

**PSYCHO-SOCIAL FACTORS AND ELECTRONIC LEARNING ADOPTION  
BY ACADEMIC STAFF IN HIGHER EDUCATIONAL INSTITUTIONS  
IN DUTSE LOCAL GOVERNMENT AREA, JIGAWA  
STATE, NIGERIA**

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UNIVERSITY**

**MAY, 2015**

## DECLARATION A

The study is my original work and has never been to any educational institution for any award.

Signed.....

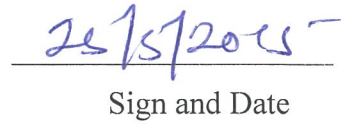
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## APPROVAL SHEET

This is to certify that the Master's Thesis of **AUWAL ADAMU** has been read and approved by the supervisor.

  
\_\_\_\_\_  
Supervisor

  
\_\_\_\_\_  
Sign and Date

## **DEDICATION**

I dedicate my dissertation to my beloved mother Hafsatu and Alh Adamu Yunusa as well Late Alhaji Nasidi.

## **ACKNOWLEDGEMENT**

I'm deeply grateful to my supervisors, Dr. Kayindu Vincent for his guidance, patience and support. I consider myself very fortunate for being able to work with a very keen, considerate and encouraging person like him. Without his offering to accomplish this research, I would not be able to finish my study. I'm much obliged to my colleagues, their enlightening suggestion and encouragements made me feel I was not isolated in my research. I owe them many thanks and all my friends than always supported and helped when exchanging new ideas.

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May God Bless you all.

## **ABSTRACT**

The current study was carried out in two higher educational institutions in Jigawa State, Nigeria. They were purposely selected because, at the time the study was carried out, they were the only higher educational institutions in Jigawa State with e-learning programme. A sample of 150 academics was randomly selected to participate in the study. Putting into consideration that many factors affect e-learning, the current study explored only three psycho-social factors. Specifically, the study was carried out to answer the following questions: 1. What is the relationship between academic staff's level of emotional regulation and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria?; 2. What is the relationship between academic staff's level of self-concept and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria?; 3. what is the relationship between the working conditions in higher educational institutions in Jigawa State, Nigeria and the academic staff's adoption of electronic learning or instruction?. A cross-sectional correlational survey design was used, taking a quantitative approach. The data were analyzed using person's linear correlation coefficient. The findings were that the relationship between academic staff's level of emotional regulation and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria was significant (sig. 0.003); the relationship between academic staff's level of self-concept and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria was significant (sig. 0.001); and the relationship between academic staff's level of working environment and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, was significant (sig, 0.004). It was concluded that whereas many factors affect the adoption of e-learning, in the context of Jigawa State in Nigeria, psycho-social factors affect most the academics' adoption of e-learning.

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## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.0 Introduction**

This chapter presents the backgrounds of the study, problem statement, and purpose of the study, objectives of the study, research questions, hypothesis, scope and significance of the study, operational definition of the key terms.

#### **1.1 Background of the study**

The rapid development of information, communication and technologies (ICT), internet technologies and Web-based applications have initiated unparallel universities all over the world (Cheng 2010). Electronic learning (e-learning) is changing the way teaching and learning is taking place on university campuses (Ahmed, 2010). Though the up-scale of e learning countries especially in Africa is slow compared to their Western counterparts, the last decade has witnessed some concerted efforts on the part of university administrators to implement e-learning strategies in order to catch up with their counterparts in the developed countries. Essentially, e-learning is usually defined as a type of learning supported by information and communication technology (ICT) via the internet, intranets, extranets or many others to improve the quality of teaching and learning. In 2005, the colleges articulated a clear vision in its policy document on ICT, where ICT would be (a) integrated into teaching, learning, research and drive most of the university's administration services, such that teachers/researchers use ICT as a basic tool to teach, communicate and collaborate with students, peers, and researchers within and outside; (b) students (on-campus and off-campus) use ICT for learning and accessing learning resources over various multimedia platforms; and (c) lecture rooms and classrooms are ICT-enabled to promote e-learning (University of Nigeria, 2007). However, although e-learning has made some gains with respect to payment of fees and registration of students online; and posting of university calendar and handbook on the intranet; very little gains have been made with respect to incorporating e-learning into teaching and learning at the University of Ghana. This situation is not particular to Nigeria, most African universities are still struggling to incorporate e-learning into teaching and learning. Recently, Macharia and Nyakwende (2010:73) have noted that a survey by UNESCO in Africa on e-learning concluded that "e-learning is still very much in its infancy across most of the continent," though there is much enthusiasm amongst university

administrators to fully develop e-learning systems. The developing of e-learning systems on university campuses, there is urgent need for universities to increase their understanding and knowledge on the successful adoption and diffusion of e-learning (Macharia and Nyakwende, 2009; 2010).

### **1.1.1 Historical Perspective**

In most countries, the development of e-learning by institutions is seen as mainly an issue for the institutions. However, in some countries, national initiatives for e-learning have been set up. This raises the issue of how they relate to the national quality agency for the countries universities. In the UK the Quality Assurance Agency (QAA) has a code of practice, of which one part is collaborative provision and flexible distributive learning (including e-learning), QAA [2013]. United Kingdom has a long tradition of innovation in education. Their Open University and distance learning was a model for many other open and distance learning (ODL) institutions. Since the mid nineties UK States have elaborated strategies and action plans to support ICT in education; as examples Ireland proposed *The Education Technology Strategy of Northern Ireland* (1997), the National Grid for Learning initiative was initiated in Scotland; Wales launched an e learning strategy in 2001 and England councils and agencies were active in promoting innovative actions for better use of ICT at all levels of education. Realizing the needs to coordinate and share knowledge among states' initiatives, British Educational Communications and Technology agency (Becta) created in 1998 and redefined in 2003 to support all four UK education departments in their strategic ICT developments, facilitating knowledge transfer among them in order to encourage innovation and improvement, and bring coherence and synergy to UK-wide developments. Moreover, the Department for Education and Skills (DES), in UK and England are the government body responsible for all levels of education, including vocational education and training. They conducted in 2003, a national consultation aiming to "unify" e-learning strategies and benefit from experiences and collaborations of the many stakeholders. Consequently from this consultation emerged a national e-learning strategy.

Much debate surrounds the question of whether introducing technology into education and promoting e-Learning has instigated positive change across the continent .Whilst proponents

assert that efforts of the last decade have resulted in a new educational landscape, critics suggest Nigerian schools, the commonest type of e-learning adopted was in form of lecture notes on CD-ROM which can be played when the learners desire. .

### **1.1.2 Theoretical perspective**

The study was guided by Rogers' theory of diffusion (1983). The central assumption of the theory is that the penetration or diffusion of technology innovations follows a normal bell-shaped distribution pattern. In this diffusion pattern, the theory distinguishes between five adopter segments, for which the theory holds to fixed assumptions on their size, profiles and adoption determinants; the subjective perception of a set of product features (relative advantage, complexity, compatibility, trialability and observability). It explains how, over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system. The end result of this diffusion is that people as part of a social system adopt a new idea, behavior, or product. This theory is therefore relevant in this study since it links the independent and dependent variables of the study.

### **1.1.3 Conceptual perspective**

In this study, E-learning means the use of Information and Communication Technology e.g. Internet, Computer, Mobile phone, Learning Management System (LMS), Televisions, Radios and others to enhance teaching and learning activities (Oye,Salleh, & Iahad, N.A,2011). While psycho-social is used to emphasize the close connection between psychological aspects of the human experience and the wider social experience. Psycho-social factors are those that affect different levels of functioning including cognitive (perception and memory as a basis for thought and learning), effective (emotions), and behavioral. E-learning is a unifying term used to describe the fields of online learning, web-based training and technology delivered instructions (Oye, Salleh, & Iahad, 2010).

In this study, psycho—social factors were conceptualized as academic staff's emotional regulation, academic staff's self concept, as well as the working environment. Emotional regulation refers to the capacity and extent to which people control their emotions.In this study, it is assumed that the way individuals naturally control their emotions, such as those who are so

emotional and those who are not very emotional, can respond differently to the demands of or innovations at work such as e-learning adoption. Emotions are state of feelings that result in physical and psychological changes that influence our behavior. it is a positive or negative experience that is associated with a particular pattern of physiological activity.

Self-concept refers to the way in which people take, regard or consider themselves in different aspects such as in their capacity to think, to reason, to perform, the way they look (their physical appearance), their intelligence. Some people have low self concept, others moderate and others high or very high. Working environment refers to the conditions obtaining at the place of work, that is, what is happening at the place of work as regards the way workers are treated, the workers' emoluments, policies at work, workers' recognition, the resources required to perform the task (s), and others.

#### **1.1.4 Contextual perspective**

E-learning in Nigeria has been given much prominence of recent. Many Nigerians have benefited through the open (correspondence) of rapid college and exam success correspondence (Aginam, 2006). Today, the advances in communication and computer technologies have culminated in the supplementation and near phase-out of traditional educational delivery system. These new technologies allow for more flexibility in learning and a wider reach for education in many countries world-wide (Salawudeen, 2010). In recent times, the issue of mobile learning which means the use of wireless electronic technology to deliver and receive knowledge and skill has been raised and is practiced in the developed nations of the world (Ayodele, 2010). Nigerian tertiary institutions however can be said to be behind in the adoption of these technologies as there is evidently an extremely low rate of diffusion of e-learning and as a consequence, a low rate of usage. The reasons for this are that Nigeria, apart from being a developing country and having inadequate education finance policy, is also highly deficient in the area of engineering and technological development (Salawudeen, 2010).

The e-learning techniques mostly adopted by most of the Nigerian institutions are in form of prepared lectures on a CD-ROM that can be played as at when the need arises. This has limited advantage because of the number of students per computer system in which most of this facilities

are not interactive enough as compared with when the lecture is been receive in real time over the internet. The intranet facilities adopted in most schools are not well maintained because of its high cost of running especially in the absence of adequate power supply. Mostly, the students took the challenges upon themselves to go to the public internet cafes where there exist diverse attentions because of people with diverse interests on the net at the same time. The bandwidth shared on various systems at the cafes is very low hence; a multimedia interactive lecture will not be obtainable because of low bandwidth. The population of student is enormous and the facilities are inadequate. In addition, some lecturers view it as a method of instruction which may in the end make them loose their jobs, as some managers of institutions may reduce staff since the lessons previously taught by ten lecturers can be taught by five or less lecturers through e-learning. Despite all the hindrances/threat faced by e-learning in Nigerian institutions, some institutions such as RECTAS, Federal School of Surveying, Oyo, University of Ibadan and Obafemi Awolowo University (OAU), Ile-Ife among others, have the facilities for e-learning. Despite the introduction of e-learning in some educational institutions, there are challenges such as adoption by some academic members of staff, hence the proposed study.

## **1.2 Statement of the Problem**

E-Learning has become an increasingly popular learning approach in higher educational institutions due to vast growth of internet technology. Nowadays E-learning has a competitive advantage and some universities have implemented it and this has impacts on students' performance or GPA. However, still there are other universities and academic institutions that use very low interactive E-learning which is not enough to contribute to the performance of the students. Today, technology is a tool used to remove geographical barriers and facilitates everybody to learn anytime and anywhere without the presence of the lecturer. The main purpose of E-Learning is to increase accessibility of education and reducing costs and time as well as improving students' academic performance (Yusuf,1999). This approach of learning facilitates different students at different continents to attend the same classes almost at the same time. Nowadays, technology is becoming the medium for teaching and learning without being at university campuses. This technology enabled instructional method is aimed to improve quality

of education and student academic performance. In spite of the bright prospect of e-learning in the country, it is so worrisome that there are some hurdles militating against the effective use of the electronic learning facing tertiary institutions in Jigawa. Some of these obstacles are lack of qualified teachers to teach using ICT as well as some academic staff's negative attitude towards E-learning. The problem however is that given the challenges of e-learning, the rate of e-learning adoption by the academic members of staff seems to be low. The study was carried out to find out the extent to which the extent of e-learning adoption in higher educational institutions in Jigawa State, Nigeria is a function of the psycho-social factors, namely academic staff's emotional regulation, self concept, as well as the working conditions in the educational institutions.

### **1.3 Purpose of the study**

The purpose of this study was to investigate the extent to which the academic staff's extent of emotional regulation, self-concept, as well as the working environment in higher educational institutions in Jigawa state Nigeria influence the extent of academic staff's adoption of electronic learning/ instruction.

### **1.4 Research Objectives.**

1. To investigate the relationship between academic staff's level of emotional regulation and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria.
2. To examine the relationship between academic staff's level of self-concept and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria.
3. To establish the relationship between the working conditions in higher educational institutions in Jigawa State, Nigeria and the academic staff's adoption of electronic learning or instruction adoption of electronic learning or instruction.

## **1.5 Research Questions**

1. What is the relationship between academic staff's level of emotional regulation and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria?
2. What is the relationship between academic staff's level of self-concept and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria?
3. What is the relationship between the working conditions in higher educational institutions in Jigawa State, Nigeria and the academic staff's adoption of electronic learning or instruction?

## **1.6 Hypotheses**

1. There is a significant relationship between academic staff's level of emotional regulation and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria.
2. There is a significant relationship between academic staff's level of self-concept and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria.
3. There is a significant relationship between the working conditions in higher educational institutions in Jigawa State, Nigeria and the academic staff's adoption of electronic learning or instruction adoption of electronic learning or instruction.

## **1.7 Scope**

### **1.7.1 Geographical scope**

The study was conducted in Jigawa state which lies between latitudes 11°N and 13°N longitudes 8°E and 10°35'E and covers a total land area of about 22,410 square kilometers. The state is bordered in the east by Bauchi and Yobe states, on the west by Kano and on the north by Katsina and Yobe State and the republic of Niger. Jigawa state was created on Tuesday August 27, 1991 (Jigawa, 2010, p.6). This state was chosen because it is among the few states in Nigeria that have some educational institutions with e-learning.



### **1.7.2 Content scope**

This study was intended to assess how psychosocial factors of the academic staff influence their adoption of e-learning in higher institutions of learning in Jigawa State, Nigeria.

### **1.8 Significance of the study**

This study has several significances. First, the research findings could provide insight into different e-learning facilities that students and higher institution of learning could use to adopt in the university. Second, this research outcome will help the higher institution of learning to identify critical factors that could affect the successful adoption of e-learning. Third, research results could guide students and higher institution of learning on the barriers to successful e-learning experiences. Fourth, the research findings will help the higher institution of learning to clearly identify strategies on how e-learning will address emerging issues.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0. Introduction**

This chapter reviews the diffusion of innovation theory which is relevant to the study, the conceptual frame work related to psychosocial factors and the adoption in electronic learning, as well as the literature related to psycho-social factors and e-learning adoption.

#### **2.1. Theoretical Review**

The diffusion of innovation theory proposed by Roger's (1962) is one of the oldest social science theories. It explains how, over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system. The end result of this diffusion is that people as part of a social system adopt a new idea, behavior, or product. Adoption means that a person does something differently than what they had previously (i.e. purchase or use a new product, acquire and perform a behavior etc). The key to adoption is that the person must perceive the idea, behavior or product as new or innovative. It is through this that diffusion is possible.

Roger's diffusion of innovation theory is the most appropriate for investigating the adoption of technology in higher education and educational environment (Medlin,2001: Parisot, 1995). In fact, much diffusion research involves technological innovation so Rogers (2013) usually used the word "technology" and innovation as synonyms. For Rogers a technology is a design for instrumental action that reduces the uncertainty in the cause effect relationship involved in achieving a designed out come. It is composed of two parts hardware & software, while hardware is the tool that embodies the technology in the form of a material or physical object. The theory is related to this study in the sense that it emphasizes adoption is a decision of full use of an innovation as the best course of action available and rejection is a decision not to adopt an innovation. Thus, the issue of adoption of electronic learning in higher institution of learning which regards as the main domain of this study.

Rogers (2003) described the innovation-decision process as an information-seeking and information-processing activity, where an individual to reduce uncertainty about the advantage

and disadvantages of an innovation, also these described the innovation-diffusion process as uncertainty reduction process and he proposed attributes of innovation. Attributes of innovation includes five characteristics of innovation:

- (1) . Relative advantage
- (2) . Computability
- (3) . Complexity
- (4) . Trialability and
- (5) . Observability

Individuals' perception of these characteristics predict the rate of adoption of innovations, as the relative speed with which an innovation is adopted by the members of a social system. Relative advantage is defined as the degree to which the an innovation is considered as being better than the idea it replaced. This construct is found to be of the best prediction of the adoption of an innovation the cost and social status motivation aspects of innovation are elements of relative advantage for example when faculty members face the new demands place on them they will adopt technology (Casmir,2001). If teachers see that technology has value in their instruction, then they will use it (Finley, 2003; McKenzie. 2001 Parisot, 1995, Spotts, 1999). To integrate technology successfully into teacher education courses teacher education faculty should see the need providing helpful experience for themselves and their students (Schmidt, 1995).

**Compatibility:** In some diffusion research, relative advantage and compatibility were viewed as similar, although they are conceptually different. Rogers, (2013) stated that compatibility is the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters. A lack of compatibility in it with individual needs may negatively affect the individuals it use (Mckenzie, 2001; Sherry,1997). In her literature review, Hoerup (2011) describe that each innovation influence teacher opinions, belief values, and views about teaching and learning. If innovation is compatible with an individual's attitude will decrease and the rate of adoption of the innovation will increase.

**Complexity:-** Rogers (2003) define complexity as the degree to which an innovation is perceived as relatively difficult to understand and use. As Rogers stated opposite to the other attributes, complexity is negatively correlated with the rate of adoptions. Thus, excessive

complexity of an innovation is an important Obstacle in its adoption. A technological innovation might confront faculty members with the challenge of changing their teaching methodology to integrate the technological innovation into their instructions (Parisot, 1995), so it might have different levels of complexity. If hardware and software are user friendly, then they might be adopted successfully for the delivery of course material (Martin, 2003).

**Trialability:-** According to Rogers (2013), trial ability is the degree to which an innovation may be experimented with on a limited basis. Also, the trial ability is positively correlated with the rate of adoptions. The more an innovation is tried, the faster its adoptions. Thus, invention and reinvention may occur during the trial of the innovation. Thus, the innovation may be changed or modified by the potential adopter. For increased reinvention may create faster adoption of the innovations. For the adoption of an innovation, another important factor is the vicarious trial, which is especially helpful for later adopters. However, Rogers stated that earlier adopters see the trainability attributes of innovation as more important than the later adopters.

**Observability:-** Rogers (2003) define observability as the degree to which the results of an innovation are visible to others. Role modeling (or peer observation) is the key motivational factor in the adoption and diffusion of technology (Parisot, 1997). Similar to relative advantage, compatibility, trialability, observability also is positively correlated with the rate of adoption of an innovation.

According to Medlin, (2001) used Rogers (1995) diffusion of innovation theory to examine the selected factors that might influence a faculty members motivation and decision to adopt new electronic technologies in class room instruction. Medlin organized the finding into three groups: organizational and personal motivational factors social factors, friends, mentors, peer support and students were found to be the significant predictors that may influence a faculty members to adopt electronic technologies in the classroom personal interest in instructional technologies, personal interest in improvement in my teaching and personal interest in enhancing student learning were cited as three personal motivational variables that might affect faculty members decision adopt electronic technology. However, Medlin did not find a significant difference

among the self-identified adopters behavior categories based on Rogers theory in terms of social, organizational, and personal motivation factors.

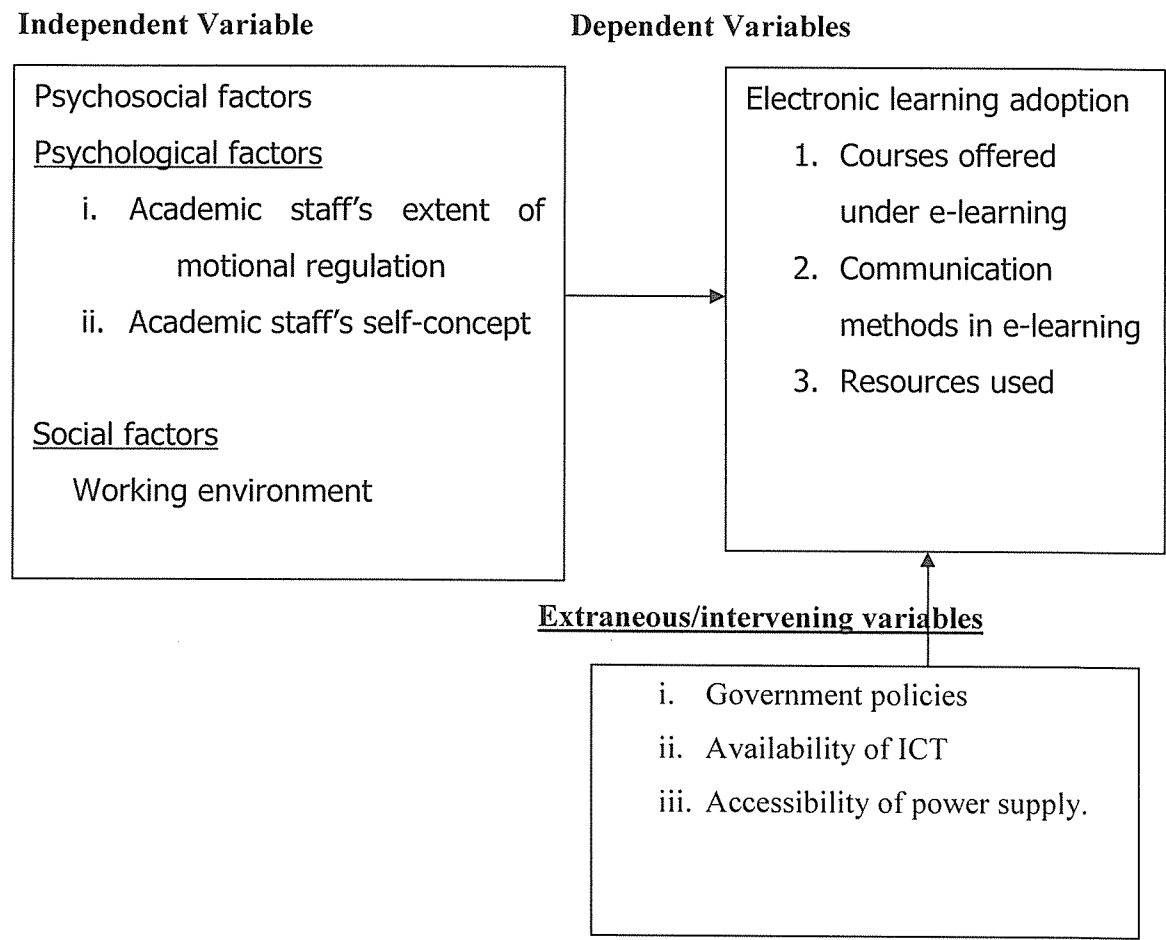
Less (2003) quantitative research study used Rogers (1995) diffusion of innovation theory to investigate faculty adoption of computer technology for instruction in the North Carolina community college system. She classified the faculty members based on Rogers five categories of innovation adoption and compared them on demographic variables of age, gender, race/ethnicity, teaching experience, and highest degree attained. While a significant relationship emerged between Rogers adopters categories and their years of teaching experience and higher degree attained, the result did not show an important difference between faculty adopter categories and age, gender, and race/ethnicity. Less further classified the faculty as user in any of Rogers five categories and non user of computer technology in instruction. No significant difference existed between user and non-user in demographic characteristic of age, gender, race/ethnicity, teaching experience and highest degree attained.

Carter (1998) conducted a computer survey and in-depth interview to determine computer based technology that were being used by the faculty attitudes towards using computer-based technology, support, resources, and training were the selected factors needed to use these technologies effectively. Also, Carter found that word processing software, e-mail, and internet resources were the most frequently computer-based technologies.

In relation to this study, diffusion innovation theory stresses perceive used and also perceives end users in relation to psychological and social factors characteristic is the degree to which an individual will believe that using a particular system will enhance his/her job performance within an organizational context Davis et al (1989). Thus study will also work along this line by intending to find out if significant relationship exist between psychosocial characteristics and adoption of electronic learning in higher institution of learning in Jigawa State.

**Fig 1: Conceptual framework showing the relationship between psychosocial factors and electronic learning adoption.**

**2.2 Conceptual Frame Work**



**Source: Developed based on Rogers (2003) ideas.**

**Fig. 2.2 Conceptual framework adopted using ideas by Rogers (2003).**

The conceptual framework in fig. 2.2 shows three aspects of psychosocial factors namely: Psychological factors which include, emotional regulation of academic staff, academic staff's self concept, as well as the environment in which the academic staff work. Thus, such factors may affect the way the academic staff adopt electronic learning in higher institutions of learning. For example, it is assumed that individuals who do not control their emotions and those who control their emotions may perceive an innovation differently. Some may welcome it but others

may not welcome it. In addition, the individual differences in terms of self-perception can cause the academic staff to perceive e-learning differently. Some may welcome it but others may not welcome it. Also, the environment people are working in can make them either appreciate or reject an innovation. The Extraneous or intervening variables including government policies, availability of ICT and accessibility of power supply are other factors, in addition to the psychosocial factors which can affect e-learning adoption but have not been addressed by the current study. It just hints on them to show that psychosocial factors are, in essence, not the only determinants of e-learning adoption, other factors such as government policy, accessibility of power supply and availability of ICT can also be determining.

## **2.3 Related Literature**

### **Psycho-social factors**

In this study, the psycho-social factors are emotional regulation, self-perception and working environment.

#### **2.3.1 Academic staff Emotional Regulation and e-learning Adoption in higher educational institution.**

Emotions are essential in forming priorities (Cameron & Johnson-Laird,) 1987; Parrott, 2004). Emotions have a crucial function in defining our personal relations to the external world. They explain why we adopt some course of action and reject another. An evolutionary approach to emotion, defines them in terms of how they come to exist (Nesse & Ellsworth, 2009). According to this approach emotions are modes of functioning, shaped by natural selection, that coordinate physiological, cognitive motivational, behavior, and subjective responses in patterns that increase the ability to meet the changing situations (Naese, 1998). Emotion adjusts multiple component processes to create an organized response to the changing challenges in different situations (Nesse & Ellsworth, 2009).

In line with their action-controlling function, emotions explain much of human-technology interaction. Research suggests that it makes sense to call attention to emotion in e-learning. Emotions are important in learning and in classroom behavior (Brosnan, 1998). Emotions are thus a central topic in user psychology (Saariluoma, 2004), and we need to know the ways how emotion are involved in human technology interaction mechanisms.

Juutinen and Saariluoma (2006, 2007, 2010) investigated emotional interaction in e-learning and found a connection between success and failure, on one hand, and pride and frustration on the other. If you are able to use the technology under learning system, you generate pride that motivates you to continue your studies and work, and if you are not handling it, your whole attitude toward e-learning can easily become negative and make you feel less motivated to continue to study in e-learning courses.

Appraisal theories of emotion propose that the emotions people experience correspond to the appraisal of their situation. In other words, individual differences affect emotional experiences of the situation and events (Ellworth & Scherer, 2003; Lazarus, 1995). Therefore if individuals interpret the situations differently, they should be experiencing different emotions. Motivation can also affect the appraisals of individuals (Baumeister, 1998). Often people see what they are looking for to see to what to see themselves in good positive light (Imada & Ellsworth, 2011).

E-learning experience is strongly affected by the way students see the e-learning, and how they think they will succeed in it. It is not necessarily the system used in e-learning or the outlook of it in the beginning, but the appraisal that the students have of the e-learning itself. They may have not taken many courses in e-learning but have an opinion about it already beforehand. Appraisal play important in what kind of emotional experiences students will have out of their e-learning studies. In Juutinen and Yalahö (2011) the appraisal of e-learning and technology is shown to be affecting to the experience that the student have during their studies. The negative appraisal leads to negative outcome and positive appraisal to positive learning outcomes (Juutinen & Saariluoma, 2010).

Human emotions are seen to be reaction to events that seem to be relevant to the individuals needs, goals, or concerns (Brave & Nass, 2003). Fear for example in a reaction to a situation that is threatening the individual's physical well being while joy on the other hand is a reaction to a situation when individuals fulfill their goals. Emotion that control human actions are related to the relation between need and motives (Saariluoma 2004). Emotion have an essential roles in the valuation of various issue for example, we may feel hunger and thirst we become aware of needs through emotion; we don't usually detect the thirst, more likely we feel it. It is thus



understandable that emotion have an important role to play in human conceptualization of the world (Saariluoma, 2004).

However, positive emotions are associated with pleasures and negative emotion with discomfort (Stanly & Burrows, 2001). People rarely complain of having too much joy or happiness or other positive emotion, but they tend to complain about even tiny negative feelings. Applying this to user experience, we should consider how a user might feel when using the system in hand and how they deal with some difficult situations they could come across while using the system. Problems generate negative emotion and later on associate them to a particular system from where they seem to originate.

Also, anxiety, a normal emotion experienced at some point by every human motivates an individual to seek solution for perceived danger or problem. Anxiety can make people reach several ways, make them worry, behave well or to have uncontrollable thought process (Stanley & Burrow, 2001). These symptoms make the learning process a bit harder than it would be with positive emotions (Kitayama & Niedenthal, 1994), memory retention (Kahnemann, 1973), learning (Lewis & Williams, 1998) and thinking creatively (Isen, Darbman, & Nowicki, 1987). It may lead the user to get frustrate with some system in the future so.

It has been opined by Saariluoma (2004) that the emotions' controlling of human actions depend on the common dependency between needs and motives. Therefore it is important to also understand needs that are noticed through emotions. Hunger causes the feeling of anger and pain and make one's dreams come true. Since the emotions are described to serve or reflect the motives (needs, desire, value, interest) (Blasi, 1999) also the needs influence the emotional states. For example, rewards help one to pursue their goals and punishments cause withdraws behavior (Saarluma, 2004).

Emotions have a big impact to learning in traditional teaching (Weare, 2004) and in e-learning (Brown et al., 2005). The connection between emotions and learning has been found (Jurtines & Saarluma, 2006, 2007, 2010). Frustration using computers is a common phenomenon now days in the world with almost everyone who has operated a computer at some point (Branco Etal, 2005). For some users, frustration level grow to the extent of developing technophobia. Technophobia can be apparent even with people who are using the computer (Brosnan, 1998).

Frustration may be due to for example to a technical aspect, design, usability, and lack of instruction or unpleasant to deal with or even to the whole over all experience of e-learning. For some students, this frustration is a normal emotion when working with computers and for some, it becomes an overwhelming experience making them hesitant to continue (O'Regan, 2003).

Individual responses to frustration can be either adaptive or maladaptive (Shorker & Croker, 1981). Adaptive responses can be constructive and are applied to solve possible problems that are blocking the goal maladaptive responses. Usually it makes the problems worse by creating additional problems and by lacking constructive problem-solving. These maladaptive responses can be categorized into (aggression, regression, withdrawal, fixation, resignation) subjective (extra-punitive, intropunitive, resignation) responses (Brift & Jands, 1940).

It has been noticed that one of the Psychological mechanisms that people use most when faced with frustration situation is regression. Regression may be defined, in a broad sense, as reverting to behavior of a lower level of maturity when faced with a problem. (Thomas, 1951). Due to the frustrating experience with computers, the frustrated e-learner may become unable to process any new information, whether the information is about the system or the topic of the course.

People react in different ways to different situations. These reactions are learned and based on previous experience. Some people associated positive emotions to new technology and others think of technology as a negative issue. The difference among these two groups is that they associate the same technology in a completely different emotional context (Yalaho, 2011).

Learning is not purely a cognitive phenomenon (app, 1991). It is a process that is closely linked to student's social and emotional needs, as well as to the context of their learning environment (Saareluoma, 2014). Especially in e-learning a positive experience of using the system is the most important reward. If motives the user to execute their needs in that certain user context. A hard to use service is not encouraging and people with only use it if they are forced to (Juutinan and saariluama, 2010).

As (Galati et al (1999) maintains, people with higher CK scores tend to find learning more enjoyable, and are often more cooperative, congenial and more willing to build on the idea of others, while those with higher SK scores tend to take a more ethical and argumentative stance to learning. However, studies have shown that these two learning style are independent of each

other (Galotti et al, 1999, 2001) and it must be considered that they are only a reflection of learning attitudes, not learning capacities or intellectual power.

Measuring emotions has an important role in analyzing consumer behaviour because it is a known fact that there is a strong connection between attitudes and behaviour. Specialist has discovered that attitudes indicates in a certain degree, the possibility of adoption certain behaviour (Bertea, 2009) About e-learning a favorable attitude show a greater probability that learners will accept the new learning system. Factors such as patience, self discipline, easiness in using software good technical skills abilities regarding time management impact on student's attitudes towards e-learning.

Thus, the emotions can be positive if the new form of education fits the students' needs and characteristics, or negative if the student cannot adapt to the new system because he/she does not have set of characteristics required (Bertea, 2009). This shows that attitudes are an adoptic characteristic toward e-learning.

However, certain knowledge and skills encourage changes in individual's emotions, values which influence the user's behaviour, as well as belief about self-efficiency. The main prerequisite for the use of e-learning technology is, computer literacy and lack of computer knowledge is closely to computer anxiety and the level of perceived usefulness of e-learning technology (Zang, 1998). Computer literate person is more likely to experiment with new software. Therefore the level of experience in working with e-learning system (KMS) is the powerful attitude motivational in teacher adoption of e-learning (Gautreau, 2011).

However, developing positive attitudes and emotions towards schools and learning is an important precursor to academic success (Loyd, 1984s). Indeed, research has demonstrated that positive attitudes increases the potential for academic success. Conversely, negative attitudes make academic success less likely (Loyd, 1984a). Technology in general has changed the educational landscape, providing some solution and creating new problem to solve (Zhang, 1988). Thus, researching teachers and learners attitudes toward e-learning in general and in education.

### **2.3.2 Academic staff self-concept and e-learning adoption in higher educational institution.**

Self-concept refers to the totality of a complex, organized, and dynamic system of learned beliefs, attitudes and opinions that each person holds to be true about his or her personal existence. Parental upbringing, continuous failure, depression and internal self-critic are factors that influence the development of one's self-concept. A positive self-concept can be developed through behave objectively in knowing oneself, always appreciate oneself, be friend to oneself and always have a positive and rational thinking. Educational psychology can be referred to a distinct scientific discipline within psychology that includes both method of study and a resulting knowledge base. It is believed that the development of student's self-concept depends on the focus of educators in educational psychology in classroom practice. Educational psychology provides important background knowledge that pre-service and in-service educators can use as the foundation for professional practice. A positive self-concept can contribute to good academic achievement by student's optimistic personal expectations about himself or herself (Haiff, 1998).

There are a variety of ways to think about the self. The most widely used term is self-concept and generally refers to the totality of a complex, organized, and dynamic system of learned beliefs, attitudes and opinions that each person holds to be true about his or her personal existence. Franken (1994) states that; "there is a great deal of research which shows that the self-concept is, perhaps, the basis for all motivated behavior. It is the self-concept that gives rise to possible selves, and it is possible selves that create the motivation for behavior"

We develop and maintain our self-concept through the process of taking action and then reflecting on what we have done and what others tell us about what we have done. We reflect on what we have done and can do in comparison to our expectations and the expectations of others and to the characteristics and accomplishments of others. That is, self-concept is not innate, but is developed by the individual through interaction with the environment and reflecting on that interaction. There are a several different components of self-concept: physical, academic, social, and transpersonal. The physical aspect of self-concept relates to that which is concrete: what we look like, our sex, height, weight, etc.; what kind of clothes we wear; what kind of car we drive; what kind of home we live in; and so forth. Our academic self-concept relates to how well we do in school or how well we learn. There are two levels: a general academic self-concept of how

good we are overall and a set of specific content-related self-concepts that describe how good we are in math, science, language, arts, social science, etc. The social self-concept describes how we relate to other people and the transpersonal self-concept describes how we relate to the supernatural or unknown (Huiff, 1998).

Self-concept is influenced by values and are acquired from the same sources as values, friends, teachers, parents, and role models. Attitudes focus on specific people or objects. Attitude is used in a generic sense, as to what people perceive, feel, express their views about a situation, object or other people. Attitudes cannot be seen, but the behaviour can be seen as an expression of attitude (Nura, 2001). Positive attitudes toward the learning environment, its structure and content are fundamental elements that favour meaningful learning (Morzano, 1992, Marzano et al, 1988) and are related to the students' ways of knowing. In women's development theory (Belenky et al, 1986), the principles for identifying a connected Knower (CK) from a separate knower (SK) are laid out. A separate knower tends to be advised and focused on critical analysis that excludes personal feeling and beliefs, a connected knower, on the other hand, seeks to understand other ideas and points of view, emphasizing the relevance of context in the development of knowledge and the fundamental value of experience.

Franken (1994) states; "There is a growing body of research which indicates that it is possible to change the self-concept. Self-change is not something that people can will but rather it depends on the process of self-reflection. Through self-reflection, people often come to view themselves in a new, more powerful way, and it is through this new, more powerful way of viewing the self that people can develop possible selves" (Franken, 1994). There are a several different components of self-concept: physical, academic, social and transpersonal. The physical aspect of self-concept relates to that which is concrete: what we look like, our sex, height, weight, etc.; what kind of clothes we wear; what kind of car we drive; what kind of home we live in; and so forth. Our academic self-concept relates to how well we do in school or how well we learn. There are two levels: a general academic self-concept of how good we are overall and a set of specific content-related self-concepts that describe how good we are in math, science, language arts, social science, etc. the social self-concept describes how we relate to other people and the transpersonal self-concept describes how we relate to the supernatural or unknowns.

The relationship of self-concept to school achievement is very specific. General self-concept and non-academic aspects of self-concept are not related to academic work; general academic achievement measures are related moderately to academic success. Specific measures of subject-related self-concepts are highly related to success in that content area. If academic achievement leads to self-concept, but self-concept is a better predictor of being a low-track or high-track student, it would appear that there is some intervening variable. It's mean the intervening variable is personal expectations.

The research on the relationship between self- concept and school achievement suggests that measures of general or even academic self-concept are not significantly related to school achievement. It is at the level of very specific subjects (e.g., reading, mathematics, science) that there is a relationship between self-concept and academic success. This suggests that success in a particular subject area is not really changing one's self-concept but rather is impacting one's expectation about future success based on one's past experience (Gage and Berliner (1992).

There is much discussion about what young people should do in their childhood and youth to prepare them for success in adulthood. Once we have determined the desired end results or the prerequisites for success, we need to determine the means or the conditions by which those can be brought about. Education and schooling are two terms that are often associated with these conditions. The development of self-concept is through the learning process since childhood. A child surrounding, experiences and the style of parental upbringing also contribute a significant influence towards the development of self-concept. A child evaluate who they are through the response of their parents in every action that taken. If a child live in a confused and negative parental upbringing, as a result this child tend to develop negative self-concept. Negative parental upbringing can be shown through beating without mercy, neglecting, paying less attention, unfairness, humiliating and unsatisfactory towards their child's attitude. When this occurs, they will assume these as a punishment caused by their fault or stupidity. On the contrary, a positive parental upbringing will develop a positive self-concept.

Self-concept is something very dynamic that can change from time to time. Some aspects of self-concept remain for a long period but others can turn the opposite way in few seconds.

There are factors that influence the process of the development of self-concept. The style of parental upbringing that has been mentioned before is a significant factor. Positive parental upbringing and attitude read by their children can develop a positive thinking and self-appreciation to themselves. Negative parental attitude create the assumption that a child is not appreciated and loved by their parent because of his self-weakness. The second factor is continuous failure in a child life. In this case, failure can be defined as unsuccessfully to please their parent or themselves. A continuous failure in a child life making him feels that they are useless. Gradually, negative self-concept is developed in this child. On the other hand, a positive self-concept is developed if a child sees failure is an opportunity for him to improve himself in every aspect of decision-making.

The next factor is depression. People who suffer from depression tend to think and respond negatively towards everything including evaluating themselves. They are wondering whether they can survive throughout their life. They can be super sensitive to what other people say about, them or act towards them. Last but not least, internal self-critic is another factor that influence the process of the development of self-concept. We cannot deny that internal self-critic is needed to evaluate every action and decision that we take in our life. Internal self-critic functioned as a regulator in every action taken and how we behave so that we can be accepted by the society around us and can adapt well within the society.

Self-concept is something very dynamic. There are few steps that can be taken to have a positive self-concept. First, we must behave objectively in knowing ourselves. No matter how small the achievement or positive experience that we possess it must be appreciated. We must try to enhance our talent and self-potential. As it says, 'You can't be all things to all people, you can't do all things at once, and you just do the best you could in every way.' Secondly, we must know and always appreciate ourselves. There is no other person that can appreciate us more than ourselves. People who know how to appreciate themselves are the one that can see all the good and positive things within them and other people. So, if can appreciate other people, we also can appreciate ourselves.

Thirdly, never be an enemy to us. People tend to blame themselves when conflicts arise between ideal expectations and the real self. When we become the enemy to ourselves, we can hardly see the good and positive side of ourselves. Gradually, they are mentally exhausted, frustrated and develop negative self-concept. The final step is to have a positive and rational thinking. The Buddha says, 'We are what we think. All that we are arises with our thoughts. With our thoughts, we make the world.' How powerful is our mind! The power of our thoughts depends a lot on how we think. If we can develop positive and rational thoughts, we are developing a positive self-concept. A positive self-concept person usually is a winner but a negative self-concept person is always a loser.

Self-concept is very important and essential in developing a child personality. Parents have to consider various factors that influence the development of more positive self-concept. These factors are style of parental upbringing, continuous failure, depression and internal self critic. At school, the development of student's self-concept depends on the focus of educators in educational psychology in classroom practice. A positive self-concept creates a positive classroom-learning environment that believed can contribute to good academic achievement by students.

### **2.3.3 Academic staff Working Environmental and e-learning adoption in higher educational institution.**

Environment is a term which has many connotations. It has physical, economic, social and cultural dimension. From an environmentalist point of view, it is the sum total of all social, biological, chemical and physical factors which compose the surroundings of man (Southwick, 1976).

Olatonji, (2003) argues that we have three types of environment namely;

The natural environment, the biological environment and the social environment

Social environment includes all the patterns of social relationships and groups as well as the education, recreational, religion, technological, cultural and economic opportunities created by man in the environment for the use of mankind.



According to Polter (2000), environment is a very important factors that affects the survival, operations and growth of an organization. The learning environment also has an effect on students' learning.

According to Live (2007) the cultural influences on personalized e-learning occur when online learning system development takes into consideration the aspects of cultural influence on human learning when designing the system. Learning processes are very complicated and are influenced by various factors. There are different characteristics among students who come from different cultures and countries. In the learning environment, students who come from different ethnic groups and cultures require different support. It is essential to obtain personalization in e-learning, to provide suitable support to students' learning activities based on different cultural backgrounds.

Also Winner (1986) argues that it is useful to view technology or a form of life that not only aids human activity, but also represents a powerful force in reshaping that activity and its meaning in adoption innovation for example, the use of robots in the industrial workplace may increase productivity, but the also radically change the process of production itself, there by redefining what is meant by work in such a setting. In education, standardized testing has arguably redefined the notion of learning and assessment. We rarely explicitly reflect on how strange a notion it is that a number between say, 0 and 100 could accurately reflect a person knowledge about the world. According to Winner, the recurring patterns in everyday life tend to become an unconscious process that we learn to take for granted in our environmental factor.

In his studies Olatunjis (2003) stressed that learning environment have an effect on student technological learning. It is hard for learning to occur without an environment that is conducive to learning. It is essential for instructors to provide well designed instruction in order for students to learn effectively. This goal, however is dependent upon environmental factors. First, the learning environment should be safe and supportive. Students should feel physically and psychologically safe and comfortable. When the classroom in too hot or too cold, the students are not physically comfortable and they are not able to focus on learning. Similarly, if students were laughed at after making a mistake in interactions with computer components or negatively perceived the inferences, psychologically they do not feel the learning environment is safe and

would, inviting and supportive, they are engaged in their learning and the experience is more enjoyable.

Similar to classroom – based learning environment, an effective online learning environment should meet the following criteria:

**Safe:** instructors should establish safe online learning environment for students. Without face to face communication students do not know who is partaking in the conversation. For continued participation, students need to feel accepted and respected by both the instructor and the peers. Guidelines of online communication can help establish a safe online environment that is free of personal attack but abundant in meaningful and informative discussions. In a safe online learning environment, the Faculty acknowledges that the students, especially adult learners, have rather obligations and they are offered flexibility to balance between study and professional, family, and social obligations.

**Supportive:-** It is necessary to establish a supportive climate for online students. Students should be encouraged to ask questions, answer peers' questions, and help each other through online discussion or a virtual student lounge. Instructors need to actively support students, especially when participation is below expectations. E-mail or phone calls to those students can help instructors find out what is going on and what type of help is needed. This also sends a message to students that the instructors are genuinely concerned about their learning. It can make a big difference in helping students stay on track and succeed in online learning.

**Interactive:-** Online students generally do not have the opportunity to communicate with their instructors and peers face to face. However, for effective learning to occur, it is important to make online learning interactive so that students will not feel isolated. The possibilities for increased interaction in the online classroom continue to grow with synchronous tools. Three types of interactions are important to online learning: interaction between student and content, student and student, and student and instructor. Among these three, the interaction between student and instructor is especially important to student learning and their perception of distance learning. Psychological as well as content related support from the instructor and peers can help students overcome difficulties and maintain enrollment in their online courses (Deyu Hu, 2012).

Also, it should be flexible and engaging. E-learning should allow students to learn at anytime, anywhere, and at any space. This gives students a sense of control over their own learning. Additionally, it is important to allow students to pursue their topics of interest or personalized projects. This makes learning more interesting, based on their personal or professional experiences and expectations. It is a good way to motivate student learning. When student share their individualized work with peers, each student is exposed to a broader spectrum of topics and can learn from fellow students (Potter, 2012). The current research sought to ascertain the criteria of e-learning environment as psychological characteristic of e-learning adoption in higher institution of learning in Jigawa State, Nigeria.

According to Atkinson et al, (1993), learning is a relatively permanent change in behavior that results from practice. It can also be said that learning is an individual process of changing behavioral patterns, increasing or altering mental model and process (Tusting, 2003). It is a complex process of acquiring knowledge or skills involving a learner's biological characteristics or sense (physiological dimension), personality characteristics such as attention, emotion, motivation and curiosity (affective dimension), information processing style such as logical analysis or gut feelings (cognitive dimension); and psychological or individual differences (psychological dimension). Dunn et al, (1989).

To become adapt to learning, one must be able not only to transform its institutions, or response to changing situations and requirements, but invent and develop institutions which are learning system, that is, system capable of bringing about their own continuing transformation. The demand for ICT learning has been tremendous and the number of teachers who are trained to teach ICT cannot meet the demand. There are more students willing to be taught computing skills than there are teachers to transfer the skills. (ii) Lack of computers Computers are still very expensive and despite spirited efforts by the government agencies, NGO, corporate organizations and individuals to donate computers to as many schools as possible, there still remain a big percentage of the schools unable to purchase computers for use by their students. (iii) Lack of electricity Many schools are still not yet connected to electricity; Nigeria being a developing country, the government has not been able to connect all parts of the country to the national

electricity grid. Consequently those schools that fall under such areas are left handicapped and may not be able to offer computer studies. (Yusuf,1999)

Mezirow (1978) suggests that learning more than the accumulation of new knowledge, added on to existing knowledge, is a process where many basic values by which we operate are changed through our learning process and assumptions. An environment includes social, cultural, and psychological elements as well as physical features (Hiemstra and Sisco, 1990). Even though, traditional learning methods prove dominant in higher education, as are eagerly investing substantial resources in e-learning technology to improve its quality and delivering process, some educationists are worried that the presence of technology in education will demean the flow of the traditional education, Nissenbaum & Walker, (1998), Trinkle, (1999).

According to Rusell (1999), the substantial research evidence that exist suggests that the course delivery medium is rarely the determining factors for a variety of educational outcome in terms of student satisfaction, perception and learning and that the strong feelings of community can be developed in distance learning environment (Rovia, 2001). However, Hockee, Moore, and Burton (2001) agree deliver that there is no significant difference that exist between traditional learning and distance technology learning that does not warrant them as equally good or bad. The great advantage of using technology in teaching and learning is that it increase flexibility where both teaching and learning can take place anytime and anywhere (Liaw, 2008). Jaspersen, carter, and Zmud, (2005) claim that the utilization of a new technology is vital to implementation success and its prolonging use will yield a long term benefit from investment in e-learning technology. Bhat (2001) stresses that the success of a technology depends on its continued use. Other researchers also supported the idea of continuance use of a technology being a key antecedent in e-learning (Chiu, Hsu, Sun, Lin, & Sun (2005)). Albirini and Mahdizadeh et al, (2006,2008) stresses that teachers' lack of willingness to utilize e-learning beyond the initial adoption may lead to the underutilization by students which could reduce learning outcome.

There is currently a great deal of passionate rhetoric about e-leaning on of student, lecturers and administrators. Some content that the future of universities is intimately bond up with e-learning. New generation of students are demanding that new modern technology like e-learning

technologies, be integrated in to all courses, as well as traditional course that are held in classroom with a lecturers and students physically present Sagir, (2010). Also institution of higher education have increasingly embraced e-learning education, and a number of student enrolled in distance program is rapid rising in colleges and universities. Because this change in enrollment demands, many institutions, and organization have strategically adopted e-learning educations. A recent survey of higher education in the united state reported that more than 2.35 million student enrolled in online course in fall 2004. This report also noted that online education is becoming an important long term strategy for many postsecondary institutions, it is imperative that institution of higher education could tap this opportunity to provide online programmes (www. E-learning org).

Technology has become a focus of research and teaching in the university setting and its terminologies including web 1.0, 2.0, 3.0, & 4.0 were created a these information and communication technologies evolved in the last 10 years, ICT have gradually become ubiquitous technologies (Weiser, 1991), Weiser, Gold, Scely Brown, (1999). Weiser (1991) states that the most profound technologies are those that disappear, they weave themselves into the Fabric of everyday life until they are undistinguishable from its Roiney (1995) also states that computers are gradually disappearing and is allowing people to interact with information through various digital devices.

As technology involves at the brisk pace of business, colleges adoptions e-learning technologies according to its slow pace in the new paradigm of e-learning, several higher institution have spotted the profit potential of e-learning, among them are university of phoenix, Noun which embraced the idea of offering both courses and programmes online. Some professors have also invested in the use of technologies to improve students active listening in offing a strong model to support writing and speaking by means of facilitating student group work, Anzai (2008). Today's students are part of a group who have not only embraced the internet, but also carry around a variety of digital technologies in their pockets. This group could benefit profoundly from a new generation of e-learning technologies that fits new digital reality and adopted in the requirements of institutional policies.

Albirini, (2006) argued that e-learning is more than implanting computers and electronic devices in schools and classes. Eltar toussi (2009), indicated that successful education does not lie only on technology, but rather careful planning adoptions strategies must be closely investigated. The success of e-learning in any academic institution starts by instructor's acceptance, which in turns initiates and promote students utilization of e-learning in classes. According to Mahdizadeh Et al, (2008), e-learning tend to motivate student and lecturers which in turn will increase students participations and interactions inside the classroom. The most vital benefits of e-learning are efficiency and cost saving (Aczel et al, 2008). E-learning could accelerate the learning processes and improve the effectiveness of communication between users (educator, staff, and students). Cavus and Momani, (2009). Also, the use of ICT in education benefits the trainer and adopted organization in reducing learning time and increase job retention, Hall, (1997). Typically e-learning application could enable organization to manage users, courses and instructors with testing capabilities and ability to generate reports, transcripts and identification to students, Mahdizadeh et al, (2008).

The term "e" is an acronym refers to electronic. Electronic is any equipment that is used in the creation, conversion, or duplication of data or information. That is, any equipment or interconnected system or sub system of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission or reception of data or information. The term electronic includes but is not limited to, computer hardware and software, operating systems, web, based information and application, telephones and other telecommunication products, video equipment and multimedia products, information Kiosks, World Wide Web sites, multimedia etc.

Similarly e-learning has emerged into a viable solution form continuous, on demand training and organizational learning (Liu & Wang, 2009). Colleges have been confronted with numerous changes in their internal and external environment since the 1990s. they are coerced to respond to emerging challenges such as the continual developments in information and communication, technology (ICT); a shift in learners expectations, changing demographics of learners the rapid development of subject knowledge and decreasing financial support (Ryan et, al, 2000), (Alexander, 2001) knowledge development in the information age is a technologically aided

activity, Garrison & Anderson (2003). While the value of e-learning lies in its ability to train any one, anytime, anywhere, implementing and sustaining e-learning programmes require more than merely moving education and learning online (Herris, 2002). Moreover, if e-learning programmes are to be developed, delivered and administered, as well as to train educators to become competent e-learning facilitators, then a high level of investment in ICT infrastructure is required. Schumaker & Deshler (1992) among others were of the opinion that, a learning strategy in an individual's way of organizing and using a particular set of skills in order to learn content or accomplish other tasks more effectively and efficiently in school as well as in non-academic settings. Although e-learning is a relatively new tool, when deployed appropriately can enhance learning and teaching activities in the colleges.

Aldag and Stearns, (1991) suggest that quality is what a consumer wants from products and service and is willing to invest in. Moore and Kearsely (1996) discussed quality assessment as an important factor in the process of managing a distance education project. Hence to assess the quality of distance education there should be a strategic planning to enable the origination to achieve its objectives. The authors started this five-step model:

- Analyzing the needs of the learner
- Designing instruction based on student learning needs
- Developing instructional materials
- Implementing instructional sessions
- Evaluating the results systematically

Successful e-learning implementation therefore depends on building a strategy that meets the needs of the learner and the business goals of the institution. Many e-learning institutions have to be justified on the assumption that ICT could improve the quality of learning while at the same time improving access to education at reduced cost (Bates, 1997). However, in relation to this study Dillon and Morris (1996) stresses that, adoption of students is demonstrable willingness within the user group to employ information technology for the task it is designed to support. Although e-learning is increasingly used in the Nigerian tertiary institution, the question of how well learners accept e-learning as a learning medium has not been well researched, Kayode, (2003) (Hong, Lai and Hilton, (2003) investigated a web based course at Malaysia and reported that

more than half of their participants had high level of acceptance with the web-based courses. The student who had high level of acceptance indicated that the web-based course was convenient and flexible. Nonetheless, some student faced difficulties on the web-based learning environment. They found the web based course to be a new learning experience and felt that they needed more guidance and time to adopt to the learning environment. (Hong et al, 2003). Meanwhile Akinyede (2005) studied web-based learning environments at several local universities in Nigeria and majority of colleges and reported that their participant were not fully comfortable with e-learning. Likewise Koyede (2003) posited one possible reason was that the students were unfamiliar with the e-learning medium. On the positive side Kigsley et al (2004) reported that students generally agreed that e-learning helped in their studies. However, past researcher shored that a number of factors such as student and instructor characteristic, technology supported and system, institutional support, course content and knowledge management and online tasks and discussion groups could influence teaching and learning adoption of e-learning. Poon et al (2004).

According to Saheed Salawudeen (2008) in Nigerian in context text e-learning technique mostly adopted by most of Nigerian institutions are inform of prepared lectures on a CD ROM that can be played as at when the need arises. This has limited advantage because of the number of students per computer system in which most of this facilities are not interactive enough a compare with when the lecture is been receive in real time over the internet. The internet facilities adopted in most school or not well maintained because of its high cost of running especially in the absence of adequate power supply. Mostly, the student took the challenges upon themselves to go to public internet cafes where there exist diverse attentions because people with diverse interest on the net at the same time. The bandwidth shared on various system at the cafes is very low hence, a multimedia interactive lecture will not be obtainable because of low bandwidth. The population of student in enormous and the facilities are inadequate Despite all the hindrance/threat faced by learning in Nigeria institution, institution such as RECTAS, federal school of surveying Nigeria, Oyo, university of Ibadan and Obafemi Awolowo university (OAU) Ile-ife among others has the facilities for e-learning. These statistics in every low as a result of the remoteness in the location of some these institution in term of ICT. Though most of the institution of higher learning in Nigeria have stated building their ICT centre but the factor is



mainly to put up an internet facility alone considering other components that made up e-learning center, Akinyede, (2005).

#### **2.4 Summary of Gaps.**

Little research has been done in Nigeria to determine the influence of psychosocial factors on the academics' adoption of e-learning into teaching and learning Nigeria Institutions. Whereas much research about e-learning has been carried out, not many researchers have linked it to psychosocial factors, hence the current study. In addition, the methodology of analyzing the data differs. The present study analyzed the data using Pearson's Linear Correlation Coefficient, many previous studies used percentage distribution since the studies were mainly qualitative.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.0 Introduction**

This chapter explains the design, population, sampling procedure, data collection methods, instruments, validity and reliability, data gathering procedure, data analysis, ethical and limitation used of the study.

#### **3.1 Research Design**

The study employed a cross sectional survey design would be a survey design because of the relatively large number of respondents who were included in the study. It would be cross sectional because the researcher got data from the respondents once at a time. The study took qualitative and quantitative approaches. The quantitative approach was adopted in quantifying the responses of the respondents to get the mean and percentage distribution. The qualitative approach was used for the detailed responses from the structured questions.

#### **3.2 Research Population**

The target population of 240 constituted the academic staff from Federal University and College of Business and Management Studies, Dutse. These were the professors, Associate professors, lecturers and junior lecturers or teaching Assistants from various faculties in the two institutions under study. Federal University and College of Business and Management Studies, Dutse is a newly founded University, founded in 2011 with relatively few academic members of staff. The two institutions were chosen because they are the only ones, as of February 2015 that were offering e-learning in Dutse local government area.

#### **3.3 Sample Size**

A sample of 150 academic members of staff was be taken in this study, using Krejcie and Morgan's (1970) table for determining the samples sizes for finite population, as shown in Appendix 2. According to Krejcie and Morgan's (1970), the minimum sample of 148 should be

taken from a population of 250. The researcher took a sample of 150 instead of 148 because the larger the sample, the more the likelihood of the reliability of the findings.

**Table 3.2: Population and sample size**

No	Name of institution	Population	Sample
1.	Federal University Dutse	81	54
2.	College of Business and management studies Dutse	150	106
	<b>Total</b>	<b>240</b>	<b>150</b>

### 3.4 Sample Strategies

The researcher was used universal sampling in choosing the higher educational institutions. In Dutse State, there were only two institutions of higher learning offering e-learning at the time the study was carried out. Both institutions were thus involved in the study. As for the respondents, random sampling was used to select them.

### 3.5 Research Instruments

The researcher used a standardized questionnaire on emotional regulation. This questionnaire has ten items which test how individuals control their emotions. This questionnaire has been used in several studies such as that of Gross and John, 2003; Ochsner and Gross, 2005; Mauss, Levenson, McCarter, Wilhelm and Gross, 2005, among others. Also, standardized questionnaires on Self-concept, working environment and electronic learning adoption were used to collect the data.

### 3.6 Validity

The questionnaire for this study would be developed to ensure the content validity of the instrument, the researcher make it through review of the literature to back up the questions in the instrument, and requested expert to validate the instrument. The expert examine the reference/validity of questions in view of the objectives and literature and evaluate the clarity of

questionnaire. These ratings were analyzed and a content validity index (CVI) was computed using the following formula, cited in Amin (2005).

$$CVI = \frac{\text{Number of questions declared valid}}{\text{Total number of questions}}$$

According to Amin (2005) a CVI of 0.70 is adequate to declare as instrument valid. From the rating of experts, the CVI was computed as follows;

$$\begin{aligned} CVI &= \frac{49}{58} \\ &= 0.845 \end{aligned}$$

The above computation, the CVI of 0.845 was higher than the minimum CVI of 0.70, so the instrument validity was declared valid.

### **3.7 Reliability**

The researcher employed a pretest of the questionnaire technique where some potential respondents who will not partake in the final study are to be administered with questionnaire, this tested the content, language and response format of the questionnaire ensure reliable.

### **3.8 Data Gathering Procedure**

The researcher first got a letter of introduction from the College of Higher Degrees and Research to use it to collect data from the respondents. Then, the researcher officially nominated three research assistants to help him in administering the questionnaires to the respondents in the two higher educational institutions. To make a follow up and then collect the filled instruments. After retrieving the questionnaires, they were coded, the data was analyzed, and finally the dissertation was written.

### **3.9 Data Analysis**

The data was analyzed as follows.

1. The data on the relationship between academic staff's level of emotional regulation and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria was analyzed using the Pearson's Linear Correlation Coefficient since both the independent variable (emotional regulation) and the dependent variable (adoption of electronic learning or instruction in higher educational institutions) were categorical.
2. The data on the relationship between academic staff's level of self-concept and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria was analyzed using Pearson's Linear Correlation Coefficient since both the independent variable (self-concept) and the dependent variable (adoption of electronic learning or instruction in higher educational institutions) were categorical.
3. The data on the relationship between the working conditions in higher educational institutions in Jigawa State, Nigeria and the academic staff's adoption of electronic learning or instruction was analyzed using Pearson's Linear Correlation Coefficient since both the independent variable (working environment) and the dependent variable (adoption of electronic learning or instruction in higher educational institutions) were categorical.
4. Regarding measuring the level and extent of academic staff's level of emotional regulation and self concept, which were later used to measure the relationships between the variables, the following mean ranges were used.

Mean Range	Response Mode	Interpretation
3.26-4.00	Strongly Agree	Very high
2.51-3.25	Agree	High
1.76-2.50	Disagree	Low
1.00-1.75	Strongly Disagree	Very low

### 3.10 Ethical Consideration

The following were done to address the ethical concerns.

1. They were not required to write their names on the questionnaires.
2. The findings were presented in a generalized manner.

3. The researcher assured the respondents that the collected data was for academic purposes, specifically, the research in question.
4. The researcher acknowledged the works of other scholars that he read.

### **3.11 Limitations of the Study**

In line with the threats to the validity the researcher claimed a probable 50% marginal errors at (0.05) level of significance, in order to reduce the threats to the validity of the findings of the study. The limitations included:

1. The researcher could not ascertain the respondents' honesty and personal biases though he assured them of confidentiality. This could have led to an over statement of the relationships among the variables of the study.
2. Though the researcher had anticipated a sample of 165 respondents and all of them were given questionnaires, not all of them were filled. Because of this, 150 filled questionnaires were returned. The researcher may have missed the valuable information from the 15 respondents who did not fill the questionnaires.

## CHAPTER FOUR

### DATA PRESENTATION, ANALYSIS AND INTERPERETATION

#### 4.0. INTRODUCTION

This chapter presents the data collected from the field, analyses and interprets it, based on the research questions.

#### 4.1 Demographic characteristics of the academic staff in higher educational institution, Dutse local government area, Jigawa state, Nigeria.

Respondent in the study were the lecturers from 2 higher educational institutions in Dutse, Jigawa state.

**Table 1: Frequency and percentage showing the respondents demographic characteristic**

Category	Frequency	Percent
<b>Age</b>		
29 years or less	22	14.7
30-39 years	51	34.0
40-49 years	36	24.0
50-59 years	31	20.7
60 years and above	10	6.7
<b>Total</b>	<b>150</b>	<b>100</b>
<b>Gender</b>		
Male	103	68.7
Female	47	31.3
<b>Total</b>	<b>150</b>	<b>100</b>
<b>Academic rank</b>		
Professor	6	4.0
Associate professor	27	18.0
Senior lecturer	48	32.0
Lecturer	38	25.3
Assistant lecturer	31	20.7
<b>Total</b>	<b>150</b>	<b>100</b>

Source: Primary data, 2015

Table 1 shows the respondents who participated in the study. They were 150. Among these, the majority, 34% were aged between 30-39 years. Very few of them, 6.7% were aged 60 years and above. This shows that higher educational institutions prefer employing those they perceive to be energetic, instead of employing the aged academics whom they seem to perceive to be less energetic. Regarding gender, the males dominated the sample, 68.7%. Only 31.3% female academicians participated in the study. This shows gender imbalance in the recruitment of the academics in higher educational institutions. As for the academic rank, the majority, 32.0% were senior lecturers. Only 4.0% were at the rank of professor. Thus, all categories of academic staff in terms of academic rank, gender and age groups, participated in the stud



**Table 2A: Psycho-social factors**

<b>Items on Psycho-social factors</b>	<b>Mean</b>	<b>Std</b>	<b>Interpretation</b>
<b>Emotion regulation</b>			
When I want to feel more positive emotion, I change the way I'm thinking about the situation	3.38	.923	
control my emotions by changing the way I think about the situation I'm in.	3.26	.938	
When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm	2.98	.886	
When I am feeling positive emotions, I am careful to express them.	2.95	.954	
keep my emotions to myself	2.94	.805	
When I want to feel less negative emotion (such as sadness or anger), I change what I'm thinking about	2.93	.813	
control my emotions by not expressing them	2.92	.924	
When I want to feel less negative emotion, I change the way I think about the situation.	2.89	.804	
When I want to feel more positive emotion (such as joy or amusement), I change what I'm thinking about	2.88	.856	
When I am feeling negative emotions, I make sure not to express them.	2.42	.841	
<b>Average mean</b>	<b>2.96</b>	<b>0.8744</b>	High level
<b>Self concept</b>			
I am good in most of my work assignments.	3.33	.814	
I pay attention to my superiors.	3.29	.909	
I often do my work without much supervision.	3.09	.941	
I do not give up easily when I am faced with a difficult solution.	2.99	1.010	
I always do poorly in some assignments given to me by my bosses.	2.97	.944	
I am willing to do my best to get good result at work.	2.95	.940	
I am usually interested in my work.	2.94	.957	
I am willing to take risks at work.	2.92	.931	
I am active and curious about the surroundings.	2.90	.849	
I am able to help my colleagues at work.	2.89	.916	
I ask questions and define problems.	2.87	.994	
I am always willing to put in more effort in my work.	2.83	1.003	
I take modest pride in my own contributions.	2.77	.999	
I make friends easily, talk and laugh.	2.65	.854	
I have a sense of humor.	2.48	.881	
I work and co-operate with others.	2.42	.921	
<b>Average mean</b>	<b>2.89</b>	<b>0.9289</b>	High level

Source: primary data, 2015

**Table 2B**

<b>Items on Working environment</b>	<b>Mean</b>	<b>Std</b>	<b>Interpretation</b>
The administrative team provides an environment in which honesty and openness are valued	3.39	.923	
I feel accepted and am treated with courtesy, listened to, and invited to express my thoughts and feelings by the upper administration	3.31	.879	
The rewards for the success are greater than the penalties for failure	3.26	.912	
I believe in and take pride in my work and my workplace	3.20	.962	
I am encouraged to give honest feedback to my supervisor	3.17	.867	
I am capable to keep encounters with other staff work-centered, rather than ego-centered	3.07	.944	
I receive construct feedback in a way that emphasizes positive, rather than negatives	2.99	.902	
I feel in control of my work and capable of competently carrying out my daily tasks	2.98	.872	
My efforts are recognized and acknowledged in tangible ways	2.95	.928	
The administrative team provides an environment in which I feel safe and secure.	2.93	.938	
I am encouraged to solve as many of my own work-related problems as possible	2.91	1.003	
I tend to see problems as challenges, rather than as obstacles.	2.90	.939	
I feel accepted and valued by my colleagues	2.89	.860	
I feel accepted and am treated with courtesy, listened to, and invited to express my thoughts and feelings by my principal	2.87	.885	
I feel accepted and am treated with courtesy, listened to, and invited to express my thoughts and feelings by the students.	2.77	.825	
Innovation is expected of me, and I am encouraged to take the initiative	2.65	.939	
At work, I am accepted for the person I am	2.55	.878	
I feel challenged and am given assignments that inspire, test, and stretch my abilities	2.24	.896	
I have clear-cut and non-contradictory policies and procedures at work	1.73	.981	
<b>Average mean</b>	<b>2.88</b>	<b>0.91226</b>	Good
<b>Grand mean</b>	<b>2.91</b>		Good

**Source:** Primary data, 2015

Table 2A and Table 2B show that on average, the academics' emotional regulation, self concept and working environment taken together, they were good, as shown by the grand mean of 2.91. That is, the academics' level of emotional regulation was generally high, with a mean of 2.96; their level of self-concept was also high with a mean of 2.89; and the working environment of the academics in the higher educational institutions offering e-learning was generally good, with a mean of 2.88.

**4.2. Research question 1. What is the relationship between academic staff's level of emotional regulation and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria?**

**Table 4**

**Relationship between Emotional regulation and Staffs' Adoption of E-learning**

<b>Variables correlated</b>	<b>r-value</b>	<b>Sig</b>	<b>Interpretation</b>
Emotional regulation Vs Adoption of E-learning	.166	.003	Significant correlation

**Source: Primary Data, 2015**

Table 4 shows that the relationship between academic staff's level of emotional regulation and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria was significant, given the sig. value of 0.003 which is below the 0.005 level of significance commonly used in social sciences.

The findings of the study as per Table 2A shows that the academics in higher educational institutions in Jigawa State, specifically those who teach in the institutions where e-learning is offered, do in most cases change what they are thinking about if they want to feel more positive emotion (mean,3.38), and keep their emotions to themselves (mean, 3.26). The very high mean ranges on those two aspects mean that the academics do that most of the time. The rest of the aspects on emotional regulation were ranked high, such as being careful in expressing the motions (mean,2.95), when they want to feel less negative emotion, such as sadness and anger they usually change what they are thinking about (mean,2.98). The meaning of the items being

ranked high, as far as this study was concerned is that the academics usually do that, though they do not do so most of the time.

#### 4.3 Research question 2. What is the relationship between academic staff's level of self-concept and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria?

**Table 5**

<b>Relationship between Self concept and Staffs' Adoption of E-learning</b>			
<b>Variables correlated</b>	<b>r-value</b>	<b>Sig</b>	<b>Interpretation</b>
Self concept Vs Adoption of E-learning	.162	.001	Significant correlation

**Source: Primary Data, 2015**

Table 5 shows that the relationship between academic staff's level of self-concept and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria was significant, given the sig. value of 0.001 which is below the 0.005 level of significance commonly used in social sciences. The respondents indicated that they score very highly in two aspects, namely, being good in most of their work assignments (mean, 3.33), as well as paying attention to the superiors (mean, 3.29). On the rest of other items such as doing work without supervision, the academics being interested in their work, being willing to do their best to get good results, not giving up easily when faced with a difficult situation, having a sense of humour, asking questions and defining problems, among others, the academics scored high, that is, they are usually like that, or they usually do that as they are performing their roles.

4.4. Research question 3. What is the relationship between the working conditions in higher educational institutions in Jigawa State, Nigeria and the academic staff's adoption of electronic learning or instruction?

**Table 6**

**Relationship between working environment and staffs' adoption of E-learning**

<b>Variables correlated</b>	<b>r-value</b>	<b>Sig</b>	<b>Interpretation</b>
Working environment Vs Adoption of E-learning	.146	.004	Significant correlation

**Source: Primary Data, 2015**

Table 6 shows that the relationship between academic staff's level of working environment and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria was significant, given the sig. value of 0.004 which is below the 0.005 level of significance commonly used in social sciences.

The academics felt very that their working environment was very good in terms of the administrators providing an environment in which they feel safe and secure (mean, 3.39), as well as feeling accepted, being treated with courtesy, listened to, and invited to express their thoughts and feelings by the upper administration (mean,3.31). The academics also according to the responses on the questionnaire indicated that their working environment was good in areas such as their efforts being recognized and acknowledged in tangible ways (mean, 2.95), being accepted at work for the persons they are (2.55), the rewards for the success being greater than the penalties for failure (mean, 3.26), among others.

**Table 7**

**Regression Analysis between staffs' adoption of e-learning (DV) and Psycho-social factors (IV)**

Variables regressed	Adjusted $r^2$	F-value	Sig.	Interpretation
Psycho-social factors VS Staffs' adoption of e-learning	.704	25.812	.001	Significant effect
<b>Coefficients</b>	<b>Beta</b>	<b>t-value</b>	<b>Sig</b>	
(Constant)		4.034	.000	Significant effect
Emotional regulation	.592	6.289	.001	Significant effect
Self concept	.457	5.081	.000	Significant effect
Working environment	.538	6.484	.003	Significant effect

**Source: Primary Data, 2015**

Table 7 shows that the independent variable, that is, the psycho-social factors significantly affect the independent variable, that is, the academics' adoption of e-learning. The adjusted  $r^2$  of 0.704 means that the psycho-social factors all together contributed 70.4% to the academics' adoption of e-learning in higher educational institutions in Nigeria, which implies that the extraneous variables contributed very little, only 28.6% to the academics' adoption of e-learning in Nigeria. Among the items under psycho-social factors, the emotional regulation of the academics contributed most to the academics' adoption of e-learning, followed by the working environment.

By implication, the higher the level of the academics' emotional regulation and self-concept, the higher their extent of adopting e-learning and vice versa; and the better the academics' working environment, the higher the level of the academics' adoption of e-learning.

## CHAPTER FIVE

### DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

#### 5.0 Introduction

This chapter presents a discussion of the findings on each research objective, the conclusions made, as well as the recommendations

#### 5.1. Discussion

**The relationship between academic staff's level of emotional regulation and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria?**

The findings on this research question indicated that the relationship between academic staff's level of emotional regulation and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria was significant, given the sig. value of 0.003 which is below the 0.005 level of significance commonly used in social sciences.

**5.1.1** The findings of the study also show that the academics in higher educational institutions in Jigawa State, specifically those who teach in the institutions where e-learning is offered, do in most cases change what they are thinking about if they want to feel more positive emotion (mean,3.38), and keep their emotions to themselves (mean, 3.26). The very high mean ranges on those two aspects mean that the academics do that most of the time. The rest of the aspects on emotional regulation were ranked high, such as being careful in expressing the motions (mean,2.95), when they want to feel less negative emotion, such as sadness and anger they usually change what they are thinking about (mean,2.98). The meaning of the items being ranked high, as far as this study was concerned is that the academics usually do that, though they do not do so most of the time.

This finding seem to be in line with the submission of Connolly and Stansfield, (2007) that the use of technology has become an integral component of work, education, communication and entertainment. The findings are also in line with the findings of Fredrickson ( 2001) that positive emotional experiences are noticed to be making people more open to new things and

more broad minded about different issue This enables individuals to learn more about wider range of issues. Someone who hasn't use technology too much earlier may become curious of using technological devices after receiving a positive experience with them. For example, someone who succeeds with their goal of cooking food with their new oven will be more interested to use also other even more technical devices in the future.

### **5.1.2 The relationship between academic staff's level of self-concept and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria?**

The relationship between academic staff's level of self-concept and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria was significant, given the sig. value of 0.001 which is below the 0.005 level of significance commonly used in social sciences. The respondents indicated that they score very highly in two aspects, namely, being good in most of their work assignments (mean, 3.33), as well as paying attention to the superiors (mean, 3.29). On the rest of other items such as doing work without supervision, the academics being interested in their work, being willing to do their best to get good results, not giving up easily when faced with a difficult situation, having a sense of humour, asking questions and defining problems, among others, the academics scored high, that is, they are usually like that, or they usually do that as they are performing their roles.

The findings of the current study are in line with Ajzen & Fishbein (1980) who claimed that attitudes are positive or negative evaluation of object, people, or situation that predispose us to feel and behave towards them in positive or negative ways, which influence persons to respond positively or negatively before different stimuli. Attitudes effect user behavioral intention which affect the users' actual use of technology (Rainer and Miller, 1996). Attitudes towards online education tend to be consistently positive, Havelka, (2003) and to be related with satisfaction. Research have been made on different countries like Malaysia (Ibrahim, Silong, and Samah, (2002)) Italy (Delfino, Manca, Persico & sarti, (2004)) and Taiwan (Peng, Tsai & Wil, 2006).

Similarly, the current study's findings agree with Atkinson and Kydd, (1997) who examined the influence of playfulness, ability to use of the World Wide Web. They found that all the



considered constructs affected World Wide Web use. Collin et al, (op at) described a attempt to develop and validate a model focusing on the use of ICT (in particular email, the WWW and video conferencing) in teaching and learning activities. They believed that an individual's acceptance of technological innovation in his or her learning related is based upon four rather simple concepts, environment, effectiveness ease of use, and engagement. These four Es were the basis of a conceptual model for prediction of the acceptance of ICT innovation by an individual in an educational context. Perceived usefulness and ease of use were also studied by Cheung and Huang (2005).

According to Juutinen, Huoinen & Yalaho, (2011) stressed that, when student begin their e-learning, they have different emotions about starting the studying e-learning. Emotion vary according to the motives that the students have enrolled the courses for. The reason and motivation why the students have started the e-learning, creates either a positive or negative starting situation for the students e-learning career. The student who are obliged to forced to take e-learning courses against their own interest or will are most likely the ones that either dropout or get very negative experience from e-learning with finished courses (Juutines, 2011). The students who are in e-learning courses develop themselves for their work or their spare time are the one that are motivated to learn new ways of learning and learn as much as they can. For this positive attitude towards the e-learning system helps and assures the good experiences with e-learning and leads them to their goals that they had set for e-learning. In another study it reveals that, positive emotional experience are noticed to be making people more open to new things and more broad minded about different issue (fredrickson, 1998, 2001). This enables individuals to learn more about wider range of issues. Someone who hasn't use technology too much earlier may become curious of using technological devices after receiving a positive experience with them. For example, someone who succeed with their goal of cooking food with their new oven will be more interested to use also other even more technical devices in the future.

Related views are held that attitude toward e-learning, reflected scholarly and academic reviews, range from neutral to positive. On one hand, it is noted that e-learning is atleast as effective as more traditional instructional strategies (Rosenberg, Grad, & Matear, 2003), and that there are no major differences in academic performance between the traditional and more technology

oriented modes of instruction (Cavanaugh,2001). On the other hand many reviews go further, reflecting a particularly positive attitude toward the impact of e-learning (Mayer, 2003, Steinberger, 2002, Kolik, 2003). Thus, it offers a variety of new possibilities to learners. (Bruehuex, Laferriere, & Lamon, 2002), and also portray a positive effect on student advancement in different subject matter areas, (Soe, Koki, Chang, 2000, Christmann & Badgett, 2003, Chambers, 2003).

In addition, the findings of the current study do not differ from those of Atkinson and Kydd (1997) who examined the influence of playfulness, ability to use of the World Wide Web. They found that all the considered constructs affected World Wide Web use. Collin et al, (op at) described an attempt to develop and validate a model focusing on the use of ICT (in particular email, the WWW and video conferencing) in teaching and learning activities. They believed that an individual's acceptance of technological innovation in his or her learning related is based upon four rather simple concepts, environment, effectiveness ease of use, and engagement. These four Es were the basis of a conceptual model for prediction of the acceptance of ICT innovation by an individual in an educational context. Perceived usefulness and ease of use were also studied by Cheung and Huang (2005).

Relatedly, as Juutinen, Huoinen & Yalaho, (2011) observe, when students begin their e-learning, they have different emotions about starting the studying e-learning. Emotion vary according to the motives that the students have enrolled the courses for. The reason and motivation why the students have started the e-learning, creates either a positive or negative starting situation for the students e-learning career. The student who are obliged to forced to take e-learning courses against their own interest or will are most likely the ones that either dropout or get very negative experience from e-learning with finished courses (Juutines, 2011). The students who are in e-learning courses develop themselves for their work or their spare time are the one that are motivated to learn new ways of learning and learn as much as they can. For this positive attitude towards the e-learning system helps and assures the good experiences with e-learning and leads them to their goals that they had set for e-learning.

### **5.1.3 The relationship between the working conditions in higher educational institutions in Jigawa State, Nigeria and the academic staff's adoption of electronic learning or instruction?**

The findings on this research question indicated that the relationship between academic staff's level of working environment and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria was significant, given the sig. value of 0.004 which is below the 0.005 level of significance commonly used in social sciences.

The academics felt very that their working environment was very good in terms of the administrators providing an environment in which they feel safe and secure (mean, 3.39), as well as feeling accepted, being treated with courtesy, listened to, and invited to express their thoughts and feelings by the upper administration (mean, 3.31). The academics also according to the responses on the questionnaire indicated that their working environment was good in areas such as their efforts being recognized and acknowledged in tangible ways (mean, 2.95), being accepted at work for the persons they are (2.55), the rewards for the success being greater than the penalties for failure (mean, 3.26), among others.

The high level of e-learning adoption based on good environment according to the findings of the current study seem to be in line with the findings of Olatunjis (2003) whose study found that that learning environment has an effect on student technological learning. It is hard for learning to occur without an environment that is conducive to learning. It is essential for instructors to provide well designed instruction in order for students to learn effectively. This goal, however is dependent upon environmental factors. First, the learning environment should be safe and supportive. Students should feel physically and psychologically safe and comfortable. When the classroom is too hot or too cold, the students are not physically comfortable and they are not able to focus on learning. Similarly, if students were laughed at after making a mistake in interactions with computer components or negatively perceived the inferences, psychologically they do not feel the learning environment is safe and would, inviting and supportive, they are engaged in their learning and the experience is more enjoyable.

Indeed, the current study affirms the claims of (Hitlin & Rainie, 2005) that the internet now is ubiquitous and with internet penetration rates ranging between as low as 5.6% in Africa and up to 74.4% in North America (internet world stats, 2009), any institution that does not embrace this technology will be seriously disadvantage. As a matter of facts not only the internet that is gaining popularity in education worldwide, all sorts of ICTs such as mobile technologies are also putting up robust momentum in the same field. Technology is making a society increasingly interconnected in what many have come to Call the “connected Age”. A decade ago, access to technology was limited and wiring school was one of the country’s highest education priorities (Hitlin & Rainie 2005).

Educational institutions have adopted technology in their learning environment through which a range of pedagogical and administrative tools are offered by colleges teaching and learning (Coates, Janses and Baldwin, 2005). Technology has made the world a truly global community, where students are being prepared for this global community and technology has an integral part of its core. A technology rich education enables students a bridge cultural and geographical distance around specific tasks, project, information gathering and relationship building. It makes all subjects more meaningful to students and more adequately prepares them for the world in which they live and work.

## **5.2. Conclusions**

Based on the findings of the study, the following conclusions were made.

1. The high level of emotional regulation of the academics in higher educational institutions in Jigawa State, has contributed much to the academics’ adoption of electronic learning or instruction in their respective institutions.
2. The high level of the academics’ self-concept in higher educational institutions in Jigawa State, Nigeria has contributed much to the academics’ adoption of electronic learning or instruction in their respective institutions in their respective institutions.

3. The working environment in the higher educational institutions in Jigawa State, Nigeria which offer e-learning are good. Because of this, the academics have highly adopted electronic learning or instruction in their respective institutions in their respective institutions.

### **5.3. Recommendations**

Based on the findings of the study, the following were recommended.

1. The managers of higher educational institutions in Jigawa State, Nigeria should do more to build the emotional regulation of their academics. This is based on the finding that though the academics' emotional regulation level was high', it was not very high, so there is need to cause it to be very high with a hope that the higher it is, the better services to the institution.
2. Whereas the academics' self-concept was high, the managers of the higher educational institutions should cause it to be higher by for example causing them to cooperate more with others and make them own more their respective institutions.
3. Though the managers of the institutions where e-learning is offered in Jigawa State are praised for the good working environment (mean, 2.88), the environment should be made better by for example giving more assignments to the academics that inspire, test, and stretch their abilities.

### **5.4. Hypotheses Testing**

1. The alternative hypothesis that there is a significant relationship between academic staff's level of emotional regulation and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria was accepted given the sig value of 0.003.
2. The alternative hypothesis that there is a significant relationship between academic staff's level of self-concept and their adoption of electronic learning or instruction in higher educational institutions in Jigawa State, Nigeria was accepted given the sig value of 0.001.
3. The alternative hypothesis that there is a significant relationship between the working conditions in higher educational institutions in Jigawa State, Nigeria and the academic staff's adoption of electronic learning or instruction was accepted given the sig value of 0.004.

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## APPENDIX I: QUESTIONNAIRE ON EMOTIONAL REGULATION SELF CONCEPT AND WORKING ENVIRONMENT

### Introduction:

A survey about psycho-social factors and academic staff's adoption of e-learning/ instruction in higher educational institutions is being carried out by Mr. Auwal Adamu. May you please get involved in the study by answering this questionnaire?

### Section A: Respondents' Bio-data

1. Your age (a) 29 years or less (b) 30-39 (c) 40-49 (d) 50-59 (e) 60 and above
2. Your Gender (a) Male (b) Female
3. Your Academic rank (a) professor (b) Associate Professor (c) Senior Lecturer (d) Lecturer I (e) Lecturer II (f) Assistant Lecturer

### Section B (i) Emotion Regulation questionnaire

#### Instructions and items

We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture or behave.

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree

1. When I want to feel more positive emotion (such as joy or amusement), I change what I'm thinking about
2. I keep my emotions to myself
3. When I want to feel less negative emotion (such as sadness or anger), I change what I'm thinking about
4. When I am feeling positive emotions, I am careful to express them.
5. When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm
6. I control my emotions by not expressing them
7. When I want to feel more positive emotion, I change the way I'm thinking about the situation
8. I control my emotions by changing the way I think about the situation I'm in.
9. When I am feeling negative emotions, I make sure not to express them.
10. When I want to feel less negative emotion, I change the way I think about the situation.

**Section B ii Self Concept Questionnaire**

1. I am active and curious about the surroundings.
2. I am able to help my colleagues at work.
3. I often do my work without much supervision.
4. I pay attention to my superiors.
5. I am usually interested in my work.
6. I am willing to do my best to get good result at work.
7. I am good in most of my work assignments.
8. I always do poorly in some assignments given to me by my bosses.
9. I do not give up easily when I am faced with a difficult solution.
10. I am always willing to put in more effort in my work.
11. I work and co-operate with others.
12. I make friends easily, talk and laugh.
13. I have a sense of humor.
14. I ask questions and define problems.
15. I am willing to take risks at work.
16. I take modest pride in my own contributions.

**Section B (iii) Working Environment Questionnaire.**

1. I feel challenged and am given assignments that inspire, test, and stretch my abilities
2. My efforts are recognized and acknowledged in tangible ways
3. I receive construct feedback in a way that emphasizes positive, rather than negatives
4. Innovation is expected of me, and I am encouraged to take the initiative
5. I have clear-cut and non-contradictory policies and procedures at work
6. I am encouraged to solve as many of my own work-related problems as possible
7. I believe in and take pride in my work and my workplace
8. At work, I am accepted for the person I am
9. I feel in control of my work and capable of competently carrying out my daily tasks
10. I tend to see problems as challenges, rather than as obstacles.
11. The rewards for the success are greater than the penalties for failure
12. I am encouraged to give honest feedback to my supervisor.
13. I am capable to keep encounters with other staff work-centered, rather than ego-centered
14. I feel accepted and am treated with courtesy, listened to, and invited to express my thoughts and feelings by the students.
15. I feel accepted and valued by my colleagues
16. I feel accepted and am treated with courtesy, listened to, and invited to express my thoughts and feelings by my principal
17. I feel accepted and am treated with courtesy, listened to, and invited to express my thoughts and feelings by the upper administration
18. The administrative team provides an environment in which I feel safe and secure.

19. The administrative team provides an environment in which honesty and openness are valued.

### **Academic Staff's E-learning/ Instruction Adoption Questionnaire**

1. **Courses offered online.** I myself teach the following course units on-line in the following departments.
  - A. Physical sciences (Chemistry, physics, etc)
  - B. Life sciences (Biology, etc)
  - C. Social sciences (Anthropology, psychology, etc)
  - D. Liberal arts (language arts/ history)
  - E. Mathematics
  - F. Computer science
  - G. Business and Economics
  - H. Education
  
2. **Communication Methods.** The following communication methods are used to support instructors about on-line distant courses, hybrid courses, and traditional courses with technology
  - A. Face-to-face individual meetings
  - B. Face-to-face classes, workshops, seminars
  - C. Videoconferencing
  - D. Synchronous (interactive) Web-based tools
  - E. Asynchronous tools.
  
3. **Resources used to support Instructors' Activities.** The following IT resources are used to support instructors' activities with online distance courses, hybrid courses, and traditional courses with technology
  - A. Curriculum adaptation for e-learning
  - B. Creation of e-learning course materials (Websites, concept simulations, tests, etc) for course
  - C. Online material research and review
  - D. Copyright research and approvals
  - E. Off-the-shelf authoring tools and software application procurement
  - F. Creation of customized applications/ templates
  - G. Authoring tools and software application support
  - H. Learning object repositories
  - I. Telephone help desk devoted to e-learning/ technology issues
  - J. Support group meetings
  - K. Listservs
  - L. Computer-based or Web-based instructional tools
  - M. Online reference resources

- N. In-class support/ mentoring while teaching
- O. Online community tools

## APPENDIX II

**KREJCL& Morgan's (1970) table for determining samples sizes (s) for finite population (N)**

N	s	N	S	N	S	N	s	N	s
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	100000	384
								0	

(from Gay & Airasian ,2003: 113)