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E-ADMINISTRATION AND EDUCATIONAL DEVELOPMENT IN NIGERIA: A STUDY OF JAMB ADMISSION POLICIES

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***Abstract*:** *This study titled "E-Administration and Educational Development in Nigeria: A Study of Jamb Admission Policies" was aimed to examine the extent to which introduction of CBT has improved registration of candidates by Joint Admission and Matriculation Board; ascertain the extent to which adoption of CBT has enhanced conduct of examination by Joint Admission and Matriculation Board; determine the extent to which the use of ICT facilities has influenced release of results by Joint Admission and Matriculation Board; determine how use of Central Admission Processing System has enhanced admission process by Joint Admission and Matriculation Board. This study is anchored on the Technology Acceptance Model (TAM) proposed by Fred Davies in 1989. A descriptive survey design was adopted. The population of study is 110. For the purpose of this study, purposive sample technique was used. Data for this study were collected from primary and secondary sources. The instrument for data collection was questionnaire. The data are presented in percentage, frequency tables, mean and Std. Deviation values. Findings revealed that Introduction of CBT has improved registration of candidates by Joint Admission and Matriculation Board; Adoption of CBT has enhanced conduct of examination by Joint Admission and Matriculation Board; Use of ICT facilities has influenced release of results by Joint Admission and Matriculation Board; and Use of Central Admission Processing System has enhanced admission process by Joint Admission and Matriculation Board. Based on the findings, the study recommended that there is need for improvement in the use of CBT to improve registration of candidates by Joint Admission and Matriculation Board; there is need increased investment in CBT for enhanced conduct of examination by Joint Admission and Matriculation Board; there is need for improved use of ICT facilities in administrative processes to enhance release of results by Joint Admission and Matriculation Board; and there is need for more transparence in use of Central Admission Processing System (CAPS) to enable different tertiary institutions to upload admission records of candidate.*

SECTION ONE

INTRODUCTION

1.1 Background to the Study

In recent times, e-governance which has been conceptualized as the application of Information and Communication Technology (ICT) facilities to enhance public service delivery by converting traditional office paper processes into electronic processes has become a course for concern among scholars and public administration practitioners. E-governance in its simple term refers to the application of ICT to improve the delivery of services in the public sector to attain transparency, accountability, timeliness, and efficiency (Azeez, Abidoye, Adesina, Agbele and Venter, 2012). Onuigbo (2015) submitted that the usage of technology has permeated almost all endeavors of life

including the civil service, by providing ways of ensuring easy processing and efficient delivery of services.

Electronic administration has no doubt become a tool for managing the activities of the public service at the global level. Its application seems to have aided the swift delivery of services in developed nations of the world. The development of Information and Communication Technology (ICT) in recent times and the implication it portends for enhancing the performance of the public service, i.e., the agencies involved in providing public goods and services for and/ or on behalf of a government, constitutes one of the major concerns of scholars and administrators alike.

In Nigeria particularly Enugu State public service, revitalizing the public service so as to make it effective, efficient and people-centred through the adoption of new and emerging technologies for speedy delivery of services to the populace has become quite imperative. In this context, Nwachukwu (2015) opined that information and communication technology have been an effective tool that could assist government reinvent itself faster, run cheaply, better and produce newer outcomes. The public service of any country is a major pillar in determining the development and stability of such country. This is because the public service is the engine for the processing of the vastly acquired and expanded government responsibilities of executing public policies and projects and rendering essential services to the people. In Enugu State, various governmental administrations have attempted repositioning the public sector for effective and efficient service delivery through various reforms. In spite of all these efforts, the public service remains inefficient and incapable of delivering its responsibility (Oni, Oni and Gberevbie, 2015).

Although from the traditional practice of administration, ICT have been in use in businesses and other fields, governments across the country are beginning to embrace and deploy information communication technology to the public service due to the fact that they have realized that the application of ICT is a useful tool that can leverage public sector organisations to change from their routine command and control organisations that are inwardly focused on administration to knowledge-based, networked, learning organisations that are externally focused on service delivery (Nwachukwu, 2015).

Oni, Oni and Gberevbie (2015) highlighted that the various areas in which electronic administration could enhance effective service delivery in Enugu State civil service to include; e-services, aimed at improving the delivery of public services, such as providing public documents online (such as birth certificates, driving licenses, vehicle registration etc.), obtaining information, electronic filing systems, e-payments, e-procurement systems, online time sheets and expense account, electronic memo (e-memo), electronic application submission and approval (e.g. annual leave, sick leave, etc), word processing for generating correspondence, person-to-person communication via electronic message systems, teleconferencing services, facsimile transmission, on-line calendar systems, links to corporate files and outside services, decision support systems, the use of ICT for work-related tasks. It also include e-participation by enabling citizens to express their opinions through public discussion in the law drafting processes as well as in various forms of debate conducted at specialized web portal of the Government and a host of other activities via the World Wide Web.

Information and Communication Technology (ICT) focuses specifically on the application of these new technologies in an educational context and environment, and serves as a tool for supporting the various components of education. Such components include, among others, teaching and learning, resources management

(human, material, financial resources) and admission and examination processes also known as learning assessment, test and measurement. One specific form of ICT for assessment is the Computer-Based Testing (CBT), also known as Computer-Based Assessment ore- assessment/testing. It is a method of administering tests in which the responses are electronically recorded, assessed, or both. It is commonly available for several admissions tests throughout the developed countries and developing countries are adopting it too. Computer-based tests offer several benefits over traditional paper-and-pencil or paper-based tests. Technology based assessment provides opportunities to measure complex form of knowledge and reasoning that is not possible to engage and assess through traditional methods (Bodmann and Robinson, 2004). Consequently, in Nigeria, employers now conduct aptitude test for job seekers through electronic `means; the universities and other tertiary institutions are registering and conducting electronic examination for their students through the internet and other electronic and networking gadgets. Similarly, different examination bodies in the country such as West Africa Examination Council (WAEC), National Examinations Council (NECO), National Business and Technical Examination Board (NABTEB), and National Teachers' Institute(NTI), among others register their students through electronic means (Olawale and Shafii, 2010).Computer and related technologies provide powerful tools to meet the new challenges of designing and implementing assessments methods that go beyond the conventional practices and facilitate to record a broader repertoire of cognitive skills and knowledge (Mubashrah,TariqandShami,2012). In Nigeria, the mandate to conduct entrance examination into tertiary educational institutions (Universities, Polytechnics, Colleges of Education & related/similar institutions) is vested in a body called Joint Admissions and Matriculation Board (JAMB). Thus, every year, JAMB conducts Unified Tertiary Matriculations Examination (UTME) and forwards the results to the candidates' institutions of choice for selection and admission. Over the years, the UTME by JAMB has been a paper and pencil test (PPT) form, and has been characterized by a lot of fraudulent practices ranging from leakage of examination papers, use of machineries of all sorts by candidates, bribe taking by examination officials, impersonation, use of unauthorized gadgets, and soon (Osuji, 2012).

In order to eliminate or minimize incidence of the vices, and/or other reasons, JAMB in 2013 introduced the computer based testing (CBT) form of UTME and gave massive publicity and sensitization on it. JAMB gave the advantages of CBT to include increased delivery of test items that have been calibrated and delineated according to their pertinent item characteristics: instructional level objectives, difficulty level, discrimination level and functionality of distracters, efficient administration of examination and scoring of tests, reduced costs for many elements of the testing lifestyle and logistics, improved test security resulting from electronic transmission and encryption for total eradication of breaches of examination security, unbiased test administration, reduction in the spate of examination security breaches, and improvement in the quality and standard of education in the long run (Olalekan, Jide & Oludare 2017).

In the area of e-Applications, JAMB has made tremendous progress. The students'application process, the conduct of the matriculation examinations, the marking and the release of the examination results has been computerized. It is no longer impossible for students to see their Unified Tertiary Matriculation Examination

(UTME) results in a matter of hours after sitting for their respective examinations. This was not possible in the past when the examination was paper-pencil rather than computer-based. The paper-pencil mode of conducting the examination was reportedly characterized by massive irregularities and inefficiency (Sanni and Mohammad, 2015; Alabi, Issa and Oyekunle, 2012) necessitating a paradigm shift. This paradigm shift in the conduct of the matriculation has had its own fair share of pros and cons but general improvement over the traditional paper-pencil mode has been reported.

Another area of improvement in the JAMB electronic activities is the easy access to various services offered by JAMB. Prominent among these services is the issue of JAMB brochure. The JAMB official brochure is a collection of courses offered in various institutions of learning (registered with the National University Commission) in Nigeria and their respective requirements in terms pre-qualifications and JAMB courses combinations (Olalekan, Jide & Oludare 2017). The brochure also provides information on recommended textbooks and writing materials. In the past candidates find it difficult to know and assess the correct subject combinations for a particular course of study, topics to study for a particular subject and a host of other course selection related activities. With recent advancement in technology, candidates can easily assess that information online or from a compact disk (CD) provided at the point of registration.

The adoption of e-governance by JAMB also has tendency to reduce information asymmetry that fraudsters often capitalize on to defraud unsuspecting candidates. Information asymmetry refers to information gap between JAMB and prospective candidates. The fraud associated with the information asymmetry manifests in the sales of fake registration forms to candidates. The shift from the paper for to electronic form appears to have reduced to the barest minimum if not totally eliminate the possibility. Besides, with open-access information on authorized places where candidates could purchase the form, incidence of fake forms appears to have drastically reduced.

An important service that JAMB often renders to the admission aspirants is change of course/institution. This service occurs when a candidate voluntarily changes his/her mind about his/her choice of institution having submitted an admission registration form or compelled to do so by circumstance which may relate to not meeting the score requirements of earlier chosen course and/or institution. Previously, this service requires that a candidate purchased a form, fill and do a physical submission at designated JAMB office. Complaints of missing forms, mishandling of forms resulting in names being wrongly spelt etc. were often reported. With the adoption of e-application, candidates can now easily process the change of course/institution form in the comfort of their home by registration on the JAMB portal and online convenient payment with the use of Automated Teller Machine (ATM).

Moreover, the printing of examination slip, the checking of results that often involved long distant travelling with its associated risks, checking of admission status, printing of admission letters can now be easily done in the confine of a candidates'room on the JAMB portal. This eliminates unnecessary travelling, queuing and exposure of adolescence that dominate candidacy of JAMB examination to undue risks. This was

not so in the past when all these services are enjoyed only by visiting a designated JAMB office.

Without doubt, progress has been made by JAMB in the area of e-Application as a component of e-Service (e-Governance). The adoption of e-Governance in the internal operations of the organization, however, remains unclear to the public and, as well, not yet empirically studied (to the best of the knowledge of the researcher having reviewed the extant literature relevant the subject matter). This creates a vacuum in knowledge which this study intends to fill.

1.2 Statement of the Problem

The realization of the importance of education to national development prompted the Federal Government of Nigeria (FGN) to intervene in education directly through funding, establishment of schools, provision of research grants; and indirectly through monitoring, control and regulations. JAMB is one of the agencies of FGN with the mandate to regulate admissions into the nation's tertiary institutions believed to be the bedrock of developing the nation's human resource. In order to ensure that those admitted to study in the nation's citadel of learning are qualified with capability to optimize the quality of the nation's stock of human capital, service delivery by JAMB has to be efficient. Attempts at ensuring that JAMB service delivery is efficient have culminated in the reforms that have obviously shaped its mode of operation. An important aspect of this reform is the adoption of e-Governance particularly in the area of e-Application as stated earlier. Although the progress of JAMB in the area of e-Application is noticeable, how JAMB has fared in the other aspects of e-Governance is unclear requiring an empirical assessment

Traditionally, JAMB had conducted her examinations using the paper-pencil test (PPT) model. This mode of examination is reportedly characterized by inefficiency and inaccuracy (Retnawati, 2015). Although the alternative computer-based test (CBT) has its own challenges, these challenges are primarily of the technology failure (Oduntan, Ojuawo, & Oduntan, 2015; Abubakar & Adebayo, 2014;Joshua & Ikiroma, 2012) which can be rectified easily with state of the art facilities. This is unlike the problem of the PPT that is shrouded in design (Retnawati, 2015).

The inefficiency of the JAMB PPT examination was evident in the wide-scale examination mal-practices that often characterized the conduct of the examination in the past (Oyedeji, 2016). As part of the efforts to curb the widespread examination malpractices, JAMB introduced a customized answer sheet in 1994 on which candidate's examination numbers and subject types are preprinted (Ojerinde, 2015). The examination system was further improved in 1998 involving reshuffling of question types and candidates seat numbers such that candidates sitting in close proximity cannot copy from one another.

Although the newly-introduced measures reportedly curbed the mass cheating in the examination to some extent (Ojerinde, 2015), inefficiency in grading, corrupt collaborations at the examination centers with officials to undermine the system were still pervasive necessitating a new model for the examinations. Within the period that JAMB introduced the innovation, authors (Omobola, 1995; Isreal, 1996) reported

cases of missing results, candidates having wrong types given to them as against the type printed on their answer sheets leading to frustrations.

Apart from the cheating, the release of results could take months with candidates waiting. This usually put some candidates'life plans on hold as they await the verdict of JAMB to determine their next courses of action. The waiting of thousands of candidates constitutes economic loss to the nation. The mass cheating and the inefficiency in the JAMB requires a paradigm shift in strategies towards repositioning the agency for better performance. To this end, the idea of a combined exam of PPT and CBT was formed. Later, the CBT examination mode was fully-adopted by JAMB. This birthed the adoption of e-Governance (at least e-Application element of e-Governance).

It is important to understand how JAMB's service delivery has fared in the use of e-Governance. For instance, the use of technology by JAMB in interacting with other government agencies like NYSC, NUC etc. otherwise referred to as Government to Government (G2G) which is important for efficient service delivery remains unclear. Likewise, the use of technology in its internal workings among employees (G2E) are also not open to the public and yet to be empirically assessed.

Besides, e-Governance is often misconstrued as just the presence of government agencies or institutions on a static website online (Ohiole and Ojo, 2015). In as much as government's or its agencies' presence on the internet via websites (static) is a good step towards e-Governance, it is grossly misleading to refer to mere possession of websites as a definition of e-Governance. This study will assess the JAMB's position as regards e-Governance and Public service delivery.

1.3 Research Questions

In view of the stated problem above, the following research questions ware formulated to guide the study:

1. To what extent ha**s** introduction of CBT improved registration of candidates by Joint Admission and Matriculation Board?
2. To what extent has adoption of CBT enhanced conduct of examination by Joint Admission and Matriculation Board?
3. To what extent has the use of ICT facilities influenced release of results by Joint Admission and Matriculation Board?
4. To what extent has use of Central Admission Processing System enhanced admission process by Joint Admission and Matriculation Board?

1.4 Objectives of the Study

The broad objective of this study was to examine the effect of e-governance on service delivery in Enugu State Civil Service with focus on selected ministries. Specifically, the objectives of this study include:

1. To examine the extent to which introduction of CBT has improved registration of candidates by Joint Admission and Matriculation Board.
2. To ascertain the extent to which adoption of CBT has enhanced conduct of examination by Joint Admission and Matriculation Board.
3. To determine the extent to which the use of ICT facilities has influenced release of results by Joint Admission and Matriculation Board.

4. To determine how use of Central Admission Processing System has enhanced admission process by Joint Admission and Matriculation Board?

1.5 Research Hypotheses

The following hypotheses were formulated to guide the study

HA1: Introduction of CBT has improved registration of candidates by Joint Admission and Matriculation Board.

HA2: Adoption of CBT has enhanced conduct of examination by Joint Admission and Matriculation Board.

HA3: Use of ICT facilities has influenced release of results by Joint Admission and Matriculation Board.

HA4: Use of Central Admission Processing System has enhanced admission process by Joint Admission and Matriculation Board.

1.6 Significance of the Study

The significance of this study cannot be overemphasized. This study will advance conceptualization of e-Governance within the Nigeria context and in Nigeria public domain. The study will draw on the existing literature on e-Governance from local and international sources and contribute to scholarly literatures that examine the impact of e-Governance on public service delivery in Nigeria. The study is considered significant theoretically because it is novelty in considering all aspects of e-Governance in public institution in Nigeria context as against focus on e-Application that dominate the Nigeria literature on e-Governance. This provides opportunity for holistic assessment of e-Governance in public institution in Nigeria which contributes to the extant literature on e-Governance and public service delivery.

Focusing on the Joint and Matriculation Board (JAMB)‘s e-governance initiative, this study will contribute to the empirical record of public institutions in Nigeria in terms of e-Governance initiatives, adoption and challenges encountered towards attaining full-scale e-Governance in Nigeria‘s public service. The results could form part of the record in time on the progress of JAMB in the area of e-Governance and administration.

1.7 Scope of the Study

This study covers e-administration and development of education in Nigeria with focus on JAMB. It also covers e-administration facilities in registration, examination, release of results and admission of candidates.

CHAPTER TWO

REVIW OF RELATED LITERATURE

2.1 Conceptual Review

2.1.1 Concept of E-administration

The concept of E-governance has been variously defined by experts and scholars. In its full meaning, E-governance means electronic administration (Ojo, 2014). There are different opinions on E-governance from various scholars. To Estevez and Janowski (2013), E-governance is the application of technology by government organisations to transform its activities and its interactions with the citizen so as to create an impactful society. Implied in the definition above is that E-governance concerns the application of information and communication technology by a number of government agencies in stimulating the frequent participation of citizens in the governing and administrative process of government institutions.

Sunday (2014) similarly opined that E-governance is the use of ICT by departments of government to promote accountability, awareness creation and further guarantee openness in the administration of government. In other words, administrative and managerial processes of an organization are the major concern of E-governance. The basic focus of E-governance is the internal utilization of information and internet technologies in the management of certain resources such as human, material, capital and machines, which are arranged to aid managerial activities in an organization. Nkwe (2012) in his argument asserted that E-governance is a shift from the traditional model of public administration. The shift is in terms of the delivery of government services to the citizens through the use of ICT. In agreement with the forgoing, Ayo (2014) described E-governance as the administration of a nation through the use of Information Communication Technology. By this definition, the adoption of technology enhances the effectiveness, efficiency, accountability and transparency in the exchange of information.

Adopting E-governance facilitates significant reduction in government expenses, while increasing the earned interest and ability to reduce government contracts (Fatile, 2012). When discussing E-governance, it is more than just talking about a government website on the internet. E-governance has some strategic objectives. The strategic objectives of E-governance are to streamline and upkeep administration amongst government, citizens, businesses and parties. Using information and communication technology would create a connection among these parties and aid the activities and procedures involved. Electronic Administration is also known as support system which motivates good administration. According to Onuigbo (2015) electronic administration refers to the application of internet facilities in the running of the business of Administration such as recruitment, development and enforcement of policies, laws and regulations.

2.1.2 E-examination

Online examinations which are a variant of a CBTS can be used as assessment-evaluation toolin distance education systems that have quite a number of students. For such systems, good execution of examination aimed at assessment and evaluation is very critical because problems arising from human-centered errors or technical difficulties may lead to questioning of the examination, and thus reliability and efficiency of the distance education systems.

A Computer Based Test System (CBTS) is a form of assessment in which the computer is an integral part of question papers' delivery, response storage, marking

of response or reporting of results from a test or exercise. It can be a multiple choice question based examination system that provides an easy to use environment for both Test Conductors and Students appearing for Examination. The main objective of a CBTS is to provide all the features that an Examination System must have, with the interfaces that do not scare its users.

An online examination system is an application that allows an institution conduct examination via the Internet (or intranet).Various companies, institutions and organizations have opted for this method of conducting examinations, because it is quicker, easier and convenient. This system makes it easier for examiners to conduct exams and collate results. The application provides facility to conduct online examination anywhere and at any time. Today, most institutions are conducting their exams online to eliminate the bottlenecks associated with pen and paper type of examination. Technology has supported online examinations successfully for a number of years, and has progressively enhanced the process over the years to have room for more students and ensure a smoother online examination. However, one of the biggest challenges to online examination is cheating using technology.

E-exam simply is the process by which examinations are delivered, taken and scored electronically. It entails questions being deployed onto computer workstations (intranet and internet) and candidates answering the questions on to the computer. The process of writing exams is thus completely paperless. It is sometimes referred to as CBT (Computer-based testing) or CBA (Computer-Based Assessment).

E-examinations refer to the use of computers by candidates in a high-stakes supervised (proctored) assessment, generally simultaneously in a fixed time period. Adebayo and Abdulhamid (2010) showed this definition has been widely accepted in private and public institutions of higher learning as well as in high schools by identifying common practices. Adebayo and Abdulhamid indicate several examination bodies in Nigeria preferred e-examinations to manual examinations (in which students use “pen on paper”). Staff and students preferred e-examinations because of their flexibility, security, integrity, and ease of use.

Oduntan, Ojuawo and Odunntan (2015), defined computer based tests as “assessment that are administered by computer in either stand-alone devices linked to the internet or world-wide web (www.), most of them using multiple choice questions.” Abubakar and Adebayo (2014) opine that some major reasons for introducing CBT tests for UTME were to inhibit the rate of examination misconduct and also to speed up the release of results. The stance of this paper is that these reasons can be accepted as tangible if results produced using CBT forms are satisfactorily valid and reliable. Test validity is described as the extent to which a tests measures what it is designed to measure and nothing else.

Computer-based test is the use of computers to administer tests. Other terminologies used to describe Computer Based Test (CBT) include Computer Assisted Testing (CAT), Computerized Assessment, Computer Aided Assessment (CAA), Computer Based Assessment (CBA), Online Assessment, Web- Based Assessment, Technology Enhanced Assessment, Automation Assessment, and E- Assessment or Test or Examination (Alabi et al., 2012). Computer Based Test means the candidate sits in front of a computer and the questions are presented on the computer monitor and the candidate submits the answers through the use of keyboard or mouse. Automation of educational assessments, be it school- based assessment or other public examinations, can be described as the application of technology for the assessment of learning outcomes; using machines to perform those operations which

hitherto was performed wholly or partly by teachers or employees (Obioma, et al., 2013).

Alabi et al. (2012) described computer based testing as a method of administering tests in which the responses are electronically recorded, assessed, or both. Computer Based Test (CBT) is grouped into linear/fixed CBT and adaptive CBT. Linear and fixed computer based test, most similarly to paper-based testing is the random method which can be used to administer a fixed set of items to provide a modest test security benefit. Alabi et al., (2012) defined a linear CBT as a full-length examination in which the computer selects different questions for individuals without considering their performance level. In CBT adaptive testing, when an examinee answers a question correctly, the next test item has a slightly higher level of difficulty. And the difficulty of the questions presented to the examinee continues to increase until a question is answered incorrectly. Then a slightly easier question is presented. Alabi et al. (2012) further explained that in a computer adaptive test, each test-taker receives questions that are at the level of difficulty for his or her ability. After each question is answered, the computer uses the answer and all previous answers to determine which question will be presented next. This means that different test takers, even in the same hall on the same day will receive different questions. With this approach; collusion, giraffing, and many other forms of examination malpractices will be eliminated using CBT technique.

2.1.3 Role of E-administration on Performance of Jamb

ICT, particularly through the implementation of Computer Based Testing (CBT), plays a significant role in enhancing the performance of the Joint Admissions and Matriculation Board (JAMB) in Nigeria by facilitating efficient examination administration, reducing exam malpractice, providing faster result release, and improving overall transparency and credibility of the UTME process, thereby positively impacting the quality of student selection for tertiary institutions.

Key ways ICT impacts JAMB performance:

- **Eliminating Exam Malpractice:** CBT significantly reduces cheating during exams by providing randomized questions, monitored computer screens, and strict surveillance systems.
- **Improved Efficiency:** Online registration, automated grading, and immediate result availability through ICT systems streamline the examination process, saving time and resources.
- **Wider Reach:** Online access to registration and examination centers enables wider participation from candidates across Nigeria, including those in remote areas.
- **Data Integrity:** ICT enables secure storage and management of candidate information, ensuring data accuracy and preventing manipulation.
- **Transparency and Accountability:** The online platform allows for real-time monitoring of the examination process, promoting transparency in the selection process.
- **Candidate Self-Assessment:** Online practice tests and mock exams available through ICT platforms allow candidates to prepare better for the UTME.

Overall, ICT, particularly through the implementation of CBT, has significantly enhanced the operational efficiency and integrity of JAMB examinations, leading to improved performance in selecting qualified candidates for Nigerian tertiary institution

2.1.4 Factors Affecting e-administration in the Public Service

Despite the enormous opportunities of ICTs as a means of efficient and effective public service delivery several issues abound.

a. Challenges of Leadership and Political Will

Problems of leadership and political willingness are indeed a great variable constraining ICTs initiative and application in the Nigerian civil service vis-a-vis public service delivery. Like other developing nations, political influence, lack of accountability and transparency, problem of corruption, etc, are threats facing the management of e-government in the public sector of Nigeria. This condition of affairs is supported by Adiele (2017), who argued that the notion of E-governance on its own is not suited for developing countries who want to obtain the associated benefits. According to him, political and social changes are required alongside the implementation of e-governance in the developing countries. He adds that failures due to administrative breakdown, corruption, distortions in markets and the absence of democracy should be addressed before e-government can be implemented in developing countries. The willingness of public officials and leaders is therefore, a key factor in every new initiative such as e- government.

According to Olalekan, Jide and Oludare (2017), given its complex process, risks and challenges, public organizations as well as their leaders have resisted e-government initiatives due to ignorance, policy issues and obsolete rules and regulations.

In Nigeria unfortunately, the leaders have not demonstrated enough commitment towards the utilization of ICTs to deliver public service in the country's civil service. The Civil Service is still at the stage of web presence. Even then, most of the websites of government ministries and departments are characterised by static and insufficient information that are rarely updated, few interactive features and non-existent online services. The insignificant interest of the political leaders has greatly reduced the potentials of ICTs enhancing public service delivery in the Civil Service. One can therefore, see that leadership remains the greatest challenge facing the utilization of ICTs in the Federal Civil Service.

b. Problem of Digital Divide

Digital divide refers to the gap or inequalities between people who have the resources and access to ICTs and people who do not have the resources and access to the technology. The term also describes the discrepancy or gap between those who have the skills, knowledge and abilities to use ICTs and those who do not. In Nigeria today, digital divide is experienced between the urban rich and poor; between the rural and urban citizens; and between the ICT literate and the ICT illiterate. This manifests also in the language in which ICT content is delivered which can only be understood by a minority few. Onuigbo and Eme (2015) adduced that many Nigerians are poor and live in rural areas and as such lack access to ICTs. This means that these categories of Nigerians might not obtain important government information and services, or even consider participating in online interactions with the government. Poor and disadvantaged groups, particularly women often face special constraints in accessing ICTs and using them for their specific needs. Unequal access can therefore, worsen existing inequalities. The risks of economic exclusion suggest that the Nigerian government should be concerned with the level of connectivity and ICTs provision and with how to enable access and deploy ICTs and its content in ways that expand relevant information for the poor, increase their voice in decision-making and address bottlenecks to their lives (Azemi, Romle and Udin, 2016).

c. Low ICT Skill, Literacy and Usage

Besides the problems of leadership, digital divide, and the dearth of ICTs infrastructure in the country, e-government initiatives in the civil service lacks personnel with the requisite ICTs skills needed for public service delivery. Regardless of the existence or sophistication of ICTs, human beings remain the most critical success factor. They are

the users and creators of data. They are the managers of the technology. According to Azemi, Romle and Udin (2016) opined that this particular problem of lack of qualified staff and inadequate human resources training is pervasive and chronic in many developing countries for many years now. The problem hinges on the unavailability of human capacities that have the technical skills for installation, maintenance, design and implementation of ICTs infrastructure.

Indeed, the problem of low ICTs skill, literacy and usage impacts negatively on Nigeria's E-governance readiness index. Adiele (2017) noted that E-governance readiness is a comparative ranking of the countries of the world by the United Nations Public Administration (UNPA) Network according to two primary indicators; the state of e-government readiness; and the extent of e-participation. The key issues leading to the low e-government readiness in Nigeria are lack of technical ICTs human capacity; low ICTs literacy and usage; lack of ICTs units and functions; little or no access to ICTs infrastructure; and limited, slow and non-existent internet connectivity. Apart from lack of technical ICTs skills in the public sector, which affects Nigeria's e-readiness, the civil service does not have the requisite in-house managerial ICTs skills. In addition, it lacks the training programmes to create a sustainable pool of staff with basic ICTs literacy, technical and managerial skills. The main consequence of this problem is the tendency to use external consultants and contractors, which makes ICTs application very expensive in the civil service.

One can see from the foregoing that human capital development is a vital prerequisite for e- government application in the federal civil service. This has become even more necessary considering the low qualification of ICTs personnel and professionals in Nigeria.

d. Problem of Adapting to Change

Problem of adapting to change is another key challenge to ICTs application in the Civil Service. Change is one phenomenon that is permanent or constant in nature but always difficult to be followed due to resistance. Resistance to change associated with ICTs application in the civil service comes about due to factors such as culture, labour, ideological issues and inertia of the options and habits. Among the foregoing factors, culture is the most challenging. Olalekan, Jide and Oludare (2017) observed that the most evident cause of resistance to ICT's application in the service is obtainable among civil servants who do everything possible to oppose the change of processes or practices that have existed for years. It is this resistance to change that makes civil servants in Nigeria to be reluctant to share information thereby resulting in policies that deny access to information and the creation of empty government websites with information of little value.

Akunyili (2010) wrote that as a way of tackling the problem of resistance to change in the Nigerian public service, the government has continued to place emphasis on cultural change to ensure civil servants buy into the new technology driven processes, rather than manual ones that have been in place for many years. There is also the need according to her for consolidation of information and cross-sectoral collaboration in order to ensure that the entire civil service and other agencies of government share information and resources to ensure that policy design and implementation are driven by holistic perspectives.

e. Lack of Public Confidence and Trust in Online Interaction with Government

The last challenge of ICTs application in the Civil Service that we discussed here is the problem of lack of public confidence and trust in online interaction with the government. Many people in Nigeria do not have confidence and trust in e-government initiatives in the civil service. This has to do mainly with questions of data protection,

network and information security. Indeed, the rate with which people abuse online information and communication scares both individuals and public administrators alike from depending on ICTs. The activities of cyber criminals and hackers have continued to be on the increase in Nigeria. The presence of JAMB, NECO, WAEC and similarly establishments online in Nigeria has led to the forging of documents since users now take results and documents online. The foregoing scenario compromises personal data, authentication of data and identity management. Government regulation could play an important role through specific legislation with respect to enhancing users' sense of privacy protection in online interaction.

Indeed, the difficulty that comes with securing public confidence and trust in online interaction with the government remains a threat to ICTs application in the civil service. Some civil servants in Nigeria even resist e-government initiatives in the service based on this factor. According to Nweke (2017), if ICTs application in public service delivery in Nigeria must receive boost, citizens and government should always be able to control access to their data, and how these data are stored, used, accessed and protected. To this end, the use of privacy enhancing technologies should be favoured to avoid breaching the law. These considerations are necessary to raise confidence and trust among Nigerians in embracing ICTs in public service delivery and accordingly reduce the resistance that comes with ICTs application in the civil service.

f. Infrastructural Deficit

ICT facilities in Nigeria are urban based. Most of the telecommunication base stations are located in the urban areas, with little or no access to the rural areas. Although the tele-density rate of the nation is high at almost 90 percent now. The rate and level of internet usage in the country is not encouraging and this adds to the challenges facing the implementation of e-governance in Nigeria (Nchuchuwe and Ojo, 2015).

2.1.5 Overview of JAMB

JAMB was founded as one of the foremost examination bodies in Nigeria, which the legal instrument that established the Board was promulgated by the Act (No. 2 of 1978) of the Federal Military Government on 13th February 1978. By August 1988, the Federal 65 Executive Council amended Decree No. 2 of 1978. The amendments have since been codified into Decree No. 33 of 1989, which took effect from 7th December 1989. Decree No. 2 of 1978 (amended by Decree No. 33 of 1989) empowered the Joint Admissions and Matriculation Board to: (a) Conduct Matriculation Examination for entry into all Universities, Polytechnics and Colleges of Education (by whatever name called) in Nigeria (b) Appoint Examiners, Moderators, Invigilators, members of the Subject Panels and committees and other persons with respect to matriculation examinations and any other matters incidental thereto or connected therewith. (c) Place suitably qualified candidates in the tertiary institutions after having taken into account: (i) The vacancies available in each tertiary institution (ii) The guidelines approved for each tertiary institution by its proprietors or other competent authorities (iii) The preference expressed or otherwise indicated by the candidates for certain tertiary institutions and courses (iv) Such other matters as the Board may be directed by the Honourable Minister to consider or the Board itself may consider appropriate in the circumstances. (d) Collate and disseminate information on all matters > relating to admissions into tertiary institutions or any other matter relevant to the discharge of functions of the board. (e) Carry out other activities as are necessary or expedient for the full discharge of all or any of the functions conferred on it under or pursuant to this Decree.

In the 2009, JAMB was subject to serious controversy when the overall performance was one of the poorest on records. Much to JAMB's embarrassment, it was later revealed that the machines which optically graded the papers had erroneous answers and that JAMB changed some students' scores by as much as 15%. Consequently, the government setup a national committee on university entrance under the chairmanship of Mr. M. S. Angulu.

In December 2013, the management of Joint Admission and Matriculation (JAMB) introduce a new system for Candidates that are applying for an admission in the higher institutions, Jamb cancelled the option of choosing at least two university as a choice, The new system will only allow an applicant to can fill one University, one Polytechnic, 66 one College of Education and one Computer Institutes unlike before during form registration.

On 17th April 2014, The Joint Admission and Matriculation Board released her 2014 Jamb result edition for those that registered for her Pencil and Paper examination type. The statistic showed that over a total number of 990,179 candidates registered for Pencil and Paper examination type while 25,325 candidates registered for CBT which amounts to 1,015,504 applicants‖. And out 36,164 were taken as invalid results and 37,315 are for students who were absent on the exam date. 2,494 results were withheld due to various examination malpractices.

2.2 Empirical Review

In a descriptive survey research, Chukwuemeka, Ubochi, & Okechukwu (2017) examined the effect of e-government on University service delivery focusing on the Federal University Ndufualike Ikwo, Ebonyi State. Data were obtained from 287 teaching and non-teaching staff of the university selected through a proportional random sampling technique. Structured questionnaire was used in data collection from the respondents. Frequency counts, percentages and Chi-square statistics were used in analyzing the study data. The study results showed that e-Governance had strong positive effect on the workers' service delivery. The authors, thus, recommended improvement on the current ICT infrastructure, internet access and reduce digital divide among staff as panacea to continuously experience the benefits of e-Governance in the institution.

Shaikh, Shah, & Wijekuruppu (2016) investigated the relationship between e-Governance and public service delivery (PSD) in Pakistan. Specifically, the study examined how manual and electronic PSD affected good governance, decentralization and socio-economic development, the benefits and justification for e-Governance and policy options to deepen e-governance in Pakistan. The study was a review of relevant literature on e-Governance in Pakistan and elsewhere but the focus was on the Pakistani-based studies. The studies were analysed using item-by-item and discuss analyses. The study reported positive relationship between e-Governance and PSD. It recommended public-private partnership (PPP) in the provision of ICT, broadening of ICT reach in local communities, trust building with the citizenry for support and legitimacy of e-Governance initiative and curbing of cybercrime as sin-qua-non-to enabling effective e-Governance in the country.

Olaitan (2015) examined the socio-cultural factors determining of adoption of e-Government services by Nigerians. Socio-cultural variables including age, gender, and ethnic background were investigated. The study was survey-based. A structured questionnaire consisting of 27 items were used in collecting data from 270 respondents selected randomly. Responses to the questions were measured on 5-point Likert scale. Frequency counts, percentages and measures of central tendency were used in analyzing the study data. Findings revealed a general less favourable

perception and disposition to e-Governance initiative. However, significant difference was found in the propensity to adopt e-Governance on the basis of gender, age and ethnic group. The study recommended that government should endeavor to understand the public's attitude to e-government services and their readiness to adopt it to avoid mismatch and failure.

However, Olaopa (2014) succinctly itemized —inadequate funds allocated to the e-governance projects, difficulty associated with streamlining various silos of e-Government projects already existing or being implemented prior to the creation of the Ministry of Communication Technology, disparity between urban and rural dwellers or those with low literacy levels in accessing the internet, potential to erode the privacy of the citizenry, perceived lack of value for money when the huge cost of deploying e-Governance projects is compared to the actual value to the people, false sense of transparency as the challenges to the adoption and delivery of e-governance in Nigeria.

Schwester (2009) a researcher at the university of New York, USA comparatively analysed the e-Government application use by two municipalities in the United States with data collected from the International City/County Management Association (ICMA). The study focuses on finding the level of e-Government application adoption and use between the two municipalities with a view to determining if observed differences are explained by some barriers and the extent to which the differences are explained by the barriers. A number of variables were regressed on the adoption of e-Government applications through a multiple regression model. Findings revealed that the differences in the level of e-Government applications were function of financial, technical, and human resources. Political support was also found to significantly influence the adoption level. The study concludes that the municipality that lagged in the adoption was impeded by financial, technical and human resource constraints as well as political support.

Gilbert, Balestrini, & Littleboy (2004), researchers at either the University of Surrey, UK and a private limited in the UK investigated the barriers to e-Government service adoption by individuals with options to use the traditional government service mode and e-government service mode. Using the technology adoption model (Diffusion of Innovation: DOI) and the service quality concept (SERVIQUAL), the study assessed the determinants of decisions of individuals to use e-government service with data obtained from survey. Multiple regression and correlation models were used in testing the relationship between the adoption of the e-Government services and some variables including ‗interaction avoidance', Cost, time, visual appeal, experience, financial security, information quality, low stress and trust. Time needed to do the transaction, transaction cost, financial security, information quality, and trust were found to significantly ($p<0.01$) predict the choice of e-Government service adoption over the traditional service delivery mode.

Bigdeli & de Cesare (2011), employing stakeholders' analysis, examined the barriers to e-Government service delivery in Iran. Specifically, the study investigated the technological, strategic, policy and organizational barriers to e-service delivery by the Government of Iran. Both primary and secondary data were used in the study. The primary data were collected from high profile stakeholders in the country's e-Government service delivery programmes through interview schedule. The secondary data were obtained from the publications, reports, surveys and census of the Iranian government. The data were descriptively analysed. Findings revealed insufficient financial support, unclear vision and objectives and lack of guidelines as potent strategic barriers in the country's e-Government service delivery. The technology

barriers found include divergencies in technical/data standards among the ministries, poor e-government infrastructure, and lack of security model to guarantee safety of data. The policy barriers found include poor legislation and lack of trust and confidence while the organizational barriers found in the study include poor IT/ICT skill, substandard training, non-reliable G2G interaction through the internet, internal resistance to change and lack of top management support.

Using structural review research design, Lau (2003)- a project leader of the OECD E-Government Project, examined challenges facing e-Government development in the OECD countries. The study focused on the internal challenges and external barriers to e-Government adoption. The study reported that the external barriers to e-Government adoption and development in the OECD countries include rapid technological change, digital divide, privacy and security concerns, citizen expectation and seamless service. The internal challenges observed include legislative and regulatory barriers, budgetary barriers and lack of common technical framework and infrastructure.

Mohammed (2016) investigated the challenges confronting e-Government in developing countries with special focus on Iraq e-Government initiatives. The study was a chronological and structural review of relevant literature and government activities penultimate, during and after the implementation of the e-Iraqi initiatives with a view to identifying challenges to effective implementation of e-Government in a developing country like Iraq. Findings of the study revealed that the challenges are political, organizational, technical and are related to deficient human capital and security in nature. Specifically, limited budget, slow decision-making process, bureaucracy, transparency and monitoring lapses and poor legal framework were found to impede the e-Iraqi e-Government initiatives.

Angelopoulos, Kitsios, Kofakis, & Papadopoulos (2010) examined the emerging barriers in e-government implementation. The study combined structural review of the literature on e-government and a qualitative case study of a governmental organization towards arriving at the study conclusions. The case study data were obtained through semi-structured interviewing of the leadership cadre in the governmental organization. The data were coded and thematically analysed. Results revealed that finance, political and institutional barriers are the more compelling of the barriers against successful implementation of e-government project.

El-sofany, Al-Tourki, Al-Howimel, & Al-Sadoon (2012) appraised the barriers, challenges and developmental roles of e-Government in Saudi Arabia. The study reviewed the literature on international experiences on e-government and compare key indices with what obtained in Saudi Arabia. Factor by factor analysis of the key barriers and challenges to e-government was done. Findings revealed that in many countries and in Saudi Arabia, barriers and challenges to e-government implementation include resistance to change to electronic service, lack of policy and regulation for e-service usage, lack of partnership and collaboration, lack of strategic planning, financial barriers, lack of qualified personnel and training, problem of culture, poor ICT infrastructure, privacy, security and trust issues and leadership/political support.

2.3 Theoretical Framework

This study is anchored on the Technology Acceptance Model (TAM). The Technology Acceptance Model (TAM) was proposed by Fred Davies in 1989 and emphasises the acceptability of an information system and its impact in an organization. The objective of this model is to predict the acceptability of a tool for use and to identify the modifications which must be brought to the system in order

to make it acceptable to users. This model proposes that the acceptability of an information system is determined by two main factors: perceived usefulness and perceived ease of use (Ajibade, Ibietan, and Ayelabola, 2017). TAM posits that perceived usefulness and perceived ease of use determine an individual's intention which serves as a mediator of actual system use. Perceived usefulness is also seen as being directly impacted by ease of use (Ajibade, Ibietan, and Ayelabola, 2017). Technology Acceptance Model (TAM) introduced two new constructs; perceived usefulness and perceived ease of use. The first construct (perceived usefulness) believes that the usage of an application would increase performance while the other construct (perceived ease of use) believes that the use of application would make work stress-free (Shih, Shing & Chien, 2011).

Technology Acceptance Model is relevant to the Nigerian civil service as it explains the role played by self-efficacy, perceived cost, technological infrastructure, power supply, and internet facilities to support the adoption of E-governance and its impact on effective service delivery. Technology Acceptance Model is useful in explaining the acceptance, application, relevance and effectiveness of modern technologies in information sharing among citizens, public servants, government and galvanises public service delivery. The application of TAM to a study like this underscores user's technological behaviour and actual utilization. This is because, there appears to be factors inhibiting the overall adoption of E-governance and its consequent impact on effectiveness and efficiency in public service delivery to the people.

SECTION THREE

METHODOLOGY

3.1 Research Design

For the purpose of this study, a descriptive survey design was adopted. A survey design is a research design in which opinion of a given population in a research will be gathered and analysed using statistical methods. It is one in which a group of people or items are studied by collecting and analyzing data from only a few people or items considered to be representative of the entire population.

3.2 Area of the Study

The study area is JAMB Enugu Office. JAMB was founded as one of the foremost examination bodies in Nigeria, which the legal instrument that established the Board was promulgated by the Act (No. 2 of 1978) of the Federal Military Government on 13th February 1978. By August 1988, the Federal 65 Executive Council amended Decree No. 2 of 1978.

3.3 Population of the Study

The population of study is 110 which was the entire JAMB employees of the JAMB Enugu State Office.

3.4 Sample Size and Sampling Technique

Since the total work force of all the JAMB employees in Enugu State of Nigeria is 110, the researcher studied the entire population .

For the purpose of this study, purposive sample technique was used. The purposive sampling ensured that only staff of JAMB in Enugu State Office were administered with the questionnaire.

3.5 Sources of Data Collection

Data for this study were collected from primary and secondary sources. The primary data shall be collected from structured questionnaire, direct observations by the researcher and personal interviews. The secondary data were generated from textbooks, journals, internet, newspapers and magazines.

3.6 Instrument for Data Collection

The instrument for data collection was questionnaire instrument structured using Likert's four (4) point scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). The instrument shall be structured into section A and Section B. Section A contained socio-demographic characteristics of the respondents while section B contained structured questionnaire items.

3.7 Method of Data Collection

The questionnaire instrument for this study was administered face to face to the respondent by the researcher and few research assistants mobilized by the researcher. This was in order to ensure effective administration of the instrument. Two (2) weeks interval was given the respondents to allow them make informed opinion. The instrument was collected back by the researcher and the research assistants to ensure effective retrieval of the instrument.

3.8 Validity and Reliability of the Instrument

The instrument for this study was validated by the project Supervisor and some research experts in Public Administration. Their corrections and recommendations were effected to improve the validity of the instrument. Also, the study applied the test-retest method to determine the reliability of the instrument on two different occasions; the instrument was administered to different samples with the aim of measuring the

consistency of their responses. Since their responses showed similarities, the instrument was reliable.

3.9 Method of Data Analysis

The data are presented in percentage, frequency tables, mean and Std. Deviation values.

SECTION FOUR

RESULTS AND DISCUSSION

4.1 Questionnaire Administration

The researcher distributed a total of one hundred and ten (110) questionnaires of 15 items each to all staff of the Joint Admission and Matriculation Board (JAMB) in the Enugu State. As a result of frequent persuasion on the importance of responding fully and honestly to the questionnaire, the researcher was able to achieve questionnaire return of ninety (90) responses while thirty (30) were not returned out of the total distributed leaving a total of ninety (90) usable questionnaires, yielding a response rate of 90 percent. The researcher proceeded with the analysis of the data as 90 percent response rate is regarded as very satisfactory for this study.

4.2 Socio-Demographic Characteristics of the Respondents

This section is divided into **A** and **B**. Section **A** consists of the socio-demographical data of the respondents while section **B** covers the research questions that were based on the research objective.

Table 1: Socio-Economic or Demographic Factors of respondents

S/N	Factors	Frequency	Percentage (%)
1	**Gender**		
	Male	35	38.9
	Female	55	61.1
	Total	**90**	**100**
2	**Designation**		
	01-05	15	16.7
	06-12	65	72.2
	13-17	10	11.1
	Total	**90**	**100**
3	**Length of Service**		
	5 and below	10	11.1
	6-10	15	16.7
	11-15	20	22.2
	16-20	20	22.2
	21 and above	25	27.8
	Total	90	100
4	**Educational Qualification**		
	PG	10	11.1
	First Degree/HND	50	55.6
	NCE/ND	20	22.2
	WASC/SSCE/NECO	10	11.1
	Total	**90**	**100**
5	**Job Category**		
	Managerial /Admin	60	66.7
	Technical	20	22.2
	Clerical/others	10	11.1
	Total	**90**	**100**

Table 1 above shows that 35 or 39percent of the respondents were male while 55 or 61percent were female, which implies that the population of female respondent was higher than male. The analysis of the designation profile of the surveyed respondents shows that the surveyed respondents cut across junior, senior and the senior managerial cadre. Of the 90 valid responses on table 1 above shows that 17 percent of the respondents were junior staff, 72percent were senior staff while 11percent were

senior managerial staff. This shows that senior staff on levels 6 to 12 were more than junior staff and senior managerial staff respectively. It shows that 11.1 percent of the of the respondents have served in the organization for 5 years and below; 16.7 percent have served for 6 – 10 years; 22.2percent have served for 11-15 years; 22.2 percent have served for 16 – 20 years; while 27.8percent have served for 21 years and above. It further shows that 11.1percent of the respondents had postgraduate certificates; 55.6 percent had B.Sc. and HND certificates; 22.2 percent of the respondents had NCE and ND certificates while 11.1 percent of the respondents had WASC/SSCE/NECO certificates. The analysis based on job status of the surveyed respondents shows that the surveyed respondents cut across varied job categories. Of the 90 valid responses, table 4.1 indicates that 67 percent were within the managerial/admin categories, 22percent were technical officers; while 11 percent belonged to clerical and other categories.

4.3 Data Analysis

This section of the questionnaire analysed the research objectives and questions. The questions try to find out the respondents reactions on E –Governance and Public Service Delivery: A study of the Joint Admission and Matriculation Board [JAMB] in the South- East, Nigeria. The section contains 15questions, as analysed in Table 4.2 below.

Table 2 Item Statistics

S/n	Item	Mean	Std. Deviation	N	Remark
6	Introduction of CBT improved registration of candidates by Joint Admission and Matriculation Board	4.0111	.38202	90	Agree
7	Candidates for JAMB examination can easily generate profile codes for registration	3.7556	.70808	90	Agree
8	The use of CBT centers has reduced the congestion previously experienced at JAMB offices during registration exercise	3.5889	.88552	90	Agree
9	The introduction of CBT centers has reduced the issue of travelling to far distances to register for JAMB as this can be done in the closest CBT center	3.9333	.66704	90	Agree
10	ICT facilities have helped in management of registration data by Joint Admission and Matriculation Board	3.7667	.82175	90	Agree
11	Adoption of CBT enhanced conduct of examination by Joint Admission and Matriculation Board	3.8222	.64613	90	Agree
12	Through the introduction of CBT centers, candidates easily write their exams within their locations	3.9000	.65429	90	Agree
13	CBT significantly reduces cheating during exams by providing randomized questions, monitored computer screens, and strict surveillance systems	3.9889	.78604	90	Agree
14	The online platform allows for real-time monitoring of the examination process, promoting transparency in the selection process	4.0444	.88573	90	Agree

15	Online practice tests and mock exams available through ICT platforms allow candidates to prepare better for the UTME	3.5000	1.07317	90	Agree
16	use of ICT facilities influenced release of results by Joint Admission and Matriculation Board	4.0889	.51154	90	Agree
17	e-facilities promote fast grading of results of candidates after examination	3.3889	1.06733	90	Agree
18	e-facilities promote unlimited viewing by candidates after examination from the comfort of their homes	3.3333	1.00560	90	Agree
19	e-facilities promote quick resolution of issues related to results of candidates	3.5000	1.07317	90	Agree
20	Candidates are able to print their original results online through the help of e-facilities	4.0778	.56544	90	Agree
21	Use of ICT has enhanced admission process by Joint Admission and Matriculation Board	3.8778	.95785	90	Agree
22	Use of Central Admission Processing System (CAPS) enables different tertiary institutions to upload admission records of candidates	3.7111	1.04122	90	Agree
23	Students are able to accept or reject their admissions through the CAPS introduced by JAMB	3.5667	1.02825	90	Agree
24	JAMB has introduced transparency in admission process through the CAPS	3.7778	1.03617	90	Agree
2 5	The issue of dual or multiple admission offers to candidates in different institutions has been eliminated through the CAPS	3.3333	1.00560	90	Agree

Source: Field Survey, 2025.

From the table above, it can be observed that all the items were had mean above the 2.5 benchmark which means that majority of the respondents agreed. Similarly, the standard deviation for each of the items were very low which implies that majority of the respondents shared similar views. This implies that e-administration has positive effect on registration, examination, release of results and admission of candidates by the Joint Admission and Matriculation Board.

4.4 Discussion of Findings

From the findings, it was observed that e-administration has positive effect on registration, examination, release of results and admission of candidates by the Joint Admission and Matriculation Board. Introduction of CBT improved registration of candidates by Joint Admission and Matriculation Board. Candidates for JAMB examination can easily generate profile codes for registration. The use of CBT centers has reduced the congestion previously experienced at JAMB offices during registration exercise. The introduction of CBT centers has reduced the issue of travelling to far distances to register for JAMB as this can be done in the closest CBT center. ICT facilities have helped in management of registration data by Joint Admission and Matriculation Board. Adoption of CBT enhanced conduct of examination by Joint Admission and Matriculation Board. Through the introduction of CBT centers, candidates easily write their exams within their locations. CBT significantly reduces

cheating during exams by providing randomized questions, monitored computer screens, and strict surveillance systems. The online platform allows for real-time monitoring of the examination process, promoting transparency in the selection process. Online practice tests and mock exams available through ICT platforms allow candidates to prepare better for the UTME. Use of ICT facilities influenced release of results by Joint Admission and Matriculation Board. E-facilities promote fast grading of results of candidates after examination. E-facilities promote unlimited viewing by candidates after examination from the comfort of their homes. E-facilities promote quick resolution of issues related to results of candidates. Candidates are able to print their original results online through the help of e-facilities. Use of ICT has enhanced admission process by Joint Admission and Matriculation Board. Use of Central Admission Processing System (CAPS) enables different tertiary institutions to upload admission records of candidates. Students are able to accept or reject their admissions through the CAPS introduced by JAMB. JAMB has introduced transparency in admission process through the CAPS. The issue of dual or multiple admission offers to candidates in different institutions has been eliminated through the CAPS.

ICT, particularly through the implementation of Computer Based Testing (CBT), plays a significant role in enhancing the performance of the Joint Admissions and Matriculation Board (JAMB) in Nigeria by facilitating efficient examination administration, reducing exam malpractice, providing faster result release, and improving overall transparency and credibility of the UTME process, thereby positively impacting the quality of student selection for tertiary institutions. CBT significantly reduces cheating during exams by providing randomized questions, monitored computer screens, and strict surveillance systems.

Online registration, automated grading, and immediate result availability through ICT systems streamline the examination process, saving time and resources. Online access to registration and examination centers enables wider participation from candidates across Nigeria, including those in remote areas. ICT enables secure storage and management of candidate information, ensuring data accuracy and preventing manipulation. The online platform allows for real-time monitoring of the examination process, promoting transparency in the selection process. Online practice tests and mock exams available through ICT platforms allow candidates to prepare better for the UTME.

Overall, ICT, particularly through the implementation of CBT, has significantly enhanced the operational efficiency and integrity of JAMB examinations, leading to improved performance in selecting qualified candidates for Nigerian tertiary institution

SECTION FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

In the course of the study, the following findings were made:

1. Introduction of CBT has improved registration of candidates by Joint Admission and Matriculation Board. The use of CBT centers has reduced the congestion previously experienced at JAMB offices during registration exercise.
2. Adoption of CBT has enhanced conduct of examination by Joint Admission and Matriculation Board. Through the introduction of CBT centers, candidates easily write their exams within their locations.
3. Use of ICT facilities has influenced release of results by Joint Admission and Matriculation Board. e-facilities promote unlimited viewing by candidates after examination from the comfort of their homes.
4. Use of Central Admission Processing System has enhanced admission process by Joint Admission and Matriculation Board. Use of Central Admission Processing System (CAPS) enables different tertiary institutions to upload admission records of candidates.

5.2 Conclusion

Electronic administration has become an indispensable feature of modern public administration and service delivery. The advent of information and communication technology has digitalized modern service delivery and as such, electronic administration enhances the performance of administrative tasks and responsibilities and encourages citizens' participation in governance. Introduction of CBT has improved registration of candidates by Joint Admission and Matriculation Board. The use of CBT centers has reduced the congestion previously experienced at JAMB offices during registration exercise. Adoption of CBT has enhanced conduct of examination by Joint Admission and Matriculation Board. Through the introduction of CBT centers, candidates easily write their exams within their locations. Use of ICT facilities has influenced release of results by Joint Admission and Matriculation Board. e-facilities promote unlimited viewing by candidates after examination from the comfort of their homes. Use of Central Admission Processing System has enhanced admission process by Joint Admission and Matriculation Board. Use of Central Admission Processing System (CAPS) enables different tertiary institutions to upload admission records of candidates

5.3 Recommendations

In view of the findings of the study, the following recommendations were therefore made:

1. There is need for improvement in the use of CBT to improve registration of candidates by Joint Admission and Matriculation Board.
2. There is need increased investment in CBT for enhanced conduct of examination by Joint Admission and Matriculation Board.
3. There is need for improved use of ICT facilities in administrative processes to enhance release of results by Joint Admission and Matriculation Board.
4. There is need for more transparence in use of Central Admission Processing System (CAPS) to enable different tertiary institutions to upload admission records of candidate.

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APPENDIX I

Table 2 Item Statistics					
S/n	Item	SA	A	D	SD
6	Introduction of CBT improved registration of candidates by Joint Admission and Matriculation Board				
7	Candidates for JAMB examination can easily generate profile codes for registration				
8	The use of CBT centers has reduced the congestion previously experienced at JAMB offices during registration exercise				
9	The introduction of CBT centers has reduced the issue of travelling to far distances to register for JAMB as this can be done in the closest CBT center				
10	ICT facilities have helped in management of registration data by Joint Admission and Matriculation Board				
11	Adoption of CBT enhanced conduct of examination by Joint Admission and Matriculation Board				
12	Through the introduction of CBT centers, candidates easily write their exams within their locations				
13	CBT significantly reduces cheating during exams by providing randomized questions, monitored computer screens, and strict surveillance systems				
14	The online platform allows for real-time monitoring of the examination process, promoting transparency in the selection process				
15	Online practice tests and mock exams available through ICT platforms allow candidates to prepare better for the UTME				
16	use of ICT facilities influenced release of results by Joint Admission and Matriculation Board				
17	e-facilities promote fast grading of results of candidates after examination				
18	e-facilities promote unlimited viewing by candidates after examination from the comfort of their homes				
19	e-facilities promote quick resolution of issues related to results of candidates				
20	Candidates are able to print their original results online through the help of e-facilities				
21	Use of ICT has enhanced admission process by Joint Admission and Matriculation Board				

22	Use of Central Admission Processing System (CAPS) enables different tertiary institutions to upload admission records of candidates				
23	Students are able to accept or reject their admissions through the CAPS introduced by JAMB				
24	JAMB has introduced transparency in admission process through the CAPS				
2 5	The issue of dual or multiple admission offers to candidates in different institutions has been eliminated through the CAPS				