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Correlation between E-Governance and Service Quality: Interrogating the Success of E-Governance in JAMB Nigeria

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ABSTRACT

The relevance of the public sector to socio-economic development in any nation cannot be underestimated. This has been re-echoed in the 2007 World Development Report which argued that "an effective public sector is vital for the provision of the goods and services – and the rules and institutions – that allow markets to flourish and the people to lead healthier, happier lives. This has prompted and driven radical changes in public administration and management systems. Information Communication Technology (ICT) via E Governance have been recognized as an effective tool that can help government reinvent itself, run cheaply, faster, better and produce new outcome (Heeks,1999), this new approach is what has become known as E-governance. This study therefore examined the Correlation between E-governance and Public Sector Service quality in Nigeria, focusing on Joint Admission and Matriculation Board (JAMB) South East of Nigeria. The survey method was used in this study. Tables and graphical presentation were used to measure the direction of the perception of the respondents. Correlation coefficient was used to measure the relationship between the dependent and independent variables under study. The findings were many but major findings indicates that there is significant relationship between E-governance and service quality in JAMB. In the light of the findings one of the major recommendations proffered includes that JAMP and other public sector organizations in Nigeria should avail themselves of the windows of opportunities that E-governance provides.

Keywords: *E-Governance, government, service delivery. Examination*

INTRODUCTION

Nigeria is unarguably the most populous country in Africa constituting about one-fifth of the entire population of Africa (Salisu, 2000).The country operates a mixed economy in which essential services are provided through private and public initiatives except for few monopolistic services like the national defense, port management, immigration and admissions into the country's tertiary institutions. At present, some of the erstwhile monopolies are being operated through concession and public-private-partnership (PPP) arrangements.

In spite of the huge potentials of Nigeria in terms of huge market (population), natural and human resources, Nigerians are still considered paradoxically poor(Oshewolo, 2010; Okumadewa, 2010).The causes of the high poverty level are multifaceted but it has been linked to the state of public service delivery (Rasul and Roggery, 2016). The World Bank (2017) ranked Nigeria 33 on the Governance Quality Index (GQI) which is among the lowest in the world. An important indicator of governance quality in Nigeria and anywhere in the world is the public service delivery. Therefore, by implication, the poor ranking on the governance quality index is partially or substantially a reflection of poor public service delivery.

There have been concerted efforts to improve public service delivery in Nigeria. More recent of the initiative to improve the public/civil service delivery is the Servicom. Servicom is an initiative of the Federal Government of Nigeria to address the recommendations of the research report on public service delivery in Nigeria. According to the report, service delivery to Nigerians was very poor in all ramifications (Servicom, 2004) necessitating a paradigm shift

in service delivery through training and effective monitoring.

An important approach/innovation that has been adopted to improve efficiency in governance in many parts of the world is the electronic governance (e-Governance). Electronic governance (e-Governance) refers to the use of the Information and Communication Technology in public management and by extension, public service delivery (Chatfield and Alhujran, 2009). It involves the use of Information Communication Technology (ICT) in conducting government's businesses (Saxena, 2005). According to Awoleye, Oluwaranti, Siyanbola, and Adagunodo (2008), e-Governance include the use of Information Communication Technologies (ICTs) to carry out information exchange with the citizens, businesses and among various government arms including the judiciary, the executive and legislature.

E-governance's use among many countries of the world is premised on its perceived capabilities to facilitate efficient service delivery to the public. The primary benefits of e-Governance include efficiency and its capabilities to reduce corruption through automation. Info Dev and The Center for Democracy and Technology (2002) stated that e-Governance has the potential to reducing income disparities between countries as well as promote tourism among other national benefits (Awoleye 2008).

E-governance is a concept that is multi dimensional. Awoleye (2008) identified some of components of e-Governance as including "e-Administration (Improving Government Processes), e-Citizen (Connecting Citizens), e-Society (Building external Interactions) and e-Applications (Government-to-Citizen or Government-to-Customer (G2C), Government-to-Business (G2B) and Government-to-Government (G2G) and Government-to-Employees (G2E)".The sum total of these e-governance components would ideally shape the public experience of public service delivery in any country including Nigeria.

The e-Administration refers to the conduct of government processes like accounting, budgeting, internal communications, planning and host of other administrative processes electronically. The primary goal of e-Administration is to ensure efficiency in administrative processes. The e-Citizens involves connecting citizens in such a way that the positives of social interactions are optimized. This may involve the creation of e-forum and online communities where citizens can interact and discuss on public matters. A good example of this is online phone-in programme on public debate. The e-Society refers to creating the capabilities for seamless external interactions with various components (institutions) of the society while the e-Application involves creating a paperless application process (Bhatnagar, 2004).

Chatfield & Alhujran (2009), unlike the Awoyele (2008) viewed e-Governance (a term they referred to as e-Government) from the perspective of stages of development of information technology (IT) capabilities. They identified four stages of governance IT capabilities. Owning a functional official website to provide information service on government activities to the general public is labelled as being stage one of the IT capabilities. This stage is viewed in terms of one-way communication in a typical top-down information flow from the government to the general public. E-governance is adjudged to be in the stage two when two-way interactions are enabled. Two-way interactions are conceived in terms of the capability to download forms, fill the form and upload the same to a portal, making of email enquiries, enabling of feedback mechanism like live chat etc. The stage three involves capabilities for secured online payment of taxes, levies, dues, license renewal fees etc. The stage four referred to as e-Democracy stage involves e-voting capabilities as well as electronic consultations and policy making.

The choice of JAMB as the organization that this study focused on is premised on series of reforms that have taken place in the agency particularly in the area of deepened e-Service delivery. The JAMB was established by the Act No. 2 of 1978 and empowered to conduct matriculation examinations into the nation's universities (JAMB, 2017). The scope of operation of the board was expanded through the amendment of the decree No. 2 in 1988 to include conducts of examinations into polytechnics and colleges of education in the country.

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.

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.

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 and similar issues 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.

Objectives of the Study

- To investigate the effect of e-Governance on employee engagement in the Joint Admission and Matriculation Board (JAMB).
- To explore the relationship between e-Governance and customer experience in the Joint Admission and Matriculation Board (JAMB).

Hypotheses

H_{01}: E-Governance has no significant effect on employee engagement in the Joint Admission and Matriculation Board (JAMB).

$H_{02:}$ There is no significant relationship between e-Governance and the customer experience in the Joint Admission and Matriculation Board (JAMB).

Literature Review

The Concept of E-Governance

The extant literature on e-governance shows that there are different meanings and scope of the concept. While some viewed it as being a semblance of e-commerce focused on government customers excluding the e-democracy aspect(Clift, 2003), others construed it as a virtual reality with interface that provides medium for governance in a multidimensional form (Torres, Pina, & Royo, 2005). Many others have different or related meaning for the concept.

Chatfield & Alhujran, (2009) defined e-Governance as the "rapidly emerging global phenomenon of the use of information and communication technology (ICT) as the new way forward in public administration". Naz (2009) defined it as "the application of Information and Communication Technology (ICT) to the government processes to bring Simple, Moral, and Accountable, Responsive, and Transparent (SMART) governance".Basu, (2004) viewed e-governance (e-Government) as; "the use of information technology to free movement of information to overcome the physical bounds of traditional paper and physical based systems' to 'the use of technology to enhance the access to and delivery of government services to benefit citizens, business partners and employees".

According to Sithole & Vander Waldt (2016), E-governance, which also means electronic governance generally, refers to the use of information and communication technology (ICT) in order to provide different government services. It enables the exchange of different kinds of communication besides ensuring effective communication of different kinds of transactions. At the same time, it enables the integration of different stand-alone systems and services between the government and the customers and government and businesses (Karim, 2002).

E-governance refers to the usage of information communication technologies for carrying out different public services (Okafor, Fatile & Ejalonibu, 2014). This mainly refers to the application of the internet so as to make sure that different kinds of services are offered in a manner that is convenient, cost effective and customer oriented. E-governance also refers to the adoption of IT for enhancing working of the government. It is mainly aimed at the achievement of moral, simple, responsive, accountable and transparent governance (Abasilim & Edet, 2015; Okafor, Fatile & Ejalonibu, 2014). According to Karim (2015), E-governance is a major tool, which is being adopted in order to ensure that there is a highly effective and efficient public service delivery.

Terms that are often confused for e-Governance include e-Administration and e-Government. Although many authors have adopted only one of the 'terms' in describing the concept of the use of ICT in governance, distinctions between what the terms represents are often not clear. To forestall the ambiguity surrounding the concept, the UN United Nations Division for Public Economics and Public Administration, American Society for Public Administration publication, May 2002 benchmarked the conflicting concepts of e-Government, e-Administration and E-governance as presented in the Table 1below.

Table1: *concepts of e-Government, e-Administration and E-governance*

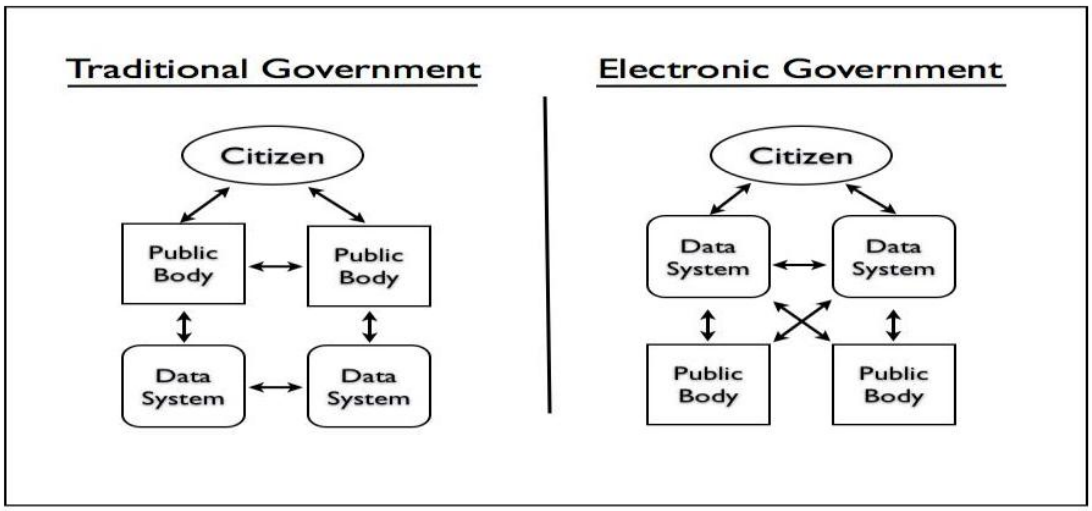
E-government	E-administration	E-governance
Policy coordination and implementation; delivery of services online	Internal and public-sector management component	Facilitation of interactions between citizens, government organizations and elected offices including governing and policy-making process.
Developing citizen-centric programme	Strategic planning in transitioning to electronic delivery of services	How technology (particularly the web) is transforming governing process
Promoting and enhancing citizen participation	Quantifying cost-effectiveness of electronic service delivery	E-federalism: the changing relationship among the levels of government; and E-democracy, enhancing citizen participation online voting, issue of ethic, security and privacy
Perfecting online service delivery through analysis and evaluation, measuring efficiency and benchmarking against other forms of service delivery.	Benchmarking and performance measurement	Legislative and policy-making environment framework; policy initiatives governments are taking: the regulatory framework, implications of initiatives like recognizing the legality of e-signatures, greater citizen participation in policy making environment (e-democracy).
Country indexing (performance measurement benchmarking) portal analysis, website analysis	Human resource management issues like training and recruitment, deployment of staff and maximizing existing resources.	International implications; lowering of borders through information exchanges- impacts and consequences; international standards and best practices; information management and e-government

Source: *United Nations DPEPA, ASPA 'Benchmarking e-government: a global perspective—assessing the UN Member States' United Nations Division for Public Economics and Public Administration, American Society for Public Administration publication, May 2002 at p 54.*Source, In Basu (2004).

A cursory assessment of the comparative assessment of the e-administration, e-government and e-governance shows that e-governance depicts the maturity stage of electronic service delivery of governments and/or its agencies. The e-governance mirrors a true virtual government where key activities of governance are done electronically. It also appears from the comparison that e-government and e-administration are concerned with putting in place the necessaries e-governance while e-governance covers the e-readiness, full e-service delivery as well as continuous improvement on the e-service.

Arifoglu (2004) compared traditional government to electronic government (i.e. e-Government). He observed that in the traditional government, public body stands between citizens and information (data system) but in e-Government, there is direct interaction with the data system by both the public body and the citizen (see Table 2). This type of interaction requires a dynamic system that can facilitate co-generation of data, co-creation of information and co-sharing of information .Efficient co-generation, co-creation and co-sharing capabilities are, at present, embedded in the web 2.0 technology(Mangold &Faulds, 2009; Nath, Iyer and Singh, 2011). It can therefore be inferred that full e-Government, at present, requires the web 2.0 infrastructure.

Table2. *Traditional Versus Electronic Governments*



Source*: Arifoğlu (2004, p.99)*

Al-Omari (2006) identified three important aspects of e-government initiatives. He termed these initiatives as "improving government processes, connecting citizens and building interactions with and within civil society". The improvement in government processes is construed as encompassing; cutting process costs, managing process performance, making strategic connections in government and creating empowerment within the government architecture. This is a preparatory action to prepare the ground for effective e-governance. To this end, Griffin, Trevorrow, & Halpin (2007)warned that e-governance should emphasize improvement in service delivery to the citizens rather than automation. This is because mere automation may still be prone to existing inefficiency in service delivery necessitating a critical assessment of existing infrastructure, framework and processes with a view to removing inefficiency towards e-readiness.

The connection to citizen focuses on the relationship between the government and the citizen. This relationship may be e-democracy (e.g. electronic voting, electronic contributions to policy formulation, electronic plebiscite) or as semblance of e-commerce (customers consuming public services. In short, this is a citizen-centric e-governance focus. The aim is to establish two-way communication between government and/or its frontiers and the citizen. It entails listening to the citizens towards improving public service.

The 'building interactions with and within the civil society' emphasizes the G2G aspect of e-governance. The aim is to achieve seamless integrations among agencies of government, civil society organisations and with other institutions. It encompasses a broader remit like working better with business, developing communities and building partnerships within the country.

Origin of E- Governance

E-governance concept originated at the beginning of 21st century, mostly as a copy of e-commerce into public sector. All intentions were directed towards the presence of the public services on the Internet. In the early years of its development, e-governance follows the evolutionary e-business evolving model, which in particular means that in the early days of e-governance evolvement, primary focus of the e-services was simple appearance of graphic user interfaces with no interactions.

The term is used in a loose manner to describe the legacy of any kind of use of information and communication technology within the public sector. For those who see it as some form of extension of e-commerce to the domain of the government, it represents the use of Internet to deliver information and services by the government (Bhatnagar, 2007). The Department of Economic and Social Affairs of the United Nations defines e-governance as utilizing the internet and the world-wide-web for delivering government information and services to citizens (United Nations, 2008). General definition describes e-governance as the use of information and communication technologies (ICT) to transform government by making it more accessible, effective and accountable.

E-governance refers to the use of information technologies (such as the Internet, the World Wide Web, and mobile computing) by government agencies that can transform their relationship with citizens, businesses, different areas of government, and other governments. These technologies help deliver government services to citizens, improve interactions with businesses and industries, and provide access to information (Moon, 2002). E-governance can be defined as the use of emerging information and communication technologies to facilitate the processes of government and public administration (Drucker, 2001). This definition focuses on the use of ICT to assist in the administration or management of government.

Basu (2004) states that "e-governance refers to the use by government agencies of information technologies that have the ability to transform relations with citizens, businesses and other arms of government". In terms of actually using these technologies following are some ends, better delivery of government services to citizens, improved interactions with businesses and industries, citizen empowerment through access to information, or more efficient government management. Benefits resulting from these activities could be less corruption, increased transparency, greater convenience, revenue growth and cost reductions.

According to Chatfield (2009), e-governance refers to the use of information and communication technologies, particularly the internet, to deliver government information and services. E-governance is understood as the use of ICT to promote more efficient and cost effective government, facilitate more convenient government services, allow greater government access to information, and make government more accountable to the citizens (World Bank, 1992).

The aim of e-governance is to allow the public to initiate a request for a particular government service without going to a government office or having direct contact with a government employee. The service is delivered through government web sites (Brannen, 2001). E-governance comprises of an alignment of ICT infrastructures, institutional reform, business processes and service content towards provision of high-quality and value added services to the citizens and businesses.

The scope of e-governance services extend from posting generally requested information on a website to providing and processing online requests such as electronic payment of taxes or other fees. The main rationale of e-governance initiatives is to put together services focused on citizens needs (Moon, 2002). E-governance involves novel forms of delivering and tailoring information and services, connecting communities and businesses locally and globally and reforming us towards digital democracy. E-governance offers flexible and convenient access to public information and services with the view of providing citizens an improved service (Moon, 2002).

Benefits of E-Governance

The benefits of e-governance on public service delivery are numerous. For instance, it has played a huge role in ensuring that Nigeria is an Information Technology (IT) capable nation in Africa besides being one of the major players in information society. At the same time, it has ensured the use of IT for educational purposes besides resulting into the creation of wealth for different people in Nigeria. Besides, it has contributed to the eradication of poverty in Nigeria. The other notable benefits include the creation of different job opportunities for the people in Nigeria, enhancing the level of governance, health as well as agriculture (Fatile, 2012).

Goals of E-Governance

The goals of e-Governance vary considerably among governments worldwide. Rightfully, the goals of e-governance are determined locally based on the political leadership of each government. The aim is to reorient governments to treat citizens as customers of government services and improve the day-to-day management of financial and budgetary systems. Governments are embracing other such various forms of e-Governance that: add channels of interaction among governments, businesses and citizens; improve the ability for government institutions to communicate, collaborate and otherwise work more efficiently and effectively with each other; streamline acquisition and procurement processes; reduce opportunities for corruption; and, increase the ability to capture revenue. Many of these e-Governance programs are structural elements of economic development and public sector reforms to address human development issues in developing countries (Schware and Deane 2003).

It is now growing more common for governments to use websites to enable visitors to go online to get government information, file and pay taxes, register automobiles, access vital records, communicate with government officials, and participate in decision-making. Through e-governance, governments are expected to improve performance and outcomes. Governments expect to achieve such gains as:

- Online data collection to reduce data entry costs and automate error checking;
- Reduce the communication costs with citizens;
- Greater sharing of data within government and between governments and other such stakeholders as NGO's, international agencies, and private sector firms;
- Reduce government publication and distribution costs through online publication (OECD, 2003).

Components of E-Governance

There are various components of e-governance based on the use of ICT to facilitate relationships between government and other key stakeholders. These types of relationships are with citizens (G2C – Government-to-Citizen), business (G2B – Government-to-Business), other governments (G2G – Government-to-Government), and employees (G2E – Government-to-Employees).

Government-to-Citizen E-Governance

Government-to-Citizen e-governance focuses on making information accessible to citizens online. This is referred to as a citizen-centric e-Governance when governments take further steps to provide online services organized around citizen needs

Government-to-Business

Government-to-Business e-governance focuses on strategies using ICTs to facilitate government interactions with the private sector to procure goods and services and to coordinate transactions from private companies. One approach is known as electronic procurement (e-procurement). Because of the large number of purchases that governments make from the private sector, there is a need to develop faster and more cost-effective routines to handle the typical procedures for procurement.

Government-to-Employee

Government-to-Employee e-governance focuses on relationships within government among employees to coordinate internal operations and improve the internal efficiency of business processes.

Government-to-Government

Government-to-Government focuses on providing services to governments through intergovernmental relations. This includes activities to coordinate stakeholders from the national, state/provincial, and local government as in the case of humanitarian or crisis response.

Stages in E-governance

E-government does not just occur or become materialized all of a sudden. It evolves over time

through a number of stages. There is divergence in the literature on these stages with many authors having different nomenclatures for the stages or having unequal number of stages. For instance, Howard identified three stages of e-governance. The stages include (i) publish, (ii) interact and (iii) transact. Howard (2001) described the 'publish stage' as the stage involving one-way communication of government activities and dissemination of government information through an online platform. The interact stage enables citizens to have simple interactions with the government electronically through applications like email and chat. The transaction stage is deemed a stage where the government's online presence has the capabilities for transactions like e-purchasing, e-payment among other e-commerce capabilities.

Chandler and Emmanuel (2002) decomposed e-governance development into four stages including (i) information, (ii) interaction, (iii) transaction and (iv) integration. The information stage of Chandler and Emmanuel align with the publish stage of the Howard (2002). The two studies viewed stage one as a one-way information dissemination to members of the public through an online platform usually a static website(s). The interaction stage, according to Chandler and Emmanuel also align with the stage two (interact) of the Howard. At the 'interaction' stage, simple interactions between the government or its agencies and the public exists. The Chandler and Emmanuel's third stage (i.e. transaction) has the same description like that of Howard (transact). They both signify a capability for two-way interactions between government and citizens online as well as e-commerce capabilities. Chandler and Emmanuel, however, has the fourth stage dubbed; 'integration'. The integration stage captures the integration or seamless interactions among government agencies and parastatals and among government, the private organisations and the general public.

Layne and Lee (2001) divided the stages of e-governance development into four stages including (i) cataloguing, (ii) transaction, (iii) vertical integration and (iv) horizontal integration. The stage one and two of Layne and Lee are semblances of the stage one and two discussed in Howard (2001) and Chandler & Emmanuel (2002). The stage three(vertical integration)equates with the Chandler and Emmanuel (2002)'s integration stage (stage IV) which captures integrations among government agencies and with private organisations. The interactions, however, is at the lower momentum. The horizontal integration (stage IV) captures the integration of e-services and e-activities of the government agencies and other relevant stakeholders at a higher interaction level or momentum.

The foregoing shows that the stages of e-governance revolves around having a one-way online communication media through which government information is disseminated to the members of the public, the two-way interaction with increased level of activities and fully integrated systems that creates a semblance of virtual government. Notwithstanding, there are obvious divergence from this simple summary. To narrow down the convergences in conceptualization of stages of e-governance or e-government, the United Nations Division for Public Economics and Public Administration, American Society for Public Administration (UN DPEPA, 2002) attempted to harmonise the stages in the development of e-government across the world. The harmonisation attempt resulted in five stages (adopted in this study) including emergence presence, enhanced presence, interactive presence, transactional presence and networked (or highly integrated) presence. Theses stages are briefly explained below:

Public Service Delivery

Public service describes the direct and indirect services provided by government to its nationals or residents within a country. Government provides public service directly by engaging in production, distribution or service and indirectly by financing services rendered to the citizenry by third parties. Governments control the resources of the people and are duty-bound to render services that benefit the people albeit in varying degrees. The extent of involvement of government in service delivery to the masses often corresponds to the economic system in use. While the private sector dominates service delivery in a capitalist economic system, the government is the dominant figure in a socialist economy. For a mixed economy like Nigeria, both the private sector and government provide services substantially to the general public. In Nigeria, government constitutes the major service provider through the Public Service. The Public Service refers to all organisations

that exist as part of government machinery for delivering services that are of value to the citizens.

According to Oronsaye (2010), public service delivery can be seen as "the process of meeting the needs of citizens through prompt and efficient procedures." This implies that the interaction between government and citizens are such that the needs of the citizens are met in a timely manner, thereby making the citizens key in public service delivery. The implication here is that as the private sector considers its customer as 'king', thereby ensuring quality service delivery, the public should be regarded as 'master' and the beneficiary of enhanced performance of the public service (Aladegbola & Jaiyeola, 2016). Acceptable service delivery can be seen as one of the core responsibilities for the establishment of public organisations. It is identified as "one of the key functions of the public sector." (Mitel, 2007). Okafor, Fatile & Ejalonibu (2014) see public service delivery as "the result of the intentions, decision of government and government institutions, and the actions undertaken and decision made by people employed in government institutions." They posit that it is "the provision of public goods or social (education, health), economic (grants) or infrastructural (water, electricity) services to those who need (or demand) them".

Supporting the arguments above, Ohemeng (2010) views public service delivery from the light of its key features as "doing more with less, empowering citizens, enhancing transparency and holding public servants accountable." Corroborating this further, Coopers (2014) itemises seven core objectives for public service delivery namely:

- **Speed:** The time taken to deliver a service should be the shortest possible for both the customer and the organization delivering the service, right first time.
- **Engagement**: The manner in which services are delivered should be seen as customer centric (i.e. participatory and trustworthy with the customer's needs at the core).
- **Responsiveness**: There should be an 'intelligent' mechanism in place to address any variation in meeting service levels and to drive changes in the service delivery organization.
- **Value**: The customer needs to believe that the service delivery mechanism is cost effective, and value is driven by customer outcomes, not organizational processes.
- **Integration**: The service delivery mechanism should be integrated. There should be no 'wrong door' policy for the customer.
- **Choice**: There should be multiple channels for service delivery, so that customers can have 'channels of choice', depending on specific needs at specific times.
- **Experience**: Personalization of service is necessary to ensure that customers' experiences are on a par with what they are used to receiving from the private sector. Arising from the above, it can be concluded that there is a relationship between e-governance adoption and enhanced public service delivery in a country.

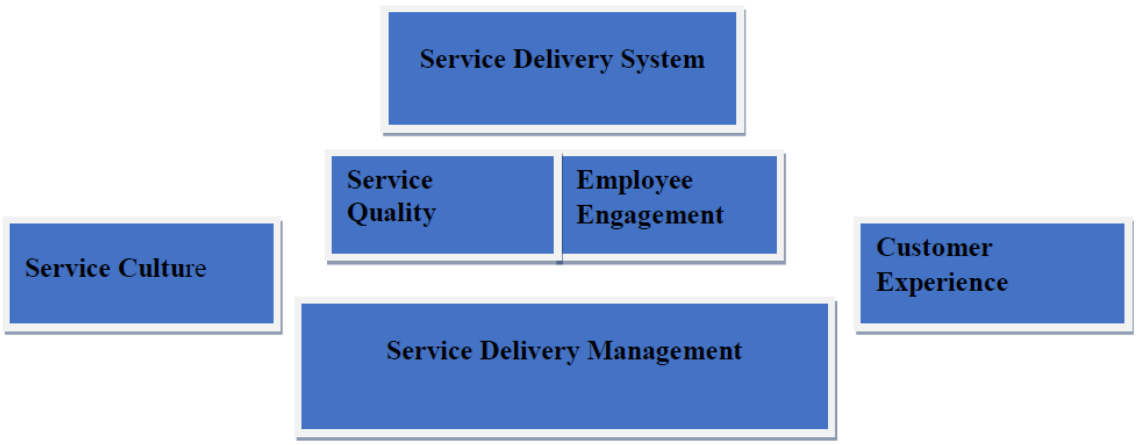
Joseph et al (1999) identifies six quality service delivery factors –convenience/accuracy; feedback/complaint; management; efficiency; queue management; accessibility; and customization. Equally important is security and privacy, and website design and ease of use.

According to ISS (2015), there are four main elements for effective and efficient service delivery which include service culture, quality of service, employee engagement and customer experience. This study will assess JAMB position as regards e-Governance from these four components of service delivery.

Service Culture

Service culture is considered to be a value creation mode for the company as well as the customer (Ostrom, 2010). Although the significance of service culture is known, there is a lack of understanding of current conceptual models referring to diverse service perspectives (Davis, 2013). This demonstrates the need to construct and cultivate service value and move from product based to service dominant logic (Brodie, 2009 as cited in Davis, 2010). Ostrom (2010) argue that service culture is a basic mode for creating value for service organizations as well as their customers. At present there is a lack of proof to draw the attention of the supplier to the need for service practice and culture.

Table3: *Key Elements/Components of Service Delivery*



Source: *Adapted from ISS (2015)*

This led to the discussion by Edvardsson and Enquist (2006), who state that changes in "the service process must be understood and accepted by both employees and the users/customers" (Davis, 2010).This should result in ongoing training for customers and employees (Edvardsson and Enquist, 2006 as cited in Davis, 2010), which would help them to understand and carry out the innovative concept of service.

Along with the training, as pointed out by Lytle and Timmerman (2006), rewards should be provided for service-giving behaviors and for creating and delivering service excellence. "This also helps customers to be service co-creators" (Lusch, Vargo and O'Brien,2007 as cited in Davis, 2010,), encouraging service transformation by adapting new ways of service or innovating for fostering a positive service climate (Liao and Chuang, 2007). It would also help to build a strong association with the clientele leading to improved quality and service climate, which would be enhanced through service orientation (Gronroos, 2006). Service orientation predetermines the handling of a service encounter (employee-customer interaction). Patricio, (2011) also mention that a service system is comprised of technology, people and other resources in different phases of service helps to co-create value.

Antonacopoulou and Kandampully (2000) argue that as the revolution of culture change begins, suppliers focus their attention on outside demand and try to relate it to their in-house requirements.

Even Edvardsson and Enquist (2006) point out that during big transactions firms need to concentrate on transforming their principle mission of serving their main clients and their in-house culture can fulfill the rest of the requirements. Also the authors emphasize that, although "external pressure is important for continuous quality improvement" it may lead to a fear of change which can prevent service culture transformation, (Davis, 2010).

Kupers (1998) as cited in Davis (2010) notes that such disturbing sentiments will disturb the appearance of the service and also the service sharing relations between the client and the firm. This could lead to a drastic change being imposed on a firm's capability to build and sustain a service culture through the progress of employees, their service frame of mind and inculcating knowledge and a service focus during the transformation of the firm (Ostrom, 2010).

Davis and Gautam (2011) in their study have focused on service culture as an interconnected progression shaping the recruiting, training and rewarding of human resources activities. They have also represented service culture as a service framework for a product-service based organization. In addition their study has shown that through employee and customer knowledge an organization gets developed.

In their study Ostrom (2010) have indicated that to develop and maintain a service culture, it should be based on the four key principles):

- Recruiting, training and rewarding.
- Developing a service mindset in product focused organizations.
- Creating a learning service organization by harnessing employee and customer knowledge.

- Keeping a service focus as the organization grows and evolves.

Once a superior service delivery system and a realistic service concept have been established, there is no other component so fundamental to the long-term success of a service organization as its culture (ISS, 2015).

ELIGIBILITY FOR JAMB EXAMINATION

Those eligible to sit for the UTME are holders of the following qualifications or their equivalents:

- the West African School Certificate (WASC)
- the Senior Secondary School Certificate (SSCE)
- the National Technical Certificate or the National Business Certificate (NTC/NBC)
- Teachers' Grade II Certificate. Candidates who have sat or are scheduled to sit for examinations in any of these qualifications in the year of application may also sit for the UTME

Joint Admissions and Matriculation Board

Acronym	JAMB
Type	Computer-Based Test
Knowledge/skills tested	Academic performance in selected subjects.
Purpose	Admission into tertiary institution.
Year started	1978
Duration	2 hours.
Score / grade range	0 to 400
Score / grade validity	1 year
Offered	Once in a year
Countries / regions	Nigeria
Languages	English
Annual number of test takers	More than one million
Scores / grades used by	Over 500 universities, agencies and other institutions in Nigeria.
Website	www.jamb.org.ng

METHODOLOGY

The Research Design adopted in the study is descriptive survey typology. In the survey, the Researcher does not have the control of the independent variables because they have already occurred [stone, 2006]. If it is possible for the Researcher to have experimental and control groups, the appropriate Research Design would have been an experiment and not a survey [Podsakoff and Dalton, 1987]. In the oral interview, the research questions are asked as open-ended questions.

Method of Data Collection

Questionnaire, face to face interview, observation and focus group discussion were the main tools used in data collection.

Population of Study

The population of study is the entire JAMB employees, including the individuals in charge of the JAMB ICT resources in the five South-Eastern states of Nigeria with a total number of 110 staff. The staff strength distribution is represented below:

- Abia State office: 17
- Anambra State office: 18
- Ebonyi State office: 15
- Enugu Zonal office: 30
- Imo Zonal office: 30

TOTAL: 110

Determination of Sample Size

Since the total work force of all the JAMB employees in the five South- Eastern states of Nigeria is 110, the entire population was studied.

This section aims at proving information on the technique and procedure for the collection and analysis of the data used in this study. Also it will highlight the type of data used in the research and their sources.

The section further provides useful insight on how the sample size was selected, where the researcher used as the study area and those that make up the simple size.

East, Nigeria. It also presents analyses and interprets the data obtained through the administration of questionnaire to all staff of the Joint Admission and Matriculation Board (JAMB) in the south- East, Nigeria.

The researcher distributed a total of one hundred (100) questionnaires of thirty five (35) items each to all staff of the Joint Admission and Matriculation Board (JAMB) in the south- East, Nigeria. 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 twenty (20) were not returned out of the total distributed. Leaving a total of ninety (90) usable questionnaires, yielding a response rate of 90percent. The researcher proceeded with the analysis of the data as 90percent response rate is regarded as very satisfactory for this study. According to Babbie and Mouton (2001), some rules of thumb about the return/response rate is that a response rate of 50percent is adequate for analysis and reporting, 60percent is good while 70percent is very good.

Data Analysis

Respondents Characteristics' and Classification

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. The data are presented in percentage, frequency tables, pie charts, bar charts, mean andStd. Deviation values while the hypotheses were analyzed using Pearson moment correlation.

Table4.1 *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

Source: *Field Survey, 2017*

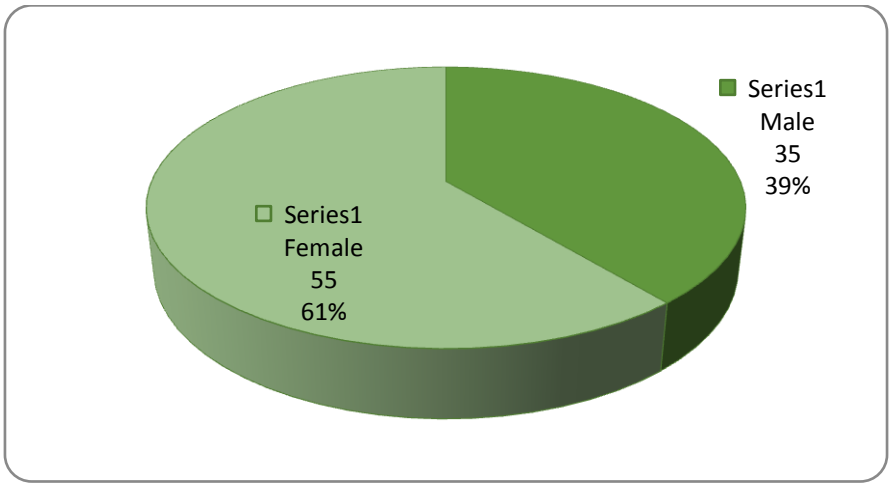


Figure1. *Pie chart of distribution of respondents based on gender*

Table 1 and figure 1above 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.

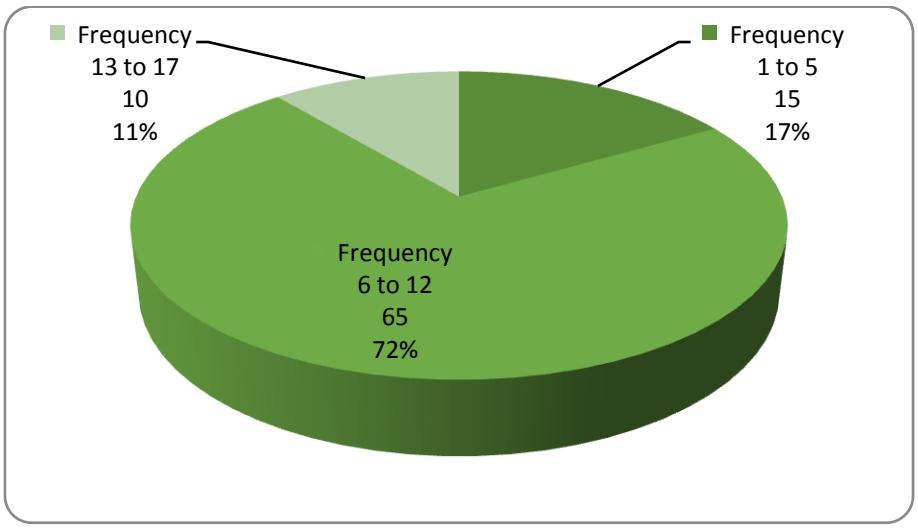


Figure2. *Pie chart of distribution of respondents based on designation*

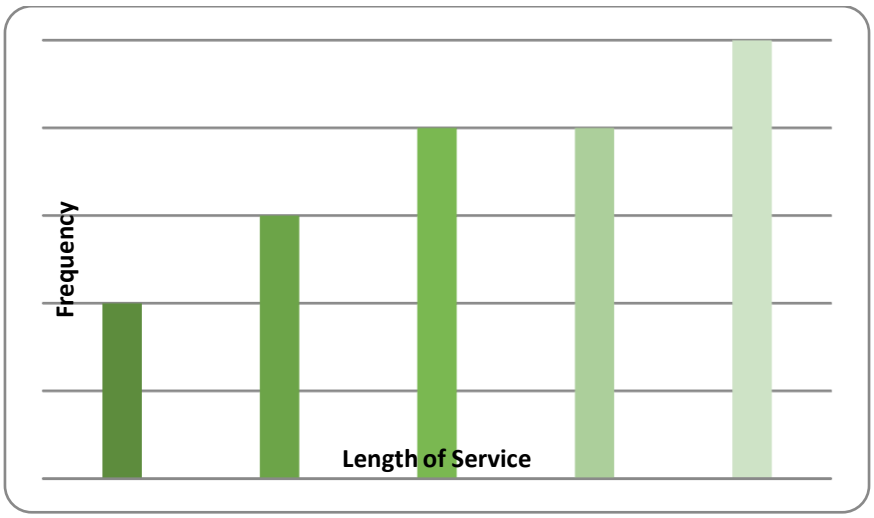


Figure3. *Bar chart of distribution of respondents based on length of service*

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 figure .2 above shows that 17percent 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.

Table.1 and figure .3 above shows that 11.1percent of the of the respondents have served in the organization for 5 years and below; 16.7perccent have served for 6 – 10 years; 22.2percent have served for 11-15 years; 22.2percent have served for 16 – 20 years; while 27.8percent have served for 21 years and above.

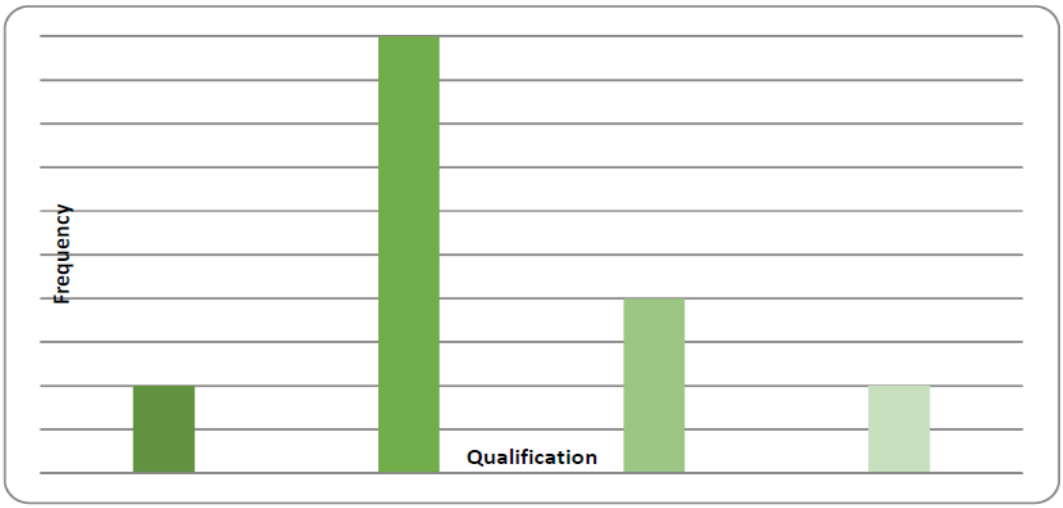


Figure4. *Bar chart of distribution of respondents based on Qualification*

Table 1 and figure .4 above, 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 11.1percent of the respondents had WASC/SSCE/NECO certificates.

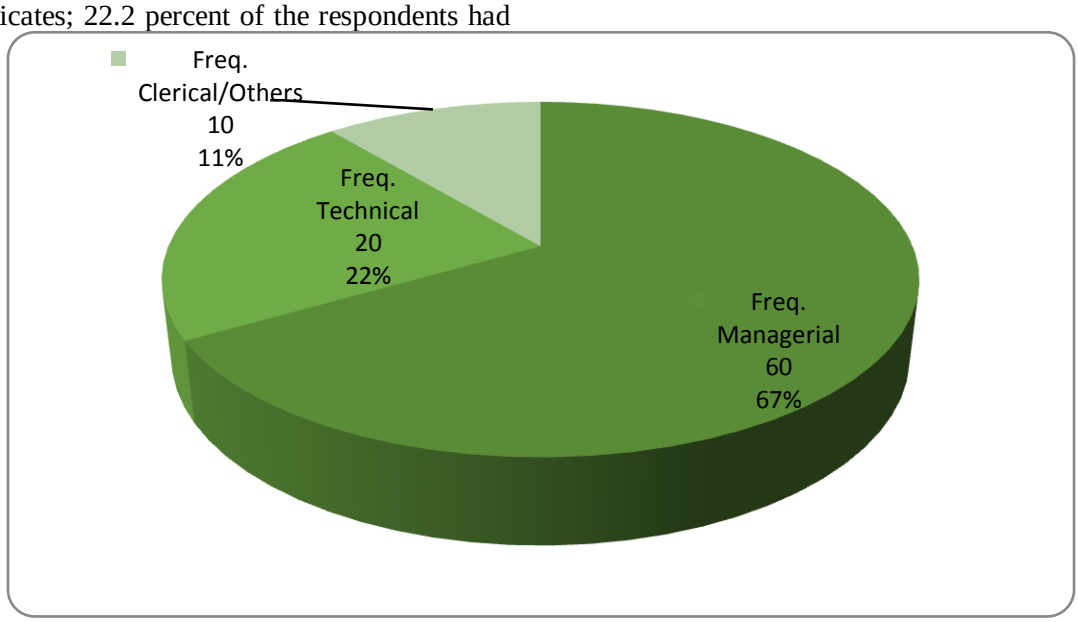


Figure5. *Pie chart of distribution of respondents based on Job Status*

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 1 and figure 5 indicates that 67percent were within the managerial/admin categories, 22percent were technical officers; while 11percent belonged to clerical and other categories.

Presentation, Analysis of Data and Discussion of Research Objectives

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 30questions, from question 6 to question 35 as analysed in Table 4

Table4.2 *Item Statistics*

Item Number	Item	Mean	Std. Deviation	N	Remark
6	Use of interactive website to pass and receive information	4.0111	.38202	90	Agree
7	Investment in internet backbone and ICT infrastructure development	3.7556	.70808	90	Agree
8	Use of information technologies (Wide Area Networks, the Internet, and mobile computing, etc.) in offices	3.5889	.88552	90	Agree
9	Availability of knowledgeable, skilled and ICT compliant staff	3.9333	.66704	90	Agree
10	Availability of appropriate software for internet connectivity and E-infrastructure	3.7667	.82175	90	Agree
11	Existence of appropriate ICT legal and government support	3.8222	.64613	90	Agree
12	Operational use of ICT in the internal processes and activities (memos/mail distribution, employee salaries and emoluments, staff training, etc.	3.9000	.65429	90	Agree
13	I conduct my affairs in a manner capable of engendering public trust.	3.9889	.78604	90	Agree
14	Corrupt practices and abuse of administrative processes have reduced in the service of JAMB.	4.0444	.88573	90	Agree
15	Am consistent at my duty post until close of work.	3.5000	1.07317	90	Agree
16	Workers exhibit courtesy in delivering services.	4.0889	.51154	90	Agree
17	I report to work on time.	3.3889	1.06733	90	Agree
18	I see a career path in my present job.	3.3333	1.00560	90	Agree
19	I am dedicated to work and emphasize services quality.	3.5000	1.07317	90	Agree
20	JAMB applications facilities are convenient for customers use.	4.0778	.56544	90	Agree
21	My approaches in attending to the public suggest that am inclined towards offering people-oriented service.	3.3333	1.00560	90	Agree
22	My work orders are completed on time.	3.9111	.64728	90	Agree
23	Services are performed according to specifications.	3.7667	.94868	90	Agree
24	I find personal meaning and fulfillment in my work.	4.0556	.70887	90	Agree
25	I am willing to work extra hours to complete a task.	3.6667	1.11174	90	Agree
26	It is difficult to detach myself from my work.	2.3556	1.18332	90	Disagree
27	I will stay with JAMB even if I am offered a comparable position with greater pay and benefits elsewhere.	2.3556	1.18332	90	Disagree
28	My job inspires me to put in my best at work.	3.8889	.56973	90	Agree
29	I am enthusiastic about achieving my personal best at attending to visitors and users of JAMB services.	3.8889	.77088	90	Agree
30	JAMB offers services that can be tailored to my specific needs.	3.8778	.95785	90	Agree
31	I have availability of services round the clock at JAMB.	3.7111	1.04122	90	Agree
Item Number	Item	Mean	Std. Deviation	N	Remark
32	I have ease of getting issues/complaints resolved.	3.5667	1.02825	90	Agree
33	JAMB staffs have positive attitude and are knowledgeable in their job.	3.7778	1.03617	90	Agree
34	Customer and corporate objectives can be integrated to achieve better service delivery.	3.9889	.78604	90	Agree
35	JAMB is an organization that puts the consumer first.	3.7444	.91873	90	Agree

Source: *Field Survey, 2017*

Item statistics can be referred to as item-by-item analysis. The mean less than 3.0 implies disagree and mean greater than 3.0 implies agree.

As shown in the above table, the respondents agree with all the items except items 26 and 27.

Table4.2a *Summary Item Statistics*

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.686	2.356	4.089	1.733	1.736	.178	30

Item Variances	.774	.146	1.400	1.254	9.595	.125	30

Measure of E- Governance in JAMB

E-governance

E-governancemeasure was measured with 7 questions items relating to E-governance (items number 6, 7, 8, 9, 10, 11and 12) were included in the questionnaire with a 5 point Likert scale of Disagree (1), Strongly Disagree (2), Not Sure (3), Agree (4), and Strongly Agree (5). The average scale of the responses of the respondents represents the rating of E-governance which was used to assess the level of E-governance

From the table 4.2 above, question 6 on use of interactive website to pass and receive information by JAMB, the weighted mean value is **4.0111**, showing that the respondents agreed that JAMB has an interactive website which it uses to pass and receive information.

From the table 4.2 above, question 7 on investment in internet backbone and ICT infrastructure development, the weighted mean valve is **3.7556**, showing that the respondents agreed that JAMB had invested to acquire internet backbone and ICT infrastructure development does have other means of sharing information with other government agencies electronically.

From the table 4.2 above, question 8 on the use of information technologies (Wide Area Networks, the Internet, and mobile computing, etc.) in offices, the weighted mean value is **3.5889**, showing that the respondent agreed that information technologies (Wide Area Networks, the Internet, and mobile computing, etc.) were being used in JAMB offices.

From the table 4.2 above, question 9 on availability of knowledgeable, skilled and ICT compliant staff, the weighted mean valve is **3.9333**, showing that the respondents confirms the availability of knowledgeable, skilled and ICT compliant staff in JAMB..

From the table 4.2 above, question 10 on whether availability of appropriate software for internet connectivity and E-infrastructure, the weighted mean value is **3.7667,** showing that the respondents agreed that there is appropriate software for internet connectivity and E-infrastructure in JAMB.

From the table 4.2 above, question 11 on whether there exists appropriate ICT legal and government support, the weighted mean value is **3.8222**, showing that the respondents agreed that there exists appropriate ICT legal and government support in the use and development of ICT in JAMB.

From the table 4.2 above, question 12 on whether there exists an operational use of ICT in the internal processes and activities of JAMB, the weighted mean valve is **3.9000**, showing that the respondents agreed that there exists an operational use of ICT in the internal processes and activities of JAMB like memos/mail, distribution, employee salaries and emoluments, staff training, etc.

Measure of Service Culture in JAMB

Service Culture

To measure service culture 6 questions items relating to service culture, (items numbers 13, 14, 15, 16, 17 and 18) were drafted in the questionnaire with a 5 point Likert scale of Disagree (1), Strongly Disagree (2), Not Sure (3), Agree (4), and Strongly Agree (5). The average scale of the responses of the respondents represents the rating of service culture which was used to assess the level of service culture.

From the table 4.2 above, question 13 on whether my conduct is capable of engendering public trust, the weighted mean value is **3.9889**, showing that the respondents agreed that they conduct their affairs in a manner capable of engendering public trust.

From the table 4.2 above, question 14 on whether corrupt practices and abuse of administrative processes have reduced, the weighted mean value is **4.0444**, showing that the respondents agreed that corrupt practices and abuse of administrative processes have reduced in the services of JAMB.

From the table 4.2 above, question 15 on whether am consistent at duty post till closing hour, the weighted mean value is **3.5000**, showing that the respondents agreed that they are consistent at their duty post till the close of work.

From the table 4.2 above, question 16 on whether JAMB workers exhibit courtesy in delivering services, the weighted mean value is **4.0889**, showing that the respondents agreed

that workers exhibit courtesy in delivering services.

From the table 4.2 above, question 17 on whether JAMB workers report to work on time, the weighted mean value is **3.3889**, showing that the respondents agreed that they report to work on time.

From the table 4.2 above, question 18 on whether I see career path in my job, the weighted mean value is **3.3333**, showing that the respondents agreed that they see career path in their job.

TEST OF HYPOTHESES

Hypothesis I

Ho: E-governance has no significant effect on the service culture in the Joint Admission and Matriculation Board (JAMB)

Ha: E-governance has significant effect on the service culture in the Joint Admission and Matriculation Board (JAMB)

For the hypothesis, items 6 to 11 were used to measure E-governance and items 13 to 18 were used to measure service culture.

Table 4.3.1 *Available data generated from weighted mean*

S/N	E-governance	Service Culture
1	4.0111	3.9889
2	3.7556	4.0444
3	3.5889	3.5000
4	3.9333	4.0889
5	3.7667	3.3889
6	3.8222	3.3333

Output ***(source:*** *Table 4.2 above)*

Table 4.3.2. *Regression Estimates (Effect of E-governance on service culture).*

Model	Coefficient Estimates	T-Value	Significance
(CONSTANT)	3.947	5.626	.000
Use of interactive website to pass and receive information	.004	.050	.960
Investment in internet backbone and ICT infrastructure development	.533	4.139	.000
Use of information technologies (Wide Area Networks, the Internet, and mobile computing, etc.) in offices	.361	1.722	.088
Availability of knowledgeable, skilled and ICT compliant staff	.258	2.190	.031
Availability of appropriate software for internet connectivity and E-infrastructure	.775	4.358	.000
Appropriate ICT legal and government support	.834	10.463	.000
Operational use of ICT in the internal processes and activities (memos/mail distribution, employee salaries and emoluments, staff training, etc	1.191	11.353	.000
R^2	0.872		
Adj R^2	0.863		
F	99.058 (Sig. @ 0.000)		

Dependent Variable: *Service culture*

The estimate of R^2 suggests that all the E-governance variables in the model collectively accounted for over 99% of the variations in service culture. The F ratio value of 99.058 was significant at less than 0.000 levels. Five out of the seven E-governance indicators had positive signs and significant relationship with service culture.

Decision

The F ratio as seen above (41.973) is significant at 0.000 levels. The null hypothesis is therefore rejected and the alternate, which states that E-governance has significant effect on service culture in the Joint Admissions and Matriculation Board (JAMB) is accepted.

Hypothesis I

Ho: E-governance has no significant effect on employee engagement in the Joint Admission and Matriculation Board (JAMB).

Ha: E-governance has significant effect on employee engagement in the Joint Admission and Matriculation Board (JAMB). Items 6 to 11 were used to measure E-governance and items 24 to 29 were used to measure Employee Engagement.

Table5. *Available Data generated from weighted mean*

S/N	E-governance	Employee Engagement
1	4.0111	4.0556
2	3.7556	3.6667
3	3.5889	2.3556
4	3.9333	2.3556
5	3.7667	3.8889
6	3.8222	3.8889

*Output (***source:** *Table 4.2 above)*

Table6. *Regression Estimates (Effect of E-governance on employee engagement).*

Model	Coefficient Estimates	T-Value	Significance
(CONSTANT)	3.047	1.832	.070
Use of interactive website to pass and receive information	.220	1.054	.294
Investment in internet backbone and ICT infrastructure development	.051	.166	.868
Use of information technologies (Wide Area Networks, the Internet, and mobile computing, etc.) in offices	.314	.632	.529
Availability of knowledgeable, skilled and ICT compliant staff	.261	.934	.352
Availability of appropriate software for internet connectivity and E-infrastructure	1.774	4.208	.000
Appropriate ICT legal and government support	.792	4.190	.000
Operational use of ICT in the internal processes and activities (memos/mail distribution, employee salaries and emoluments, staff training, etc	.961	3.863	.000
R^2	0.544		
Adj R^2	0.512		
F	17.366 (Sig. @ 0.000)		

Dependent Variable: *Employee engagement*

The estimate of R^2 suggests that all the E-governance variables in the model collectively accounted for over 54% of the variations in employee engagement. The F ratio value of 17.666 was significant at 0.000 levels. Three out of the seven E-governance indicators had positive signs and significant relationship with employee engagement.

Decision

The F ratio as seen above (17.366) is significant at 0.000 levels. The null hypothesis is therefore rejected and the alternate, which states that E-governance has significant effect on employee engagement in the Joint Admission and Matriculation Board (JAMB) is accepted

Hypothesis II

Ho: There is no significant relationship between E-governance and the customer experience in the Joint Admission and Matriculation Board (JAMB).

Ha: There is significant relationship between E-governance and the customer experience in the Joint Admission and Matriculation Board (JAMB).

Items 6 to 11 were used to measure E-governance and items 30 to 35 were used to measure customers' experience.

The correlation value of 0.569 can be interpreted as strong positive. Then, there exists

strong positive relationship between the variables. The P-value of 0.039 shows the existence of enough evidence to reject the null hypothesis and conclude that e-Governance has significant relationship with customers' experience.

Table7. *Available data generated from weighted mean*

S/N	E-governance	Customers' Experience
1	4.0111	3.8778
2	3.7556	3.7111
3	3.5889	3.5667
4	3.9333	3.7778
5	3.7667	3.9889
6	3.8222	3.7444

Output **(source**: *Table 4.2 above*)

Correlations

Table8.*Correlations:Relationship between Egovernance and Customers' Experience*

		EG	CE
EG	Pearson Correlation	1	.569
	Sig. (2-tailed)		.039
	N	6	6
CE	Pearson Correlation	.569	1
	Sig. (2-tailed)	.039	
	N	6	6

Source: *Field Survey, 2017*

Summary of Findings

- That E-governance indicators have significant effect on service culture in JAMB. This result invalidated the first null hypothesis of the study which states that E-governance has no significant effect on service culture in JAMB. The F ratio of 99.058 from the regression analysis was found to be significant at 0.000 levels. Therefore, the null hypothesis was rejected; thereby leading to the conclusion that e-Governance has significant relationship with employee engagement in Joint Admissions and Matriculation Board (JAMB).
- That there is a significant relationship between E-governance and service quality in JAMB. This finding invalidated the second null hypothesis which states that there is no significant relationship between E-governance and service quality in JAMB. The correlation value of 0.717 can be interpreted as strong positive. Then, there exists strong positive relationship between the variables. The P-value of 0.026 shows the existence of enough evidence to reject the null hypothesis and conclude that e-Governance has significant relationship with the service quality delivered by joint Admission and Matriculation Board.
- That E-governance indicators have significant effect on employee engagement in JAMB. This result invalidated the third null hypothesis of the study which states that E-governance has no significant effect on employee engagement in JAMB. The F ratio of 17.366 from the regression analysis was found to be significant at 0.000 levels. Therefore, the null hypothesis was rejected and we concluded that e-Governance has significant relationship with the employee engagement.
- That there is a significant relationship between E-governance and customer experience in JAMB. It also invalidates the fourth null hypothesis of the study which states that there is no significant relationship between E-governance and customer experience in JAMB. The correlation value of 0.569 can be interpreted as strong positive. Then, there exists strong positive relationship between the variables. The P-value of 0.039 shows the existence of enough evidence to reject the null hypothesis and conclude that e-Governance has significant relationship with customers' experience.

Recommendations

- The importance of e-governance in the achievement of positive service culture cannot be over emphasized. Therefore, public sector agencies should as a matter of policy, develop a positive service culture andset up e-governance implementation committees who will work out modalities for effective implementation of the concept, with performance evaluation units, establish to evaluate the successes and failures in its targets as well as feedback mechanism to report implementation effectiveness. The Federal Government of Nigeria should establish Ministry of ICT Affairs to set up ICT implementation framework evaluation units in each of the Ministries and Parastatals, with the Permanent Secretaries as the head. The ICT Ministry will liaise with the implementation committees at various ministries including state ministries to evaluate performance as well as feedback to help in its effectiveness. The government should also enact ICT laws that will make computer literacy a compulsory aspect for every public or civil servant both at the local, state and federal levels. The policy should also include creation of ICT awareness with computer literacy programmes among public servants. With the above done, the challenges will be reduced to a mere insignificant level as well as putting the country into the world map of e-governance high ranking list. The implementation of e-governance should be a must to all public service institutions as well.
- JAMB in particular and public sector organizations in general should avail themselves the windows of opportunities that e-governance provides in their drive to enhance service quality by showing a high level of e-readiness in their operations. All that is needed must be put in place by the government, especially that which is within their capacity. For instance, ensure that all office is equipped with functional computers, employ highly skilled personnel in ICT, provision of continuous training of the personnel to keep them informed on how best to utilize e-governance in engendering effective service delivery among others.
- Also, for improved service delivery in Nigeria's public service in general and JAMB in particular, the government must provide the necessary infrastructure that will aid the successful implementation of e-governance in Nigeria's public service. For instance, robust broadband services, required internet network and the availability of power supply, which has been identified as one of the major challenges to e-governance implementation in the public service has to be taken care of. This means that the success of e-governance implementation in the public service is tied to the availability of power supply and in this case electricity. Government offices must also be internet connected with trained and qualified staff. Another factor to be considered is the Human element. This is important because no technology can drive itself, it is the human element that will drive the technology so their willingness is critical to whether e-governance implementation in Nigeria's public service will succeed or not, and this is because they have the capacity to truncate whatever innovation and benefits e-governance promises to bring to bear. So on this note, government needs to carefully address the issue of human factor which often manifest in resistance to change, nonchalant attitudes and the likes which is responsible for underutilization of most of the ICT facilities put in place by government especially in offices or departments that tends to embrace e-governance in their operations, thereby sabotaging the good effort of the government.
- Based on the findings and conclusions, we recommend that a reliable and strategic framework for e-governance operation is necessary. Government's Ministries, Departments and Agencies should set up e-governance implementation committees that will work out modalities for effective implementation, alongside the performance evaluation units established to assess the successes and failures in its targets as well as feedback mechanism to report implementation effectiveness. Additionally, there is the need for the government to come up with a regulatory policy, especially on the framework through legislation of e-governance and other ICT-related issues as it pertains to the operations strategies among the tiers of government. By so doing, the public service will be aware on the areas that need to be worked on, in order to

actualize effective implementation of e-governance in Nigeria's public service in general and JAMB in particular.

- The Nigeria government shouldalso enact Information and Communication Technology (ICT) laws that will make computer literacy a compulsory aspect for every public or civil servant both at the local, state and federal levels. Such policies should also involve the adoption of effective ICT awareness with computer-related literacy training programmes introduced in our primary, secondary and tertiary institutions. With this implemented, the challenges will be reduced as well as putting the country into the world map of ICT/e-governance high ranking list.

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APPENDIX VI

Department of Public Administration

Nnamdi Ázikiwe University, Awka

Anambra State of Nigeria

02/08/2017.

The State Coordinator

JAMB State Office,

Ubakala, Ubakala Junction,

Port harcourt- Enugu express way,

Umuahia,

Abia State.

Dear Sir,

Application to Obtain Necessary Informations for Research Purposes

I am a Ph.D student in the Department of Public Administration, Nnamdi Azikiwe University, Awka.

I am carrying out a research on E –Governance and Public Service Delivery: A study of the Joint Admission and Matriculation Board [JAMB] in the South- East, Nigeria.

The success of the project we depend on the authenticity of the information collected. Please kindly assist me in the following ways:

- Allow me distribute the attached questionnaire to all staff of your office
- Encourage your staff to fill and return the questionnaires
- Provide the list of all the staff in your office stating their names, rank/designation and departments/units.

I pledge that the information will be held in the strictest confidence.

Thanks.

Yours Sincerely,

G.Okeke Chinene

Researcher

APPENDIX VII

Pre Reliability Test

Item-Total Statistics

	Scale Mean if	Scale Variance if	Corrected Item-	Squared	Cronbach's

Items	Item Deleted	Item Deleted	Total Correlation	Multiple Correlation	Alpha if Item Deleted
6	106.5778	473.191	.612	.	.984
7	106.8333	456.949	.861	.	.984
8	107.0000	448.764	.905	.	.984
9	106.6556	460.004	.806	.	.984
10	106.8222	450.552	.925	.	.984
11	106.7667	460.473	.815	.	.984
12	106.6889	459.026	.858	.	.984
13	106.6000	452.490	.909	.	.984
14	106.5444	448.138	.922	.	.984
15	107.0889	442.374	.886	.	.984
16	106.5000	466.051	.778	.	.984
17	107.2000	442.791	.881	.	.984
18	107.2556	446.282	.852	.	.984
19	107.0889	442.374	.886	.	.984
20	106.5111	464.994	.746	.	.984
21	107.2556	446.282	.852	.	.984
22	106.6778	461.389	.780	.	.984
23	106.8222	445.002	.939	.	.984
24	106.5333	455.061	.924	.	.984
25	106.9222	439.983	.907	.	.984
26	108.2333	455.731	.522	.	.982
27	108.2333	455.731	.522	.	.983
28	106.7000	460.594	.924	.	.984
29	106.7000	452.819	.917	.	.984
30	106.7111	445.579	.915	.	.984
31	106.8778	442.221	.918	.	.984
32	107.0222	443.842	.891	.	.984
33	106.8111	442.402	.918	.	.984
34	106.6000	452.490	.909	.	.984
35	106.8444	447.728	.898	.	.984

The last column shows possible value of Alpha if the particular item is removed from the questionnaire. Since the values are less than 0.985, therefore, all items are important or contribute significantly to the strength of Alpha.

Case Processing Summary			
		N	%
Cases	Valid	10	100.0
	Excluded[a]	0	.0
	Total	10	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.985	.988	30

Alpha value is 0.985(98.5%) which implies the responses are reliable and can be used for decision making.0020

APPENDIX VIII

Post Reliability Test

Cronbach's Alpha can be used to determine internal consistency of questionnaire. Alpha level shows level of consistency of questionnaire and if less than 60%, the responses from the respondents cannot be used for decision making. Also, it shows the importance of an item in the research tool, that is, the resulting Alpha level if an item is deleted (If-Item Deleted). An item in the questionnaire is tagged not important if its removal would increase the Alpha level of the research tool.

Base on the data collected, the internal consistency of the research tool is as shown below:

Item-Total Statistics

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
6	106.5778	473.191	.612	.	.984
7	106.8333	456.949	.861	.	.984
8	107.0000	448.764	.905	.	.984
9	106.6556	460.004	.806	.	.984
10	106.8222	450.552	.925	.	.984
11	106.7667	460.473	.815	.	.984
12	106.6889	459.026	.858	.	.984
13	106.6000	452.490	.909	.	.984
14	106.5444	448.138	.922	.	.984
15	107.0889	442.374	.886	.	.984
16	106.5000	466.051	.778	.	.984
17	107.2000	442.791	.881	.	.984
18	107.2556	446.282	.852	.	.984
19	107.0889	442.374	.886	.	.984
20	106.5111	464.994	.746	.	.984
21	107.2556	446.282	.852	.	.984
22	106.6778	461.389	.780	.	.984
23	106.8222	445.002	.939	.	.984
24	106.5333	455.061	.924	.	.984
25	106.9222	439.983	.907	.	.984
26	108.2333	455.731	.522	.	.982
27	108.2333	455.731	.522	.	.983
28	106.7000	460.594	.924	.	.984
29	106.7000	452.819	.917	.	.984
30	106.7111	445.579	.915	.	.984
31	106.8778	442.221	.918	.	.984
32	107.0222	443.842	.891	.	.984
33	106.8111	442.402	.918	.	.984
34	106.6000	452.490	.909	.	.984
35	106.8444	447.728	.898	.	.984

The last column shows possible value of Alpha if the particular item is removed from the questionnaire. Since the values are less than 0.985, therefore, all items are important or contribute significantly to the strength of Alpha.

Case Processing Summary

		N	%
Cases	Valid	90	100.0
	Excluded[a]	0	.0
	Total	90	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.985	.988	30

Alpha value is 0.985(98.5%) which implies the responses are reliable and can be used for decision making.

APPENDIX IX

```
GET
FILE='D:\DELL\SPSS DOC\.sav'.
```

```
DATASET NAME DataSet1 WINDOW=FRONT.
SAVE OUTFILE='C:\Users\\Documents\Chinenye PUB.sav'
/COMPRESSED.
REGRESSION
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT Reliability1
/METHOD=ENTER P1 P2 P3 P4 P5 P6.
```

Regression

[DataSet1] C:\Users\Prof. Nwankwo\Documents\Chinenye PUB.sav

Variables Entered/Removed[a]			
Model	Variables Entered	Variables Removed	Method
1	P6, P5, P4, P1, P2, P3[b]	.	Enter
a. Dependent Variable: Reliability1			
b. All requested variables entered.			

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.842[a]	.710	.693	1.62689
a. Predictors: (Constant), P6, P5, P4, P1, P2, P3				

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	666.555	6	111.092	41.973	.000[b]
	Residual	272.618	103	2.647		
	Total	939.173	109			

a. Dependent Variable: Reliability1

b. Predictors: (Constant), P6, P5, P4, P1, P2, P3

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.260	1.050		4.058	.000
	P1	.070	.132	-.030	.531	.597
	P2	.731	.191	.227	3.829	.000
	P3	1.241	.291	.454	4.259	.000
	P4	.618	.170	.206	3.633	.000
	P5	.392	.261	.158	1.500	.137
	P6	.905	.119	.422	7.612	.000

a. Dependent Variable: Reliability1

```
REGRESSION
 /MISSING LISTWISE
 /STATISTICS COEFF OUTS R ANOVA
 /CRITERIA=PIN(.05) POUT(.10)
 /NOORIGIN
 /DEPENDENT EmpEngage
 /METHOD=ENTER P1 P2 P3 P4 P5 P6.
```

Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	P6, P5, P4, P1, P2, P3[b]	.	Enter

a. Dependent Variable: EmpEngage

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.591[a]	.349	.311	1.87941

a. Predictors: (Constant), P6, P5, P4, P1, P2, P3

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	195.104	6	32.517	9.206	.000[b]
	Residual	363.814	103	3.532		
	Total	558.918	109			

a. Dependent Variable: EmpEngage

b. Predictors: (Constant), P6, P5, P4, P1, P2, P3

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.282	1.213		9.303	.000
	P1	.145	.152	.081	-.956	.342
	P2	1.191	.220	.480	5.401	.000
	P3	.345	.337	.164	1.026	.307
	P4	.783	.196	.338	-3.986	.000
	P5	.115	.302	.060	.379	.705
	P6	.262	.137	.158	1.907	.054

a. Dependent Variable: EmpEngage