E –Governance and Public Service Delivery: A study of the Joint Admission and Matriculation Board [JAMB] South- East, Nigeria.

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Abstract: *Public service delivery in Nigeria is characterized by inefficiency. To address this administrative imbalance, various government organizations in Nigeria adopted e-governance to improve performance and service delivery. The question that begs for answer is whether the new system has been able to stamp out inefficiency, especially in the Joint Admission and Matriculation Board (JAMB). Five states of the South East of Nigeria were studied. Descriptive research typology was adopted. Focus group discussion, questionnaire and face- to- face interview were the major tools used for data collection. Statistical tools such as frequency tables, correlation coefficient were used in data analysis and test of hypotheses. The correlation coefficient test revealed among others that e-governance indicators have significant effect on service culture in JAMB. There is also significant relationship between e-governance and service quality in JAMB. In the light of these findings, major recommendations were proffered. Among others is that public sector agencies should as a matter of policy develop a positive service culture and set up e-governance implementation committees that will work out modalities for effective implementation of the concept with performance evaluation. Also JAMB and other public agencies should avail themselves of the windows of opportunities that e-governance provides in their drive to enhance service quality.*

Keywords: e-governance, service quality, bureaucratic bottleneck, policy

1. INTRODUCTION

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. InfoDev 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).

The realization of the potential of ICT and by extension, e-Governance towards empowering the citizenry and improving public service delivery in this digital age, led to the formulation of the national policy on Information Technology in 2001 by the General Olusegun Obasanjo-led Federal Government of Nigeria (Awoleye 2008). The policy details the roadmap for achieving ICT capabilities in the country by 2005 (Diso, 2005).Sequel to the above, a formal focus on e-Governance as a means of improving public service delivery could be said to have existed for at least one and half decades and its appraisal is necessary with a view to understanding its impact on public service delivery in the country. To this end, this study is billed to assess e-Governance and Public service delivery using the Joint Admission and Matriculation Board (JAMB) as a case study. 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.

2. STATEMENT OF THE PROBLEM

Public service delivery in Nigeria is characterized by inefficiency (Ibietan, 2013; Nweze, 2010). In a study conducted by Darma and Ali (2014), clear differences were identified between expectation of service delivery from public servants, officially, and the perception of the service quality actually delivered. In order to ensure that the Nigerian public sector agencies are efficient in achieving government's policy objectives, it has become imperative to investigate the nature of nature of E-governance and Service Delivery in the country. This is particularly important since in the Nigerian public service, the issue of poor quality of service delivery, poor service culture, cases of poor employee engagement and case of negative customer experience that has hindered public service delivery in the country have been reported (Mapira, 2013).

Many other factors have been identified as the immediate and remote causes of the public service inefficiency. These factors include nepotism, red -tapism and poor monitoring mechanisms. Some authors have identified the structure of government as the primary cause of the inefficiency. This school of thought argued that in a situation where the government is practically centralized as opposed to the federalism provided in the constitution, effective monitoring becomes tasking leading to inefficient service delivery.

Services such as education, health, agriculture, water and sanitation, power, housing and urban development, justice, defense are prerogatives of the government in Nigeria due to the large resources it controlled and relatively less developed private sector. Of particular interest in these array of public sector services is education. Education is unarguably the bedrock of any society and quality of human resource is often cited as crucially linked to the development potential of a nation state like Nigeria (Sharif and Abdullah, 2013).

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.

3. OBJECTIVES OF THE STUDY

1. To determine the effect of e-Governance on service culture in the Joint Admission and Matriculation Board (JAMB).
2. To examine the relationship between e-Governance and service quality in the Joint Admission and Matriculation Board (JAMB).

4. RESEARCH QUESTIONS

1. To what extent does e-Governance have significant effect on the service culture in the Joint Admission and Matriculation Board (JAMB)?
2. Is there any relationship between e- Governance and service quality in the Joint Admission and Matriculation Board (JAMB)?

5. HYPOTHESES

(1) e-Governance has no significant effect on the service culture in the Joint Admission and Matriculation Board (JAMB).

(2) e-Governance has no significant effect on employee engagement in the Joint Admission and Matriculation Board (JAMB).

6. REVIEW OF RELATED LITERATURE

Conceptual framework
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, 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.

Table 1: 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.

Table 2: Traditional Versus Electronic Governments
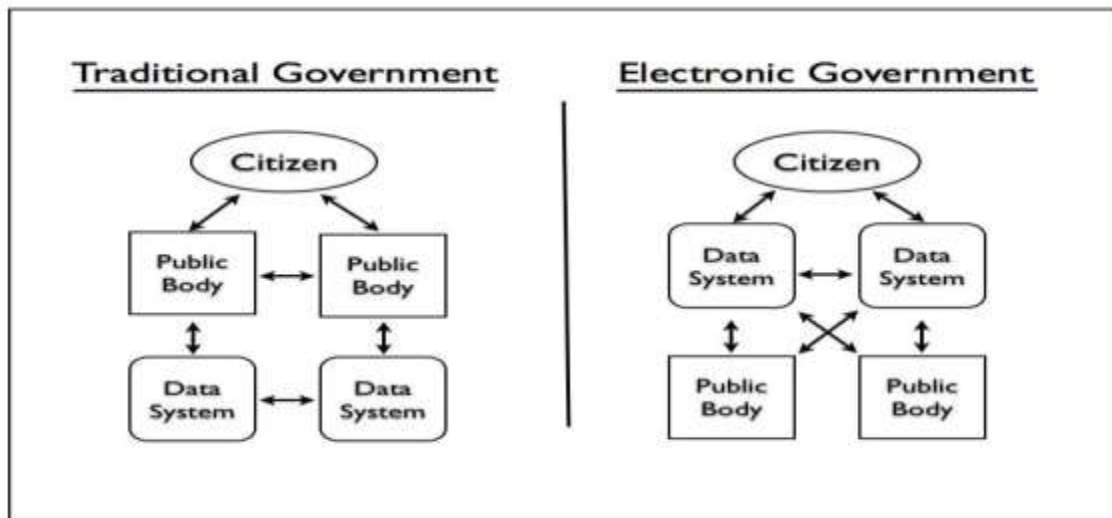
ource: Arifoğlu (2004, p.99*)*

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.

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".

Table 3: Key Elements/Components of Service Delivery
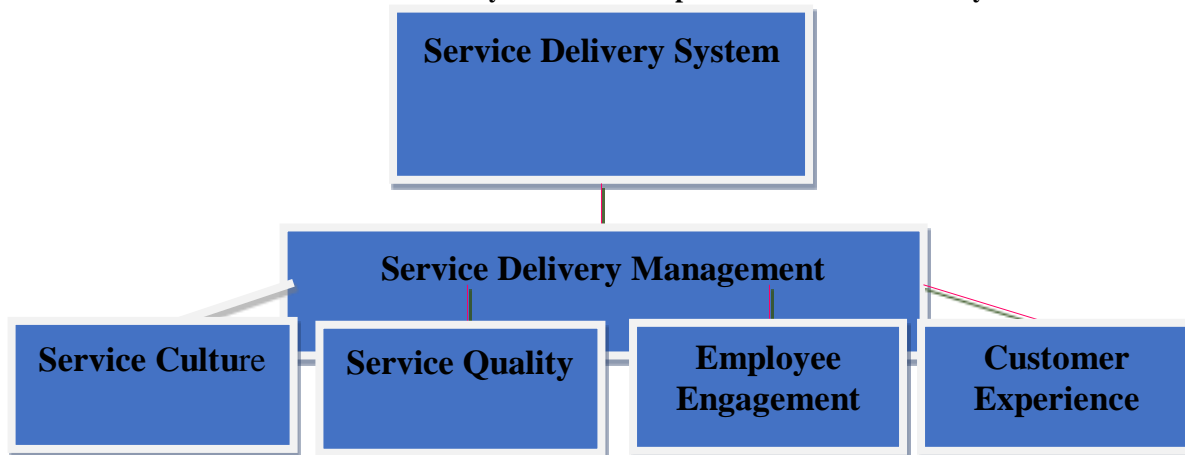
Source: Adapted from ISS (2015)

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.

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 behaviours 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):
1. Recruiting, training and rewarding.
2. Developing a service mindset in product focused organizations.
3. Creating a learning service organization by harnessing employee and customer knowledge.
4. 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).

Service Quality: According to Parasuraman (1991), companies can get their competitive advantage by using the technology for the purpose of enhancing service quality and gathering market demand. For decades, many researchers have developed a service perspective (Zeithaml, 2009, Ramsaran and Fowdar, 2007).Chang (2008) describes that the concept of service quality should be generally approached from the customer's point of view because they may have different values, different ground of assessment, and different circumstances.

Parasuraman, Zeithaml and Berry (1990) mention that service quality is an extrinsically perceived attribution based on the customer's experience about the service that the customer perceived through the service encounter. According to the work of Kumra (2008), service quality is not only involved in the final product and service, but also involved in the production and delivery process, thus employee involvement in process redesign and commitment is important to produce final tourism products or services.

Another research study on service quality is presented by Grönroos (2007) who focuses on a model that is a comparison between customer expectations of the service and their experience of the service they have received before. This model is named "total perceived service quality". As he emphasizes on what customer is really looking for and what they evaluate, the service quality is based on two dimensions. The first dimension is the technical quality and this dimension refers to the outcome, what is delivered or what the customer gets from the service. The next dimension is the functional quality which refers to the manner in which the service is delivered or how it is delivered. Both dimensions affect the corporate image and the perception of quality in various ways. According to total perceived service quality model, perceived quality of a service is not only affected by the experiences of the quality dimensions that the consumer used for evaluating whether quality is perceived as good, neutral, or bad. It is also affected by the perceived quality of given service as well as the outcome of the evaluation process. Chang (2008) support the

earlier line of thinking by Grönroos but Parasuraman, Zeithaml, and Berry developed "The Gap Analysis Model", which is a well known model of service quality.

This model shows an integrated view of the consumer-company relationship. The main idea of the model is focused on the premise that service quality is dependent on the size and direction of the five gaps that can exist in the service delivery process.
 a. Gap 1: the gap between customer expectations and those perceived by management to be the customer's expectations.
 b. Gap 2: the gap between management's perception of consumer expectations and the firm's service quality specifications.
 c. Gap 3: the gap between service quality specifications and service delivery.
 d. Gap 4: the service delivery, external communication gap.
 e. Gap 5: the perceived service quality gap, the difference between expected and perceived service (Parasuraman, 1990).

The first four gaps are identified as functions of the way in which service is delivered from the service provider to the customer, while gap number five is connected to the customer and as such is considered to be the truth of service quality. Gap five is also the gap that the SERVQUAL instrument influences. Edvardsson (1996) mentioned that it is important for a service organization to define the level of quality at which to operate; he argued that it is more relevant to speak of the "right quality" than of merely high quality. The word quality means different things to people according to the context. Lovelock and wirtz (2007) mention that David Garvin identifies five perspectives on quality.

Interface between E-governance and Service Quality
The government uses information technology and particularly the Internet to support government operations, interact with citizens, and provide government services which is termed E- Government. The interaction may be in the form of obtaining information, filings, or making payments and a host of other activities via the World Wide Web (Sharma & Gupta, 2006), (Sharma, 2007).

Service Quality has been recognized as one of the major factors for maintaining sustainability and one of the driving forces for an organization's achievement. Quality Service represents the comparison between customers' expectations of how a company or organization should perform and the service performance that customers perceive.

The most dominant and extensively used scale for assessing quality service is SERVQUAL Scale, which was developed by Parasuraman, Zeithami and Berry (1985). The dimensions of service quality for this study are Reliability (the ability to execute the promised service in an accurate and trustworthy way), Responsiveness (willingness to assist the end users and provide punctual service), Assurance (personnel cognizance which persuades user confidence and trust), and Empathy (providing caring and paying individual attention to customers).Although the SERVQUAL scale was developed in a marketing environment, it has been widely used in an Information System context and Information Technology. According to Lee and Lin, many research studies have successfully employed SERVQUAL in E-Commerce context.

However, designing IT infrastructures for large public sectors is a challenging task since it requires knowledge of existing processes, the views of different players and users, and the conjunction of technical expertise in different domains that rarely reside in a single individual (Veen, Annelies van der; Jan van Bon, 2007).

Hardware and software are essential in the IT applications as they ease the work of an organization, some software are used as analytical hierarchy approach and tools that can be used to assess E-Government induced changes in Public Service Quality as Many authors have recognized the transformational potential of ICT in government due to the application of software and hardware Jeong (2007).

It is also believed that web accessibility improves service quality in public sectors because there are more needs addressed by web accessibility and improve service quality including, visual impairments to help citizens with such a problem to get the services required. (Trenton 2013) Human resource is a great aspect in running of an organization, be it public or private. All institutions need people who have the required skills to do the appropriate jobs available; therefore Human Resource is concerned with how people are managed in an organization, focusing on policies and the system. (Johnason, 2009).

Table 4: CONCEPTUAL FRAMEWORK
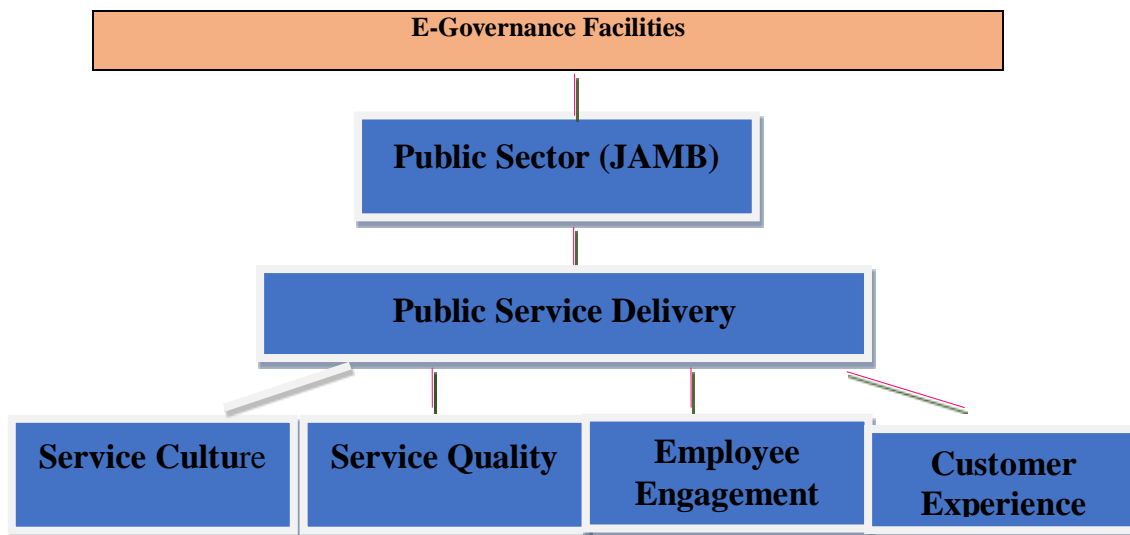
Source: Adapted by Researcher (2017)

Table 5: Some Remarkable Innovations Made by the Board since Inception.

Year	Old Practice	New Practice
1980	Registration done by manually completing registration forms.	Introduction of Optical Mark Readable (OMR) which made data capturing easier
1994	Four (4) different OMR sheets for the four subjects attempted.	Introduction of a single answer sheet per candidate with provisions for all the subjects being attempted
1997	Paper cartons being used for the packaging of examination materials.	Introduction of metal boxes for the packaging of examination materials. This served to prevent tampering and damage to examination Materials during rain and transportation.
1998	Open ended script which can be swapped.	Customized answer script, question paper booklets. This made cheating and giraffying difficult.
2002	Checking of examination number, centres done manually. This is susceptible to misplacement of information or giving wrong examination numbers/centres.	Online services which has enabled UME/MPCEME candidates to check their examination number/centres through the internet.
2003	Examination documents were without the image of the candidates. Susceptible to impersonation.	Introduction of image integration into the examination documents i.e. embossment of candidate's passport photograph in the attendance register and examination notice. This has tremendously reduced cases of impersonation.
2006	Manual registration is cumbersome in that the candidates had to come physically to the Board to register and submit registration document.	Introduction of e-registration whereby applicants resident anywhere in the world can register for the Board's examinations. This has reduced cost, human

		traffic to Board's premises and also ensures accuracy and reliability of information.
2007	Metal boxes being used. It is bulky and made storage difficult for the custodian of examination materials.	Security bag replaced metal boxes. This is for easy, convenient transportation and storage in the bank premises.
2007	Some even registered a day to the examination. This made adequate preparation difficult.	Deadline for registration given by the Board strictly enforced. This has helped in preparing adequately for the examination.
2007	These centres were used for checking those whose information on examination was not available.	Abolition of special/standby/checking centres which had been turned into fraudulent centres for the cheats.
2007	Examination materials were left for weeks at the custodian after examinations. The possibility of pilfering could not be ruled out.	Retrieval of examination materials right from the examination day. This is to forestall any form of post-examination malpractice
	Release of the Board's results always delayed for up to 3 and 4 months in the past.	Prompt release of the examination result 2007 UME – 3 weeks 2007 MPCEME – 11 days 2008 UME – 11 days 2008 MPCEME – 7 days 2009 UME –4 days 2009 MPCEME-3 days
2008	Result slip sent by post. Some got lost in transit.	Commencement of online result slips, admission letters and Change of course.

Source : Ojerinde,(2009)

Joint Admissions and Matriculation Board

Official logo

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
Prerequisites / eligibility criteria	SSCE results or awaiting SSCE results.
Scores / grades used by	Over 500 universities, agencies and other institutions in Nigeria.
Website	www.jamb.org.ng

7. 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.

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

7.2 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

7.3 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.

7.4 Data Analysis

Table 1 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
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.

Table 2 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

7.4.1 Measure of E- governance in JAMB

a. E-governance: E-governance measure 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.

7.4.2   Measure of Service Culture in JAMB

b. 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.

7.4.3   Measure of Service Quality in JAMB

c. Service Quality: To measure service quality, 5 questions items relating to service quality (items number 19, 20, 21, 22 and 23) 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 service quality which was used to assess the level of service quality.

From the table 4.2 above, question 19 on whether am dedicated to work and emphasize service quality, the weighted mean value is **3.5000,** showing that the respondents agreed that they are dedicated to work and emphasize service quality.

From the table 4.2 above, question 20 on whether JAMB application facilities are convenient for customer use, the weighted mean value is **4.0778**, showing that the respondents agreed that JAMB application facilities are convenient for customer use.

From the table 4.2 above, question 21 on whether my approaches of attending to the public is people oriented, the weighted mean value is **3.3333**, showing that the respondents agreed that their approaches in attending to the public suggest that they are inclined towards offering people- oriented services.

From the table 4.2 above, question 22 on whether work orders are completed on time, the weighted mean value is **3.9111**, showing that the respondents agreed that their work orders are completed on time.

From the table 4.2 above, question 23 on whether services are performed according to specification, the weighted mean value is **3.7667**, showing that the respondents agreed that they perform their services according to specification.

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 3 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: R egression 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 II:

Ho: There is no significant relationship between E-governance and the service quality of the Joint Admission and Matriculation (JAMB)

Ha: There is significant relationship between E-governance and the service quality of the Joint Admission and Matriculation (JAMB)

Items 6 to 10 were used to measure E-governance and items 19 to 23 were used to measure Service Quality.

Table 5 Available data generated from weighted mean

S/N	E-governance	Service Quality
1	4.0111	3.5000
2	3.7556	4.0778
3	3.5889	3.3333
4	3.9333	3.9111
5	3.7667	3.7667

Output (source: Table 4.2 above)

Correlations

Table 6   Correlations: Relationship between E-governance and Service Quality

		EG	SQ
EG	Pearson Correlation	1	.717
	Sig. (2-tailed)		.026
	N	5	5
SQ	Pearson Correlation	.717	1
	Sig. (2-tailed)	.026	
	N	5	5

Source: Field Survey, 2017

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 (JAMB).

8. FINDINGS

1. 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).

2. 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.

9. RECOMMENDATIONS

In view of the findings of this study, it is imperative at this juncture to suggest what can be done to achieve a more successful implementation of e-governance in Nigeria's public service in general and JAMB in particular. Based on the issues identified as some of the major challenges to e-governance implementation in Nigeria's public service in general and JAMB in particular, the following recommendations are advanced:

1. 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 and set 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.

2. 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.

REFERENCES

1. Alderfer, Clayton P., An Empirical Test of a new theory of human needs; Organizational Behaviour and Human Performance, Volume 4, issue 2 pp.142-175. New York: Fress Press, 1972.

2. Alohehri, S Drew (2010). Challenges of E-government Services adoption in Saudi Arabia from an e-ready citizen perspective. M Alshehri, S. Drew. Education 29 (5.1), 2010.

3. Carie Antonella, Cova Bernard and Stefano Pace (2007). "Pleasure and Enjoyment in the Consumption Experience: the case of ICT-based Services", in E-European Advances in Consumer Research Volume 8, eds. Stefania Borghini, Mary Ann McGrath, and Cele Otnes, Duluth, MN: Association for Consumer Research, pages: 241-242.

4. Cetina Karin Knorr. (2009). Symbolic Interaction, Vol. 32, Issue 1, pp. 61 -87, ISSN 0195-6086, electronic ISSN1533 – 8665 © 2009 by The Society for The Study of Symbolic Interaction.

5. Chandler, S., & Emanuels, S. (2002). Transformation not automation. In Proceedings of 2nd

6. European Conference on E-government (pp. 91-102).

7. Chang, H. (2008). Autoethnography as Method. Walnut Creek, CA Left Coast Press. 229pp. ISBN; 978 – 1698741230.

8. Chatfield, A. T., & Alhujran, O. (2009a). A cross-country comparative analysis of e-government service delivery among Arab countries. Information Technology for Development, 15(3), 151–170.

9. Chatfield, A. T., & Alhujran, O. (2009b). A cross-country comparative analysis of e-government service delivery among Arab countries. Information Technology for Development, 15(3), 151–170.

10. Chukwuemeka, E. E., Ubochi, E. I., & Okechukwu, E. U. (2017). Effect of E-Government on Service Delivery in Federal University Ndufualike Ikwo, Ebonyi State. Review of Public

11. Clift, S. (2003). E-democracy, e-governance and public net-work. Artículo En Línea]. Publicus. Net. Retrieved from http://www.opensourcejahrbuch.de/download/jb2004/chapter_04/IV-5- Clift.pdf

12. Cooper, D. R. and Schirdler, P. S. (2003). Business Research Methods 8th edition, McGraw-Hill Irwin, Boston.

13. Czarnowsky, M. (2008). Learning role in Employee Engagement: An ASTD Research Study. Alexandria, VA: American Society for Training & Development.

14. Ezeani, E. O. (2006). Fundamentals of Public Administration. Enugu: Snaap Press Ltd.

15. Fatile, J. O. (2012). Electronic Governance: Myth or Opportunity for Nigerian Public Administration? *International Journal of Academic Research in Business and Social Sciences*, 2(9), 122.imited.

16. Francis and Ojo (2013). Challenges and Prospects of Implementing E-Governance in Nigeria: e -prints. Covenant University.edu.ng/5278/1/

17. Fleming, J. H. & Asplund, J. (2007). Human Sigma. New York: Gallup Press.

18. Garson G. D. (2006). Securing the Virtual State: Recent Development in Privacy and Security. Social Science Computer Review. Volume 24 Number 4. Winter 2006. pp 489496. Sage Publications.

19. Gberevbie, D.; Ayo, C.; Iyoha., Duruji M. & Abasilim, U. (2015). E-Governance: Strategy for Militating Non-Inclusion of Citizens in Policy Making in Nigeria. 15th European Conference on e-Government, University of Portsmouth, United Kingdom, 18-19 June.

20. Gentile, C., Spiller, N. & Noci, G. (2007). How to Sustain the Customer Experience: An Overview of Experience Components that Co-Create Value with the Customer. European Management Journal, 25, 395-410.

21. Gilbert, D., Balestrini, P., & Littleboy, D. (2004). Barriers and benefits in the adoption of e-government. *International Journal of Public Sector Management*, *17*(4), 286–301. https://doi.org/10.1108/09513550410539794

22. Gopalsamy N. (2009). Information Technology and E- Governance. New Age International, 2009. ISBN, 8122424546.

23. Griffin, D., Trevorrow, P., & Halpin, E. F. (Eds.). (2007). Developments in e-government: a

24. critical analysis. Amsterdam ; Washington, DC: IOS Press.

25. Gronroos, (1983): Gronroos, Ch. 1983. Strategic Management and Marketing in the Service Sector. Report No. 83-104, Marketing Science Institute, Cambridge, MA, 1983.

26. Ibietan, J. (2013). Corruption and Pubic Accountability in the Nigerian Public Sector: Interrogating the Omission. European Journal of Business Management, vol. 5 (15), pp. 41-48.

27. Ifinedo, P. E. (2004). E-government-Precursors, Problems, Practices and Prospects: A Case of Nigeria. In *Proceedings of the 2004 International Business Information Management (IBIM) Conference* (pp. 1–10). Retrieved from http://faculty.cbu.ca/pifinedo /ibimnedo.pdf

28. International Review of Law Computer & Technology, Volume 12. No. 1. Pages 109-132, march 2004 1 bid.

29. ISS Group 2015 Group Annual Reports. www.annualreport.issworld.com/2015/.

30. Joppe, M. (2000). The Research Process. Retrieved February 25, 2998. In Galafshani, N. (2003). Understanding Reliability and Validity in Qualitative Research. The Qualitative Report, 8 (4), 597-606.

31. Joshua, M. T., & Ikiroma, B. (2012). Computer-Based testing in Nigeria's university entrants'
32. matriculation examination: Readiness and acceptability of critical stake-holder, 1–10.
33. Kahn William A. (1990). "Psychological Conditions of Personal Engagement and Disengagement at Work". Academy of Management Journal 1990, Vol. 33, No. 4, 692-724.
34. Lau, E. (2003). Challenges for E-Government Development. In *5th Global Forum on*
35. *Reinventing Government* (pp. 1–18). Mexico City, Mexico.
36. Lau, E., (2003), Challenges for e-Government development, 5th global forum reinventing government, Mexico City, 5th November 2003, OECD e-Government project.
37. Lawal, A. W. (2013). Technical and Vocational Education, a tool for National Development in Nigeria. Mediterranean Journal of Social Sciences. ISSN 20-39-9340 (prints). ISSN 2039-2117 (online) Vol. 4, No. 8.
38. Layne, K., & Lee, J. (2001), Developing fully functional E-government: A four Stage Model. Journal of Enterprise Information Management, Government Information Quarterly, No 18 , 122-136.
39. Layne, K., & Lee, J. (2001). Developing fully functional E-government: A four stage model
40. *Government Information Quarterly*, *18*(2), 122–136
41. Olaitan, A. W. (2015). The contributory effects of socio-cultural factors on e-government adoption among Nigerians. *Global Journal of Politics and Law Research*, *3*(1), 91–104.
42. Olaopa, T. (2014). Seminar on Sharing Success Stories and Challenges in E- Governance/E-Administration. http://www.cafrad.org/Workshops/Tanger21-23_04_14/olaopa.pdf
43. Wagner, R., & Harter, J. K. (2006). R: The Great Elements of Managing. Washington, DC: The Gallup Organization.

<div align="center">**PPENDIX VI**</div>

<div align="right">
Department of Public Administration
Nnamdi Ázikiwe University, Awka
Anambra State of Nigeria
02/08/2017.
</div>

<div align="center">
The State Coordinator
JAMB State Office,
Ubakala, Ubakala Junction,
Port harcourt- Enugu express way,
Umuahia,
Abia State.
</div>

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

<div align="center">I pledge that the information will be held in the strictest confidence.</div>
<div align="center">Thanks.</div>

<div align="right">Yours Sincerely,</div>

<div align="right">
Okeke Chinenye G.
Researcher
</div>

<div align="center">**APPENDIX VII**</div>

Pre Reliability Test
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	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.

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

[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: 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