



## A Comparative Study of Acceptance and Use of ICT among University Academic Staff of ADSU and LASU: Nigeria

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### ABSTRACT

This research is on the comparative study of the intention to accept and use ICT among university academic staff of Adamawa State University (ADSU) and Lagos state University (LASU). 100 UTAUT survey questionnaires were administered to each of the university. The data collected was run by SPSS version 17. The Unified Theory of Acceptance and Use of Technology (UTAUT) model theory was verified using regression analysis to understand the behavioral intention of ADSU and LASU academic staff to accept and use ICT in their workplace. By comparing ADSU and LASU, the study confirms that UTAUT model predict successful acceptance of ICT usage in both universities. The regression results show that the most influential predictor of academic staff intention to accept and use ICT in ADSU is Effort expectancy (EE), while that of LASU is Performance expectancy (PE). The study further confirms that in both institutions some of the academicians are still having the fear of using ICT for their teaching and learning. The comparison also shows that both ADSU and LASU do not have intention to reject ICT acceptance and usage in their workplace. Again the findings reveals that, the most influential construct outside UTAUT model influencing the behavioral intention of the academic staff to accept and use ICT in ADSU and LASU is attitudes towards use of technology. The knowledge gained from this study is beneficiary to the University administrators, academic staff and the Nigerian ICT policy makers.

**Keywords:** Behavioral intention; University academicians; ICT; UTAUT model; Acceptance; Usage

### 1. INTRODUCTION

The growth of (ICT) has suddenly reshaped the teaching and learning process in higher education institutions (HEIs), (Pulkkinen, 2007; Wood, 1995). ICT is an umbrella term that includes any communication devices or application encompassing: radio, cellular phones, hardware and software, computer and network, satellite etc. These can be use to enhance and support distance learning (Johnson, 2007). Therefore in education, ICT is considered to be the application of digital equipments to all aspects of teaching and learning. The use of ICT has brought about rapid transformation which involves the use of computers, internet and other information technologies (Jimoh, 2007). However others viewed ICT as electronic or computerized devices which enabled us to process and share information (Ofodu, 2007). E-learning is considered as the use of ICT to enhance and support teaching learning process (Yusuf, 2005). Therefore ICT is a teaching tool, that aid education of student both on and off campus by means of teaching online offered via web-based system (Pulkkinen, 2007; Wood, 1995). ICT for education is more critical today than before (Pajo & Wallace, 2001). The higher education institutions around the globe have increasingly adopted ICT as tools for teaching, curriculum development, staff development, and student learning (Kumpulainen, 2007; Usluel, As\_kar, & Bas\_, 2008).

In the information age where information and communication technology (ICT) is transforming the educational landscape around the world, HEIs in Nigeria should rise up to the challenges ahead (Aduke, 2008; Ekundayo, 2009; Ogunsola & Aboyade, 2005; L. A. Ogunsola & W. A. Aboyade, 2005; Oyelekan, 2004). Public expectation for ICT and educational systems has increase with the ubiquity of digital technologies in daily life. To date, the discourse has been predominantly instrumental, focusing on the skills and the use of ICT in the service of curriculum and instruction. Although computers have been widely available in educational setting for well over two decades, a concern remains that teachers are neither confident nor competent users of ICT. The challenges facing Nigerian Public Universities pertaining ICT acceptance and usage for teaching and learning is primarily lack of commitment by the government in terms of funding, staff training and stable power supply (Ijeoma, Joseph, & Franca, 2010; Oye , Salleh, & Iahad, 2011).

The failure to use technology by many academics in the teaching and learning process is of particular concern. The implication for leaders in the delivery of IT service in a university environment is that to meet the reform agenda, not only must they provide administration efficiencies, but also create an environment that appropriately supports technological innovation in the university's teaching and

learning. Most of the studies on innovation in higher education have centered on ICT software and hardware designs that are driven from information science (IS) or information technology (IT) perspective of behavioral intention to use the system on an individual Level (Fishbein & Ajzen, 1975; Venkatesh & Davis, 2000). The obvious problem Surry and Ensminger, encountered when discussing about technology is that there are so many different investigations and topics on the subject. Therefore, there is at various levels within any educational system, different expectation and drivers about technology's value and adoption on both personal and organizational level (Surry & Ensminger, 2006).

(Gubahar, 2008) in his study found that pre-service teachers are willing to use technology but the problem is that no lessons to facilitate them with skills that will transform them into technology competent teachers. In a study by (Archibong & Effiom, 2009), lack of interest, limited access to ICT facilities and lack of training opportunities were some of the problems associated to ICT usage among the Nigerian University academic staff. (Ijeoma et al., 2010) opined that inadequate ICT facilities, excess workload and funding were identified as major challenges to ICT usage among academic staff in Nigerian universities.

According to the (Carol, 2007) much of our curricula and education systems are still products from a mechanistic past, in which predetermined knowledge was delivered in a linear format to a mass audience. The focus was on transferring information in a controlled sequence without accounting for the contextual settings of the different learners. The Universities in Nigeria need to align its teaching and learning methods with best practices found both nationally and globally. Adopting the use of ICT and IS within higher education seems inevitable as digital communication and information models become the preferred means of storing, accessing and disseminating information. The question of why university academicians decide to accept or reject a particular technology continues to be an important issue. The research problem revolves around ICT acceptance and use by Nigerian University academicians. (Oyelekan, 2008; O. S. Oyelekan, 2008) comment that HEIs with good network service have the problem of adoption. (Archibong & Effiom, 2009) said that, lack of interest, limited access to ICT facilities and lack of training opportunities constitute the major problem of ICT usage by University academicians. (Ijeoma et al., 2010) opined that inadequate ICT facilities and excess workload are major challenges to ICT usage among academic staff in Nigerian universities. Given that the academicians are the key to effective usage of information technologies in the university education system. It is important to understand the academicians' behavioral intention towards IT and the factors that influence these intentions. How can Nigerian University academicians accept and use ICT in their workplace?

(Dale, Robertson, & Shortis, 2004) discovered that lack of teacher confidence, lack of experience with technology and low pedagogical understanding of the potential of ICT, impedes optimal technological integration. Numerous studies of instructional applications of technology in education settings reveal that teachers use technology superficially, limiting its use and poorly integrating it into curriculum-based teaching and learning (Groff & Mouza, 2008; Levin & Wadmany, 2008; Russell, O'Dwyer, Bebell, & Tao, 2007; Zhao, Pugh, Sheldon, & Byers, 2002). Technology integration within the classroom is difficult, especially among teachers who have been on the educational field for many years.

## 2. TECHNOLOGY ACCEPTANCE MODEL

Many researchers have proposed theories and models of technology acceptance in order to explain and predict user acceptance with technology in order to account for rapid change in both technologies and their environment. Given that the academicians are the key to effective use of information technologies in the university educational system, it is important to understand academicians' behavioral intention towards IT and the factors that influence these intentions. The *Technology Acceptance Model* or TAM (Davis, Bagozzi, & Warshaw, 1989) is one of the most profound frameworks frequently used in studies to predict and explain the use of computer based applications and solutions. The model asserts that the adoption of a technology is determined by the user's intention to use, which in turn is influenced by his or her attitudes towards the technology. It is very likely that the variability in these attitudinal and behavioral constructs depends on the user's perceptions — *perceived usefulness* (PU) and *perceived ease of use* (PEOU). While PU indicates the extent to which the use of the technology is promising to advance one's work, PEOU represents the degree to which the technology seems to be free of effort (Davis et al., 1989). This model posits that attitudes and behavioral intention mediate the effects of PU and PEOU, the two constructs of extrinsic motivation. With the ongoing development of ICT and the diversification of the fields it affects, various theoretical studies have been carried out in order to ensure better understanding concerning its diffusion, adoption, acceptance, and usage (Davis et al., 1989; Rogers, 2003; Taylor & Todd, 1995; Venkatesh & Davis, 2000; Venkatesh, Davis, Morris, & Davis, 2003; Yi 2006). The Technology Acceptance Model (TAM) is an information systems theory that models how users come to accept and use a technology. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it. Many researchers have investigated the issue of ICT adoption and acceptance and use (Abdul-Gader, 1996; Adams, Nelson, & Todd, 1992; Igarbaria, Guimaraes, & Davis, 1995; Ngai & Chan, 2005).

The Unified Theory of Acceptance and Use of Technology (UTAUT) were used for this study because of its

advantages. TAM is only capable of predicting technology adoption success of 30% and TAM2 (TAM extension) can predict 40%. UTAUT has condensed the 32 variables found in the existing eight models (TRA, TPB, TAM, MM, C-TPB-TAM, MPCU, IDT and SCT) into four main effect and four moderating factors. The combinations of the constructs and moderating factors have increased the predictive efficiency to 70%, a major improvement over previous TAM model rates. Self efficacy has been shown to influence choices of whether to engage in a task, the effort expended in performing it, and the persistence shown in accomplishing it. The greater people perceived their self efficacy to be, the more active and longer they persist in their efforts (Bandura, 1986; Bouffard-Bouchard, 1990; Brosnan, 1998; Compeau & Higgins, 1995; Miura, 1987) . Computer anxiety has been defined as a fear of computers (ICT) when using one, or fearing the possibility of using ICT (Chua, Chen, & Wong, 1999; Kanfer & Heggstad, 1997).(Woodrow, 1991) opined that attitudes towards computer is very critical issues. Monitoring the users’ attitudes towards computers (ICT) should be a continuous process if ICT is to be used for effective

training and learning (Ford & Noe, 1987; Paxton & Turner, 1984).

- UTAUT- Unified Theory of Acceptance and Use of Technology
- TRA—Theory of Reason Action
- TPB—Theory of Planned Behavior
- TAM—Technology Acceptance Model
- MM—Motivational Model
- C-TPB-TAM—Combine Theory of Planned Behavior and Technology Acceptance Model
- MPCU—Model of PC Utilization
- IDT—Innovation Diffusion Theory
- SCT—Social Cognitive Theory.

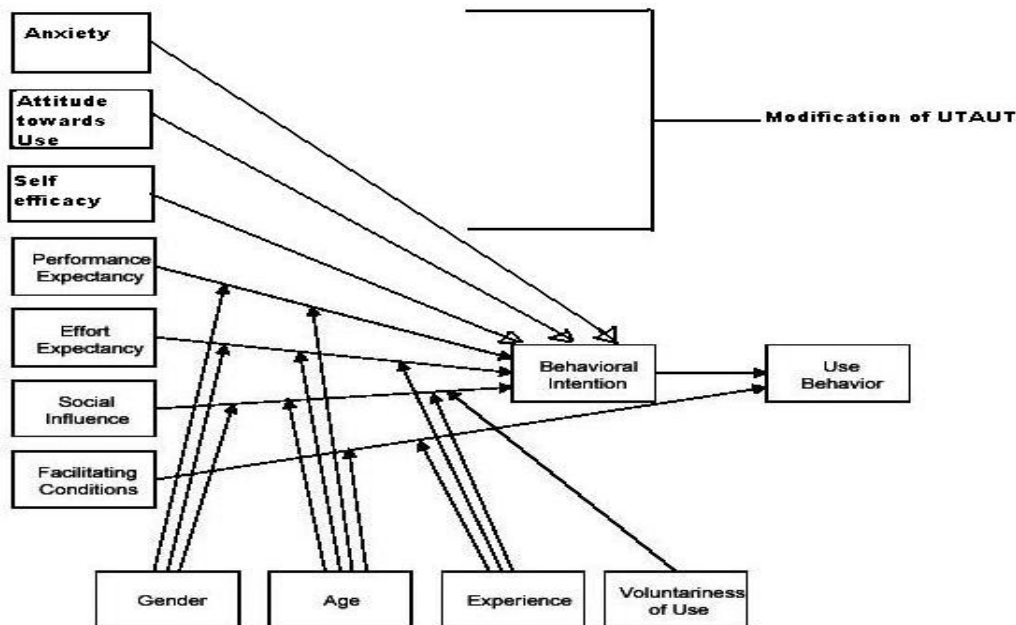


Figure1. UTAUT Model

- PE - is the extent an individual believes the system will help them do their jobs better.(PU)
- EE - relate to how ease an individual believes the system is to use.(PEOU)
- SI - relate to whether or not important others’ influence an individuals’ intention to use the system.
- FC - whether individual have the personal knowledge and institutional resources available to use the system.
- AX-Anxiety- related to fear of computer (ICT) when using one
- ATUT- Attitude towards using technology. Related to monitoring the users’ attitudes towards computers (ICTs)
- SE- Self Efficacy- related to an individuals’ confidence in his/her ability to perform the behavior required to produce specific outcome.

### 3. RESEARCH OBJECTIVES

Given that the academicians are the key to effective use of information technologies in the university educational system, it is important to understand academicians’

behavioral intention towards IT and the factors that influence these intentions. This paper will focus mainly on two major objectives.

- i. To examined and compare the factors that influence the behavioral intention of the ADSU/LASU academicians to accept and use ICT.
- ii. To measure and compare the most influential factors for the acceptance and usage of ICT by ADSU/LASU academic staff.

### 3.1 Methodology

The Adamawa State University and Lagos State University ADSU/LASU both in Nigeria were used as case studies. From each department, selections were based on proportional allocation to obtain unbiased or skewed responses to the required information of the research work. Suppose all questionnaires were given to lecturers in the same school/faculty, it is likely to obtain similar information from each lecturer. To each of the 100 questionnaires were administered and collected. The data was runned using SPSS version 17. Using regression analysis, the paper want to verify the influence of the four constructs of UTAUT (PE,EE,SI, and FC) and other variables outside UTAUT like anxiety, self efficacy ,and attitudes towards use of technology on the behavioral intention of the university academicians, towards the acceptance and usage of ICT for teaching and learning (see Figure1). These findings will be used to accept or reject the stated null hypotheses:

H0<sub>1</sub>: The academic staff of ADSU/LASU rejects acceptance and usage of ICT in their workplace.

H0<sub>2</sub> : UTAUT do not predict the successful acceptance and use of ICT by the ADSU/LASU academic staff.

H0<sub>3</sub>: Computer self efficacy does have impact on ADSU/LASU academic staff to accept and use ICT.

H0<sub>4</sub>: ADSU/LASU academicians’ attitudes towards ICT influence their acceptance and use of the technology.

H0<sub>5</sub>: Anxiety about computer use does have an impact on ADSU/LASU academic staff acceptance and use of ICT.

### 4. RELIABILITY ANALYSIS

**Table 1a. Reliability Statistics (ADSU)**

Cronbach's Alpha	N of Items
.704	49

**Table 1b. Reliability Statistics (LASU)**

Cronbach's Alpha	N of Items
.678	49

Generally reliability numbers greater than 0.6 are considered acceptable in technology acceptance literature.(Zhang, Li, & Sun, 2006). As summarized in the table 2a&b, a reliability analysis was conducted, for the 49 items using Cronbach’s Alpha. The UTAUT constructs appears to have a good degree of reliability of above .7

**Table 2. Regression Analysis Summary Outcome ( ADSU)**

Table	Independent Variables	Dependent Variables	R	R <sup>2</sup>	Significant
3	PE 1-10	BI(1)	.425	.181	.047
4	PE 1-10	BI(2)	.352	.125	.262
5	PE 1-10	BI(3)	.304	.092	.533
6	PE 1-10	BI(4)	.343	.118	.309
7	PE 1-10	BI(5)	.373	.139	.178
8	EE 1-8	BI(1)	.346	.120	.153
9	EE 1-8	BI(2)	.326	.106	.048
10	EE 1-8	BI(3)	.388	.150	.054
11	EE 1-8	BI(4)	.460	.211	.004
<b>12</b>	<b>EE 1-8</b>	<b>BI(5)</b>	<b>.519</b>	<b>.270</b>	<b>.000</b>
13	ATUT 1-6	BI(1)	.293	.086	.201
14	ATUT 1-6	BI(2)	.326	.106	.100
15	ATUT 1-6	BI(3)	.265	.070	.328
<b>16</b>	<b>ATUT 1-6</b>	<b>BI(4)</b>	<b>.458</b>	<b>.210</b>	<b>.001</b>
17	ATUT 1-6	BI(5)	.422	.178	.005
18	SI 1-6	BI(1)	.290	.084	.214
19	SI 1-6	BI(2)	.234	.055	.500
20	SI 1-6	BI(3)	.439	.193	.002
21	SI 1-6	BI(4)	.471	.221	.001
22	SI 1-6	BI(5)	.478	.228	.000
23	FC 1-5	BI(1)	.280	.078	.168
24	FC 1-5	BI(2)	.259	.067	.251
25	FC 1-5	BI(3)	.220	.048	.448
26	FC 1-5	BI(4)	.314	.099	.078



27	FC 1-5	BI(5)	.403	.163	.005
28	SE 1-5	BI(1)	.299	.090	.115
29	SE 1-5	BI(2)	.286	.082	.151
30	SE 1-5	BI(3)	.175	.031	.708
31	SE 1-5	BI(4)	.456	.208	.001
32	SE 1-5	BI(5)	.429	.184	.002
33	AX 1-4	BI(1)	.328	.107	.028
34	AX 1-4	BI(2)	.203	.041	.402
35	AX 1-4	BI(3)	.328	.107	.028
36	AX 1-4	BI(4)	.279	.078	.101
37	AX 1-4	BI(5)	.302	.091	.057

"p<0.05"

The regression analysis summary outcome is the influence of the independent variables on the dependent variable Behavioral Intention (BI). Tables3-7: shows the influence of Performance Expectancy (PE 1-10) on the Behavioral Intention (BI 1-5) of the University academic staff to accept and use ICT for teaching and learning. Tables8-12: shows the influence of Effort Expectancy (EE 1-8) on the Behavioral Intention (BI1-5) of the University academic staff. Tables 13-17: shows the influence of Attitudes towards using Technology (ATUT 1-6) on the behavioral Intention of the academic staff. Tables 18-22: shows the influence of Social Influence (SI 1-6) on the Behavioral Intention (BI1-5) of the academic staff. Tables23-27: shows the influence of Facilitating Conditions (FC1-5) on the Behavioral Intention (BI1-5) of the academic staff. Tables 28-32: shows the influence of Self efficacy (SE1-5) on the behavioral Intention of the academic staff. Tables 33-37: shows the influence of Anxiety (AX1-4) on the behavioral Intention of the academic staff to accept and use ICT for teaching and learning.

## 5. DISCUSSION ON THE HYPOTHESES [ADSU]

H0<sub>1</sub> : The academic staff of ADSU rejects acceptance and usage of ICT in their workplace.

Performance expectancy is the extent an individual believes the system will help them do their jobs better (PU). Table 2(3), shows that the independent variable (PE1-10) has positive influence on the behavioral intention of the academicians to accept and use ICT in their workplace, and this is significant with p-value (.047). Effort expectancy is related to how ease an individual believes the system is to use (PEOU). Tables2 (12) shows that effort expectancy have positive influence on the behavioral intention of the academicians to accept and use ICT in their workplace and they are significant with p-values .000. We therefore conclude that the academic staff of ADSU believes that ICT is useful and easy to use. This influences their behavioral intention to accept and use ICT in their workplace. Therefore we reject the null hypothesis (H0<sub>1</sub>) and accept the alternative (H<sub>1</sub>) which states that ADSU academic staffs do not reject ICT acceptance and usage in their workplace.

H0<sub>2</sub>: UTAUT do not predict the successful acceptance and use of ICT by the ADSU academic staff.

The UTAUT aims to explain user intention to use IS and subsequently usage behavior. The theory holds that four key constructs (PE, EE, SI & FC) are direct determinants of usage intention and behavior (Venkatesh et al. ,2003). From table 2(3), performance expectancy (PE1-10) is significant with p-value (.047); in table 2(12), effort expectancy is significant with p-value (.000); in table 2(22), social influence is significant with p-value (.000) and in table2( 27), facilitating condition is significant with p-value (.005). This shows that each of the four constructs of UTAUT have positive influence on the behavioral intention of the ADSU academicians to accept and use ICT. Since the four constructs have significant relationship with the behavioral intention to accept and use ICT, we therefore reject the null hypothesis (H0<sub>2</sub>) and accept the alternative (H<sub>1</sub>), which states that, UTAUT do predict successful acceptance and use of ICT by the academicians in ADSU.

H0<sub>3</sub>: Computer self efficacy does have impact on ADSU academic staff to accept and sue ICT.

Self efficacy is related to an individuals' confidence in his/her ability to perform the behavior required to produce specific outcome. Table 2(31), shows that computer self efficacy have positive influence on the behavioral intention to use ICT, which states that 'I would use ICT in my class frequently'. This is significant with p-value (.001). Therefore we accept the null hypothesis (H0<sub>3</sub>).

H0<sub>4</sub>: ADSU academicians' attitudes towards ICT influence their acceptance and use of the technology.

Table 2(16), shows that the independent variable (ATUT1-6) has positive influence on the behavioral intention of ADSU academicians to accept and use the technology. This is significant with p-value (.001). Therefore we accept the null hypothesis (H0<sub>4</sub>).

H0<sub>5</sub>: Anxiety about computer use does have an impact on ADSU academic staff acceptance and use of ICT. Anxiety is related to fear of computer (ICT) when using one. Table 2 (35), shows that the independent variable (AX1-4) has positive influence on the behavioral intention of ADSU academicians to accept and use ICT. This is significant with p-value (.028). Therefore we accept the null hypothesis (H0<sub>5</sub>).

**Table 3. Regression Analysis Summary Outcome [LASU]**

Table	Independent Variables	Dependent Variables	R	R <sup>2</sup>	Significant
3	PE 1-10	BI(1)	.494	.244	.004
4	PE 1-10	BI(2)	.241	.058	.851
5	PE 1-10	BI(3)	.441	.195	.028
<b>6</b>	<b>PE 1-10</b>	<b>BI(4)</b>	<b>.616</b>	<b>.379</b>	<b>.000</b>
7	PE 1-10	BI(5)	.384	.147	.139
8	EE 1-8	BI(1)	.559	.312	.000
9	EE 1-8	BI(2)	.417	.174	.022
10	EE 1-8	BI(3)	.508	.259	.000
11	EE 1-8	BI(4)	.589	.347	.000
12	EE 1-8	BI(5)	.395	.156	.043
<b>13</b>	<b>ATUT 1-6</b>	<b>BI(1)</b>	<b>.593</b>	<b>.351</b>	<b>.000</b>
14	ATUT 1-6	BI(2)	.407	.166	.009
15	ATUT 1-6	BI(3)	.249	.062	.417
16	ATUT 1-6	BI(4)	.428	.184	.004
17	ATUT 1-6	BI(5)	.283	.080	.244
18	SI 1-6	BI(1)	.460	.212	.001
19	SI 1-6	BI(2)	.378	.143	.024
20	SI 1-6	BI(3)	.523	.274	.000
21	SI 1-6	BI(4)	.389	.152	.016
22	SI 1-6	BI(5)	.489	.239	.000
23	FC 1-5	BI(1)	.553	.306	.000
24	FC 1-5	BI(2)	.240	.057	.342
25	FC 1-5	BI(3)	.468	.219	.000
26	FC 1-5	BI(4)	.544	.296	.000
27	FC 1-5	BI(5)	.304	.093	.098
28	SE 1-5	BI(1)	.375	.141	.013
29	SE 1-5	BI(2)	.339	.115	.040
30	SE 1-5	BI(3)	.258	.066	.255
31	SE 1-5	BI(4)	.418	.175	.003
32	SE 1-5	BI(5)	.298	.089	.114
33	AX 1-4	BI(1)	.324	.105	.031
34	AX 1-4	BI(2)	.157	.025	.665
35	AX 1-4	BI(3)	.263	.069	.143
36	AX 1-4	BI(4)	.452	.205	.000
37	AX 1-4	BI(5)	.514	.264	.000

"p&lt;0.05"

## 6. DISCUSSION ON THE HYPOTHESES [LASU]

H<sub>01</sub> : The academic staff of LASU rejects acceptance and usage of ICT in their workplace.

Performance expectancy is the extent an individual believes the system will help them do their jobs better (PU). Table 3(6), shows that the independent variable (PE1-10) has positive influence on the behavioral intention of the academicians to accept and use ICT in their workplace, and this is significant with p-value (.000). Effort expectancy is related to how ease an individual believes the system is to use (PEOU). Tables 3(11), shows that effort expectancy have positive influence on the behavioral intention of the academicians to accept and use ICT in their workplace (EE1-8) is significant with p-value (.000). We therefore conclude that the academic staff of LASU believes that ICT is useful and easy to use. This influences their behavioral intention to accept and use ICT in their workplace. Therefore we reject the null hypothesis (H<sub>01</sub>) and accept the alternative (H<sub>1</sub>) which states that

LASU academic staff does not reject ICT acceptance and usage in their workplace.

H<sub>02</sub>: UTAUT do not predict the successful acceptance and use of ICT by the LASU academic staff.

The UTAUT aims to explain user intention to use IS and subsequently usage behavior. The theory holds that four key constructs (PE, EE, SI & FC) are direct determinants of usage intention and behavior (Venkatesh et al. ,2003). From table 3(6), performance expectancy (PE1-10) is significant with p-value (.000); in table3 (11), effort expectancy (EE1-8) is significant with p-value (.000); in table 3(20), social influence is significant with p-value (.000) and in tables3 (26), facilitating condition is significant with p-value (.000). This shows that each of the four constructs of UTAUT have positive influence on the behavioral intention of the LASU academicians to accept and use ICT. Since the four constructs have significant relationship with the behavioral intention to accept and use ICT, we therefore reject the null hypothesis (H<sub>02</sub>) and accept the alternative (H<sub>1</sub>), which states that, UTAUT do

predict successful acceptance and use of ICT by the academicians in LASU.

H0<sub>3</sub>: Computer self efficacy does have impact on LASU academic staff to accept and sue ICT.

Self efficacy is related to an individuals’ confidence in his/her ability to perform the behavior required to produce specific outcome. Table 3 (31), shows that computer self efficacy have positive influence on the behavioral intention to use ICT. This is significant with p-value (.003). Therefore we accept the null hypothesis (H0<sub>3</sub>).

H0<sub>4</sub>: LASU academicians’ attitudes towards ICT influence their acceptance and use of the technology.

Attitudes towards use of technology, is related to monitoring the users’ attitudes towards computer (ICT). Table3 (13), shows that the independent variable (ATUT1-6) has positive influence on the behavioral intention of LASU academicians to accept and use the technology. This is significant with p-value (.000). Therefore we accept the null hypothesis (H0<sub>4</sub>).

H0<sub>5</sub>: Anxiety about computer use does have an impact on LASU academic staff acceptance and use of ICT. Anxiety is related to fear of computer (ICT) when using one. Table 3(37), shows that the independent variable (AX1-4) has positive influence on the behavioral intention of LASU academicians to accept and use ICT. It is significant with p-values (.000). Therefore we accept the null hypothesis (H0<sub>5</sub>).

**Table 4. Comparing ADSU and LASU**

s/n	Adamawa State University	Lagos State University
1.	Established in 2002	Established in 1983
2.	ADSU is a Public University	LASU is a public University
3.	Located in the Northern part of Nigeria	Located in the Southern part of Nigeria
4.	ADSU is in Adamawa State	LASU is in Lagos State
5.	The most influential UTAUT construct is Effort expectancy (EE), which is significant with p-value .000	The most influential UTAUT construct is Performance expectancy (PE) which is significant with p-value .000
6.	The most influential construct outside UTAUT is Attitudes towards use of technology (ATUT) which is significant with p-value .001	The most influential construct outside UTAUT is Attitudes towards use of technology(ATUT) which is significant with p-value .000
7.	Some ADSU academic staff are still having the fear of using ICT for teaching and learning. Anxiety about computer does have an impact on ADSU academicians.	Some LASU academic staff has fear of using ICT for teaching and learning. Anxiety about computer does have an impact on LASU academicians.
8.	ADSU academic staffs do not reject ICT acceptance and usage in their workplace	LASU academic staffs do not reject ICT acceptance in their workplace
9.	UTAUT do predict successful acceptance and usage of ICT by the academicians in the Adamawa State University	UTAUT do predict successful acceptance and usage of ICT by the academicians in Lagos State University.
10.	Self efficacy (SE) does have impact on ADSU academic staff to accept and use ICT in their workplace.	Self efficacy (SE) does have impact on LASU academic staff to accept and use ICT in their workplace
11.	ADSU academicians’ attitudes towards ICT influence their acceptance and use of the technology	LASU academicians’ attitudes towards ICT influence their acceptance and use of the technology

From table 4 above, where the two universities are compared, we note that, although ADSU is located in the North and LASU located in the South of Nigeria, the difference between them is not much because both are public universities.. Comparing the acceptance and use of ICT by the academic staff of these universities, we found that UTAUT predict successful acceptance and usage of ICT by the academicians of both ADSU and LASU. Therefore the most influential UTAUT construct influencing the behavioral intention of the academic staff to accept and use ICT in their workplace is Effort expectancy for both ADSU, whereas in LASU it is

Performance expectancy. The effect of these can be seen vividly on the comparative bar and line graphs in appendix A. Again our findings shows that the most influential construct outside UTAUT model influencing the behavioral intention of the academic staff to accept and use ICT in ADSU and LASU is attitudes towards use of technology.

**7. CONCLUSION**

The paper mainly focuses on the comparative study of the intention to accept and use ICT among university

academic staff of the Adamawa State University (ADSU) and Lagos State University (LASU) both in Nigeria. Given that the academicians are the key to effective use of information technologies in the university education system, it is important to understand academicians' behavioral intention towards IT and the factors that influence these intentions. The comparative result shows that the behavioral intention to accept and use ICT by the academic staff is a function of various concepts including the understanding that educational IT is useful, and it is not difficult to use. The study confirms that the most influential predictor of academic staff acceptance and use of ICT in ADSU is Effort expectancy (EE) whereas in LASU it is Performance expectancy (PE). UTAUT model predict successful acceptance and use of ICT in both ADSU and LASU. The study also confirms that in both universities some of the academicians are still having the fear of using ICT for their teaching and learning. Therefore anxiety about ICT does have an impact on the academicians. The comparison also shows that both ADSU and LASU academicians do not reject ICT acceptance and usage in their workplace. The major difference found in this comparison is on constructs outside UTAUT model. Again our findings shows that the most influential construct outside UTAUT model influencing the behavioral intention of the academic staff to accept and use ICT in ADSU and LASU is attitudes towards use of technology. Therefore the university academicians need to be aware of the possibility of using ICT for teaching and learning without too much difficulty. To improve their ICT literacy, they need to learn more than the basics of the technologies that will be most useful in their teaching and learning. The comparative analysis of ADSU and LASU on the Bar and Line graph further confirms the findings. (see Appendix A). The paper concludes that UTAUT model is a valid model for understanding acceptance and successful usage of ICT by the university academicians. Recommendations made were that, all employed teachers in Federal, State and private universities in Nigeria, should undertake mandatory training and retraining on ICT programme. This is to provide them with practical and functional knowledge of computer; internet and associated area of ICT for improve effectiveness and efficiency. The training programmes must recognize the real-world context within which individual teachers are working. The government should develop ICT policies and guidelines that would support lecturers in their academic work.

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**Appendix A**

**Comparative Analysis of ADSU and LASU in Bar and Line Graphs**

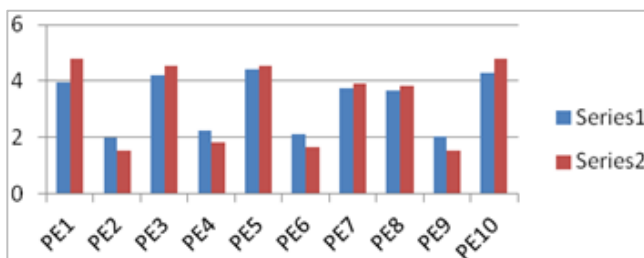


Figure 1a. Comparison of PE (1) ADSU and (2) LASU on Bar graph

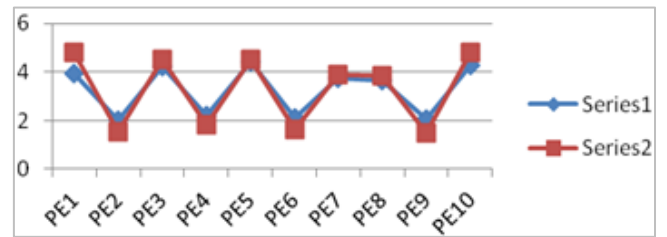


Figure 1b. Comparison of PE (1) ADSU and (2) LASU on Line graph

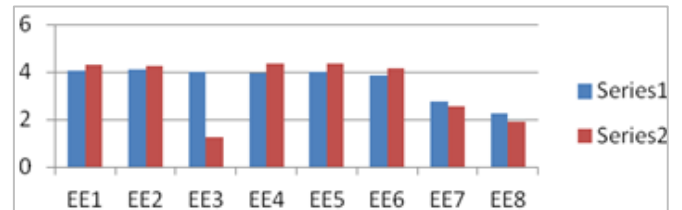


Figure 2a. Comparison of EE (1) ADSU and (2) LASU on Bar graph

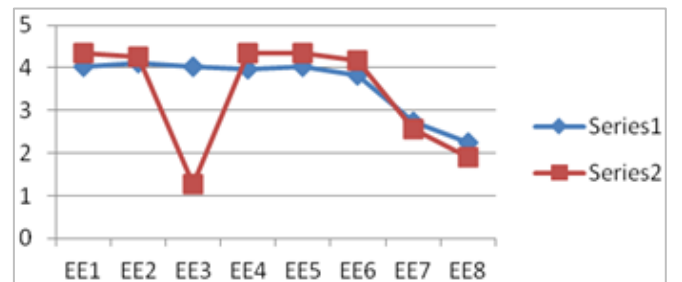


Figure 2b. Comparison of EE (1) ADSU and (2) LASU on Line graph

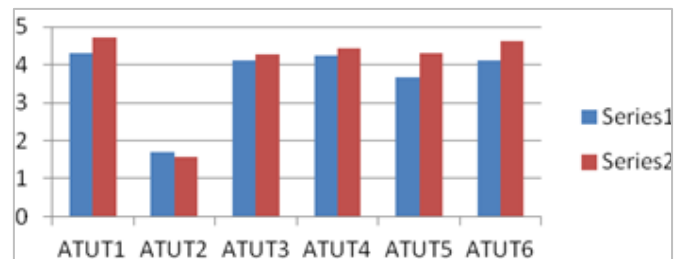


Figure 3a. Comparison of ATUT (1) ADSU and (2) LASU on Bar graph

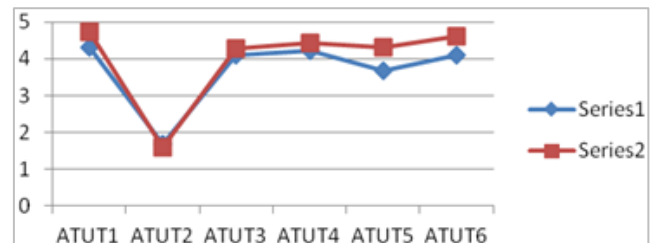


Figure 3b. Comparison of ATUT (1) ADSU and (2) LASU on Line graph

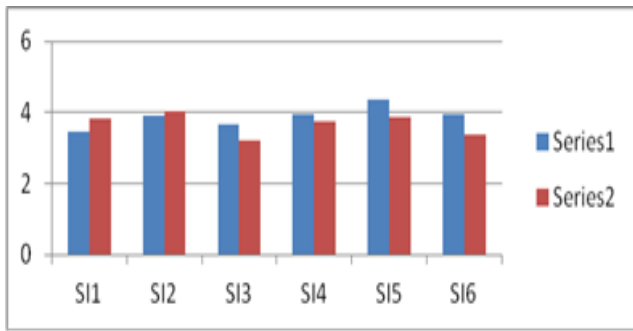


Figure 4a. Comparison of SI (1) ADSU and (2) LASU on Bar graph

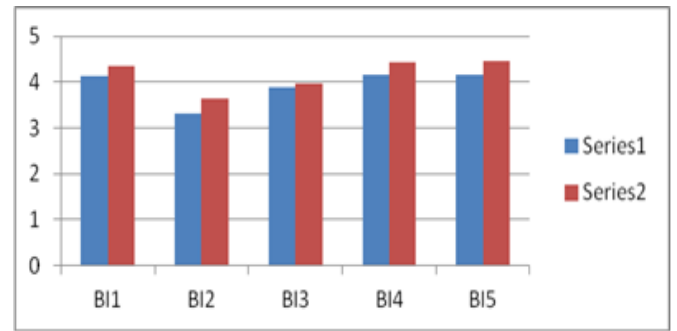


Figure 6a. Comparison of BI (1) ADSU and (2) LASU on Bar graph

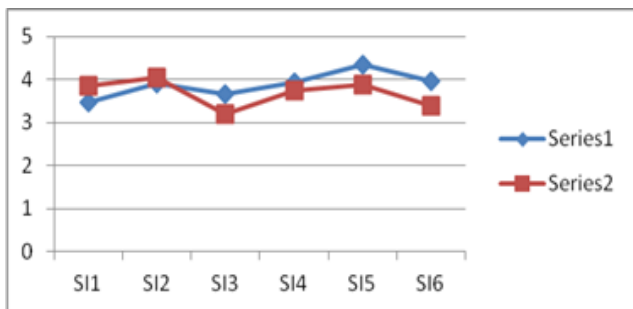


Figure 4b. Comparison of SI (1) ADSU and (2) LASU on Line graph

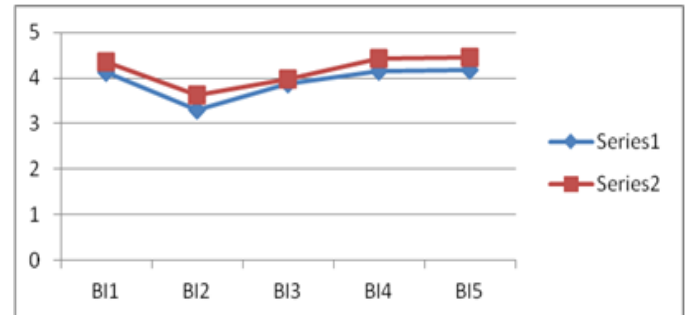


Figure 6b. Comparison of BI (1) ADSU and (2) LASU on Line graph

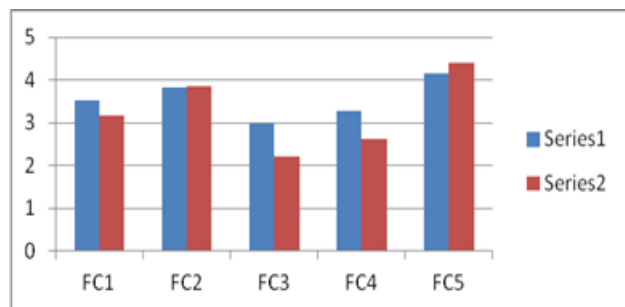


Figure 5a. Comparison of FC (1) ADSU and (2) LASU on Bar graph

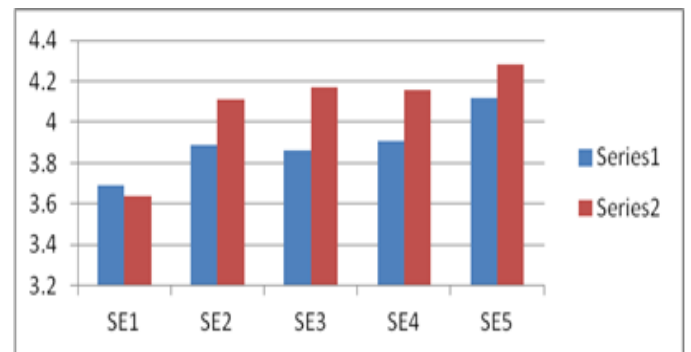


Figure 7a. Comparison of SE (1) ADSU and (2) LASU on Bar graph

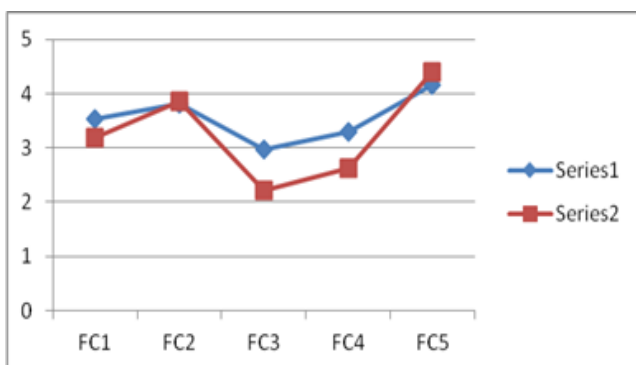


Figure 5b: Comparison of FC (1) ADSU and (2) LASU on Line graph

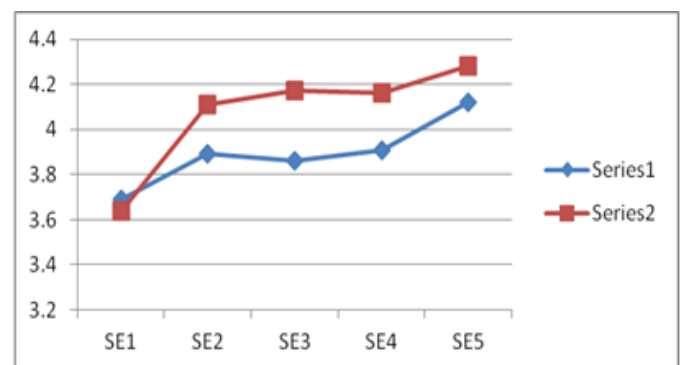


Figure 7b. Comparison of SE (1) ADSU and (2) LASU on Line graph

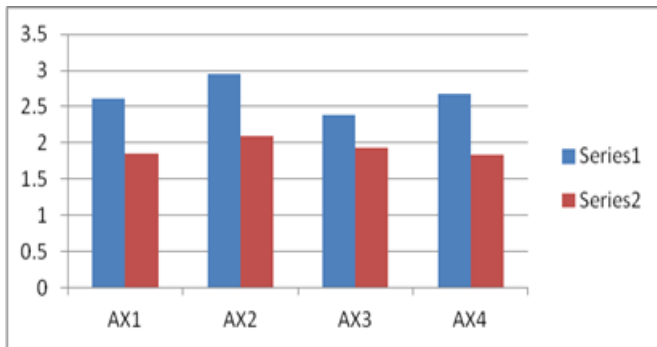


Figure 8a. Comparison of AX (1) ADSU and (2) LASU on Bar graph

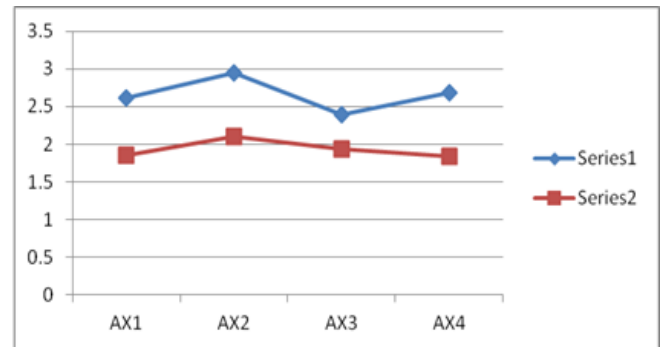


Figure 8b. Comparison of AX (1) ADSU and (2) LASU on Line graph

## Appendix B

### The UTAUT Survey (A)

Important: When completing the questionnaire, please keep in mind that we are using ICT in the context of teaching and learning, by the university academicians. ICT here refers to the application of digital equipments to all

aspects of teaching and learning, which encompasses (PC, TV, Radio, Cellular phones, Laptops, overhead projectors, slide projectors, power-point projector, electronic boards, internet, hardware, software, and any technology specific to your teaching area).

Please rate each of the following on 1-5 Likert scale. Where (1) is “Strongly Disagree,” (2) is “Disagree”, (3) is “Neither Agree or Disagree”, (4) is “Agree”, and (5) is “Strongly Agree”.

#### • Performance Expectancy (PE) Questions

##### Question Item

- (PE1)Using the ICT in my classes would enable me to accomplish tasks more quickly [ ]
- (PE2)Using the ICT in my classes would limit my performance [ ]
- (PE3)Using the ICT in my classes would increase my productivity[ ]
- (PE4)Using the ICT in my classes would limit my effectiveness in class [ ]
- (PE5)Using the ICT in my classes would make it easier to do my work [ ]
- (PE6)Using the ICT in my classes would limit the quality of the work I do [ ]
- (PE7)Using the ICT in my classes would cause my colleagues to perceive me as competent [ ]
- (PE8)Using ICT in my classes would increase students respect for me [ ]
- (PE9)Using the ICT in my classes would decrease my chances of promotion[ ]
- (PE10)Using the ICT in my classes would be useful for teaching and learning [ ]

#### • Effort Expectancy Questions

##### Question Item

- (EE1)Learning to use the ICT is easy for me.[ ]
- (EE2)I find it easy to use ICT to do my work [ ]
- (EE3)My interaction with the ICT would be clear and understandable [ ]
- (EE4)I find ICT to be flexible to interact with [ ]
- (EE5)It is easy for me to become skillful at using ICT [ ]
- (EE6)I find ICT easy to use [ ]
- (EE7)Using ICT takes too much time from my normal duties. [ ]
- (EE8)Working with ICT is so complicated, and difficult to understand [ ]

#### • Attitude Toward Using Technology Questions

##### Question Item

- (ATUT1) Using ICT is a good idea [ ]
- ( ATUT2) I dislike the idea of using ICT [ ]
- ( ATUT3) Using ICT is pleasant [ ]
- (ATUT4)The ICT makes schoolwork more interesting [ ]
- (ATUT5) Using ICT is fun [ ]
- (ATUT6) I like working with the ICT [ ]



• **Social Influence Questions**

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**Question Item**

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- (SI1) People who influence my behavior think that I should use ICT [ ]  
(SI2) People who are important to me think that I should use ICT [ ]  
(SI3) Professors in this university have been helpful in the use ICT [ ]  
(SI4) My advisor is very supportive of the use of ICT for my class. [ ]  
(SI5) In general, the university has supported the use of ICT [ ]  
(SI6) Having the ICT is a status symbol in my university. [ ]

• **Facilitating Conditions Questions**

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**Question Item**

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- (FC1) I have the resources necessary to use ICT [ ]  
(FC2) I have the knowledge necessary to use ICT [ ]  
(FC3) The ICT is not compatible with other computer systems I use. [ ]  
(FC4) The help desk is available for assistance with the ICT difficulties. [ ]  
(FC5) Using the ICT fits into my work style. [ ]

• **Behavioral Intention Questions**

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**Question Item**

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- (BI1) Whenever possible, I intend to use ICT in my Class [ ]  
(BI2) I perceive using ICT as Involuntary [ ]  
(BI3) I plan to use ICT in the next three months. [ ]  
(BI4) To the extent possible, I would use ICT to do different things. [ ]  
(BI5) To the extent possible, I would use ICT in my class frequently. [ ]

• **Self Efficacy**

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**Question Item**

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- (SE1) I could complete a task using ICT if there was no one around to tell me what to do [ ]  
(SE2) I could complete a task using ICT if I had seen someone else demonstrate how it could be used [ ]  
(SE3) I could complete a task using the ICT if I could call someone to help if I got stuck [ ]  
(SE4) I could complete a task using ICT if I had a lot of time to complete the job. [ ]  
(SE5) I could complete a task using the ICT help facility for assistance [ ]

• **Anxiety Questions**

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**Question Item**

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- (AX1) I feel worried about using the ICT [ ]  
(AX2) It scares me to think that I could lose a lot of information by using ICT by pressing the wrong key. [ ]  
(AX3) I am reluctant to use ICT for fear of making mistakes I cannot correct [ ]  
(AX4) The ICT is somewhat intimidating to me. [ ]