ADOPTION OF CLOUD COMPUTING IN HIGHER EDUCATION INSTITUTIONS IN NIGERIA

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ABSTRACT

The study examines the adoption of cloud in the higher educational institution in Nigeria. The nine variable were used to examine the adoption of cloud computing in order to make a decision by HEIs management in Nigeria to see the usefulness to adopt cloud as well as the benefit and significance on cloud computing. The nine factors were examined in this study there are: relative advantage, compatibility, complexity, trailibility, top management, firm size, amount of information, pressure coercive and quality of internet connection. This study was adopted innovation diffusion theory. Technological, organizational environmental (TOE) and technology acceptance model to explain the adoption of cloud computing in HEIs in Nigeria. Quantitative method was used to collect data by distributing the questionnaire to 200 people from higher education institutions in Nigeria. The finding in this study was used smart (PLS) to analyze the date which seven variable were supported and the three were not support to explain the adoption of cloud computing in higher education in Nigeria. this study was carried out in the higher educational institutions in Nigeria to adopt cloud computing, this study is limit on generalize the findings.this study encourage the management in HEIs to make move on cloud computing to their education by a start from trailability to perceive the benefit on cloud computing.this study is contribute to the higher educational institutions to try to adopt cloud computing as new technology to transform and seeing what way to benefit to their educational system. This study recommends to the management to support and make the decision to adopt cloud computing without their support no cloud computing adoption.

Keywords: cloud computing, technology-organisation-enveronment(TOE),innovation diffusion theory(IDT), technology acceptance theory (TAM)

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ABBREVIATION

higher Education Institutions

Innovation Diffusion Theory. (IDT)

Technological, Organizational Environmental (TOE)

Technology Acceptance Model (TAM)

Smart Primer on Partial Least Squares (SmartPLS)

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This study will start with an introduction which is chapter also follow by background of study which will bring out what has been done, what has been known and what need to be done or available. Issues that face in HEIs in Nigeria will be the next which is problem statement which this study will explore on. Next is the research question and the objective of this research. Significance and scope of the study were followed lastly definition of terms and how the whole chapters will carry out which is an organization of the study.

1.1 Background of Study

Technology is everywhere in today's life, world is changing and transform with new development and innovation in technology. Our life is used to technology to perceive new thing. There is new technology innovation that is going on around the world which can make changes to your life and feel comfortable with it. Among of new innovative technology that is increasing use around the world is cloud computing. Cloud computing is a metaphor used to describe networks. The term used to explain cloud computing means host everything that relating to delivery service over the internet. It is among the future generation which categorized into three platforms they are serviced of network, software and hardware that can spread out its usefulness to the user in anywhere they demand to (Manish et al. 2009). Cloud computing can be adopted in different field and different area such as health, education, government, organization and so on can adopt cloud computing to perceive changes to them directly or indirectly.

In this study, cloud computing will adopt to a higher educational institution in Nigeria, to explore how it will bring changes to some problem that were faced in education level in Nigeria.

Cloud computing can transform the way education instructs in Nigeria. Federal ministry of education was implemented any course that relate to ICT should be taken by every student in HEIs in Nigeria. Also, most of Nigeria HEIs has data center or computer center that they are storing information such as information about student, staff and others. Adoption of cloud computing in HEIs in Nigeria can reduce cost of ICT infrastructures and power supply issue that they are facing in Nigeria. HEIs can use the cloud as their ICT infrastructure which they can benefit fast scalability of the cloud. (Ali & Ayub, 2012)

HEIs can't exaggerate the benefit of using technology in education. EIU (2008) says most students was addicted to use of technology as part study and fastest way to get more information which they are willing to use technology as it is not negotiable among student, lives. Chorea (2005)The technology is not for education only, but is the way to maintain the level of economic, social and political in the way it can bring changes to our lives. According to McGregor (2002) and Dodds (2007) look at cloud computing as an opportunity to give power to education, they can view them self as better than their other institution, their weakness can be detected easily also they can move their data to cloud to be accessible anywhere and anytime they need information. Cloud computing can serve as new innovative technology to Nigeria HEIs which can improve the idea, process and practice the usefulness of cloud computing to their system this can assist them in time of finance and decision making to implement new things such as which department is the lack of student, how many students were not yet pay their tuition fees or it can take them from one stage to another stage to control the activities that carry out in the institution to make improvement. Adoption of cloud computing is the way of change educational dimension system and service delivered to the student G. Matt. (2010). HEIs can decrease the cost of infrastructures, updating of application and equipment, pay for services and

training and hiring staff for new equipment which they are running it by themselves. Cloud computing adoption is a new innovation of every user to use and pay for what you used only. Cloud computing can integrate all the department and unit in HEIs together as one platform which they don't need to send or transfer date or information from one place to another. All the department and unit can access every information either from their personal computer, mobile phone and other equipments as integrate them on the cloud. S. Rupesh and K. Gaurav. (July 2011).

The federal government of Nigeria creates a division on technology, which is under National Information Technology Agency (NITDA) with the goal "*to make Nigeria an Information Technology capable country in Africa and a key player in the Information society of the year 2005, using IT as the engine for sustainable development and global competitiveness*" this is used for educational competition. NITDA explain the barriers and obstacles which HEIs were faced as listed, inadequate ICT policy, lack of equipment and good infrastructure and services. National Information Technology Agency (NITDA) also states that national Internet backbone to secure a date, lack of good education over the internet, the lack of updates software and services, low-performance servers, storage and power. Indicate of good infrastructure can lead to lack to access of information and student to gain more knowledge, lack of fund and full support from the government is the threat to HEIs to provide good service and facility to student and lecturer to do more research the purpose of NITDA was to transform the HEIs in term of ICT in every institution in Nigeria, from their outcome they want Nigeria to have better technology which can provide solution to ICT issue that they are facing in HEIs in Nigeria. Cloud computing adoption as new technological innovation to Nigeria content would provide a solution

to every single problem that HEIs were faced in term of ICT or technology infrastructures, application, low cost and avoidance fees for services and facilities. (Ali & Ayub, 2012)

There is a lot of information that is going around the world about cloud computing is getting a lot of attention from the media, academic written, journal, and technology companies such as Walmart, Oracle and Microsoft as its provide a series of advantage and opportunity. IDC market research and firm analyses show that the market for cloud computing as at the year 2008 was $16billion which is raising onto %42billion as at year 2012. (Gleeson, 2009).

Many studies have conducted on cloud computing in Nigeria in a specific different area that the study was covered. Discuss about the problem of utilization of information technology and communication in Nigerian universities and examine the benefit of using cloud as information in our institution by teachers and student. Investigate on lacking of good teachers that can teach students and laboratory to perform practical. (Franklin, N, B. E., & F. O.) Furthermore, study has been conducted on lacking of human skill and knowledge which is leading to high cost of computer hardware and lack of using update software in education in Nigeria. (Ogiegbaen & Sunday Iyamu, 2005) the basic knowledge of cloud is to reduce the in house data center and cut the cost of equipments and infrastructures, then explore and issue facing on cloud computing in Nigeria education. (Abdulsalam & Fatima, 2011) Some study conducted on the advantage and disadvantage of cloud computing, benefit of cloud computing as well as security in cloud computing. In this area this very study has been conducted which especially in the area of Nigeria.

There are many areas about cloud computing to HEIs in Nigeria to do more research and explore more about cloud computing. There is a need to do about cloud computing in HEIS in some are about awareness of cloud, management's intention to adopt cloud computing competitor pressure from other institutions or from student and staff. To make move to adopt cloud computing in any institution in Nigeria, management and governing cancel cloud accept the idea of cloud, are they willing to give trial to use it also to accept the level of trust in cloud computing. What is the amount of information and knowledge they have on adoption of cloud computing these are among area that need to do research on HEIs in Nigeria.(Omoregbe, Ayo, & Sanjay, 2013)

There is no any work of art or research on this topic as whole to adopt cloud computing in higher educational institution in Nigeria. This student will try to carry out in some area which is new to what has been done, but it will focus on what need to be done on adoption of cloud computing in HEIs in Nigeria. In this study some theory and model will adopted to explore the adoption of cloud in Nigeria such as technology, organization environment (TOE) framework as then main adoption of this theory, innovation diffusion theory or innovation of diffusion and other are technology acceptance model (TAM). Therefore, those theories above, especially TAM which has been tested to in many research to know the acceptance, intend and behavior to adopt new innovations and technology in various of studies (King & Gribbins, 2002). Technology adoption may beyond individual as it needs more resources to explore and test before adoption can be done. However, investigation can be made by management in HEIs to make the decision to adopt cloud computing services into their system (King &Gribbins, 2002). In this study, TOE framework is the main theory to extend cloud computing adoption. Specifically, TOE is the

model outline to investigate and explore management decision, which is oppose other model that more deeper on individual user (Oliveira & Martin, 2011).

1.2 Problem Statement

It shows that the adoption of cloud computing in HEIs in Nigeria is important as there is no more research in this area in Nigeria. There are many lacking in ICT infrastructures in Nigeria, which there is no solution to solve the problem in time of finance to buy new equipment to upgrade the educational institution in Nigeria (Omoregbe, Ayo, & Sanjay, 2013). This study will investigate and bring the solution to the problem that they are facing by implementing cloud computing in HEIs in Nigeria as a country that growth in internet usage in Africa but lacking of research for student and institutions lecturer to get better information. There is a pressing need for HEIs in Nigeria to understand what determines the effective implementation of cloud computing they were interested in adopting. There is some loss in benefit and understanding of cloud computing, which is not integrated, in complexity as Nigeria HELs many factors that we are lacking in term of technology, lacking to hired expertise in information technology and training their staff for using new equipment and to embrace modern technology in term of instruction to teach or lecture student by using new technology will become problematic to their lecturers. With Computing available as a service in a cloud computing paradigm, many companies consider Cloud Computing as a solution to procure services. Therefore, more and more applications will be migrated to the cloud.

1.3 Research Question

i) How does technological (relative advantage, complexity, compatibility, and trailibility) contribute to appoint on adoption of cloud computing in higher education institution in Nigeria?

ii) What is the influence of organizational (top management, firm or university size and amount of information) contributed to appoint adoption of cloud computing in higher education institution in Nigeria?

iii) How does environment (pressure competitor and quality of internet connection) efficacy lead to adoption of cloud computing in higher education institution in Nigeria?

1.4 Research Objective

The principle destination of this study was to research on adoption of cloud computing in HEIS. The particular following area:

i) To determine the influence of technology (relative advantage, complexity, compatibility, and trailibility) on adoption of cloud computing in higher education institution in Nigeria.

ii) To investigate the influence of organizational (top management, university size and amount of information) on adoption of cloud computing in higher education institution in Nigeria.

iii) The influence of the environment (pressure competitor and quality of internet connection) on adoption of cloud computing in higher education institution in Nigeria.

1.5 Significance of the Study

The importance of this research will explain how necessary to adoption of cloud is computed in higher education in Nigeria by an educational institution; it will show a benefit and innovation as well as changes to the educational system in Nigeria. The study will help the government, federal ministry of higher education or educational board at the state level in the policy making with

regards to benefit to make plans and reform of ITC in educational institution in Nigeria.However, it will help the board of director in any universities who intend to make decision about ICT innovation to the system to make implementing the policy, top management at the faculty.

Moreover, it may also be of importance to lecturers any universities in Nigeria that teaching any course that relating to ICT or management information system will benefit from this study as adoption of cloud computing in higher education in institution in Nigeria.

Finally, the research will be beneficial to researchers, who need basic knowledge and clarification on the concept of adoption of cloud computing in higher education in institution in Nigeria.

1.6 Scope of study

The scope of this study is based in Nigeria as I mention in introductory level as well as problem statement which shown the problem that we are facing in ICT in higher education in Nigeria. The problem is collaborating with lack of innovation, infrastructure, benefit of and transforming to the educational institute, including a lack of funds to buy equipment, a lack of funds to hire personnel trained to use ICT. This study will not be able to go deep in all areas of cloud computing issues in Nigeria. The scopes in this study are limited or cover some area of technology, organization and environment of adoption of cloud computing in higher education in Nigeria.

1.7 Definition of the Term

What is cloud computing?

There are countless definitions and interpretations of cloud computing to be found from multiple sources. The term “cloud computing” itself likely comes from network diagrams in which cloud shape are used to describe certain types of networks, either the Internet or internal networks.

What is a higher education institution?

There are several understanding of the higher educational institution depend on each country the way or tern to classify their educational system. According to free dictionary state that HEI is the education which is higher than secondary level in term of teaching, research and perceived new knowledge which can make you think in ethically and morally. HEI is the place where to further study after the secondary school leaving, such definition says after the turn to the age of 18 he or she can further study in advance level. The name that's given to HEI is different such university, college, university, higher educational institution, advance institution and postgraduate study or education. Finally, HEI is the place where people can be motivated and discover their talent, which they use to transform it to our daily life, workplace and part taken in economic, politic and social to the benefit of the nation.

1.8 Thesis Layout Structure

This study will start with an introduction which is chapter also follow by background of study which will bring out what has been done, what has been known and what need to be done or available. Issues that face in HEIs in Nigeria will be the next which is problem statement which this study will explore on. Next to the research question and objective in this research. Significance and scope of the study were followed lastly definition of terms and how the whole

chapters will carry out which is an organization of the study. All these are in chapter one. Chapter two is about literature review, chapter there is a methodology while chapter four is about analyze of final data, chapter five is about discussion, recommendation, future research and conclusion. These are the layout in this study.

CHAPTER TWO

LITERATURE REVIEW

2.0 Reviews of cloud computing

There are several understandings and conceptualizations of what cloud computing is all about, that have been proffered by different researchers and scholars. Jeffrey and Neidecker-Luz (2010) characterize the cloud as "a flexible performance environment of assets which includes various stakeholders and giving a measured function and which gives a measured function and benefit at the different commonness for an indicated level of nature and character of good service. Buyya et al, (2008) gives a complete different definition, as he defines it as a sort of parallel and framework comprising of accumulation of interconnected machines that are rapidly provisioned; Plummer et al., (2009) furthermore gives his own explanation as a way of registering acceptable and flexible technology-related abilities are given as good service quality utilizing technology advances to numerous other clients. These two aforementioned scholars' opinions or views as depicted in their definitions can be deemed as a scholastic perspective explaining the cloud. Furthermore, the National Institute of Standards and Technology (NIST) proffered a definition which many have adopted as a model for empowering ubiquitous access to an imparted pool of configurable processing, asset; e.g. systems, servers, store, application exertion and system supplier communication (Gribbs and Kraemer, 2004). A non-exclusive definition expresses cloud computing as a rising plan of action or decision that convey computing service on the web in a flexible and practical way that ensures nature of the service (Dholakia and Kshetri, 2004).

Cloud computing has made a key move in, how data and information is run and supervised, changing both the business and engineering sides of information technology. Exchanging venture in information technology is a composite assignment that incorporates both specialized and

hierarchical difficulties. The cloud itself is an ideal model which doesn't have an agreeable or a single sentence definition because it incorporates different elements within it. In this manner, changing to a cloud-based methodology may appear confounding. These intricacies mixed or merged with instability give various authoritative cloud-adoption boundaries.

2.1 Attributes of Cloud Computing

Cloud computing provides exceedingly adaptable membership based on plans, or pay for every use benefits that empower constant conveyance of configurable figuring assets (e.g systems, administration and applications) on the web to organizations (Berman et al., 2011). The following are the definition of some of the attributes of cloud computing according to Furht (2010).

Scalability and on-demand services: Cloud computing allows for more resources and varieties of services for users on demand. Meanwhile, the resources are scalable over data centers.

User-centric interface: Cloud interfaces are not stuck in a particular location; they are independent on their own, and they can be accessed through internet browsers and web services.

Assured Quality of Service: Cloud computing assures Quality of Service for its users in terms such as CPU performance or hardware, the capacity of the memory and bandwidth.

Autonomous System: The management of cloud computing systems is transparent to its users. However, the data and software inside clouds can be automatically reconfigured and consolidated into a simple platform depending on the user's needs.

Pricing: Cloud computing does not require up-from investment. There is no capital expenditure required at all.

Adding to that, Zhang, Cheng and Boutaba (2010) highlighted outstanding features that make cloud computing attracts business owners, including:

No up-front investment: Cloud computing uses a pay-as-you-go pricing model.

Lowering operating cost: The resources available in a cloud environment can be easily allocated and de-allocated on demand.

Highly scalable: The cloud computing infrastructure providers extract large amount of resources from data centers in order to make them easily accessible. Hence, a service provider can easily expand its services to large scales so as to handle a speedy increase in service demand.

Easy access: The services hosted in the cloud is mostly web based so that it can be easily accessed via multitudes of devices that has an internet connection.

Basically, applications on cloud computing runs remotely 'in the cloud' that basically reside on PCs, local servers, and leverages on the Internet to provide resources to its clients. Cloud computing can be classified into four deployment models which includes: private cloud, community cloud, public cloud, and hybrid cloud (Mell & Grance, 2011). An open cloud typically implies a pay-as-you-go charge for the overall population, while private cloud refers to a shut inward server farm of a business or association that is just accessible to workers and customers. Programming as a Service (Saas)), Platform as a Service (Paas), Infrastructure as a Service (Iaas) are the three distributed computing models on a cloud.

Companies of various sizes, areas, and businesses hold onto cloud as an approach to lessen unpredictability and expenses connected with customary IT approaches, 72 percent of administrators in the IBM overview showed their organizations had steered, embraced or considerably actualized of cloud and 90 percent would receive distributed computing in the

following three years (Berman et al., 2011). More than 31 percent of respondents reviewed referred to the cloud's capacity to lessen altered IT expenses and movement to a "pay as you go" expense structure as a top advantage. Furthermore, North Bridge Venture Partners that surveyed 785 individuals or respondents at 39 prominent undertaking innovation organizations discovered 40 percent of respondents were conveying open mists and 36 percent were running with a cross breed methodology (Nusca, 2012).

On a general note, the usage of cloud computing, broadly perceived in the act of technology as a diversion changer, is developing at a quick rate, against the background that cloud computing holds so many benefits for organizations to lower expenses, and expand proficiency (Industry week, 2010). The capacity, it holds can give the conveyance of stockpiling administrations, uses, and separating spams because of the significant change used in the processing of computers (Whitney, 2010).

Berman (2011) highlighted that cloud, along with the ability to drive business advancement can also engage six conceivably amusing changing business empowering agents such as: cost, adaptability, business versatility, market feasibility, covered unpredictability, connection driven variability, and lastly environment integration. Organizations or companies are recommended to decide on how they can utilize cloud-empowered services in order to advance reasonable and favorable circumstances with a specific goal that will change their operations, quality chains, and client connections.

Moreover, the security concerns are an obstacle for organizations to delay the decision to make changes in cloud computing (PWEB, 2012). Opportunities in security have moved many educational institutions to outsource delicate information to outsiders for handling. Outsourcing has various causes on unsafe services by outsourcing the information or security to the exterior

of the educational institutions system. Cloud clients who are the real users of the services see it as unprotected to secure a data on a cloud which may be dangerous from both if an outsider can access the date of educational institutions (Armbrust et al., 2010). Also, the educational institutions can profoundly rely about how cloud network down or inaccessible, which service provider is off-site information may get to be blocked off. Past researches upon cloud computing appropriation have tended to territories of new advances in IT, security demand and the future desires on developing situations. Misra and Mondal (2010) proposed two plans of action for organizations which are ready to embrace cloud computing to plans of action for organizations beside the new IT framework and plans of action for new businesses. The transforming of cloud computing makes it profoundly suitable for little medium endeavors (Misra & Mondal, 2010)

According to Ross (2010), organizations, demonstrates early hesitance or minimal investment or swift regarding the issue of Cloud Computing in decision making period. Then again, with the development of large portions of the fundamental innovations toward cloud computing, it is picking up force or growth. Various firms were set up or move with changes to the new technology wave. Later on when the standard of cloud computing is no longer meet with their users or client, organizations, scholastic associations are meeting up in characterizing norms (Sultan, 2011; Voas & Zang, 2009). The measures will cover territories, for example, security, movability, interoperability, administration and checking (NIST, 2011)

Behrend, Wiebe, London and Johnson (2011) conducted a study that utilized the TAM model as a part of comprehension of adoption Cloud Computing in the institutions system, the accompanying is developed to emphasize and tried: "usefulness and ease of use".

The percentages of the discoveries were as per the following: handiness did not demonstrate any noteworthy management with understudies utilizing Cloud Computing, whilst usability

demonstrated a solid organization with Cloud Computing utilization. In spite of the fact that Cloud Computing is an Internet based, which obliges to highly fast system transmission capacity, Ross (2010); Low & Chen, (2011) and Behrend, Wiebe, London & Johnson, (2011) considered transfer speed costs, accessibility, dependability and security as key develops to focus appropriation. Fascinating enough, none of the studies that tried Internet or system based development considered data transfer capacity related develops (Anand & Kulshreshtha, 2007; Chong & Ooi, 2008; Jianyuan & Zhaofang, 2009; Oliveira & Martin, 2010).

Low, Chen and Wu (2011) reasoned that cloud computing selection examines is twofold. To start with, different elements influencing distributed computing appropriation can be grouped into innovative, hierarchical and natural connections; in this way it is possible to utilize the technology, organization and environment (TOE) structure to comprehend to adopt cloud computing. Second, organizations as well as environmental are components on cloud computing appropriation shift crosswise over diverse industry settings.

2.2 Cloud-based Education Systems

Day of Day, cloud computing adoption increases. Multitudes of scholars in academia as well as organizations are bringing to cloud computing innovations to the education as a new technology system, guaranteeing and conveying more adaptable and dependable to institution system. Numerous educational institution has been recognized the potential advantages of leveraging on adoption of cloud computing for financial reasons, and in addition new way to perceive new knowledge showing and information offering M. Mircea & A. I. Andreescu (2011). Various studies were directed to research the profits of utilizing cloud computing in higher education institution (Pocatilu, F. Alecu & M. Vetrici, 2009 - U. J. Bora and M. Ahmed 2013) and to

propose answers for cloud computing based educational service(M. A. H. Masud & X. Huang 2012, U. J. Bora & M. Ahmed, 2013, M. Al-Zoube, S. A. El-Seoud & M. F. Wyne, 2013).

Pocatilu et al., (2010) introduced the benefit of cloud computing, pointing to education which reveals certain facts on the cutting price of cloud computing with higher information security, virtualization, and the likelihood of accessing information. They additionally indicated that cloud computing advantages for education regarding the attributes of three platforms on cloud educational institution models: base (educational frameworks can be run on the supplier's), stage (education frameworks can be actualized focused around the supplier's improvement interface), and administration (education frameworks can utilize supplier created arrangements). Bora and Ahmed (U. J. Bora & M. Ahmed, 2013) inspected the profits of embracing cloud computing for higher educational institutions and discovered it as ease, offers enhanced execution, gives moment programming redesigns and enhanced record form similarity and information security. Furthermore, it gave numerous profits to understudies and educators, for example, online courses, exams, assignments, ventures, criticism, gatherings, and e-learning substance and asset administration.

Institutions have been adopting cloud services, and instructional framework is being carried out in developed countries. Furthermore, some college has completely embraced cloud in their institution. An example is the University of California (UC) at Berkeley, which is storing its courses on a cloud from Amazon Web Services to provide Saas model (N. Sultan, 2010). University of Washington also have embraced cloud computing to provide more efficiency and teamwork instrument to both the staff and student, Microsoft is responsible for providing and managing several cloud services to them such as: Windows Live including Email and Calendaring, Messenger, Skydrive, Spaces, and Photos. Google also provides services such as:

Google Apps which includes Google Email, Calendar, Docs, Sites, and Talk) (University of Washington, 2013). The University of Texas at Austin and the North Carolina State University attained a generous reduction in IT-related consumptions Cisco, (2013). The educational institution is leveraging cloud computing for monetary reasons and additionally for more exceptional instructing, direction, and imparting information. Cloud computing perceived as the likelihood of focusing on the exploration, study instead of on unpredictable IT design and programming frameworks (Mccrea, 2009), through a quick IT usage.

Despite all these benefits, there is still room for modifications. Tout et al., (2009) opined that many-sided quality can be decreased on Cloud Computing to make it achieve more in the education section. Explaining further, he mentioned that institution should measure frameworks and adjust them to the adequacy of education arrangements focused around the cloud. Currently, numerous of institutional education has been practiced and illustrations with respect to the utilization of cloud computing. Case in point, in a Commonwealth, numerous universities and colleges had teamed up at the development decision making to formalize the use of cloud computing in their institutional Wyld, (2009). This would allow a higher educational institution to reduce their expenses on Information Technology services cost in their budget for a year. Similarly, cloud arrangements can be utilized to help learning as well as commonly situated speculations of learning, utilizing technology as innovations to backing community techniques for direction Thorsteinsson et al., (2010).

The use of cloud computing in educational institution which provide numerous of direction to educational system by giving the fundamental framework, stages which institutional system specifically by render service through the cloud, to show the capabilities information as well as a centre area to access information (Pocatilu et al., 2009).) It further keeps and stores the

institution information on data centers, and additionally to enhance IT tools inquires about a study or explore and understudies of research. By including the cloud administrations, North Carolina State University accomplished a considerable diminishing of costs with programming authorizing and in the meantime to diminish the yard IT staff from 15 to 3 representatives with full living up to expectations plan (Wyld, 2009). An alternate sample is Kuali Ready (Bristow et al., 2010), which is a group source of task in business form of the coherence planning model.

In the present context of economical changes, cloud computing utilization turns into a need and impossible for some institution. The perspective of this the huge number of variables, for example, expenses, expand, the weight of salary, build, prosperity, institutional execution and rivalry being developed (Sasikala and Prema, 2010). Notwithstanding, studies regarding sing Cloud Computing in advanced education, demonstrates that institutions should have knowledge in the period of "right on time adopters" by different divisions, for example, private cloud as well as public cloud (Katz et al., 2010).

The important element which has impact on making decision on utilizing of adoption of Cloud Computing as a part of advanced education in a very little from different areas. Consequently, as per Katz et al (2010), 70% of the IT expertise from an academic institute (from 302 review respondents) they believed that enhancing IT system are more imperative choose to make the decision and element to change to cloud rather than traditional technology, while just 38% gave the same essentials to expenses decrease.

As it has been discussed above, there exist few educational institutions acting as conveyance of cloud-based educational institution services. Various studies had been carried out on information with respect to embrace cloud computing for institutional service. Furthermore, they need to be directed to create more differing types of cloud-based instruction frameworks, in more creative

and effective ways. Then, a large portion of the current cloud-based institution is focusing on conveying and imparting learning materials and showing exercises, instead of developing and supporting an incorporated, aggregate cloud-based educational environment.

2.3 Innovation Diffusion Theory

OECD (2005) defines Diffusion as a process which development is increased by means of business or non-market approach, the implementation on over many countries to unique nations and locales and to diverse commercial enterprises, markets and firms. Besides, there is no economic effect on the diffusion of innovation. New thoughts or opinion, perform or impart through the communication channels, alongside the parts of a social system. Outcomes of advancements which showing the progressions that happen in a social system on diffusion of innovation when the outcome shown the good changes. Outcomes of a development can be awareness, influence as well as adopted of innovation (Rogers and Shoemaker, 1971).

The Diffusion of innovation is the idea or a hypothesis effort to recognize model and rates of appropriation of new innovation. Particularly, the importance of buyer demand as far as endeavoring to figure request and market sector development and expansion (Valente, 1993).

According Rogers (1995)'s definition of IDT as any thought, practice, which perceived as seen new to us either an individual or other unit of organisation, association or group. Very nearly the majority of the new thoughts is mechanical innovations, and technology development changes are regularly utilized as equivalent words. The utilization of new innovation of technology is the process of forming the instrumental activity that decreases the doubt in the reason impact connections included in accomplishing a fancied result.

Rogers (1995) recognized five imperative properties of development that impact the choice to make decisions by advancement. The following are five properties are legitimate for both

individual as well as groups, organization, education, health care the appropriation of innovation. The five qualities of innovations are relative advantage, compatibility, complexity, trialability, and observability.

1) Relative playing point: the degree to which a development is seen as better than its ancestor;

2) Compatibility - the degree to which a development is seen steady with the current values, needs and encounters of potential adopters;

3) Complexity - the degree to which advancement is seen as being hard to utilize or get it;

4) Trialability - the degree to which advancement may be tried different things with before the potential reception;

5) Observability - the degree to which the consequences of a development are unmistakable to other individuals. As indicated by Rogers, there are distinctive achievement rates of reception. Reception is a choice to make full utilization of a development as the best approach accessible.

As indicated by Kotler (2000), innovation refers to any products, service, or thought that is seen by somebody as new. This thought can be in the form of description or explanation, however, it is a development of the individual who sees it as new. Perceived as a new innovation, its potential clients as having a higher relative advantage, compatibility, trialability, observability and less many-sided quality will be received quicker than different developments (Rogers, 1995).

Kotler (2000) postulated that the choice of a single person as an adopted to turn into a consistent client of an item. Hence, cloud computing is viewed as a new developing innovation for an educational institution, as see adoption of cloud computing in the way of new technology. Rogers (1995) explains how innovation can influence to making the decision of an individual or HEIs to make utilization of cloud computing.

Thong (1999) creates a structured model that can connect a TOE model with IDT theory. The model defines logical variables, for example, leader qualities, system attributes, authoritative qualities, and natural attributes as essential determinants of selection or basic to adopt cloud computing in higher educational institution in Nigeria. Besides, Wang et al. (2010), Chong et al. (2009), Zhu et al. (2006a), Vaidya and Nandy (2004), Lee (1998), and Higa et al. (1997) consolidated DOI hypothesis together to TOE model to better comprehend the innovation on cloud computing adoption in higher education as new technology to for an institution that can make many changes and transform their whole system and reduce the cost of their expenditures.

Rogers (1995) point out that most people evaluate an advancement due to subjective assessments which close to peer that has-been perceived adoption of cloud commission as the best innovation to the Nigeria educational system. Effectively Rogers (1995) perceived that the social impact and the corresponding structure of a framework can accelerate, or ease off, the dissemination of developments on now technology system.

In view of point which educational institution receives innovation, dispersion hypothesis arrange associations into five level new technological innovation adopter with respect to a different educational institution (Rogers, 1995). The contradiction on an individual level, the development of hierarchical level of management to decide what to do, not just people in backing of the development in light of the fact that adversaries assume a vital part in the development of technology.

Fundamental theoretical means are the means of adoption of innovation, which has been mentioned in previous studies serve as an Innovation Diffusion Theory (Rogers, 1983; 1995) such as humanism, interchanges, advertising, education, and so forth. Gopalakrishnan and Damanpour, 1997; Ramamurthy and Premkumar, 1995; Tomatzky and Klein, 1982). In a

previous study that has been done on adoption of new technology (Jeyaraj, Rottman, and Lacity, 2006),from last two decades IDT has analyzed the utilized of organizational adoption which will add value to the user

The utilization of IDT to study issues on adoption of new technology in order to make a decision, for example, when to adopt, where to start and how to move on and why we need to move on as well as what percentage to adopt either in a single person, group, organization, educational institution or other receiving units that wish to adopt (Rogers, 1995). This study will focus on adoption of cloud computing in higher education in Nigeria, which will transform the educational system that they were used from previous decades.

The contribution of the IDT is the process situated on innovation traits. IDT proposes that developments have notable qualities, which as saw by adopters, frequently focus the selection of development. Innovation characteristics, such as: relative advantage, compatibility, complexity, trialability and observability (Rogers, 1983; 1995).

Every attribute serves as lessen to reduce the a potential adopter's instability in regards to the apparent event and advantage of innovation appropriation. A meta-investigation by Tomatzky and Klein (1982) uncovers that similarity, compatibility, relative advantage and complexity reliably discovered to be important to previous studies that has been done. Additionally, those same three characteristics are reliably distinguished as basic reception considers as new exploration of technology (Jeyaraj et al., 2006; Kwon & Zmud, 1987). Whereas, relative advantage has positively related to adoption as well as compatibility, negative is related to complexity to adopt. Rogers (2003) suggested the choice to adopt procedure comprises of a grouping of activities and choices. The decision to make innovation, which will pass different level through which potential users will move and looking for data on innovation for better

results when the decision is set to make. The argument of Ostlund (1974) contends which show how more positive singular's observations about area of innovation is, the more prominent is more expectation to adopt an innovation.

The observation on characteristics of an innovation which is especially persuasive in prompting the choice of adoption; they clarify somewhere around 49% and 87% of the fluctuation in the rate of willing to make decisions to adopt cloud computing (Rogers, 2003). Most of the studies that have been done on innovation in technology were adopted the theory of Rogers' model in observational work looking at technological innovations. A series of studies detected the benefit, valid as well as important element on IDT (Coursaris et al., 2010; Howcroft et al., 2002; Hsu et al., 2007; Lee et al., 2003). Using of IDT on decision making on adoption of cloud computing, this study embraces the above-saw characteristics of an advancement as the most applicable focuses to comprehend the selection process of using cloud computing in higher education institution in Nigeria.

2.4 TEO FRAMEWORK

TEO was developed and named by Tornatzky and Fleischer (1990) "TOE" is for the investigation of the adoption inside organizations, to decode the choice of managing perception to move to cloud computing, the Technology, Organizational Environmental (TEO) schema selection hypothesis is continuously considered. The model was initially created any new product or thing which perceived as new innovation to or which can be adopted to any organization as well as institutions (Tornatzky et al, 1990). Various and series of studies has been done by adopting the innovation in information technology, which has been explained by expertise, academician and professional to investigate the adoption of cloud computing in a various aspect that can be valuable to any organization system.

A percentage of the studies which has been perceived, utilized as well as advanced studies on the TOE model by Oliveira & Martin (2011). Many studies have developed change to suit the connection of the particular study to the transformation to adopt the new technology. Tomatzky and Fleischer (1990) propose that the innovation which move at the basic management level may be affected by components that relate to those connections in making decision to adopt cloud computing.

As indicated by Low & Chen, (2011); Jianyuan & Zhaofang, (2009) and Wu & Subramaniam, (2009), TOE structure has three setting gatherings on, which researches have done on cloud computing in educational institution specifically:

The technological context identifies with the innovations on the system to be accessible to an organization. Its fundamental center shows the technology attributes and element themselves, which may have an impact on the process to adopt cloud computing (Tornatzky and Fleischer, 1990; Chau and Tam, 1997). Meanwhile, if a Nigeria higher education institution can see the benefit context of technology innovation to adopt cloud computing into their system either direct or indirect can show them many ways to upgrade Nigeria education same as developed countries. The technological context relates the inner and the outer innovations, material to the firm. Technological context has some attribute that need to adopt in this study, which can help to explore and explain the adoption of cloud computing in higher education in Nigeria they are as following: relative advantage, complexity and compatibility, observability and trialability of the technology in question (Low & Chen, 2011). Innovation division has Some traits which are reliable to model of TOE (Rogers, 1995). Technology point of relative advantage, reliably distinguished as a standout amongst the most basic appropriation components (Iacovou et al., 1995; Kuan & Chow, 2000). At the point, the advantages of cloud computing in an educational institution has seen in higher profitability. Although, the higher probability which institution can

see to assign more managerial, money related and technological equipment to apply the innovative system.

As indicated by the TOE framework, organizational adoption of innovative technology can be affected by the authoritative connection, which characterizes the qualities that can impact the organisatoin reception of adoption of cloud computing (Tornazky and Fleischer, 1990; Chau and Tarn, 1997). On the premise of survey of hierarchical appropriation writing, I distinguish four authoritative qualities that are most oftentimes seen impact institution of adoption of the cloud computing in educational institutions.

The organizational context alludes to the few develops seeing the management, for example, the firm size, scope, centralization, formalization and complexity of the administrative structure and the nature of the human resources (Kuan & Chow, 2000). Some research has been done on how bigger organizations are regularly all the more overall outfitted with assets and framework to encourage advancement appropriation, while little firms may experience the effects of recourse on destitution (Thong, 1999). In Iacovou et al's., study (1995) on embracing EDI in fewer firms, the expense of the venture and absence of IT skill are two real concerns among management parts.

Environmental context means the rivals and government policy on organizations, industry, institutional and firm (Kuan & Chow, 2000). Management controls their organizations inside an environmental context which give way to see the advantage and barriers. Despite the fact that the outside environment can furnish organization with data which relevant to them in order to make a decision on adoption of cloud, assets and innovation, it has regulations and limitations on the stream of capital and data (Damanpour & Schneider, 2006). Plus, the business environment in which the business runs as a key value. Rivalry improves the probability of making changes to

their institution by perceived innovation as an opportunity to their system (Thong, 1999) as natural vulnerability brought about by rivalry assistance increment at the lake as well as chance to adopt the new technology. Normally, element of environment which is influencing innovation in new technology is typically seen as focused on technology adoption (Iacovou et al., 1995) which is respected one basic variable for innovation on cloud computing in many institutions.

Institutional variables, including patterns, standards, and schedules which is part of hierarchical structure and management to make a decision (Scott and Christensen, 1995; Scott 2001). As per this study, this structure is formed by control from different part in organizing, by impersonation of structures received by others in light of motivation , or by adjustment to standardizing gauges made by outside establishments (regularizing isomorphism) (Dimaggio and Powell, 1983). As such, management level can be influenced by outside the similarity motivation from contenders, exchanging accomplices, clients, and government. The institutional hypothesis adds to the natural setting of the most authoritative on adoption of new technology models outer forces, (Oliveira and Martins, 2011). Gibbs and Kraemer (2004) and Soares-Aguiar and Palma-DOS-Reis (2008) this is a sample of previous study which show how the TOE and IDT is compact together . Li (2008) consolidates TOE with DOI keeping in mind the end goal to clarify this important and benefit of on adoption of cloud computing in educational institutions

This is reliable with Porter's (1980) contention that a company's tactical on innovation of new technology to be adopted as advantageous to them depend to some extent on industry qualities, for example, competition and relations with purchasers and suppliers. Essentially, this is the way TOE clarifies the reception of development. Various studies have utilized this model as a part of deciphering adoption of particular innovation (Low & Chen, 2011).

TOE model is used by a few studies to clarify different areas, for example, e-trade (Sparling et al., 2007; Hong and Zhu, 2006; Teo et al., 2006; Lertwongsatien and Wongpinunwatana, 2003), e-business (Ifinedo, 2011; Oliveira and Martins, 2010; Lin and Lin, 2008; Zhu et al., 2006a; Raymond et al., 2005; Zhu and Kraemer, 2005; Zhu et al., 2004; Zhu et al., 2003), Enterprise Systems (Troshani et al., 2011; Ramdani et al., 2009; Lee et al., 2009; Pan and Jang, 2008), open frameworks (Chau and Tam, 1997), Internet (Bellaaj et al., 2008; Xu et al., 2004), and Information Technology (Bose and Luo, 2011; Zhang et al., 2007; Premkumar and Roberts,1999). Kuan and Chau (2001) utilization Iacovou et al. (1995) model with the TOE for authoritative management, institutional education to adopt cloud computing.

2.5 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is begun from the Theory of Reasoned Action (TRA), social psychology is the proposition model which is science utilized as a potential hypothetical establishment to examine the conduct of the user as well as their attitude to the technology (Ajzen & Fishbein, 1980; Davis et al., 1989; Fishbein & Ajzen, 1975; Swanson, 1982). The establishment of the TRA reasonable model is the refinement between convictions, state of mind, the aim and purpose as well as practices. As per the TRA, an individual's action on particular conduct is dictated by his or her behavioral plan to perform in such a behavior,the aim is be together controlled by the individual's feeling and subjective standard concerning the conduct being referred to. Subjective norms are a singular impression that he or she ought to perform a certain things in light of the fact that it is normal by other people who are paramount to the individual (Fishbein & Ajzen, 1975).

The TRA has demonstrated fruitful in foreseeing as it clarifies deliberately proposed as practices over a wide mixture of spaces which is testing the behavior of individuals. (Ajzen & Fishbein,

1980; Fishbein & Ajzen, 1975; Schiffman & Kanuk, 2007; Yousafzai et al., 2010). On the other hand, it is exceptional and accordingly has not detail the notion and standards that are successful for a specific behavior (Davis et al., 1989). Subsequently, Davis (1986) presented an adjustment of the TRA called the technology acceptance model (TAM).

A key reason for TAM is to give a premise to following the effect of other variables on interior notion, state of mind, and plans. To attain this objective, the TAM was planned by recognizing a little number of basic variables that arrangement with the cognitive and full of feeling determinants of acceptance of technology (Davis et al., 1989). The TAM postulates that two particular beliefs, perceived usefulness (PU) and perceived ease of use (PEOU), are of primary relevance for computer acceptance behaviors.

Davis (1989) characterized PU at the level of which an individual accepts to utilizing a specific system would upgrade his or her employment execution and PEOU as the level of which an individual accepts that utilizing a specific framework would be free of exertion. The utilization on behavioral intention are dictated by PU and PEOU. This is focused around the thought that, inside associations, individuals structure plans towards practices, which they accept will build their occupation execution general and the positive or negative sentiments evoked at the conduct (Davis et al., 1989).

Additionally, PU is dictated by PEOU, as the lesser the exertion obliged utilizing a framework, the more valuable it is seen to be. At long last, BI to utilize prompts real framework utilization. Despite the fact that the TRA demonstrates that mentality and subject standards influence aims, the TAM accepts that PU and PEOU straightforwardly influence an individual's state of mind. Davis et al. (1989) found that the subjective standard develop did not essentially influence aims above PU and PEOU and thusly expelled it from TRA. In the customary TAM, PEOU and PU

develops are considered as critical criteria in deciding the acknowledgement and utilization of IT (Keil et al., 1995; Malhotra & Galletta, 1999; Moon & Kim, 2001; Sung & Coursaris, 2011; Sung & Yun, 2010). Its capacity to clarify aims and mentality towards utilizing IT is superior to TRA (Mathieson, 1991).

2.6 Relative Advantage.

As indicated on innovation diffusion theory (Rogers, 1995), relative advantage is the process to the degree which potential adopters see the development as better than the antecedent. The level of relative point of interest is by and large communicated as the level of seeing advantages that the development may give to the association, and consequently, relative preference and saw advantages are utilized conversely as a part of technology adoption (lacovou et al., 1995). The innovation diffusion model proposes that the relative point of interest of an advancement absolutely influences an association's tendency to benefit on cloud computing.

Whether an individual decides to redesign or willing to transform the technology innovation relies over various elements. One of the principle components is the similarity within the increase in utilizing the opportunity and perceived benefit on educational institution to adopt cloud computing.

Relative advantage as defined from Rogers (2003) as the level to understand the new technology by users, which seeing the benefit and opportunity in the product or service over, it's same substitute as a customer can perceived as better to utilized and adopt it to their system. Kaiming and Enderwick (2000) depict that adopter's conviction of the probability that the innovation can enhance the financial profits of the organization or individual. This relative point of interest can be assessed as well as explain exclusively. For instance, it can be evaluated with financial, social, helpful, or acceptable to single person or organization (Sultan & Chan, 2000), or it can be

actually prevailed in the form of expense, usefulness, picture, and so forth. (Fichman & Kemerer, 1993).

Numerous of study on technology adoption, which apply TEO framework as well as relative advantage, which is explain benefit on adoption of cloud computing in the educational system has perceived some potential factor that can lead to adopt a new innovative technology (Chau and Tam, 1997; lacovou et al., 2001; Thong, 1999).

Cloud computing as new technology, which is bringing new skill and way to reduce expenses on technology, therefore, adoption of cloud computing most clearly perceived as new technology, which gain the benefit of adopting it as to solve the problem that may occur to the system. The individual will remain faithful to what is recognizable and/or hold up until new and better technology is created (Agarwal & Prasad, 1998; Edmonson et al, 2003). At the point when the new item has relative focal points over existing one, this can support clients to research the new technology, emphatically affecting both part clarity and capacity of the new item. The preferences additionally give a motivational constrain through motivations or saw rewards, which can prompt proposition of utilization (Eastlick, 1996; Gatignon & Robertson, 1991).

Also, the relative advantage is playing on point that expands on facts to make a decision to the new technology (Sultan & Chan, 2000). Relative advantage is the best way to improve and perceived the influence to adopt cloud computing in the education system (Sultan & Chan, 2000, Fichman & Kemerer, 1993, Vishwanath & Goldhaber, 2003; Coursaris et al., 2010).

Furthermore, various studies have combined TEO and tam model in the way that they are similar or correlate to explain the adoption of utilized and adopt cloud computing in the educational system. Perceived usefulness (PU) is characterized as the prospective client's level of

understanding to utilize a particular application on educational system which will give his or her way to motivate on their workplace, this nearly parallels the idea of relative advantage. Past studies likewise show that PU and relative advantage point are comparative ideas (Shin, 2011; Slyke et al., 2007). Gerrard and Cunningham (2003) recognize an apparent relative advantage as being a critical variable driving the adoption of cloud computing.

Poon and Swatman (1999) and Levy and Powell (2003) explain the benefit or opportunity on adoption of cloud computing in the educational system. Adoption of cloud can be a way to move on as well as seeing the standard in education as students can gain knowledge and free to explore and learn new thing. Nigeria, where government pool or budget billion Naira to the education(shur ur 2010). Relative advantage can benefit to the institution on monetary basis as well as lecturer and student can connect any time they like, this innovation shows the improvement and bring technology into the educational system in Nigeria (hdis 2010) In view of the survey of studies, cloud computing may give a number advantages to education in the measurements of interactions, training, as well as market preparing. As for cooperation which bring implies for separation, joint effort (Fuller et al., 2007; Reuters, 2006).

Educational institution can utilize the benefit of cloud computing to diminish the expenses that identify with innovation base on technology, expense of delivery of supplies of tools, time elements to set up and others (Bray and Konsynski, 2007). Due to respect to corporate preparing, the cost which is related to training the staff can be diminished representative by offering preparing sessions to the staff to research the new technology establishment and the utilization of gear and tools or equipment (Marshall, 2008). In light of IDO and earlier IT reception contemplates that utilize of TOE system, it is exceptionally conceivable that when educational institution see series of benefit to switch to cloud computing by adopt or make a good decision to

accept it to their policy as mentioned earlier, they are all the more eager to embrace cloud computing in their college as new advancement and the eventual fate of the education.

2.7 Compatibility

Compatibility is the level which new thing has to perceive and seen as being steady with existing qualities, past encounters, and the needs of potential users (Rogers, 2003). Thoughts perfect with present qualities and standards are received quicker than thoughts that are most certainly not. Hernaandez-Encuentra (2009) asked senior residents to depict what data and interchanges innovation, they utilize, how they utilize it, and what they might want to see offered later on. The study found that the greater part of the subjects utilized their technology to perform fundamental capacities.

Similarity, the stage design to use new technology as it steady with the adopter's present society, forms and innovative necessities (Rogers, 1995). Cloud computing includes changing the way IT was formed and work (Armbrust et a!., 2010). The absence of similarity had headed numerous associations to uncertainty the capability of technology in connection to their current level as well as place (Jianyuan & Zhaofang, 2009).

Compatibility defines the base on Innovation diffusion theory as stage of innovation observed by understanding the value to which an advancement is seen as reliable with the qualities, knowledge and requires to user by make move to adopt new technology (Rogers, 1995). Innovation diffusion theory recommends of invention compatibility with qualities, encounters, and requires positive correlation to adopt cloud computing as new innovation in the education. Additionally, expertise on technology has carried out various studies by appy TOE model which they seen growth and increase on compatibility to adopt cloud computing compare to old

version of technology that were used before using cloud computing, this show highly stage and opportunity that they can benefit on cloud computing such as (IT base or date center)drives or prompt the education institution to adopt cloud computing as new technological innovation (Premkumar, Ramanmurthy and Nilakanta, 1994; Thong, 1999). Thus, I understand on a compatibility which I can see from Nigeria educational institution to perceive the benefit and value which cloud computing can be opportunity to them directly or indirectly for them to understand new things on cloud computing which can bring development and changes to them in time of skill, knowledge and good research. Many universities were eager to move to cloud computing as they understand the potential advantage they can perceive by adopt it to their educational system.

Similarity, the significant of cloud computing is attention educational institute that understand technology innovation as way to make choice in light of the fact that, within their education system can experience good value by move to cloud computing needs to roll out insignificant changes and improvements, which suggests less opposition to adopt it (Thong, 1999) Moreover, similarity recommends lesser danger to the potential user and makes the innovation as reasonable to the education (Grover, 1993). For comparable reasons, I anticipate that an abnormal state of similarity may persuade associations to embrace distributed computing. My forecast is fortified by exact discoveries from various reviews of research on adoption of cloud computing by the educational institution. These studies experimentally discover compatibility as a motivation to adopt cloud computing. For instance, Teo et al. (1998) demonstrate that the compatibility of the Internet with organizational beliefs, qualities and Technology tools which make desire to embrace the cloud computing. An alternate case is given by Beatty et al. (2001). In view of studies of 286 medium-to-substantial U.S. firms, Beatty et al. Find that organization choose to

embrace the cloud computing in light of the fact that they see its similarity with existing innovation and standards on it.

Taking into account IDO and discoveries in a variety of research on cloud computing is exceedingly feasible, which is perfect with an educational institution is additionally ready to adopt cloud computing. Likewise, Fuller et al. (2007) propose that similarity may impact an educational institution's ability to make the decision to switch to cloud computing great impact and understanding lead to their desirable to adopt cloud computing.

2.8 Complexity

The Complexity is the process to develop or seen usability of new innovation as value to organizations Roger's (1995) definition as it identifies with the level of trouble in "utilizing" technological innovation. Taylor and Todd (1995) express that complexity is similar to the usability build in TAM. On the other hand, Rogers (1995) was particularly in distinguishing many-sided quality as a half breed of comprehension and utilization.Selection will be more improbable if the advancement is seen as unpredictable or hard to utilize (Rogers, 1983). Complexity is viewed as the precise inverse of convenience in the Technology Acceptance model, which has been found to straightforwardly affect utilization of cloud computing (Leaderer, et al., 1999). Purchasers will dismiss a development in the event that it is extremely perplexing and not easy to understand. In this setting, Cooper and Zmud (1997) report that usability of inventive items or administrations as one of the three imperative qualities for selection from the client's point of view.

Wakeland (2007) plans to form reference which can translate complexity as quality of utilization, or unpredictability of comprehension. Then again, in this study unpredictability will be characterized singularly as the level of trouble in understanding the innovation – which may

prompt an absence of understanding of the cloud computing service. Greifeneder, Scheibehenne and Kleder (2010) investigated areas of complexity, quality between a human and framework reference and demonstrated that by increasing in adopting cloud computing which can transform the technology.

A study from Davis (1989) observed that apparent complexity, quality is connected to cloud computing adoption. Exploratory study done in Estonia (Kerem, 2001) expresses that the most critical variables in beginning to utilize cloud computing are, as a matter of first importance better get valuable service which can provide all wants and needs of management policy or vision to adopt cloud computing, such as better costs and better security good service quality was additionally thought to be above normal as far as beneficial to perceive.

Low, Chen and Wu (2011) say that it may take clients quite a while to comprehend and actualize the new framework. Youseff et al. (2008) expressed a few plans of action quickly developed to outfit no cloud computing by giving programming, platforms of software, information storage of date or information as well as equipment services in mind that can get them or provide it on cloud computing, conductivities has show uncertain plausibility of empowering their relation feasibility far from being obviously true.

Youseff et al. (2008) examination tried towards a final objective about understanding of field of cloud computing, and a quick growth by the switch to cloud computing. Premkumar et al. (1994) express complexity, quality of technology can go about obstacle to make a decision and usage of adoption; unpredictability component is typically adversely influenced.

Therefore, cloud computing has some level, which user get trouble lead to experience and understanding or utilizing a cloud computing (Jianyuan & Zhaofang, 2009). Since Cloud Computing is a genuine new platform on technology, the majority of IT experts and professional

may not have trust in switch to the cloud due to security and privacy (Buyya, Yeo, Venugopal, Broberg, & Brandic, 2009). As referred to Jianyuan and Zhaofang (2009), demonstrate that the complexity of an IT framework has a negative relationship with the last adoption of the technology system. Some of important notice which needs attention on troublesome when they utilize or train clients on how to operate on cloud computing, the more desirable for the educational institution to embrace and adopt cloud computing. Therefore, process of complexity in IT framework can be seen as having a negative effect on cloud computing as new innovation (Low, & Cheng, 2011)

Finally, the less difficult to comprehend are received quickly than ones that require the advancement of new training to acquire. Similarly, obstacle and threat which can cause doubt on innovation will upset clarity of user and capacity, in light of the fact it will be harder to work and comprehend and might likewise make the advantages less obvious to the user to adopt (Eastlick, 1996). Subsequently, if the innovation is seen as more confused, a client the user may not want to test or switch to new technology (Coursaris et al., 2010; Meuter et al., 2005; Vishwananth & Goldhaber, 2003).

2.9 Trialability

Trialability is some piece of IDT which is the capacity to attempt or explore different achievement regarding the adoption of cloud in an educational institution as new innovation on a restricted premise (Rogers, 1995). Technology benefit, which can be tried by education institution management in their own particular conditions. Meanwhile the more they try and test the benefit is most prone to embrace the adoption of cloud computing in their system(Rogers, 1995).At an extremely stage, technology is an idea, practice or process which individuals see as distinctive" (Zaltman & Wallendorf. 1983). From an advertiser's perspective. The definition

needs to be more focussed: therefore, a development is characterized as an item which is seen from the user which present to them new. The recommendation that another item ought to be trialed in the form of testing before using or understand the consequence before adopting it according to model of innovation resistance Ram (1987).

Trialability is a type of halfway perceived to adopt new technology, which is indicated as dealt with as a substitute of a behavioral plan. Wu (2011) expresses cloud computing is a weighty option empowering higher education institution ought to embrace just for what they use as to figuring and system administration sources. Klems, Nimis and Tai (2009) show cloud computing offer to organization examine their capacity to lose benefits on a pay-for every utilization of cloud computing. As per Feuerlicht (2010) cloud server can be leased by an educational institution on a pay-as-you-utilize premise empowering them to conform the administrations utilization as per their current needs and select complex good as well as a trusted provider.

Johnson (2008) contended that educational institution inspiration their desire on incentive by offering trialability of cloud computing in their system in light of the fact that the quick advantages to big business end clients are not specifically evident. As indicated by Chung and Kwon (2009) trialability is seen to be more huge for right on time to adopt cloud computing, and in addition impacting early adoption for better making on what they observe. Chen, Yen and Chen (2009) effective important on ambition to perceive the cloud computing after the institution have tested and discover similarity with their moment undertakings. The social connections between variables that were set from this area of hypothesis as well as IDT segment is: Trialability have a positive impact on behavioral expectation.a good Trialability is process which to decide to make or switch to cloud computing whereas its potential has not been completely perceived as a determinant to adopt of cloud computing.

2. 10 Top Management

Top management support is the process to make general overview about adoption of cloud computing, to have knowledge on advantage, value or benefit of utilization (Grover, 1993). As indicated by a survey on technology adoption from Jeyaraj et al. (2006), top management is backing and control decision making to adoption of cloud computing in their institution or university. Utilization of TOE model is recommended for top management in any institution can benefit and help them in any step they want to move on as to adopt cloud computing to their educational system (Premkumar and Ramamurthy, 1995; Nelson and Shaw, 2003; Lederer and Mendelow, 1998; Lertwongsatien and Wongpinunwatana, 2003). However, adoption of cloud computing has found out in many studies which express how powerful are top management to decide and switch to cloud computing through top management support as well as final approval (Beatty et al., 2001; Kambil et al., 2000; Teo et al., 1998) the backup of top management is the support in term of budget (financial, technical, and human) for smooth selection and usage to apply cloud computing to their system. In this way, support of management decreases authoritative imperiousness to embrace cloud computing in light of the fact, strategic vision is a log time decision which is made by top management, activities, backing and a pledge to making a positive environment to embrace new technology (Quinn, 1985).

To actualize cloud computing, management may oblige money related, human and specialized tool or equipment. Also, they confront users imperiousness to apply the use of cloud computing. Thus, it is exceedingly likely that management with powerful support from them.

Top management is the level of accessible money related and specialized assets of the organization to embrace engage in the adoption of cloud computing (Adapted from lacovou,

1995; Chewlos et al., 2001). An innovation diffusion model which top management to find the means to present the importance and influence of the organization to adopt cloud computing.

The top level management on technology adoption, utilization and administration in Heis in choice making and actualizing the utilization of cloud computing (lacovou et al., 1995; Chewlos et al., 2001),

Which can catch a right to gain entrance to good resource and specialized assets for effective new technology(i.e., equipment, specialized abilities, designers and a skillful task pioneer) furthermore,

The level of administration of understanding as well as backing the utilizing cloud computing is the best approach to accomplish their vision as well as the target to set up the Heis (Pare and Raymond, 1991; Kuan and Cham, 2001) for instance, Mehrtens et al. (2001)

Decisions of management to embrace the cloud is decidedly influenced as availability or alternative, communicated as far as the management is specialized preparation: level of cloud computing utilization and also the expertise and incompetent in stage to utilize cloud computing.

2.11 Firm Size

Firm Size: is a figure or total workers, student, lecturer and target size business and market sector and capital put on resources by management(Anand & Kulshreshtha, 2007). Anand and Kulshreshtha (2007) further call attention to that, big educational institution knows the value of assets that can be utilized to fund new technology. Thus, extensive associations stand to profit significantly out of cloud computing adoption.

(Rogers, 1995) innovation diffusion theory, organization size is absolutely identified with a management to perceive and embrace any development technology. This is especially for

educational institution to adopt cloud computing. The utilization of TOE model likewise proposes that management can measure absolutely impacts and authoritative adopt cloud computing.

Teo and Tan (1998) state on their study of firm size, which is evaluate total figure of works and yearly income, have importantly positive correlation on cloud computing. Zhu et al. (2003), those research expresses that bigger firms are all the more eager to embrace the cloud computing use than smaller firms. One conceivable clarification of the essentially positive relationship between firm size is that, as a rule, bigger management has more noteworthy slack in assets and are accordingly ready to dispense more prominent hierarchical assets (e.g., money related, specialized and human assets) to the embrace of new innovation (Monazemu, 1988).

Moreover, management in higher education institutions should increase the facility and technology infrastructure as well as equipment to carry out tasks more faster to meet the deadline, the upgrading of the system lead to make utilization and prompt more work or new skill and professional Large and size of institution and sufficient workers to make a task in group and concentrate on. Along these lines, management can propose to make decision to adopt cloud as way to reduce expects and there equipment.Consequently, the centrality of the firm is to increments in size of their business and how to execute or settling on choice, its assignment coordination may get to be more mind boggling, and its dependence on the development of data may additionally build, subsequently expanding the requirement for innovations, for example,cloud computing which numerous of both acedemic and non can access and student also connect to cloud computing to get data at once all access to cloud computing (stair and Reynolds, 1988).

2.12 Amount of information

The information on cloud computing is the knowledge that individual, organization and also education institution should seek for the information or knowledge about a product or service before they can purchase or adopt the product. According to Rogers (2003) state that the amount of information and awareness of the individual to collect on new in a nation which motivates them to perceive to used the innovation. This is leading to those higher education institutions to do more research to seek more information about the cloud computing in order to get more understanding that they will perceive from it. Knowledge and information is processed the awareness of the product and services to embrace the cloud adoption of their system. Roger classifies the levels which are close to the audition to get more information about adoption of cloud computing. Information which refers to primary to source for information about the new innovation, what are the principle and guideline in adoption of new innovation and perceived the function in better to get more about the utilize the information. This is given management influence to to know the advantage and usefulness about the new innovations to adopt cloud computing. The decision can be made when full information has done to adopt the cloud computing by management to embrace the cloud.

Information is the primary element components of advancement reception which is the essential variable to adopt cloud of developments in different fields (Caselli & Coleman, 2001; Goldfarb & Prince, 2008; Kraut et al., 1998; McIntosh et al., 2000). Cloud computing is not yet adopted openly by higher education institution, Bondarky (1998) cloud computing can be beneficial to student and their lecturer to perceive the efficiency on cloud computing through the influence of management to decide positively to embrace cloud computing into their system. Those higher education institutions willing to adopt cloud computing into their system have been seeking for more information before the decision can be made to perceive the cloud which awareness and

understand an effect to adopt cloud computing Kraut et al. (1998) . This was reliable with Goldfarb and Prince's explore in (2008) utilization designs to adopt cloud computing to be growing in number day by day in use, this may influence the educational institution to research more about information on cloud computing. Information is an advancement strengths given to look for additional data, which can be perceived as qualities of development, and to save them from obstacle that they are facing which lead to adopt the cloud.

Various research has been done and still carry out about the adoption of technology, which is the basic and primary is to seek and search for information about the new innovative technology. By finding information the big picture of the benefit will see either this information is provide way to adopt cloud computing or to follow their traditional system (Agarwal & Prasad, 1998; Rogers, 2003). The top management must have clear information and benefit from it before they decide to shift from traditional to cloud computing. How efficiency information to gain and make decisions in advantages on how cloud computing can be perceived usefulness to them (Edmonson et al., 2003; Young, 2008).

2.13 Coercive pressure

As indicated by TEO modal, is the process which management reliant to benefit on student, lecturer and other, this can push weights on the management to embrace new technology service. This kind of pressure lead to coercive (Dimaggio and Powell, 1983). DiMaggio and Powell recommend that management comply with the pressure that they can face on cloud computing on the grounds that these associations may generally seem illegitimate to their stakeholders (Deephouse, 1999; Meyer and Rowan, 1977.

A connection in the organizational context of adoption of cloud computing, from influential and predominant as coercive pressures which clients seem to have huge impacts on an educational institution's purpose to adopt cloud computing (Khalifa & Davison, 2007; Son and Benbasat, 2007 and Teo et al., 2003). My survey on adoption of cloud computing in an educational institution is about that utilize toe model, which propose that capable and prevailing management can push immediate and circuitous or indirect pressure on adoption of cloud computing in higher education institution. Khalifa and Davison (2007) find that when management see the benefit of push more pressure on power to implement the utilization to adopt cloud computing in education. Then again, Teo et al. (2003) and Son and Benbasat (2007) find that, direct pressure either from students or staff, which they willing to embrace cloud computing by powerful and prevailing management through the implication pressure on management to making changes in the technology by adopt cloud computing. Management willingly to adopt cloud computing as the pressure to move them to perceive the value of cloud computing. Cloud computing can't compare with any other technology, these forces them to make better decisions to adopt cloud computing as student and staff were really understanding the usability and knowledge that they can gain on the cloud as well as fast or speed on cloud computing.

2.13.1 Mimetic pressure - competitors

Mimetic weights are the way to face management of any institution to copy an activity to make a difference to their rivalry in the environment (DiMaggio and Powell, 1983). University of Ilorin was the first institution that moves their student to access information on cloud by giving all new student tablet to access basic information to benefit their study. In this study, taking activity which can motivate management to adopt cloud computing as future of way way to perceive knowledge.

As indicated by Haveman (1993), the management was faced in two levels. First, mimetic pressure can force management in one institution in the same location to adopt the same policy or copy any movement of the first institution as they seen the way the changes and growth in their system.

As pressure result of a fleeting trend (Abrahamson and Rosenkopf, 1993). Furthermore, an educational institution can confront mimetic pressure when the management sees or feel the activities going on from their competitor which can lead to failure to them as they are in the same educational institution as they are fruitful as well as gainful.

At the point, when management can confront mimetic, to emulating other activities of different management policy in its surroundings in light of the fact that it would like to be seen as a loafer to its stakeholders or rivals, on the grounds that impersonation lessens instability of the activity, and on the grounds that administration trust it ought to take over the activity keeping in mind the end goal to diminish apprehensions of losing focal points.

Various of study has been done an area of about mimetic pressure on adoption of cloud computing from contenders have a positive influence on one management vision to adopt cloud computing to their educational system as they perceived the value and important. For instance, Teo et al. (2003) express how institutional education expectation to switch and move to cloud computing as emphatically influenced as pressure from contenders or rivalry. Pressure was evaluated with a degree of embracing among contenders or rivals as they seem accomplishment of others. An alternate illustration is Khalifa and Davison (2006), who demonstrate or explain how educational institution sees their rivals when moving and decide to embrace cloud computing as a bast solution to the educational problem.

2.14 Quality of Internet connection

According to Sathye (1999) , expressed speed on cloud computing and accessibility of network access help numerous educational institution budgetary establishment to assemble a framework in which their student and staff can access the information as the like and utilize at whatever time, the quality and opportunity that they perceived play important role to management by cut the amount of money they budget to the technology and internet facility as well as student and staff knowing and understand the quality to access information more fast on cloud than traditional technology. Thusly, adoption of cloud computing encourages management in any educational institution to perceive the speed, quality and the utilization of internet managing by both students and staff to carry out task on time.

Adoption of cloud computing as the degree to which openness and access of information with the quick response on cloud computing, more solid and sufficient data are accessible at the managing an account set as per student and staff necessity to get. The nature of the Internet quality has huge impacts on the user to access internet more speed on cloud computing (Al-Somali et al., 2009). Nature of internet connections, particularly imperative in the connection of cloud computing on the grounds that numerous individuals get to be hesitant to utilize the framework when they experience incessant postpone to access information accordingly, deficiency on access or absence of access, and lack or privacy and secure date (Delone and Mclean, 1992; Seddon, 1997; Lee, 1999; Lin and Lu, 2000). Sathye (1999) prominent that without a fitting Internet access to information on cloud is not possible.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This part is talking about the techniques used to achieve the destinations of this study. It depicts the exploration destination, examination outline and received from; emulated by areas on the information accumulation technique, test determination and information investigation and others approach attempted in this study. This has Inspirations and explanations, on adoption of cloud computing in higher educational institution in Nigeria.

3.2 TEO framework and TAM Model

The TOE by and large, Tornatzky and Fleischer (1990) created the technology-organization-environment (TOE) structure to depict the organizational parts that influence the company's appropriation choices. Tornatzky and Fleischer's (1990) TOE system state that three guideline settings - technological, organizational, and environmental impact the methodology by which an association receives and acknowledges another technology. The technological context considers the accessible advances imperative to the firm, both inward and outer that may be valuable in enhancing hierarchical profit. The organizational is characterized regarding assets accessible to backing the acknowledgement of the advancement.. The environment context is the setting in which the firm directs business, and affected by the business itself, its rivals, the capacity to get to assets supplied by others, and cooperate with the government policy.

Davis (1989) was created technology acceptance model (TAM) as Adopted numerous of studies. The TAM model which adjusted from TRA (Fishbein & Ajzen, 1975). The basic aim of TAM is

to clarify the intention of individual, group of people, organization and educational institution acknowledgement and utilization conduct over a mixture to adopt new technology (Davis, 1989; Davis et al., 1989). Diffusion models and TAM are seemingly the methodology most generally acknowledged and utilized in various or series of studies that has been done with technology. The fundamental explanation behind the TAM's prevalence is maybe because of its stinginess, data framework particular nature and experimental backing from a few studies (Mathieson et al., 2001; Wang et al., 2003).

3.3 Definitions of Methodology

Polit and Hungler (2004), philosophy alludes to methods for acquiring, sorting out and investigating information. Procedure choices rely on upon the way of the study carry out question. Approach of methodology is the process that applying right theory to investigative choices (Kaufman as referred to in Mouton & Marais 1996:16) methodology in this study expresses the way the research was carried out as well as consistent grouping.

This study was aimed to Explore and investigate the intention to adopt cloud computing in higher educational institution in Nigeria. Hence the exploration methodology was quantitative. Mouton (1996:35) depicts technique as the methods or systems for doing something.

According Burns and Grove (2003:488), this is the process to carry out study includes the setting of the research, element and population participant, limitation on debt collection, and the information accumulated and investigation method to carry out research. Henning (2004:36) depicts methodology as cognizant gathering of strategies that supplement each other and which can fit to convey information and discoveries that will reflect the exploration question and suit the analyst reason.

3.4 Research Framework

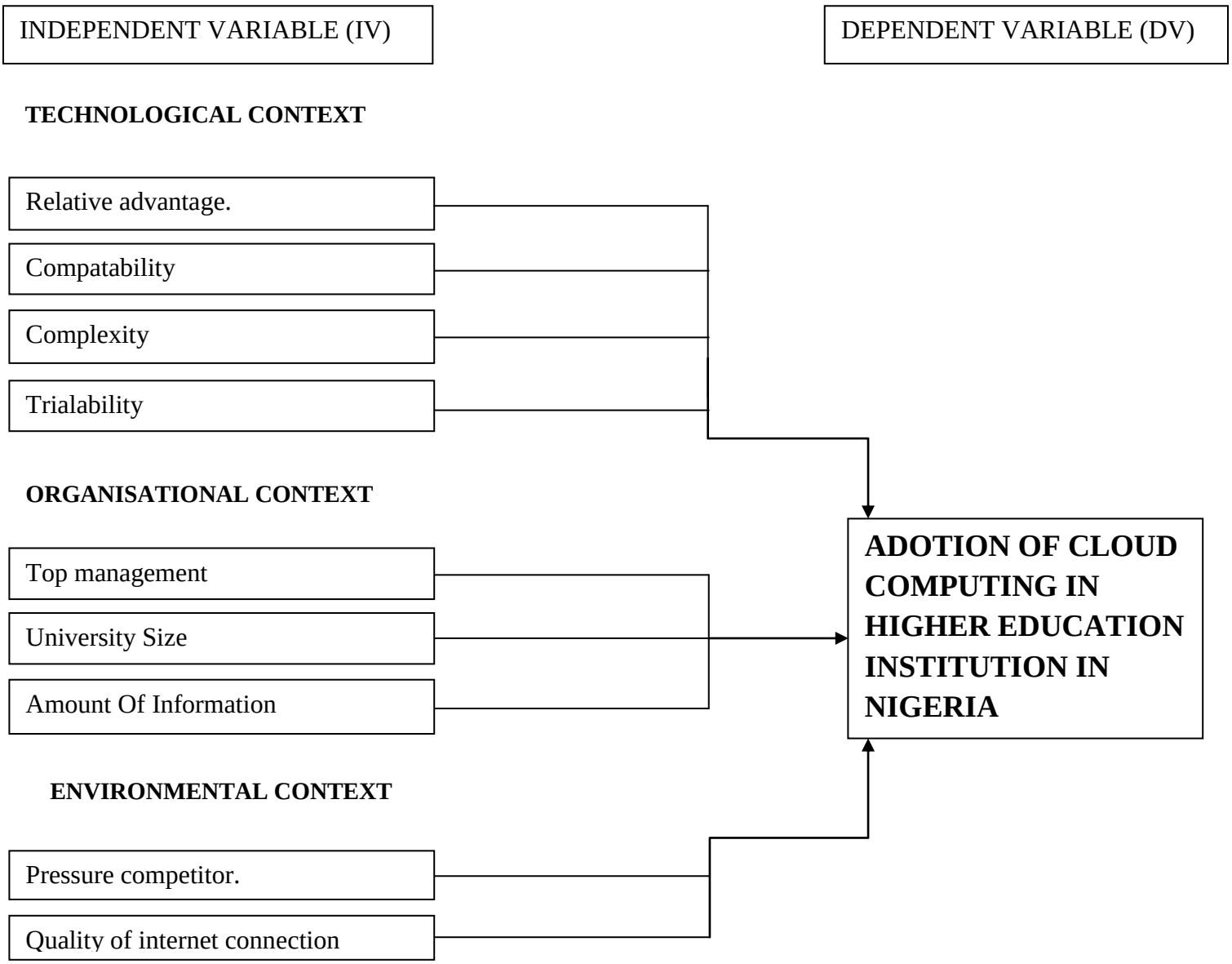


Figure 3.4.1

Hypothesis formulation

Experimental expression is planned to evaluate the inquiries brought up in the study. Hence, hypotheses will formulated in this way:

H1Amount of information will be positively correlated to adoption of cloud computing in higher education institutions in Nigeria.

H2Compatability will be positively correlated to adoption of cloud computing in higher education institutions in Nigeria.

H3Complexity will be negatively correlated to adoption of cloud computing in higher education institutions in Nigeria.

H4Pressure competitor will be positively correlated to adoption of cloud computing in higher education institutions in Nigeria.

H5Quality of internet connection will be positively correlated to adoption of cloud computing in higher education institutions in Nigeria.

H6Relative will be positively correlated to adoption of cloud computing in higher education institutions in Nigeria.

H7 university Size will be positively correlated to adoption of cloud computing in higher education institutions in Nigeria.

H8Top management will be positively correlated to adoption of cloud computing in higher education institutions in Nigeria.

H9Trialability will be positively correlated to adoption of cloud computing in higher education institutions in Nigeria.

H10adotion of Cloud computing is correlated with their independent variable to explain the adoption.

3.5 Research Approach

For the basic in this study has picked quantitative methodology to accomplishing the motivation behind the study of knowing the intention to adoption of cloud computing in HEIs in Nigeria Quantitative method is "for the most part described by a strategy of defining speculations that are tried through controlled experiment or statistical investigation". Zikmund, (2003), Zikmund (2003) happens to clarify that the quantitative method is the study that concentrates on deciding or drawing information in a type of numbers. However, the idea and element to adopt Cloud Computing is still at a developing stage, this study endeavored to depict explanations behind embrace of a development which has been investigated by numerous analysts.

Wu (2012), express that quantitative exploration is genuinely scrutinized, especially when study a adopt any model, he states that quantitative methodology takes after information, lessening standards, through measurable methods, hence losing the intricacy of a wonder and "between indigent human-engineering cooperation to quantifiable, direct, and deterministic connection". Besides that, Wu (2012) contended on more quantitative method are not adaptable, especially, when the study examines the process, which may lead analysts to disregard some startling however essential disclosures.

3.6 Population

Zikmund (2003) site on a populace which implies any complete gathering of individuals, organizations, health facilities, stores, educational institution or some set of attributes. Meanwhile, this study will used educational institution in Nigeria to participate in this research are used as a respondent. From the annual higher educational statistic in Nigeria state that 320

accredited institutions in Nigeria as categorized them university, polytechnics and college of education as well as divided into federal, state and private (shu'ara, 2010).

Zikmund (2003) characterized an example, as an element of a subset of a population. Time and monetary imperatives kept to the accumulation of information from the whole element (Saunders & Lewis, 2012). Because of the trouble in getting information from the entire populace, chosen can be made in the way utilize appropriate data to carry out study such probability and non probability (Saunders & Lewis, 2012)

3.7 Sampling and Size of Sample

Sampling is a methodology for choosing among the population to figure a decision on an element in the population (Zikmund, 2003). As indicated by Saunders and Lewis (2012), the accompanying two ways can be utilized information for a study probability sampling versus non-probability sampling. non-probability was used to inspecting procedure which is utilized because of process to carry out on this study had no chance to get off anticipating or ensuring that all population would like to participate in this study (Motloutsi, 2009).

The sample size constituted of 200 respondents which they dean of faculty, School Management Or Board, V.C, Rector, Provost, Dean, HOD, Bursar, Head Of Academic and IT Department or Computer Centre institution OR anyone that had a unit or involve in management meeting were participating in this survey. . The sample included both male and female respondents with the age bracket of 18 to 61 and above. The respondents who have knowledge of cloud computing or have read about it or experience even just a day.

3.7.1 Probability

Probability sampling is the process of selection element in the population is known as picked sampling. Probability sampling is the most usually connected with review -based examination where scientist needs to make deductions on sampling around a population to answer the exploration questions or to meet exploration targets (Saunders et al., 2000). In the citation examining, units of sampling to choose a random element on sampling.If done appropriately, likelihood testing guarantees that the specimen is illustrative (Hair et al., 2003)

3.7.2 Non-Probability

Non-probability will in this manner be for samples where a complete rundown of the population was not known. Non-probability inspecting gives a scope of option procedure focused around scientist subjective judgment (Saunders et al., 2000). In non-probability testing, the choice of components for the specimen is not so much made with the point of being measurably illustrative of the populace. Rather the specialist utilizes the subjective routines, for example, individual experience, comfort, master's judgment along these lines on to choose the components in the specimen. Therefore the likelihood of any components of the populace being picked is not known (Samuel et al., 2003).

3.7.3 Convenience Sampling

As indicated by Samuel et al., 2003 most non-probability testing technique is: Convenience Sampling: Convenience technique includes select example parts who can give obliged data and who are more accessible to partake in the study. Convenience technique empowers the analyst to finish an extensive number of meetings cost successfully and rapidly yet they experience the ill

effects of determination inclination in view of the contrast of the target populace (Hair et al., 2003)

3.7.4 Judgment Sampling

Study in light of judgment technique which is utilized to choose a test element and it is included for a particular reason. A gathering of individuals who have learning on specific issues they can be chosen as example component. At times, it as a purposive judgment technique in light of the fact that it includes a particular reason. Judgments testing is more persuading and minimal effort contribution.

3.8 Data Collection Method

This study aims to explain the method used to collect data in this research. A survey created in this study was adapted from studies Such as Previous research Son and Benbasat, 2007, adapted from Lee and Kim (2007), Teo and Pian (2003). To measure intention of educational institution in Nigeria to adopt cloud computing to their system. Questionnaires were divided into two stages, stage one was acquiesced from respondents to fill up their information about their biography such as age, working experience and so on. The next stage was asked to answer the question based on the research question. As per Saunders and Lewis a survey is a decent strategy for gathering information from respondents asking the same inquiries (2012, p. 141). The core important which has being of utilizing the instrument to accumulate information by asking overviews of respondent in term of measuring and the investigation of information of a population (Zikmund, 2003). Five points of scale choose for respondent to circle from ranging of “1” for strongly disagree, “2” disagree, ”3” neutral, “4” agree, “5” for strongly agree.

Data collection was directed in Nigeria from open, private and state educational institution in Nigeria. In a review, people were inquired to volunteer their time to finish a survey for which they will get no moment reaction, advantage, or delight. On the off chance that the poll outline makes the errand troublesome because of confounding inquiries, poor headings, or lengthy inquiries, individuals have a tendency to pick not to give their time "to the reason" (Dillman, 2000). The dispersed review to the respondents by meeting some in the workplace, some in the wake of gathering and some on their path back home. Dispersion of overview took 20 days to give and collection and gathered it back took an additional 10 days, the Total number of dispersed was equivalent to 200, 20 was inadequate or uncompleted and 127 were finished and the remain was uncollected because of the time factor.

3.8.1 Adopt cloud computing in HEIS in Nigeria Dependent Variable

Six items were designed to test and measure the understanding of respondents by circle the right answer base on their view the following were instructed question:

I. Adopting of cloud computing will allow better communication with our student and staff.
II. Adopting of cloud computing will increase the profitability of our University.
III. Adopting of cloud computing will create an electronic presence for our brands.
IV. Adopting of cloud computing will reduce costs (e.g., communication, advertising, marketing, travel, and R&D).
V. Adopting of cloud computing will allow us to aware new technology.
VI. Adopting of cloud computing will improve our Web presence and to access information fast whenever they need the information.
VII. Adopting of cloud computing is very important for my university to have access to reliable, relevant, and accurate information.

TOE framework was used as Independent Variables

The following was independent variable that was used to investigate the adoption of cloud computing in higher educational institution in Nigeria, they are as follows:

5 item relative advantages were constructed

I. Cloud computing enables me to accomplish tasks more quickly
II. Cloud computing improves the quality of work I do.
III. Cloud computing makes it easier to do my job.
IV. Cloud computing enhances my effectiveness on the job.
V. Cloud computing gives me greater control over my work.

4 item compatibility was constructed

I. The attitude towards Adopting of cloud computing in my university is favorable.
II. Adopting of cloud computing is compatible with my university's information technology (IT) infrastructure.
III. Adopting of cloud computing is consistent with my university's business strategy.
IV. Adopting of cloud computing is consistent with my university's beliefs and values.

5 items University size was constructed

I. The size of student and lecturer make the university to adopt cloud computing.
II. Larger population in our institution gives advantage to be early adopters to adopt cloud computing.
III. The volume and popularity of our institution give advantage than our rivalry to adopt cloud computing
IV. The amount that is charged student for ICT is enough to adopt cloud computing without

management support.

V. The amount we spend on equipment for technology lead us to adopt cloud computing.

4 items, complexity were constructed

I. In general, I believe that it would be riskier to use Adopting of cloud computing.

II. I believe that there will be high potential for loss associated with using Adopting of cloud computing.

III. I believe that there will be too much uncertainty associated with using Adopting of cloud computing.

IV. I believe that using Adopting of cloud computing will involve many unexpected problems.

3 items trialability was constructed

I. I would be permitted to use the Adopting of cloud computing on a trial basis long enough to see what it could do.

II. Before deciding to use the Adopting of cloud computing, I would be able to properly try it out.

III. Service providers offer free trial usage for Adopting of cloud computing

6 items top management was constructed

I. Top management in my organization is interested in Adopting of cloud computing.

II. Top management in my organization considers Adopting of cloud computing important.

III. Top management in my organization has shown support for Adopting of cloud computing.

IV. Top management enthusiastically support the Adopting of cloud computing.

V. Top management has allocated adequate resources to Adopting of cloud computing.

VI. Top management is aware of the benefits of Adopting of cloud computing.

3 item amount of information

I. I have generally received enough information about Adopting of cloud computing.

II. I have received enough information about the benefits of using an Adopting of cloud computing.

III. With the Adopting of cloud computing., the university saves operating costs

IV. The Adopting of cloud computing. Implementation project was completed on time.

V. I think the quality of our Adopting of cloud computing. The system is very good.

3 items coercive pressure was constructed

I. We may not retain our important student and staff without adopting cloud computing.

II. Student and staff are crucial to us by encouraging management to use cloud computing.

III. Student and staff are expected university to use cloud computing for faster and better accessibility.

9 items quality of internet connect was constructed

I. I don’t worry about data loss when I use the cloud computing

II. I don’t find system errors very often when I use the cloud computing system.

III. The functionality of the cloud computing is using is very good

IV. The quality of this adopting cloud computing is equal to other information systems that I had a chance to familiarize with.

V. Information content and text are easy to understand

VI. I feel confused when using the computer to operate the cloud computing.

VII. Links are problem-free, accurate and the pages download quickly

VIII. The cloud computing provides a confirmation of the service ordered quickly

IX. Using the computer to record business transactions in cloud computing sometimes makes me panic.

3.9 Unit Analysis

The term unit of analysis in a study refers to individuals whose participate in a study. According to Zikmund (2003) the unit of analysis is defined as a single element or a group of elements subject to selection in the sample. The individual is used as unit analysis, which they were School Management Or Board, V.C, Rector, Provost, Dean, HOD, Bursar, Head Of Academic and IT Department or Computer Centre of the university OR anyone that had a unit or involve in management meeting can participate in this survey to collect in order to see their intention to adopt cloud computing in their institution

3.10 Data analysis

This same piece on study performed to utilizing date by smartPLS programming. smartPLS is a productivity application for way, demonstrating with inert variables. The information gathered was checked and broke down as I use the Statistical Package for Social Sciences Program

(SPSS) IBM20 to analyze stage one my questionnaires distributed to respondents. PLS was utilized after by the important information examined and evaluation. Structural mathematical statement demonstrating was embraced for information investigation. The approval of the structural model was attained utilizing SMARTPLS 2.0.

3.10 Summary

This chapter is present the process used to collect the data technique in this study. Data was collected from 127 people from different institutions. Non probability sampling was adopted to select the respondent. Data will be analyzed by using SMARTPLS in the next chapter.

CHAPTER FOUR

DATA ANALYSIS AND RESULTS

4.0 Introduction

The explanation in this chapter will present about the demography of respondent, such as age, time of working age, educational level and so on. The next level will explain how the data analyze the result from smartPLS. How many variables are supported or not supported will be explained in this chapter.

4.1 Demography analysis

This is analyzes of respondent's gender in this study. Respondents were asked to fill their age on questionnaires that I gave to them. There are two numbers on gender to circle by respondent, (1) is for male respondent while (2) is for female. The frequency of male that take part in this is study is 87 while in percentage is 68.5% also female responding were 40 whereas 31.5 was their percentage. The total number or overall participant in this study was 127 in frequency and 100% in percentage.

4.1.1 Gender Table

	Frequency	Percent
Male	87	68.5
female	40	31.5
Total	127	100

Table 4. 1

4.1.2 The Age of Respondents

As shown in the table below show the age of participants in this study, which started from 20 to 30 were 10 people in term of frequency while 7.9 at time of percentage. Ages from 31 to 40 were 61 people while 48 %. From age 41 to 50years were 44 in frequency and 34.6% in term of percentage. 51 above years were 12 people and 9.4 % in percentage. The total is 127 participants in this study.

	Frequency	Percent
20 to 30	10	7.9
31 to 40	61	48
41 to 50	44	34.6
51 above	12	9.4
Total	127	100

Table 4.2

4.1.3 This is the educational level of respondents

The below table shown the educational level of respondent base on degree is 17 people which is 13.3% percent. Master were 28 people while in percent is 22.0%. Phd were 48 people while in percent 37.7%. Above are 34 people while in percentage is 26.7%. In total 127 and 100%

	Frequency	Percent
Degree	17	13.3
Master	28	22
Phd	48	37.7
Above	34	26.7
Total	127	100

Table4.3

4.1.4 Years In Service Or Working

The participants that have been working from 1 to 10 were 29 people which is 22.8%. Those that were working from11 to 20 were 66 people while in percentage 52.0%. Lastly were those from 21 above were 32 while in percentage is 25.2.

	Frequency	Percent
1 to 10	29	22.8
11 to 20	66	52
21 above	32	25.2
Total	127	100

Table 4.4

4.1.5 Time of working

This table below shown the time of working of the respondents that take part in this study were divided into two: part time was 19 people while in percentage is 15% and full time were 108 people while in percent were 85%. Table 4.5.

	Frequency	Percent
Part time	19	15
Full time	108	85
Total	127	100

Table 4.5

4.1.6 Respondent that was using any cloud storage

This is shown the percentage of respondents that use cloud services. None used were 56 people while in percentage is 44.1. Drop box was 57 people while in percentage is 44.9. Google drive were 14 participants while in percentage is 11. Table 4.6.

	Frequency	Percent
None use	56	44.1
Dropbox	57	44.9
Google drive	14	11
Total	127	100

Table 4.6

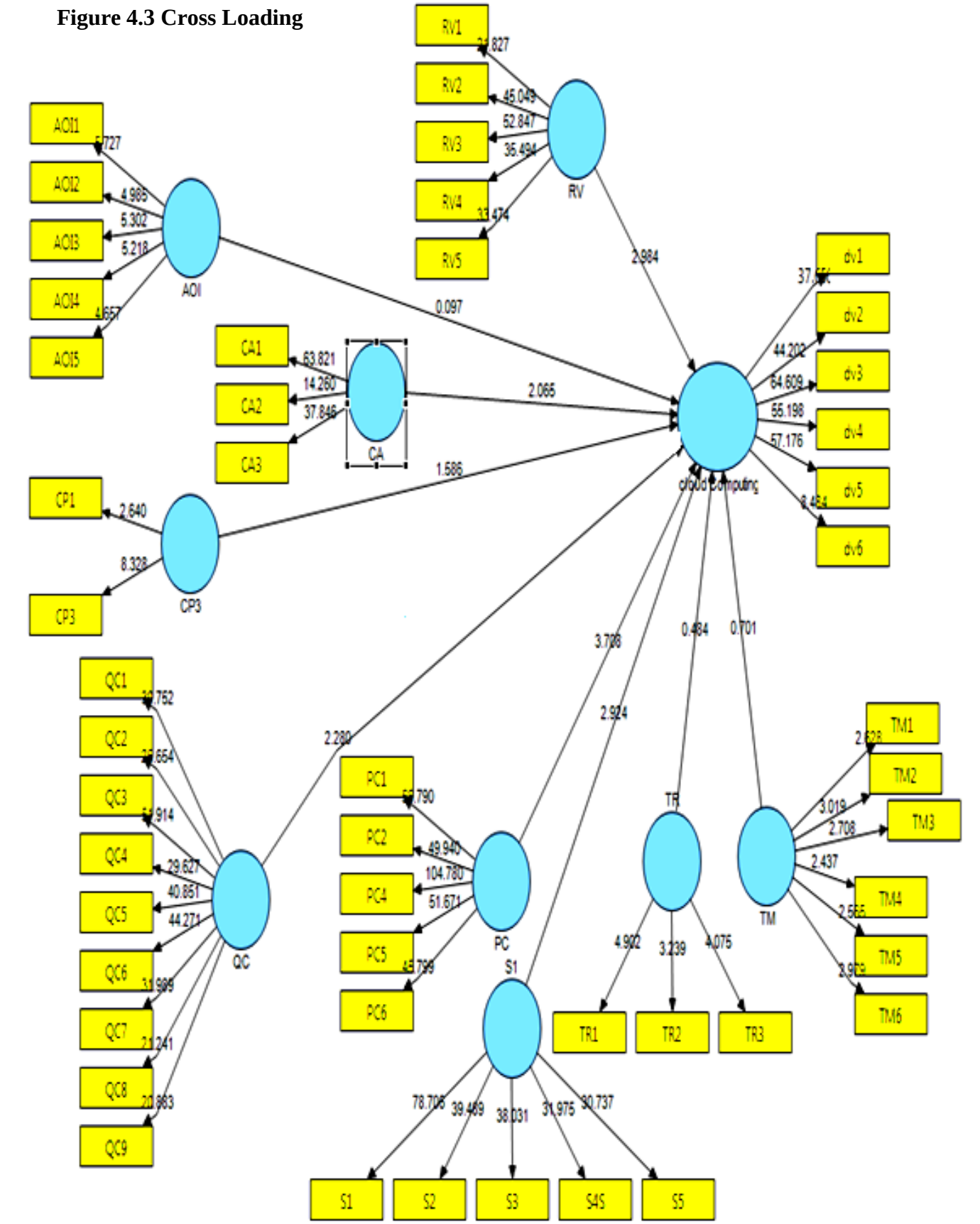
4.2 The Content Validity

Measuring of contending validity is the level which items were created or to meant and evaluate, construct should be suitably measure the idea or purpose that intended or inserted to measure (Hair et al., 2010). Especially, overall items develop to measure constructs ought to load higher in separate construct than loadings on its own different construct.

This was safeguarded by the far reaching audit of the writing to create the items which have been built and tried in past studies. Therefore. The examination directed at element investigation, things were accurately assigned out to their developer. Results in blow Table 4.2.7 shown how utilize to measure content validity are as pictured into two divisions.

First of all, this means items has expressed higher loading on different builds that the ones they fit in with constructs. Lastly, the things loadings was essentially stacking on their particular developmentally affirming the content validity to measures how it utilized as a part of the study, which showed on below Table 4.2.7 (Chow & Chan, 2008).

Figure 4.3 Cross Loading



	AOI	CA	CP3	PC	QC	RV	S1	TM	TR	cloud Computing
AOI1	**0.85857**	-0.0041	0.3197	-0.1778	0.011564	-0.09352	-0.120658	0.397915	0.534618	-0.09883
AOI2	**0.82099**	-0.0734	0.391	-0.1837	-0.00145	-0.10356	-0.118309	0.482379	0.456345	-0.112219
AOI3	**0.8257**	-0.0683	0.3237	-0.1291	-0.09307	-0.05581	-0.128152	0.438628	0.488805	-0.07088
AOI4	**0.82861**	-0.085	0.4158	-0.1919	-0.11481	-0.11697	-0.088704	0.528562	0.471046	-0.089498
AOI5	**0.83389**	-0.1646	0.2802	-0.1848	-0.14866	-0.13095	-0.068424	0.259515	0.588999	-0.169162
CA1	-0.03782	**0.9327**	-0.161	0.54724	0.606785	0.585171	0.61151	0.202567	0.03214	0.648354
CA2	-0.15548	**0.8524**	0.0302	0.45802	0.549238	0.587225	0.43697	0.090147	-0.050805	0.493684
CA3	-0.11655	**0.9274**	-0.22	0.54774	0.616344	0.579911	0.56404	0.068161	-0.061839	0.634382
CP1	0.230556	-0.0092	**0.631**	-0.1933	-0.11759	-0.19921	-0.139594	0.087408	-0.039522	-0.110361
CP3	0.395482	-0.1674	**0.948**	-0.3615	-0.11929	-0.21984	-0.357797	0.382208	0.252731	-0.268993
PC1	-0.19597	0.56578	-0.298	**0.9375**	0.626555	0.773185	0.75532	0.013306	-0.147055	0.829173
PC2	-0.24259	0.55638	-0.263	**0.9295**	0.548603	0.721111	0.724393	0.103749	-0.142863	0.821254
PC4	-0.21898	0.53769	-0.455	**0.9642**	0.590896	0.769609	0.732283	-0.00593	-0.202532	0.840333
PC5	-0.23588	0.51947	-0.375	**0.9266**	0.58757	0.76219	0.725506	0.118161	-0.159988	0.810064
PC6	-0.10166	0.5174	-0.32	**0.9303**	0.650859	0.775878	0.736471	0.058721	-0.101934	0.811766
QC1	-0.06869	0.56883	-0.189	0.61631	**0.86357**	0.517217	0.421917	0.081739	-0.131068	0.502671
QC2	0.058046	0.53728	-0.002	0.48797	**0.84777**	0.35539	0.371349	0.031254	-0.103785	0.406341
QC3	-0.05234	0.60453	-0.1	0.56112	**0.90665**	0.472874	0.435566	-0.00404	-0.085017	0.463827
QC4	-0.09672	0.55564	-0.238	0.5071	**0.8817**	0.43756	0.426919	-0.18349	-0.144833	0.396149
QC5	-0.09661	0.62305	-0.029	0.62151	**0.90165**	0.48737	0.446417	0.064781	-0.114766	0.515292
QC6	-0.14322	0.54456	-0.224	0.58666	**0.91932**	0.475211	0.409858	-0.12717	-0.189943	0.465762
QC7	-0.14827	0.5293	-9E-04	0.47452	**0.85305**	0.478569	0.391306	0.018882	-0.195297	0.390397
QC8	-0.08811	0.56056	-0.125	0.53099	**0.83465**	0.460128	0.397674	0.038827	-0.090586	0.414233
QC9	-0.07578	0.59614	-0.17	0.60272	**0.83997**	0.454064	0.414444	-0.00863	-0.108742	0.479731
RV1	-0.04484	0.52055	-0.241	0.67089	0.414521	**0.85895**	0.726576	0.265649	-0.008178	0.775961
RV2	-0.11957	0.5571	-0.192	0.75403	0.432858	**0.90605**	0.737607	0.173416	-0.151834	0.845265
RV3	-0.11711	0.62664	-0.271	0.75772	0.552926	**0.93062**	0.792783	0.093564	-0.115165	0.857642
RV4	-0.14436	0.56282	-0.241	0.7017	0.493742	**0.90951**	0.674133	0.046016	-0.125526	0.73654
RV5	-0.14673	0.61875	-0.18	0.75639	0.484066	**0.8916**	0.742531	0.128156	-0.102402	0.815383
S1	-0.08377	0.58523	-0.291	0.7619	0.414581	0.781031	**0.95334**	0.170773	-0.028448	0.859647
S2	-0.09506	0.57983	-0.343	0.71003	0.452952	0.759946	**0.925267**	0.105047	-0.078572	0.79985
S3	-0.12456	0.56967	-0.276	0.69449	0.406962	0.747306	**0.9135**	0.096531	-0.081435	0.78701
S4S	-0.08498	0.51072	-0.399	0.71003	0.428476	0.737093	**0.913267**	0.016538	-0.097464	0.769183
S5	-0.16312	0.51605	-0.277	0.72561	0.481911	0.738198	**0.892929**	0.032167	-0.073358	0.78475
TM1	0.418993	0.10868	0.3901	0.01623	-0.02191	0.102781	0.094768	**0.91184**	0.34532	0.123023
TM2	0.548095	0.03677	0.2258	-0.043	-0.07918	0.059732	-0.05186	**0.82788**	0.444227	0.044619
TM3	0.451717	0.13271	0.3097	0.05205	-0.02677	0.142303	0.061693	**0.93221**	0.37512	0.142249
TM4	0.461022	0.02649	0.1886	-0.0904	-0.04344	-0.00642	-0.010642	**0.68409**	0.473138	-0.025796
TM5	0.372582	-0.0319	0.3278	-0.1112	-0.1212	-0.03264	-0.07244	**0.68278**	0.413424	-0.056976
TM6	0.376021	-0.0052	0.2467	-0.0132	0.000548	0.067697	0.035852	**0.75289**	0.270411	0.041469
TR1	0.606456	-0.0709	0.1844	-0.1682	-0.16993	-0.13638	-0.097451	0.285655	**0.944569**	-0.128329
TR2	0.481952	-0.0303	0.1133	-0.0417	-0.03059	-0.02678	0.064483	0.336944	**0.767133**	-0.038763

TR3	0.494029	0.06887	0.1902	-0.1546	-0.11428	-0.07426	-0.090161	0.362042	**0.855092**	-0.067503
dv1	-0.12174	0.64489	-0.25	0.80605	0.458754	0.833943	0.821037	0.119572	-0.093123	**0.907878**
dv2	-0.204	0.60567	-0.165	0.78011	0.43221	0.760688	0.781215	0.151574	-0.124774	**0.911076**
dv3	-0.03243	0.61556	-0.21	0.76924	0.43514	0.824731	0.801281	0.219245	-0.007635	**0.939294**
dv4	-0.16176	0.60582	-0.313	0.81181	0.474222	0.798253	0.779493	0.094192	-0.145837	**0.932908**
dv5	-0.17579	0.59872	-0.249	0.81665	0.494655	0.832494	0.795853	0.205711	-0.108672	**0.929451**
dv6	-0.05645	0.44672	-0.202	0.70128	0.483392	0.752251	0.666304	0.099551	-0.099915	**0.707611**

Table 4.2.7 Amount of information (AOI) Pressure cometittor (PC) firm Size (S)

Compatability(CA) Quality of internet connection.(QC) Top management (TH)

Complexity (CP) Relative advantage.(RA) Trialability (TR)

Cloud computing (DV)

4.3 The Convergent Validity of the Measures

Convergent validity is the level which converges is set of variables which can measure specific idea or element (Hair et al., 2010). The process of building convergent validity, numerous criteria specifically the element loadings, composite reliability (CR) as well as average variance extracted (AVE) as utilized all the while as proposed via Hair et al. (2010). Therefore, all items were loadings to inspect or analyzed, this show that the items has figuring 0.5 loading which is the satisfactory stage recommended in the multivariate as state from a previous study (Hair et al., 2010). Notwithstanding that, Table 4.2.7 shows a significant level at no. o1 which all the variables' where loadings significance.

Reliability is the composite convergent validity, which demonstrates the degree to which items were reliably demonstrated the inactive build (Hair et al., 2010). Procedure of composite reliability is inspecting and examine the values as shown below in Table 6.12. The composite reliability values rated 0.66 to 0.91 which surpasses the prescribed estimation of 0.7 (Fornell & Larcker, 1981; Hair et al., 2010). These are shown good results support convergent validity.

The convergent validity affirm or support to the external model, the estimations average variance extracted (AVE) was analyzed. The average of the variance extracted emulate average variance

extracted (AVE) among items set down moderately to the change imparted to the estimation mistakes. Particularly, AVE measures the change sought by the markers in respect to the variance construct to estimation mistakes. In the event that the AVE qualities are no less than 0.5, this recommends that item which sets down have enough satisfactory meeting in measuring construct (Barclay et al., 1995). In this study, the value of (AVE) is rated 0.5 and 0.7 demonstrating a construct validity were on a decent level of measures utilized construct validity (Barclay et al., 1995).

Covergence Validility

Construct	Item	Loadings	Cronbachs Alpha
Amount of information	**AOI1**	**0.8586**	0.8940
	AOI2	**0.8210**	
	AOI3	**0.8257**	
	AOI4	**0.8286**	
	AOI5	**0.8339**	
Compatability	**CA1**	**0.9327**	0.8895
	CA2	**0.8524**	
	CA3	**0.9274**	
compexity	**CP1**	**0.6310**	0.5199
	CP3	**0.9480**	
pressure cometittor	**PC1**	**0.9375**	0.9656
	PC2	**0.9295**	
	PC4	**0.9642**	
	PC5	**0.9266**	
	PC6	**0.9303**	
Quality of internet connection	**QC1**	**0.8636**	0.9607
	QC2	**0.8478**	

	QC3	**0.9067**	
	QC4	**0.8817**	
	QC5	**0.9016**	
	QC6	**0.9193**	
	QC7	**0.8530**	
	QC8	**0.8347**	
	QC9	**0.8400**	
Relative advantage	**RV1**	**0.8590**	0.9410
	RV2	**0.9061**	
	RV3	**0.9306**	
	RV4	**0.9095**	
	RV5	**0.8916**	
size	**S1**	**0.9533**	0.9544
	S2	**0.9253**	
	S3	**0.9135**	
	S4	**0.9133**	
	S5	**0.8929**	
Top management	**TM1**	**0.9118**	0.9312
	TM2	**0.8279**	
	TM3	**0.9322**	
	TM4	**0.6841**	
	TM5	**0.6828**	
	TM6	**0.7529**	
Trialability	**TR1**	**0.9446**	0.8422
	TR2	**0.7671**	
	TR3	**0.8551**	
Cloud computing	**dv1**	**0.9079**	0.9465
	dv2	**0.9111**	
	dv3	**0.9393**	
	dv4	**0.9329**	
	dv5	**0.9295**	
	dv6	**0.7076**	

Table 4.3.8
a: CR = (Σ factor loading)2 / {(Σ factor loading)2) + Σ (variance of error)}

b: AVE = Σ (factor loading)2 / (Σ (factor loading)2 + Σ (variance of error)}

4.4 The Discriminant Validity of the Measures

The construct validity is supported external model, discriminant validity is important to secure or setup. The hypotheses were tested by the way of analysis step was obligatory. The level of measuring discriminant validity is demonstrated on stage, which items were distinguished between each on construct. Basically, items were demonstrating how it was utilized distinctively through or which constructs did not lack. Subsequently, constructs are related, though idea to measure is different. This significance was obviously clarified by Compeau et al., (1999) whereas, he reasoned when measures are set up for discriminant validity to established item to correlate, it implies that the imparted change between from one construct to its measures ought to be more prominent than the fluctuation imparted among unique constructs. In this present study, analysis of discriminant validity of measures was supported with the Fornell and Larcker (1981) utilizing and applying the strategy and method.

Below table Table 4.4.9 illustrates how average variance extracted (AVE) square root is to put construct inlay on sloped elements of how the matrix were correlated. Elements were slop higher than the others on the same line as well as a column on the way they were placed; discriminant validity is affirmed of the external model. Construct have been made to external model, this show how valid and reliable is expected to acquire best results which relating to test hypotheses.

	AOI	CA	CP3	TM	PC	QC	RV	S1	TR	cloud Computing
AOI	**0.83366**									
CA	-0.10857	**0.90488**								
CP3	0.40607	-0.14179	**0.805**							
TM	0.47868	0.135754	0.34641	**0.805**						
PC	-0.21245	0.575287	-0.3652	0.0608	**0.938**					
QC	-0.09105	0.654083	-0.1388	-0.008	0.6407	**0.873**				
RV	-0.12744	0.642698	-0.2499	0.1575	0.8109	0.5293	**0.9**			
S1	-0.11936	0.601076	-0.3439	0.0936	0.7836	0.4744	0.8185	**0.92**		
TR	0.62229	-0.02694	0.19597	0.3554	-0.161	-0.147	-0.1129	-0.0771	**0.859**	
cloud Computing	-0.14201	0.660879	-0.2604	0.1677	0.8773	0.5185	0.8986	0.87068	-0.10796	**0.892**

Table 4.4.9 Amount of information (AOI) Pressure cometittor (PC) University Size (S)

Compatability(CA) Quality of internet connection.(QC) Top management (TH)

Complexity (CP) Relative advantage.(RA) Trialability (TR)

Cloud computing (DV)

4.5 The Prediction Quality of the Model

Review of multivariate analysis, R2 is showing a record of endogenous variable which can change a specific variable as clarified from predictor variables. Thusly, the extent of R2 was viewed as endogenous variables which model was as an indicator force on predictive. Notwithstanding that, the specimen reprocess system was connected as created through Stone (1975) and Geisser (1975) which is affirmed or support model of predictive validity. It was contended by Wold (1982) that the test's reuse strategy to fit, extremely well, the PLS demonstrating methodology (Götz, Liehr-Gobbers, & Krafft, 2011)

Particularly, model which is based on predictive importance or relevance were analyzed from Stone-Geisser non-parametric test (Chin, 1998; Fornell & Cha, 1994; Geisser, 1975; Stone, 1975). This can be performed utilizing the blindfolding system inserted in Shrewd PLS 2.0 version. Blindfolding methodology is intended to evacuate a portion of the information and to handle them as missing qualities to gauge the parameter. In this stage, the assessed parameters were utilized to remake the information which should be presumed or accepted ahead lost. Subsequently, the blindfolding system produces general cross-accepting measurements Q2.

The study discoveries identified a model of prediction as the nature of forecast item, blow table is outlined showed correlation with redundancy (cross-validated) with adoption of cloud computing was 0.001237. Furthermore the Cross-Validated Communality wort was 0.795248 This figure is more than zero demonstrating a sufficient predictive model focused around the criteria specified by Fornell and Cha (1994).

Endogenous	R Square	Cross-Validated Redundancy	Cross-Validated Communality
cloud Computing	0.685	0.001237	0.795248

Table 4.5.10

4.6 The Structural Model and Hypothesis Testing

Measurement of the model which was created, testing of hypotheses is the next level to analyze in this study through smartPLS program 2.0 version, 127 cases as well as 500 generated by bootstrapping technique. The analysis will show the result in figure

NO	Hypothesized Path	Path coefficient	Standard Error (STERR)	T Value	P Value	Decision
H1	**AOI -> cloud Computing**	-0.005557	0.057232	0.097089	0.461	Not supported
H2	**CA -> cloud Computing**	0.138521	0.067082	2.064959	0.020	Supported
H3	**CP3 -> cloud Computing**	0.064884	0.040898	1.586487	0.057	Supported
H4	**PC -> cloud Computing**	0.430886	0.116191	3.708437	0.000	Supported
H5	**QC -> cloud Computing**	-0.163564	0.071752	2.279585	0.012	Supported
H6	**RV -> cloud Computing**	0.32055	0.107415	2.984217	0.001	Supported
H7	**S1 -> cloud Computing**	0.270553	0.092535	2.923799	0.002	Supported
H8	**TM -> cloud Computing**	0.031452	0.044856	0.70118	0.242	not supported
H9	**TR -> cloud Computing**	-0.022165	0.045786	0.484113	0.314	not supported

***:p<0.001;**:p<0.01,* p < 0.05 Table 4.6.11

Amount of information (AOI)
Compatability(CA)
Complexity (CP)
Cloud computing (DV)
Pressure cometittor (PC)
Quality of internet connection.(QC)
Relative advantage.(RA)
University Size (S)
Top management (TH)
Trialability (TR)

The table showed that the variable of the amount of information is not significant (β=0. 00, t= 0.097, p>0.05). This is show that AOI cannot explain or is not significance to explain the adoption of cloud computing in the case of Nigeria higher educational institution. Therefore, the variable of compatibility is significant (β=0.138, t= 2.064, p<0.05) this is less than 0.05 which is supported and significance to dependent variable CA can explain the adoption of cloud computing in case to the Nigeria educational institution. Also complexity is significantly as its lower than 0.01 which β=0. 064, t= 1.586, p<0.057 mean this CP is supported and can explain dependent variable as it's less than 0.01. While pressure competitor from the degree of 0.001 is significant (β=0. 430, t= 3.708, p<0.000). This is supported. The variable in the quality of internet connect is significant (β=0. 163, t= 2.279, p<0.012). This hypothesis is supported. The

variable of relative advantage is significant (β=0.320, t= 2.984, p<0.001). This hypothesis is supported. Therefore, The variable of university size is significant (β=0.270, t= 2.923, p<0.002). This hypothesis is supported. The variable of Top management is not significant (β=0.031452, t= 0.70118, p>0.242). This hypothesis is not supported. Finally, the variable of trialability is significant (β=0. 031, t= 0.701, p>0.242). This hypothesis is supported.

4.7 The Goodness of Fit of the Whole Model

Dislike the CB-SEM have been standing out measure of goodness of fit. This is characterized by Tenenhaus et al. (2005), the global fit measure (Gof) on PLS is way to demonstrating how the geometric mean of the average commonality plus average R2 to endogenous constructs. Thusly, this integrity of fit measure represents the change separated by both external and inward models. With backing PLS model on validity, Gof quality was evaluated as per the rules set up by Wetzels, Odekerken-Schroder, and Van Oppen (2009) the following is the formula given to calculate.

$$Gof = \sqrt{(\overline{R^2} \times \overline{AVE})}$$

Gof 0.685 x 0.858692 = 0.5882

In particular, gof approach show the value of the model which has 0.5882 is indicate bigger compare to base on value according to Wetzels *et al.,* (2009) (small =0.1, medium =0.25, large =0.36).The outcome demonstrated model goodness of fit base one towards medium variance demonstrating and clarified is substantial which show a satisfactory level.

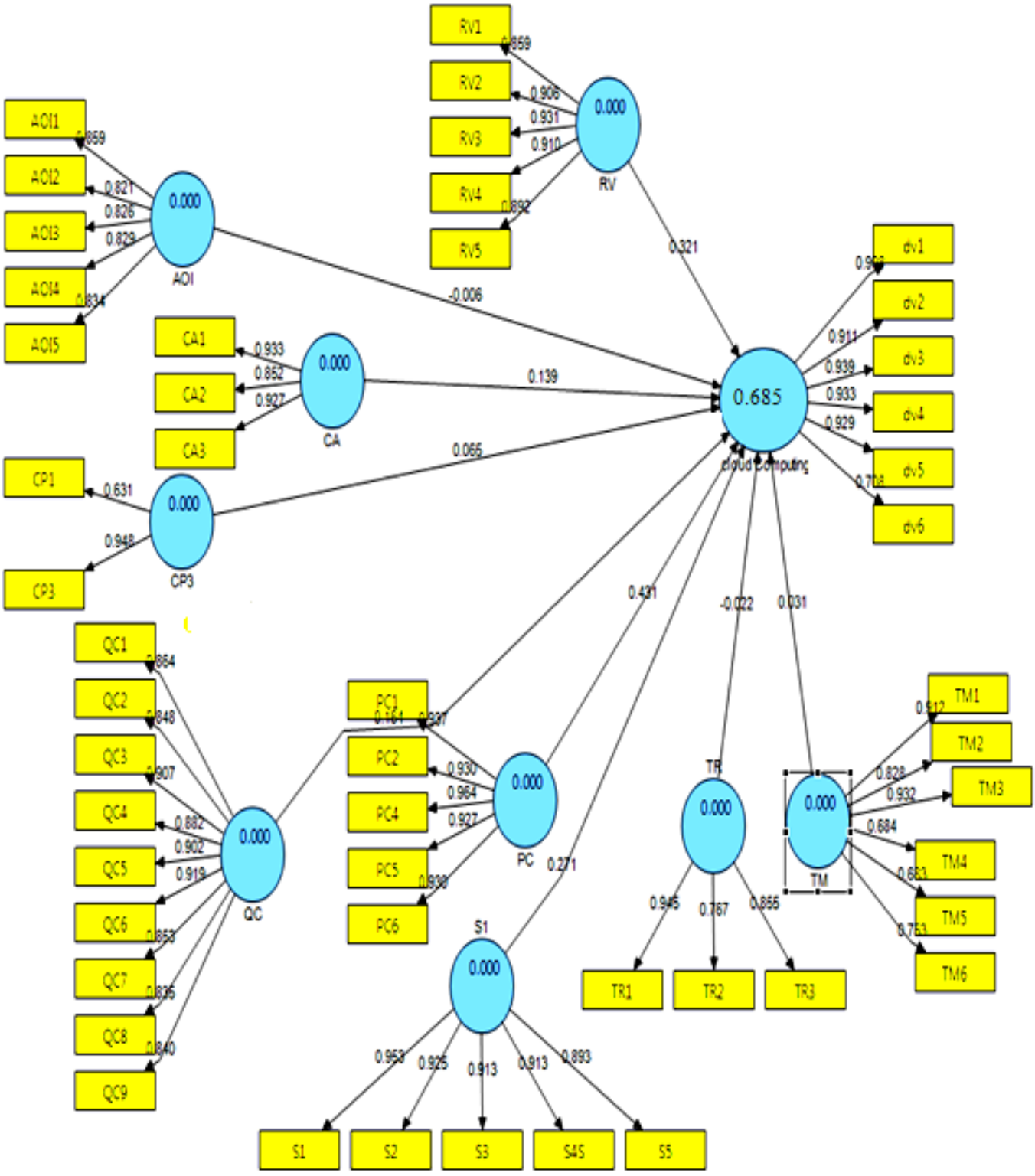

RV1
RV2
RV3
RV4
RV5
0.000
RV
0.321
AOI1
AOI2
AOI3
AOI4
AOI5
0.000
AOI
-0.006
CA1
CA2
CA3
0.000
CA
0.139
CP1
CP3
0.000
CP
0.066
0.685
cloud computing
dv1
dv2
dv3
dv4
dv5
dv6
0.431
-0.022
0.031
QC1
QC2
QC3
QC4
QC5
QC6
QC7
QC8
QC9
0.000
QC
PC1
PC2
PC4
PC5
PC6
0.000
PC
0.271
TR
0.000
TR1
TR2
TR3
0.000
TM
TM1
TM2
TM3
TM4
TM5
TM6
S1
0.000
0.953
0.925
0.913
0.913
0.893
S1
S2
S3
S45
S5

FIGURE 4.6.2

4.8 Summary of the Findings

This study is applying PLS SEM and SPSS was used to analyze first or part as questionnaire was divided into two stages. SPSS was used to analyze demography of respondent while SMARTPLS was used to analysis technique for the second stage on the questionnaire. This study applied ten hypotheses while six was supported or significant and other three was not supported.

H1Amount of information is not significance to explain the adoption of cloud computing in higher education institutions in Nigeria.

H2Compatability is significance to explain the adoption of cloud computing in higher education institutions in Nigeria.

H3Complexity is significance to explain the adoption of cloud computing in higher education institutions in Nigeria.

H4Pressure competitor is significance to explain the adoption of cloud computing in higher education institutions in Nigeria.

H5Quality of internet connection is significance to explain the adoption of cloud computing in higher education institutions in Nigeria.

H6Relative advantage is significance to explain the adoption of cloud computing in higher education institutions in Nigeria.

H7Size is significance to explain the adoption of cloud computing in higher education institutions in Nigeria.

H8Top management was not significance to explain the adoption of cloud computing in higher education institutions in Nigeria.

H9Trialability is not significance to explain the adoption of cloud computing in higher education institutions in Nigeria.

H10Cloud computing was correlated with (*h2, h3, h4, h5, h6,and h7*) to explain the adoption of cloud computing in higher education institutions in Nigeria while (*h1, h8 and h9*)

CHAPTER FIVE

DISCUSS, RECOMMENDATION FUTURE RESEARCH AND CONCLUSION

5.0 Introduction

This chapter will analyze, discuss on results detailed in Chapter four follow by recommendation and future research as well as conclusion on adoption of cloud computing in HEIs in Nigeria.

5.1 Discuss On General Hypotheses

The amount of information will be a related to leads adopt the cloud computing in HEIs in Nigeria.

The table showed that the variance of the amount of information is not significant (β=0. 00, t= 0.097, p>0.01). This is so that **AOI** cannot explain or is not significance to explain the adoption of cloud computing in the case of Nigeria higher educational institution. One of the elements of adoption technology is to source for knowledge and information to understand the important factor that will lead to after the adoption (Caselli & Coleman, 2001; Goldfarb & Prince, 2008; Kraut et al., 1998; McIntosh et al., 2000). Explore for information will lead to privilege to adopt cloud computing this is fully show that the HEIs in case in Nigeria should seek more information about cloud clouding and benefit to perceive and efficiency of cloud computing. Bondarky (1998) source for information in HEIs may be in the form of project, academic research or case study to get more information and knowledge about cloud computing adoption.

Compatibility Will Be Positively Related To Adopt The Cloud Computing In HEIs In Nigeria.

Therefore, the variable of compatibility is significant (β=0.138, t= 2.064, p<0.05) this is less than 0.05 which is supported and significance of the dependent variable. Compatibility can explain the adoption of cloud computing in case to the Nigeria educational institution. As indicated from Kolodinsky et al. (2004) compatibility is significant to adoption of cloud computing in higher education in Nigeria. From this analyze compatibility can explain the adoption of the cloud in HEIs and I expect that this will provide them benefit with high intention to adopt. (Rogers, 1995) define compatibility as the level which innovation can be perceived and to meet the need to use either from current or past experience. (i.e., Grover, 1993), EXPLAIN THAT is an important directive to adopt cloud computing, which it can predict to management to understand the use of cloud computing.

Complexity will be positively related to adopt the cloud computing in HEIs in Nigeria.

Also complexity is significantly as its lower than 0.01 which β=0. 064, t= 1.586, p<0.057 mean this CP is supported and can explain dependent variable as it's less than 0.01. Complexity is hard and difficult to intend to adopt cloud computing in HEIs base on Nigeria case complex is similar to the perceived ease to use cloud computing from the analysis above show that this variable was significant, this show that it can explain the adoption of the cloud in HEIs.). According to Hester and Scott(2007) complexity has an impact on adopting new technology due to negative intentions of use and lead to lack to willing to adopt the cloud. I expect that higher HEIs will have higher intention to adopt cloud computing to their *system*. Premkumar et al. (1994) said that complexity can become very to understand to adopt cloud computing. The hypothesis are showing negative to adoption of cloud computing in the context to Nigeria HEIs

Pressure competitor will be positively related to adopt the cloud computing in HEIs in Nigeria.

While pressure competitor from the degree of 0.001 is significant (β=0. 430, t= 3.708, p<0.000). This is supported. This variable is supported and explain dependent variable as its highly significant. This show that pressure to adopt cloud in case to Nigeria HEIs is really high this show that they have an intention to move to adopt cloud to their system because of the ease to access and the benefit to reduce the chances on a cloud. Each of the HEIs can reduce of competing among themselves. Delmas (2002) in his recommendation the pressure of competitor will lead to higher cost to make changes to the firms, but at the end this will show the high standard in of using or adopt cloud than traditional that they were used before.

The quality of internet connect will be positively related to adopt the cloud computing in HEIs in Nigeria.

The variable in the quality of internet connect is significant (β=0. 163, t= 2.279, p>0.012). This hypothesis is supported. Therefore, this is variable, can explain the use of cloud computing in the case of Nigeria HEIs. This shows that moving to cloud computing will reduce the loss or traffic of data center of each institution. The quality of internet connects will fast and speed of access to cloud computing means they understand the benefit of high speed to access of information on cloud than tradition or access directly to their server Goodhue and Straub (1991). This show that they have good intention to adopt cloud computing as many users can access direct without weak of connection. Walczuch et al., 2000.

Top Management will be negatively related to leads adopt the cloud computing in HEIs in Nigeria.

The variable of Top management is not significant (β=0.031452, t= 0.70118, p>0.242). This hypothesis is not supported. This show that top management did not want to adopt cloud computing, they may not willing to adopt it due to the Nigeria content as they applied politic to education and corruption level. But from a higher educational institution statistic in Nigeria show that government budget over 200 billion Naira to Nigeria education(shu'ara, 2010)), but till now there are no changes, this will lead to not willing to adopt or finance as well as to intend to adopt cloud computing to HEIs in the case to Nigeria. From various of study that's done on adoption of technology and cloud computing, which state that support management in higher education institutions in Nigeria is very important to understand and see the advantage of cloud computing as it will bring innovation to their educational system (Jeyaraj et al., 2006). Another study state that top management may lack of knowledge and information about the cloud computing or the way they look it may be different to the way the cloud computing is it, this will lead to not support cloud computing (Liang et al., 2007)

Firm size will be positively related to adopt the cloud computing in HEIs in Nigeria.

The variable of firm size is significant (β=0.270, t= 2.923, p<0.002). This hypothesis is supported. This variable can explain the adoption of cloud computing as I explain from the pressure of competitiveness and quality of internet connect as well as complexity because they have a large number of student and staff mean this variable were connected to the size of the user to adopt cloud computing Zhu and Kraemer, 2005. The simple explain for the university size is one of the importation to adopt cloud computing in term of recourses, human and finance which has been seen to facilitate the adoption of cloud computing (Rogers, 1995), the number and size

of the larger figure of the institution will give advantage rather than small or low number of institutions to make the decision to adopt cloud computing. The larger size will show the willingness to adopt cloud computing by management (Hage,1980; Zhu et al., 2006) because the size of large number of staff will need more communication, connectivities and others carry out the task on time. (Nord & Tucker, 1998,)

Trialability will be negatively related to, adopt the cloud computing in HEIs in Nigeria.

The variable of trialability is not significant (β=0. 031, t= 0.701, p>0.242). This hypothesis is supported. This variable is supported or significant to adopt cloud computing in the case to Nigeria content. Trialability is the level to try to use the new technology innovation, which can perceive the benefit to test to use as from the variation of the amount of information to trialability show that they were not yet to adopt cloud computing to their system despite the information is not supported as trialability is not significant to explain adopting of cloud computing to Nigeria content. Moore, Benbasat, 1991) said early trialability to adopt cloud computing will reduce the uncertain level to perceive. Increase the experience of the user when they try to test cloud computing will reduce the importance of trialability (Rogers, 2003). According to Murphy (2005) trialability will give an easy way to try cloud computing, easier to try will lead to increase to perceived to adopt cloud computing. Cloud computing service is pay as you utilized which is an additional attribute to top management to look at it which is better to alter that fixed.

Relative advantage will be positively related to adopt the cloud computing in HEIs in Nigeria.

The variable of relative advantage is significant (β=0.32055, t= 2.984217, p<0.001). This hypothesis is supported. This is the level of using technology which will lead to perceived better

advantage to adopt cloud computing in HEIs in Nigeria (Moore, Banbasat, 1991). The nature of adopting of cloud computing will determine the relative advantage and important to the adopter. From a roger theory show that perceived usefulness will lead to adopt the relating advantage to adopt cloud computing. This shows that this variable will explain the adoption of cloud computing in the content of Nigeria HEIs. Many stages refer to perceive usage as best predict to the relative advantage (Agarwal, Prasad, 1997; Karahanna et al, 1999; Moore, Benbasat, 1991; Plouffe et al, 2001).This variable of relative advantage can explain the adoption of cloud computing. Also, it shows the great way to manage of any HEIs in Nigeria to make the decision to adopt cloud computing in their system as H6 support to explain the adoption of cloud computing lacovou et al., 2001; Thong, 1999.

Finally, Various of studies have been adopted them, and edit models in many previous studies. The quality of internet connection and amount of information was from TAM MODEL while IDT and TOE were the remains variable that added in this study.

The significant in study show R^2 of 0.685 which means six variables can explain the adoption of cloud computing (compatibility, pressure competitor, complexity, quality of internet connect of relative advantage and university size is significant) which were supported while four variable did not supported which means they remain 0.315 is not significant (amount of information, outsource, Top management, trialability were not significant) to explain the adoption of cloud computing.

5.2 Recommendation

The result from analysis explains lack of knowledge on amount Of Information to adopt cloud computing to their HEIs. Management of each HEIs are advice and encourage to explore more

on cloud computing either direct or indirect as shown in the data which is not support adoption cloud, but in my own opinion, I think they have knowledge about cloud, but some or most may look at the negative side of cloud like if they adopt it what will happen to those that working in ICT department or as it will reduce the number of workers and decision can be made faster if they adopt cloud computing. So no one did not know what will be consequences that will happen to them, even to top management as everything is politic in Nigeria.

Top management is not supporting this study as cloud computing in HEIs in the context of Nigeria. I was wondering why this variable is not significance to this study. In my view, top management should encourage making the right decision, their task is to be controlled and strategy the vision of instituting. They are not there for their own sake or pocket, but they are there to make progress of the institution and provide convenience to staff and student. When it comes to the term of finance or approval of money they should take the right decision, or they personified that move the motion is not belong to us as we know politics is everywhere, in some cases federal government may late to monthly allocation. They should note it down and see the benefit in general (staff and student) can perceive will this kind of innovation is adopted.

Trialability is not our problem, but the problem is who is bringing the idea of cloud computing with them, but in this study show that trialability is not support to explain the adoption of cloud in the context of Nigeria HEIs. If they don't want to try to adopt cloud in full to their system, they can adopt some of cloud services that can help in the area which they lack or threat to them. By try this may give them intention to adopt more on cloud computing to their system. For instance, during the time of registration for the new semester, many students were faced with a lot of problems due to low speed to access their student portal as well as staff. As the cloud is pay as you used this is the best way to start using cloud computing.

Finally, the Federal ministry of higher education in Nigeria should make a strong awareness and support to adopt cloud computing. This will bring new innovation to Nigeria education and give student way to expose too many material bases on their own study and other, lecturer and staff as well can get the latest research, article, and the journal that published in other university around the world. Federal ministry of education is encouraged to implement or to make it compulsory as well as to put it in their requirement for any individual, group or association that want to set up institutions Nigeria to adopt cloud as part of their system technology. This is among reason to be recommended cloud computing to HEIs in Nigeria because of power electricity, data center of any institution using the power supply from power holding company of Nigeria (PHCN), is the power take off what will happen to those students that want to submit an assignment or need information, this show that students and lecturer cannot access data center because of power supply down as we know that one of the problem Nigeria faces is perceived darkness of light. At my encouragement to the management of HEIs as well as the federal ministry of education to implement the adoption of cloud computing to HEIs.

5.3 Limitation

The future research can divide of the database on our institution in Nigeria with a focus on university in general or private, state and federal rather than make it general to collect data. The influence to finalize some study may limited to some area. Another limitation of this study is that the data were collected from individual respondent from each institution. This may not be the all the institution that I use in as respondent means is representing the whole institution. The future study can also collect date base on focus groups. This study may omit some variable which I can't see it as important to explain the adoption of cloud computing, but the future research can move on that to complete the adoption of cloud computing. I think that I complete the important factor for HEIs to adopt cloud computing in the case of Nigeria institutions.

5.4 Future research

This study is focused on adoption of cloud computing in HEIs. Adoption of cloud computing in the case in Nigeria is still looking as new to them. Future research can focus on awareness of cloud computing in the Nigeria educational system. New research can test top management's intention to adopt cloud computing so that it can test their understanding of what cloud is really mean. As this is quantitative study may be the next research can be quantitative study. Compare of private and public institution in Nigeria to adopt cloud computing. Another can focus on security and privacy on cloud computing, to test how trust and reliable on cloud computing to adopt.

5.5 Contribution of study to literature

In this study, various of aspect was used to explain the adoption of cloud computing based on HEIs in Nigeria. The adoption of cloud computing in HEIs has been in practice in many developed countries, Nigeria HEIs cannot compare with those developed series of research need to done and awareness. This study explains and bring understanding to the HEIs to see the benefit and advantage of adopting cloud computing. Therefore 127 were used as data collection in this study to explain the adoption of cloud computing in HEIs in Nigeria, it found that all supported variables can influence the management in HEIs to adopting cloud computing into their educational system. This study is point out the understanding, benefit, advantage and opportunity in adopting cloud computing in HEIs in Nigeria. Lastly the innovation diffusion theory and TOE framework show the strong impact to adopt cloud computing as the both theory, analyze the innovation which can transform the HEIs in Nigeria, which is bringing the solution to the problem statement in this study if they can adopt cloud computing, since cloud computing

is new to innovation technology to Nigeria HEIs, I believe that this cloud can solve the problem in Nigeria education system and I believe it will be useful to them.

5.6 Contribution To Management In Heis In Nigeria

The study will contribute to the management by suggesting or recommend to them. The management of HEIs in Nigeria must fully support the adoption of cloud computing, they must play their role in the ability to make the decision to embrace the cloud computing. However, they should understand the important to bear the cloud computing to their system, they should know the impact of cloud in time of finance, human, resources, skill and others which cloud can add or reduce to them. They can must sure that the knowledge and capacity to adopt cloud computing to their education is there to transform the whole system which can lead to successful after the adoption.

5.7 Conclusion

The conclusion in this study I back to the TOE framework which is the model in this study for adoption of cloud computing in higher educational institution in Nigeria. The study was distributed 127 questionnaire as to test the toe framework to adopt cloud computing if it can be make significant to HEIs in Nigeria. The finding in this study shown that seven out of the nine variable is significant and supported to adopt cloud computing to HEIs in Nigeria. While the three variables was not support to explain the adoption of cloud computing. This study shows the benefit and important for management to understand what cloud computing is all about in order to make strongest decision to adopt cloud computing.

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