douglas (2003) stated that a sample size of hundred (100) and above is sufficient to provide good presentation of population of organization or any subject investigated and can also present a good and concise research finding. A purposive proportionate sampling method was used in selecting respondents for the study. A proportion of 50% percent was proposed and purposively applied to the population size. The use of the proportionate sampling method was to ensure that there is no bias as respondents had 50% equal chance of representation by their proportion. A total of one hundred and ten (110) respondents constituted the sample size for this study.

Computation for sample size:

$$\frac{N}{\sum N} \times \sum n$$

Where: N = population;  $\sum N$ = sum of the population; n = total sample size

e.g Doctors:  $\frac{62}{220} \times 110 = 41$

**The total sampled components of the study are given as follows in the below table.**

S/N	RESPONDENTS	LASUTH	LUTH	Population (N)	Sample (n)
1	Doctors	35	47	82	41
2	Nurses	30	53	83	41
3	Record Staff	24	31	55	28
Total				$\sum N=220$	$\sum n=110$

This paper adapted questionnaire from a similar study carried out by Eliuku, Igbokwe, and Emokhare (2020). It was then modified, to eliminate items in the questionnaires that are not in line with the specific objectives and variables identified in this study. This allowed for only vital details and aspects of the questionnaire that are directly related to the variables of this study to be used in creating items useful in assessing the specific objectives of this study. A total number of thirty (30) questionnaire which was not part of the total number that makes up the sample was first administered at Igando general hospital and reliability test conducted to determine the internal consistency of the instrument. Cronbach's Alpha coefficient was

ascertained and the threshold of (0.70 – 0.90) was obtained before the actual questionnaire was then administered. By convention, an alpha coefficient of 0.65 to 0.70 or higher is generally considered acceptable for a reliable measurement as observed by Field, (2009). Data that were collected through the successfully administered questionnaire were analysed after responses have been coded for easy computation using statistical devise (SPSS, version,20). Descriptive statistics were considered for this study as it helped to describe variables in central tendency and dispersion, hence provides results required to meet the objectives of the study. Ordinary Least Squares (OLS) regression analysis was used to establish the association amongst the independent variables and the dependent variables in the specified model. Hypotheses was tested at a significant level of 0.05 probability ratio. The operational model for this study show the dependent and independent variables are based on Service Automation (SA) as the independent variable and Service Delivery (SD) as the dependent variable. It is expressed in the implicit form below:

$$SD=f(AC, AIS, eHR)$$

This is further expressed in explicit form as:

$$SD= \beta_0 + \beta_1AC + \beta_2AIS+ \beta_3eHR + U$$

Where:

$\beta_1, \beta_2, \beta_3$ = Coefficients of the variables

AC = Application of Computer

AIS= Access to Internet Service

eHR= Electronic Health Record software

U = Error term

The expected apriori signs are:  $\beta_1 > 0$ ;  $\beta_2 > 0$ ;  $\beta_3 > 0$  such that:

$\beta_1 > 0$ ; implies that increased in the staff access to computer will lead to' increases in service delivery of the Tertiary hospital

$B_2 > 0$ ; implies that increase in access to internet service will lead to an increase service delivery of the Tertiary hospital.

$B_2 > 0$ ; implies that increase in use of electronic Health Record software will lead to an increase service delivery of the Tertiary hospital.

## RESULTS AND DISCUSSIONS

The analyses carried out were descriptive method such as frequency and percentage, mean index sample adequacy and linear regression model analyse were explained in the interpretation, while the hypotheses formulated earlier were tested and the findings discussed respectively. Since the questionnaires were administered manually, all total of 110 questionnaires were retrieved successfully representing a 100% retrieval rate.

**Data Presentation**

The aggregate mean index obtained for both the dependent and independent variables are (service delivery SD=3.95), (CS, INS, eHrs=3.95, 3.50 and 3.82 respectively) were all above the accepted mean average value >300(Accepted mean value). This indicates that majority of the respondents were of the opinion that the application of computer, internet facilities and electronic health record systems to a great extent can increase and facilitate service delivery in both tertiary hospitals in Lagos State. While the standard deviation of 0.71 indicates that only very few of the respondents were in disagreement that the use of computers, internet facilities and electronic health record software are not relevant for service delivery.

**General Analysis**

The basic analysis carried out in this study after interpreting results from questionnaire, is the Estimation of Ordinary Least Square (OLS) Regression.

**Table 4.2 Ordinary Least Square Regression (OLS).**

Variable	Coefficients	Standard Error	t-stat	Sig.
(Constant)	3.025	0.694	4.357	0.000
CS	0.125	0.103	1.220	0.002
INS	0.067	0.092	0.728	0.004
eHrs	0.039	0.099	0.319	0.600

R= 0.132; R<sup>2</sup>= 0.017; R<sup>2</sup>= 0.63; Standard Error of the Estimate = 1.072; F-Statistics = 0.624

**Source:** Researchers’ (SPSS 2.0) compilation 2023.

Table 4.2 shows outcome of the Ordinary Least Square Regression. Variables examined include service delivery (SD) as the dependent variable, while access to computer service (ACS), Internet service (INS) and electronic health record system (eHRs) as determinants of the independent variables which is service automation (SA). From the value obtained, two of the respective independent variable (ACS), and (INS), were statistically significant with their respective coefficients value (ACS) ( $\beta = 0.125$ ,  $t = 1.220$ ,  $p = 0.02$ ), (INS) ( $\beta = 0.067$ ,  $t = 0.728$ ,  $p = 0.04$ ). While electronic health record system was not statistically significant with a coefficient value of (eHRs) ( $\beta = 0.039$ ,  $t = 0.391$ ,  $p = 0.06$ ). The results implied that access to computer internet service are significant predictors of for service delivery in tertiary hospital in Lagos State.

Furthermore, access to computers (ACS), internet (INS) and electronic health record (eHR) explained 17% of the variation in service delivery (SD in the tertiary hospital in Lagos State, while about 83% were unexplained. Since the study is not a time series, issues of low R-square is insignificant as suggested by Gu (2003). However, general statistics (the goodness of fit measure) (F-Statistic) with a value of 2.624, was greater than the standard error of regression of 1.072, suggesting that the results are statistically significant and suitable for prediction and taking fundamental decisions. Hence the hypotheses formulated earlier are tested in the next section with the discussion of findings.

### **Test of hypotheses formulated**

#### **Hypothesis 1:**

**H0<sub>1</sub>: Hypothesis:** The application of computer service does not significantly facilitate services delivery in tertiary public healthcare services in Lagos State

Test Statistic. The coefficient result and value of  $0.002 < 0.05$  was obtained. This is statistically significant and indicates that application of computer service can facilitate service delivery in the tertiary hospitals in Lagos State. Hence, the null hypothesis for this objective was rejected.

#### **Hypothesis 2:**

**H0<sub>2</sub>: Hypothesis:** Internet facility do not have significant impact on service delivery in tertiary public healthcare service in Lagos State

Test Statistic Coefficient value obtained at  $0.004 < 0.05$  is statistically significant, Following the decision rule, the hypothesis for this objective is therefore reject and the alternate form accepted.

#### **Hypothesis 3:**

**H0<sub>2</sub>: Hypothesis:** Electronic Health Records (eHR) does not have significant effect on service delivery in public tertiary healthcare service in Lagos State.

Test Statistic Coefficient value obtained at  $0.006 > 0.05$  is not statistically significant, Following the decision rule, the hypothesis for this objective is not reject but accepted. Indicating that electronic health record system does not significantly affect service delivery in the tertiary public health hospitals in Lagos State.

### **Discussion of Findings**

This study dwells on service automation and service delivery in the tertiary health hospitals in Lagos State. The study specifically found out that access to computer (ACS) with the coefficient value of ( $\beta = 0.125$ ,  $t = 1.220$ ,  $p = 0.02$ ), is statistically significant. It indicated that the access and application of computer to service process can enhance service delivery in the public tertiary hospital in Lagos State. While responses obtained from respondents with the index mean at  $3.95 >$  (accepted mean) is vital in supporting this finding and also indicates that majority of the respondents agreed that to a great extent the application of computer to basic service process can enhance service delivery. Basic components of service automation such as computers contributed greatly to the improvement of quality of service as well as services delivery. This finding is supported by the conceptual framework of Ibrahim, Suleiman, and Mustapha, (2016) who observed that the importance and application of computers as a productivity tools have gained popularity and enable service deliver quality in public schools.

Having rejected the hypothesis of the second hypothesis formulated based on the statistically significant coefficient value of ( $\beta = 0.067$ ,  $t = 1.728$ ,  $p = 0.04$ ), the alternative was therefore accepted which suggested that the availability and application of internet facility have significant impact on service delivery in the public tertiary hospital in Lagos State. Respondent's perceptions on this view with an average mean index at  $3.50 > 3.00$  were

indicative that the application of internet service can impact significantly on service delivery. This finding is buttressed by the finding of Martyns (2021), who concluded that, Internet services are to a high extent applied for effective library services delivery in university

Finally, with the coefficient result obtained and values at ( $\beta = 0.039$ ,  $t = 0.391$ ,  $p = 0.06$ ), was not statistically significant on the third hypothesis. It suggests that electronic health recording does not significantly affects service delivery in the tertiary public hospitals in Lagos State. This is a result of evidence of the manual recording system still in use in the hospital. This finding is corroborated by the finding of Ndubuisi, Onwubiko, and Akwaraonwu, (2022) who concluded that there are still many health organizations who still prefer written medical records over the electronic software and programs that many hospitals in developed nation use today. Also, Ambrose (2017) observed that there two major means of keeping medical records of patients in any healthcare delivery facility: the paper-based record keeping system and the electronic health record (EHR) system.

## **CONCLUSION**

This study examined service automation and service delivery in public tertiary hospitals in Lagos State. The result of the study revealed that some basic service automation tools such as computers, internet facilities and electronic health record if available and applied to service process in the hospital, can enhance service delivery in the public tertiary hospitals in Lagos State. The Internet is a very vital component of information and communication technologies that provides a golden opportunity for the provision of value-added services to service output. its ability to help service organization send information, on product and service fast to any location, clients makes service delivery very efficient. Also, with the application of basic computers in service process, several service operations can be performed such as file management systems, saving of vital files and document for future uses. Public tertiary and other healthcare service providers in Lagos State should apply computer to their service process in order to enhance service delivery in hospitals. There should be availability of functional internet service at all time that can be applied to service process in order to improve work process sending of mails and patients record from one location of the hospital to another in order to impact and improve service delivery of the hospital. As much as public tertiary healthcare service providers may still rely on its manual health recording system, there is still need for the application of electronic health record software to service process to enhance service delivery.

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