



## ASSESSMENT OF INFORMATION AND COMMUNICATION TECHNOLOGIES ADOPTION AMONG ACADEMIC STAFF OF AGRICULTURE IN TERTIARY INSTITUTIONS IN KATSINA STATE, NIGERIA

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### ABSTRACT

The study examined the information and communication technologies adoption among academic staff of agriculture in tertiary institutions in Katsina State, Nigeria. The population of the study consisting of 122 academic staff teaching Agriculture in tertiary institutions in Katsina State and entire population was used for the study. Data were collected using structured questionnaire and analyzed using both descriptive and inferential statistics. The result reveals that 37.2% of the respondents were within age bracket of 41-50 years with a mean of 51 years. Majority (94.2%) of the lecturers were married and 44.5% of respondents had 1-5 in their household with a mean of 8 persons. More than half (53.2%) of respondents had a Bachelor Degree. The result further revealed that 43.4% of the lecturers had a teaching experience of 16-20 years with a mean of 15 years and 21.3% are assistant lecturers. The results further revealed that, GSM had high adoption level in the study with a mean of  $\bar{X} = 3.00$ , search engines  $\bar{X} = 2.94$ , E-mail  $\bar{X} = 2.84$ , computer  $\bar{X} = 2.91$  and printer  $\bar{X} = 2.65$ . The regression analysis result reveals that age of the lecturers and teaching experience were positive and significant ( $P \leq 0.01$ ), Household size and educational level were also positive and significant ( $P \leq 0.05$ ). The major constraints that hinder adoption of ICTs in the study area were computer Illiteracy  $\bar{X} = 3.75$ , unstable power supply  $\bar{X} = 3.76$ , poor economic conditions of the academic staff  $\bar{X} = 3.56$ , changes in Government policies  $\bar{X} = 3.66$ , limited technical support from institution  $\bar{X} = 3.54$ , Internet and electronic insecurity  $\bar{X} = 3.64$ . The study concluded that, socio-economic characteristics of academic staff play a significant role on the adoption of ICT facilities for lecturing, research and records management in Tertiary Institutions in Katsina State. It is recommended that, there should be a policy of continuous training of academic staff on the use of modern ICTs for improved job performance and delivery, relevant government agencies should make effort at ensuring steady power supply to increase the effective use of ICT facilities by the academic staff in the study area.

**Keywords:** Assessment, Adoption, Information, Communication, Technology.

### INTRODUCTION

Information and Communication Technology in recent time is a reliable backbone for national development and survival in a rapid developing country like Nigeria. As such Nigeria among the developing countries of the world painstakingly devise bold and courageous initiatives to address a host of vital social economic issues such as reliable infrastructure, transparent government administration and skilled human resources (Nigeria National Policy



for Information Technology, 2005), such investment expects future benefit. Organizations today invest on Information Communication Technology to create and reach new markets and channels share and distribute knowledge and information (Malaarachchi, *et al.*, 2016).

Organizations adopt the use of computer systems, database management systems, development of network systems to create, store, preserve, secure and use information for effective decision making (Sani, 2015). They make use of electronic devices such as laptops, palm-taps, personal computers, phones, 1-pads, Iphones, I –pods, CD – Players, VCD, DVD, Flash drive, memory card, internet, etc. Government recognizes Information Technology as a strategic imperative for national development and taking cognizance of the immense benefits, she resolved to provide considerable national resources both financial and otherwise for the realization of the National IT vision statement. ICT Serves as means of assessing, planning, managing development change for sustainable growth. Knowledge acquired through advances in ICT changes the global economy as such beneficiaries engage in different areas of work in life to enhance the GDP and GNP (Olusanya and Oluwasanya, 2014). According to Olusanya and Oluwasanya (2014) the impact of Information Technology (IT) currently in all sphere of the society derives from education sector as it is a needful of today's knowledge-based economy. ICT immensely contributes to acquisition and diffusion of knowledge and therefore applies in manipulation of the economy. The era of ICT metamorphosed in different stages expanding the scope of its services and tool of delivery, presently, there is e-library and virtual library that provide access to electronic books and journals, online references, web catalogues and web resources (Sani, 2015). Tertiary educational institutions thrive new scientific discoveries and innovations through teaching and learning delivered on the platform of ICT infrastructure. Availability of personal computers and their accessories enhances output of teachers and students. White board provides instant access to materials from various sources and applying pre-planned lectures that move without apparent from visual to verbal or vise-visa. Visual library aids teaching and learning as well as research as it allows access to a large volume of library resources such as articles, journals, books etc through the internet.

The early computers were designed to aid computation, however, today, their use has become diverse and computation is just one among the many functions of the computer. Adeyemi and Olaleye (2010), emphasized that the use of ICT can improve education quality, expand learning opportunities and make education accessible. If education is made accessible to all, people who live both in the rural and urban areas, learners with special needs and others would benefit more with less difficulty. It is due to the above and other advantages of use of ICT that the Nigerian Educational reforms stressed the importance of use of computer technology in schools during the 32nd Ministerial Council meeting of the National Council on Education in 1987, (Adeyemi and Olaleye, 2010). Emphatically, the National Policy on Education (NPE) as revised in 1988 and 2004, re – emphasized the need for the integration of this ICT education in the Nigerian educational system. This is an acceptance of the need to go beyond computer to the level of ICT which also call the need for infrastructure, (Agbetuyi and Oluwatayo, 2012). Despite the contribution of ICT on the lecturing, past studies have shown that, they are little empirical studies that assess information and communication technologies adoption among academic staff of agriculture in tertiary institutions in katsina state. The adoption and use of ICT in tertiary institutions in northern Nigeria is still under a serious dilemma despite the dramatic increase in the use of ICTs in numerous areas in present days including education. The low rate in the adaptation and application of the new technology especially in tertiary institutions in northern Nigerian is attributed to several factors which include inadequate ICT facilities in the schools, poor ICT policies, limited information infrastructures, poor perceptions of using ICT in education among lecturers, students and the



school administrators. The above gap is what research intends to fill. The broad objective of this study was to assess ICT adoption among the academic staff of agriculture in tertiary institutions in Katsina State. While the specific objectives of the study were to:

- i. Describe the socio-economic characteristics of academic staff of agriculture in tertiary institutions in Katsina State;
- ii. Examine the level of ICT adoption among academic staff;
- iii. Estimate the influence of socio-economic characteristics of academic staff on level of adoption of ICTs; and
- iv. Identify the constraints to ICT adoption by the academic staff.

The findings of this study are expected to reveal its usefulness in communicating with the student, in research, and extension services among the stake holders involved in agricultural development. This will also facilitate the training need of academic staff teaching agriculture in tertiary institutions in Katsina State on the use of ICTs.

## **MATERIALS AND METHODS**

### **The Study Area**

The study was carried out in Katsina State. The State is located in the North-Western region of Nigeria, it comprises 34 Local Government Areas and covers an area of 23,938 km<sup>2</sup>. It is located between Latitudes 11°08'N and 13°22'N and Longitudes 6°52'E and 9°20'E. The State is bounded by Niger Republic to the north, Jigawa and Kano States to the east, Kaduna State to the South and Zamfara State to the West (Katsina State Ministry of Land and Survey, 2018). Katsina State has rich cultural values with annual rainfall ranging from 800mm to 1000mm. The study area has a population of 5,801,584 (National Population Commission [NPC], 2019). Though the weather conditions can be chilly and dusty in December and January, there is no frost or freezing temperatures to deter plant growth. The soil varies from deep clay loams to sandy loam with gentle topographic features over much of the State. The Study area which is predominantly agrarian is characterized by dry and wet seasons with Sahel and Sudan savannah vegetation.

The agricultural sector forms the basis of the overall development thrust of the zone. The region is described as a relatively hot climate with seasonal rainfall and a marked dry season. Due to the long history and tradition of rearing livestock dating back to antiquity, Katsina State is one of the leading supplies of live animals and animal-related products for the nation. The State excels in ruminant production with capital asset of one million cattle, three million goats and two million sheep. Allied to the livestock is production and conservation of fodder crops which constitutes significant component and contributes to the aggregate commodities and agricultural productivity of the State. Fodder production and conservation is an allusive but lucrative income generating vocation for the farmers under both the rain-fed and irrigation farming system.

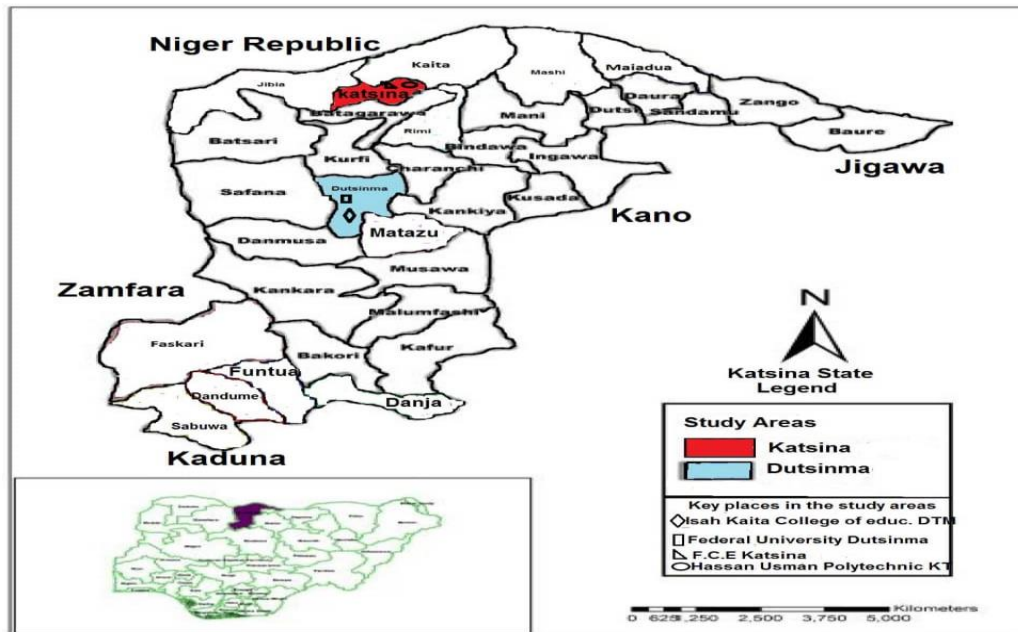


Figure 2: Map of Katsina State showing the study area

Source: Geo-special analysis mapping and environmental research solutions, 2021.

### Sampling Procedure

The population of this study is 122 (Table 1) academic staff which consisted of all academic staff teaching Agriculture in tertiary institutions in Katsina State which was used for the study. These institutions were Federal University Dutsin-Ma, Federal College of Education Katsina, Hassan Usman Katsina Polytechnic Katsina and Isa Kaita College of Education Dutsin-Ma. In this study, the whole population was used as the sample size.

**Table 1:** Sampling Procedure and Sample Size

| Tertiary Institutions in Katsina State    | Sample frame | Sample size |
|-------------------------------------------|--------------|-------------|
| Federal University, Dutsin-Ma             | 58           | 58          |
| Federal College of Education, Katsina     | 14           | 14          |
| Hassan Usman Katsina Polytechnic, Katsina | 40           | 40          |
| Isa Kaita college of Education, Dutsin-Ma | 10           | 10          |
| Total                                     | 122          | 122         |

Source: Tertiary institutions, Katsina State, 2021

### Method of Data Collection

Data collected through the administration of questionnaire to the respondents. Information on socio-economic characteristics of Academic staff teaching agriculture in tertiary institution, the availability of ICTs used by the Academic staff, the level of adoption



on ICTs and constraints militating on ICT adoption and other relevant data having direct or indirect bearing on the study were sourced from the Academic Staff teaching Agriculture in tertiary institutions using structured questionnaire.

### **Method Data Analysis**

The analytical tools employed for the study include both descriptive and inferential statistics. Descriptive statistics which include frequency, percentages and mean scores and rank was used to achieve objective i, ii, iii and v.

Inferential statistics like Logit regression was used to achieve objective iv. Logit regression was used to estimate the influence of socio-economic characteristics of academic staff on their level of adoption of ICTs. The regression model is specified as:

$Y = \alpha + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + \dots + b_7X_7 + e$  in full, i.e., number Y explanatory variable

Y = 1 for a user of ICT

Y = 0 for non-user of ICT

where;

Y = adoption of ICTs (dependent variable)

$\alpha$  = constant term

$b_1 - b_7$  = regression coefficients

$X_1$  = age: (years)

$X_2$  = Sex (Dummy; Male = 1, Female = 0)

$X_3$  = Marital Status (Dummy; Married = 1, Single = 0)

$X_4$  = Household size (Number)

$X_5$  = Educational qualification. (Years)

$X_6$  = Teaching experience (years)

$X_7$  = Cooperative society (Number)

$\mu$  = error term

## **RESULTS AND DISCUSSION**

### **Socio-economic Characteristics of the Academic Staff**

This provides information on the socio-economic characteristics using frequency and percentage distribution of respondents. The socio-economic parameters in the study included age, sex, marital status, educational level and years of experience.

The result of the socio-economic characteristics of respondents in Table 2 revealed that 37.2% of the academic staff were within the age range of 41-50, while 34.8% were within the range of 51-60 with a mean age of 51 years. This finding is similar to that of Armany, *et al.* (2003) who observed that high proportion (40.5%) of lecturers in Saudi higher education were between 41-50 years of age. Akinagbe and Baiyeri (2011) who also observed that 43.4% of lecturers in Faculty of Agriculture in the University of Nigeria, Nsukka were also between 41-45 years of age. Age has been reported to have an inverse relationship with adoption of innovations particularly ICT as it is known to cause decline in cognitive functions and create difficulties in daily living causing forgetfulness, decreased ability to perform certain activities and consequently lead to the loss of confidence and independence (Ela *et al.*, 2013). This is also in accordance with the finding of Mamman M, (2015) who observed that 40.77% of lecturers of Faculty of Agriculture fall within the age range of 41-50 years in Universities of North-western Nigeria.

The result in Table 2 shows that majority (91.8%), academic lecturers were male, the dominance of male lecturers observed could be attributed to the pattern of enrolment of male and female candidates into Faculties of Agriculture of many Universities where male



candidates were usually the majority. The fact that female candidates may not like to go for any programme of study that may require rigorous physical activities. Akinragbe and Baiyeri (2011) observed that male lecturers dominate female lecturers at Faculty of Agriculture in the University of Nigeria Nsukka.

The result further shows that majority (94.2%) of academic lecturers were married, while 5.8% were single. This implies that most of the lecturers were married with family responsibility which might reduce their ability to purchase the ICT devices as well as time they can devote to learning.

**Table 2:** Socio-economics characteristics of the academic staff

| Characteristics of Academic Staff | Frequency  | Percentage | Mean      |
|-----------------------------------|------------|------------|-----------|
| <b>Age (years)</b>                |            |            |           |
| 21- 30                            | 5          | 4.1        | <b>51</b> |
| 31- 40                            | 28         | 23.3       |           |
| 41- 50                            | 45         | 37.2       |           |
| 51- 60                            | 42         | 34.8       |           |
| 61- 70                            | 2          | 0.6        |           |
| <b>Sex</b>                        |            |            |           |
| Male                              | 112        | 91.8       |           |
| Female                            | 10         | 8.2        |           |
| <b>Marital status</b>             |            |            |           |
| Single                            | 7          | 5.8        |           |
| Married                           | 114        | 94.2       |           |
| <b>Household size</b>             |            |            |           |
| 1-5                               | 54         | 44.3       | <b>8</b>  |
| 6-10                              | 46         | 37.7       |           |
| 11-15                             | 22         | 18.0       |           |
| <b>Lecturing experience</b>       |            |            |           |
| 6-10                              | 26         | 21.3       | <b>15</b> |
| 11-15                             | 27         | 22.1       |           |
| 16-20                             | 53         | 43.5       |           |
| 21-25                             | 16         | 13.1       |           |
| <b>Total</b>                      | <b>122</b> | <b>100</b> |           |

Source: Field survey (2021)

Table 2 shows that 44.3% of academic staff had family sizes in the range of 1-5, about 37.7% had a family in the range of 6-10, while about 18.0% had family of in a range 11-15 with a mean of 8 persons. This implies that academic staff have family responsibilities which might negatively affect their ability to purchase or employ the services of the ICTs. It is important to note that a large family size may predispose increased consumption. The fund which would have been used to purchase ICT facilities could be consumed in a bid to meet up with the household needs for food, clothing, healthcare etc. However, the modest household size could invariably be an advantage to ICT usage if the income is adequate because the cost of maintaining the family may not be very high.



The result in Table 2 shows that about 21.3% of the academic staff had a working experience of 6-10 years, about 22.1% had lecturing experience in the range of 11-15 years, while, about 43.5% had lecturing experience in the range of 16-20 with a mean of 15 years. It indicates that most of the lecturers were over 15 years in the service. Such years of experience could enable the lecturers to save enough money to purchase the ICT facilities. This implies that experience of the lecturer is likely to have a range of influences on adoption of ICT. It will influence the lecturer's skill in impacting knowledge and increases the opportunity of not undertaking the analog enterprise, lecturers with higher experience appear to have often full information and better knowledge and are able to evaluate the advantage of the technology (Tadesse, 2008).

#### **Level of Education of Academic Staff**

Table 3 shows that more than half (53.2%) of the academic staff had only first Degree, 22.1% hold master degree, while 23.1% had PhD as their educational qualification. This implies that most of the lecturers had attained a certain level of education in the study area which plays a significant role in lecturers adopting a new technologies and innovations in the study area.

It can also be observed that Universities were training young Lecturers that can take over the job in the event of retirement or otherwise of professor and other senior academic lecturers, this trend slightly differ from the trend observed by Akinagbe and Baiyeri (2011) who reported a higher proportion (48.5%) of the lecturers of Faculty of Agriculture in University of Nigeria Nsukka as PhD holders. Educational level of the lecturers may positively influence the rate of adoption of technologies used (Esiet and Ogunyinka, 2011).

It further shows that 19.8% of the respondents indicated they were Assistant Lecturers, 21.3% were graduate assistants, 18.0% were in the Lecturer I rank, 10.7% were Lecturer II, 8.1% Professors, 0.8% readers, and 2.5% were Senior Lecturers. The finding revealed expected situations as the Professors are expected to mentor the younger lecturers and engage more in capacity building of the young lecturers, research activities and community services in Nigerian Universities.

Armany and Areej (2003) have also observed a decreasing number of lecturers as one move to the higher ranks among lecturers in Saudi higher education with instructors and lecturers constituting 40.1% while Professors constituted only 12.1%, similarly, Yasemin *et al.* (2008) observed a similar trend among lecturers in Turkey higher education where Professors constituted the least 11.1%.



**Table 3:** Educational level and designation of academic staff

| Level of Education         | Frequency  | Percentage |
|----------------------------|------------|------------|
| HND                        | 2          | 1.6        |
| Bachelor Degree            | 65         | 53.2       |
| Master Degree              | 27         | 22.1       |
| PhD Degree                 | 28         | 23.1       |
| <b>Present Designation</b> |            |            |
| Assistant lecturer         | 26         | 21.3       |
| Graduate assistant         | 24         | 19.8       |
| Lecturer III               | 22         | 18.0       |
| Lecturer II                | 13         | 10.7       |
| Lecturer I                 | 6          | 4.9        |
| Senior lecturer            | 3          | 2.5        |
| Principal lecturer         | 2          | 1.6        |
| Reader                     | 1          | 0.8        |
| Chief lecturer             | 15         | 12.3       |
| Professor                  | 10         | 8.1        |
| <b>Total</b>               | <b>122</b> | <b>100</b> |

Source: Field survey (2021)

#### Level of ICT Adoption by the Academic Staff

The results revealed that in Table 4, the average use of ICT by the academic staff is low with  $\bar{X} = 2.18$ ,  $SD = 1.21$ . The result further revealed that lecturers use GSM to make communication, receiving and sending messages with a  $\bar{X} = 3.00$ . The result also show that they use search engines to browse current information and update their lecture note  $\bar{X} = 2.94$  as shown in Table 4 and they use e-mails to send out research work for editing and publication with a  $\bar{X} = 2.84$ , also it shows that computer software like MS Word were used to type documents with a  $\bar{X} = 2.91$ . The result further indicated that they use Printers in printing out lecture notes for students  $\bar{X} = 2.65$  and Television for watching current and updated information within and outside country etc. This validates the observation of Abdul-Salaam (2012) and Amuchie (2015) who also found that among the colleges studied in their separate researches none uses smart boards, multimedia teaching aids or e-library and all other ICT resources received responses less than 20% availability rate. Again, according to the interview with one of the school administrators narrated that corruption and insecurity contributed significantly to none availability of ICT facilities in the schools as narrated by administrator. Most of these facilities were either burnt down or destroyed by the militants. This is in agreement with the Adowa-Ogiegabem, and Iyamu, (2005) who expressed disappointment that the project has only succeeded in computer installations not even in state owned schools but federal colleges which are limited. This testified the statement above that ICT facilities are provided by the state governments only and considering the economic situation in Nigeria it is difficult for the state governments to cater for all the schools. Other common responses to that question were that more security should be provided to secure the facilities. Indeed, the availability of the resources can only be guaranteed when they are properly secured.

**Table 4:** Level of ICT adoption among academic staff

| Facilities        | Frequently used | Sometimes used | Always not used | Mean        | Std. Dev    | Adoption Level |
|-------------------|-----------------|----------------|-----------------|-------------|-------------|----------------|
| GSM               | 122             | 0              | 0               | 3.00        | 1.73        | High           |
| Search Engines    | 117             | 3              | 2               | 2.94        | 1.71        | High           |
| Sending E-Mail    | 109             | 6              | 7               | 2.84        | 1.67        | High           |
| Computer          | 113             | 7              | 2               | 2.91        | 1.70        | High           |
| Scanners          | 22              | 48             | 52              | 1.75        | 1.15        | Low            |
| CD_ROM            | 26              | 39             | 57              | 1.75        | 1.13        | Low            |
| Printer           | 82              | 37             | 3               | 2.65        | 1.62        | High           |
| Digital Video     | 36              | 42             | 44              | 1.93        | 1.25        | Low            |
| Microphone        | 35              | 40             | 47              | 1.90        | 1.23        | Low            |
| Radio             | 28              | 35             | 59              | 1.75        | 1.12        | Low            |
| Projector         | 7               | 9              | 106             | 1.19        | 0.57        | Low            |
| Television        | 115             | 4              | 3               | 2.92        | 1.70        | High           |
| Website           | 1               | 7              | 114             | 1.07        | 0.37        | Low            |
| Digital Camera    | 33              | 38             | 51              | 1.85        | 1.20        | Low            |
| <b>Grand Mean</b> |                 |                |                 | <b>2.18</b> | <b>1.21</b> |                |

Source: Field survey (2021)

#### Factors that Influence Use of ICT Facilities

The result in Table 5 shows the analysis of factors influencing the adoption of ICT facilities by academic staff. The result revealed that the coefficient of the age of the lecturers is positive (0.087), household size, educational level and Teaching experience of the lecturers were significant factors influencing the adoption of ICT facilities in Katsina State Tertiary institutions. The result indicates that age of the lecturers had a positive coefficient and significant ( $P < 0.01$ ). This means that with increase in age there is possibility of increase in adoption of ICT among the lecturers. This study also corroborates a recent study by Sikundla *et al*, (2018) where it was confirmed that there is a strong association between age and adoption of mobile cell phone. However, this finding is at variance with Amua-Sekyi and Asare (2016) who concluded that age and gender of staff do not influence their level of IT adoption. The result further reveals that household size is negative and significant ( $P < 0.01$ ) probability level, this implies that unit increase in the number of households there is probability of decrease in adoption of ICT by lecturers. It is important to note that a large family size may predispose increased consumption. The fund which would have been used to purchase ICT facilities could be consumed in a bid to meet up with the household needs for food, clothing, healthcare etc. However, the modest household size could invariably be an advantage to ICT usage if the income is adequate because the cost of maintaining the family may not be very high. The coefficient of the educational level of lecturers (0.092) was significant ( $P < 0.01$ ) probability level. The coefficient of lecturing experience is positive and significant ( $P < 0.01$ ). This implies that a unit increase in teaching experience increase the rate of ICT adoption by the lecturers.



**Table 5:** Factors influencing the adoption of ICTs by academic staff

| Variables            | B      | Std. Error | T      | Sig.                |
|----------------------|--------|------------|--------|---------------------|
| Constant             | 0.682  | 0.277      | 2.460  | 0.015**             |
| Age                  | 0.087  | .049       | 3.650  | 0.004***            |
| Sex                  | -.144  | .090       | -1.596 | 0.113 <sup>Ns</sup> |
| Marital status       | 0.093  | .117       | 0.800  | 0.426 <sup>Ns</sup> |
| Household size       | -0.010 | 0.057      | -4.465 | 0.006***            |
| Educational level    | 0.092  | 0.034      | 2.692  | 0.008***            |
| Lecturing experience | 0.079  | 0.054      | 2.825  | 0.002***            |
| Cooperative society  | -0.023 | -.056      | -.412  | 0.681 <sup>Ns</sup> |

Note: \*\*\* P<0.01 and \*\* P<0.05; <sup>Ns</sup> not significant

Source: Field survey (2021)

### Constraints to ICT Adoption by the Academic Staff

The result in Table 6 shows the constraints to the adoption of ICT by the staff of tertiary institutions in Katsina State. The result reveals that unstable power supply  $\bar{X} = 3.76$ , computer literacy  $\bar{X} = 3.75$ , internet and electronic insecurity and changes in government policies  $\bar{X} = 3.66$  were ranked 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> as constraints militating adoption of ICT among academic staff of tertiary institutions in the study area. The result further reveal that limited technical support from the institution  $\bar{X} = 3.54$ , poor economic condition  $\bar{X} = 3.56$ , mismanagement of facilities  $\bar{X} = 2.57$ , and inadequate computer accessories  $\bar{X} = 2.40$  which were ranked 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> as constraints limiting the adoption of ICT facilities by the respondents in the study area. Supporting the above findings, Asadu *et al.* (2013) observed that limited power supply, high cost of modern communication techniques, complexity of use, limited network services, lack of access to modern communication techniques and lack of skill among the lecturers constitute serious constraints to the use of ICT facilities by academic staff of tertiary institution in Niger State. Asadu *et al.* (2013) opined that these constraints are more serious in Government establish higher institutions. The use of GSM (phone), computer and television is common but it is also constrained by limited network coverage, poor connectivity and poor power supply.

**Table 6:** Constraints that hinder ICTs adoption

| Constraints that hinder ICTs adoption           | $\bar{X}$ | Rank            |
|-------------------------------------------------|-----------|-----------------|
| Unstable power supply                           | 3.76      | 1 <sup>st</sup> |
| Computer illiteracy                             | 3.75      | 2 <sup>nd</sup> |
| Changes in Government Policies                  | 3.66      | 3 <sup>rd</sup> |
| Internet and electronic insecurity              | 3.64      | 4 <sup>rd</sup> |
| Poor economic condition                         | 3.56      | 5 <sup>th</sup> |
| Limited technical support from the Institutions | 3.54      | 6 <sup>th</sup> |
| Mismanagement of ICTs facilities                | 2.57      | 7 <sup>th</sup> |
| Inadequate computer accessories                 | 2.40      | 8 <sup>th</sup> |

Source: Field survey (2021)

### CONCLUSION AND RECOMMENDATIONS

The study concluded that age, teaching experience, level of education and household size were the factors influencing adoption of ICT among teachers of agricultural science of



tertiary institutions in Katsina State. Based on the finding of the study, the following recommendations were made:

1. There should be in place, a policy of continuous training of academic staff on the use of modern ICTs for improved job performance and delivery. Relevant government agencies should make effort at ensuring that there is steady power supply to increase the effective use of ICT facilities by the academic staff.
2. Government should endeavor to tackle the problem of erratic power supply to facilitate the use of ICTs tools for lecturing.
3. Lecturers across different ages, sex, educational status and rank should make conscious efforts to avail themselves of the opportunity of becoming ICT literates through active participation in ICT retraining schemes and by putting forth favourable attitudes towards technology.

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