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LECTURERS' ICT COMPETENCY SKILLS AND JOB EFFECTIVENESS IN UNIVERSITIES IN BAUCHI STATE,

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ABSTRACT

This study investigates lecturers' ICT competency skills and job effectiveness in Universities in Bauchi State, Nigeria. Four specific objectives and four research questions guided the study. Similarly, four null hypotheses were formulated and tested at 0.05 level of significance. The study covered lecturers' ICT competency skills and job effectiveness in Universities in Bauchi State, Nigeria. The design for the study was descriptive survey and the population was 1353 academic staff. Sample for the study comprise of 434 academic staff were used for the study. The instrument for data collection was a 4-points structured questionnaire developed by the researcher titled "University Lecturers' ICT Competency Skills and Job Effectiveness Questionnaire (ULICTSJEQ) that was adapted for the study. The instrument was validated by three experts. The data collected from pilot study was analyzed using Cronbach Alpha method for reliability test and reliability co-efficient of 0.71 was obtained. The instrument was administered to the target respondents using direct approach and the researcher was assisted by three research assistants. Mean and standard deviation were used to answer the research questions, while Pearson Product Moment Correlation (PPMC) was used to test the null hypotheses at 0.05 level of significance. The findings of the study revealed among others that the acquisition and possession of ICT competencies in word processing, spreadsheet, graphic, E-book, E-journals, E-news, E-magazines, E-conferencing and internet by lecturers will greatly enhance the realization of stated objectives of business education and other academic programmes in tertiary institutions in Nigeria. Based on the findings, the study recommended, among others, Conducive working environments with adequate ICT teaching resources should be provided for the realization of the educational goals and objectives in Bauchi state universities. Therefore, ICT competencies in word processing, spreadsheet, graphic and internet should be used for

retaining of teachers and lecturers for effective use of ICTs for teaching and learning in Bauchi State Universities.

INTRODUCTION

Education is a core instrument of change that brings about innovations and inventions in any society because the creativity, resourcefulness, and imaginative abilities of learners are sharpened as they go through various stages of educational programs (Eluwa&Akanwa, 2014).Education is a platform for transmitting ideas, beliefs, values and skills. Be it formal or informal education, there is the existence of the teacher and the learners. The place of the teacher in education cannot be underestimated; neither can the role of the teacher be ignored (OkoNgaji& Veronica, 2021). Therefore, the teacher is an important factor in the teaching-learning environment. Hence no education can rise above the quality of the teacher (Chamyal, 2021).The effectiveness of the teacher in delivery the needed instruction is manifested in the progress of the students in attaining the learned objectives evidenced by the performance (Briones, 2018).

University education is one of the major drivers of economic competitiveness in an increasingly knowledge-driven global economy because of the obvious imperative for countries to improve the employment skills of her work force (Eluwa&Akanwa, 2014). National and transnational debates, direct state regulations or incentives, and competition among private and state-owned institutions all prompt tertiary institutions to put quality teaching on their agenda (Henard, 2012).University education in Nigeria is aimed at producing high level manpower to cater for the various sectors of the country's economy. It is expected to contribute to national development by intensifying and diversifying its programs for the development of high manpower needs of the nation and making professional course contents to reflect our national regiments (Akpan, 2014). For university lecturers to carry out their job efficiently and effectively especially in this age of knowledge-based technology and globalization, the use of information and communication technology (ICT) becomes imperative. Interestingly, universities all over the world are rapidly incorporating information and communication technology (ICT) into all facets of teaching, research and management. Lecturers who succeed in making use of ICT in their work processes do not only contribute to improved learning outcomes in their students, but also benefit personally from enhanced work productivity (Akpan, 2014).

University lecturers have various tasks to accomplish and these range from teaching, research and publications, marking of tests and examinations, supervising students' research activities, supporting students through advisory roles, attending conferences, providing community services etc. In other for them to be effective and efficient, they need to acquire an appreciable level of ICT competence (Omotunde, 2017).This is necessary in order to meet up with the demands of their job.University lecturers play a

crucial role in the development, adoption and Implementation of any educational curriculum orinnovation (Ojeniyi and Adetimirin, 2016). This role becomes even more critical in adoption and integration of information and communication technology (ICT) into the education programmed of a country. It has been discovered that knowledge of (ICT)usage improves human capacity in every field of human endeavour, including business transaction, industrial operations, educational programmes and activities and life in general (Adeoluwa and Ogunmodede, 2018). The use of information and communication technology competency skills affords universities lecturers the opportunity to have access to global information resources, especially the Internet for their scholarly work. Higher education lecturers make use of ICT resources for many purposes; mostly for academic purpose that is, retrieving current literature for studies, to carry out research work, and to communicate and collaborate with peers via the Internet on e-mail or by following blog discussions (Adeniran, 2013).

Information and communication technology (ICT) is an existing and widely deployed technology that can be mobilized to step up the pace and scale of transformation in teaching and learning processes in higher education (Hanushek &Woessmann, 2015).Oludayo (2017) sees ICT as forms of hardware and software applications that are used to transmit, store, create, share or exchange information. They may include high-tech devices such as computers and software as well as the more conventional technologies such as radio, television, and telephone technology, Digital Virtual Drive (DVD), satellite systems, video conferencing and electronic mail. ICT consists of a diverse but cohesive set of computer-related technologies used in handling information, from its generation to ultimate dissemination (Tor, Shiekuma, Olatunji and Adisa, 2020). Kaware and Sain (2015) perceived ICT as the manipulation and communication of information by using electronic resources and tools, such as computers, the Internet, and broadcasting technologies. In the education perspective, it involves the use of digital tools in supporting and enhancing all aspects of academic endeavour. Tor,Shiekuma, Olatunji and Adisa (2020) reaffirmed that ICT embraces tools that are capable of creating, processing, storing, retrieving, transmitting, and concomitantly, receiving information conveyed electronically.

Competencies are the certain characteristics or abilities of an individual that enable them to perform appropriate specific actions. It represents the capability that an individual brings to the job and when the responsibilities of the job to produce the desired results require the demonstration of specific actions, the individual draws from inner resources for the capability to respond (Akanwa&Eluwa, 2014). ICT competence is the ability of lecturers to manipulate a wide range of varying ICT tools such as the Internet, World Wide Web, computers, intranet and other associated technologies to accomplish tasks. Danner and Pessu (2013) posited that being able to use ICTs improves lecturers' teaching performance. Also, the use of ICTs by lecturers improves the process of obtaining and disseminating new information to students from multimedia technologies

and the Internet (Mbengo, 2014). Considering these colossal benefits, Chukwuedo and Igbinedion (2014) stress the need for capacity building of the lecturers in ICT competencies to facilitate their duties concerning the teaching-learning process, conduction of research and administrative jobs.Leong, Chua, Sathiamoorthy and Shafinaz (2016) revealed that Lecturers ICT competency skills is the driving force toward achieving the goals of technology integration into the classroom Varol (2013) stressed that lecturers ICT competency skills can be viewed as a form valuable national asset in terms of human resources which is important in promoting world-class education.

The use of information and communication technology (ICT) competency skills in teaching, learning and research by universities lecturers has become indispensable in this digital age where globalization of education is made possible through Information and Communication Technology (ICT). The emergence of information and communication technology (ICT) has greatly transformed information handling and management in Nigerian university communities (Adeleke &Emeahara, 2016).We are currently living in an information society where there is exponential growth in information accessible through ICT resources. Oludayo (2017) affirmed that globalization and technological change have created a new global economy that is powered by technology, fueled by information and driven by skills. This new global economy implies that as information continues to grow exponentially, schools cannot remain mere venues for the transmission of a prescribed set of information from lecturers to student over a fixed period of time but schools must promote learning to learn as knowledge becomes more dynamic.

Globally, universities are recognized as both the providers of knowledge and professionals, to be moved to society as added competitive advantages of the country (Tor, Shiekuma, Olatunji and Adisa, 2020). Premised on this universal fact, Nigerian universities depend on academic staff as key stakeholders in generating life-changing knowledge through research and equipping learners with knowledge, values, understanding, information and skills required in undertaking tasks that can upsurge the developmental standing of the nation. Bearing these lofty responsibilities in mind, academic staff needs to be adequately prepared in such a fashion that they can successfully diffuse qualitative and quantitative amount of worthwhile knowledge to learners under their tutelage, and perform other allied academic activities.

Arising from the above, Akpan (2014) posits that for academic staff to carry out their job efficiently and effectively especially in this age of knowledge-based technology, the use of ICT becomes imperative. In the same line of thought, Kpolovie and Awusaku (2016) maintained that real success in today's rapidly changing and highly competitive world depends on ICT knowledge and skills. In line with finding of Omotunde (2017) who concluded that ICT competence skills will enhance universities lecturers' job tasks; and in the long run, influence Nigerian universities ranking at the global level because of

increased productivity in the institutions. This, therefore, indicates that optimum job performance of universities lecturers in this era requires an appreciable level of ICT competence. Moreover, productive use of ICT is an integral element in enabling universities lecturers to meet up with the demands of their job, which broadly take academic and administrative dimensions. Premised on this background, the study investigated the lecturers' ICT competency skills and job effectiveness in Bauchi State Universities.

Statement of the Problem

The penetrating influence of Information and communication technology has extended to all realms of human activities. Indeed, the field of education cannot be placed on the exemption list of human ventures that remain unaffected by ICT. This is to say, ICT has fundamentally reformed the way education is conducted, by provoking a transition from traditional practices and procedures to dependence on devices as a tool for educational tasks. In this era of globalization, job efficacy of academic staff in higher institutions cannot be divorced from the level of ICT proficiency and competency which is necessary for quality academic output. Unfortunately, some university teachers still do not recognize the opportunities that ICT skills presents for improving the efficiency and effectiveness of their job. Some of them lack knowledge that would aid the application of ICT skills in instructional delivery, research and record management. Glaringly, this paradigm shift has brought about unprecedented and endless benefits to universities lecturers. Such benefits cut across administrative and academic lines. It is therefore worthy to note that the maximum realization of the educational value of ICT by academic staff is not spontaneous; they must acquire positive ICT perfections and competency skills before reaping maximally from the benefits that accompanied it.

Even though ICT usage has been proven able to improve organizational effectiveness and productivity, the human factor is identified as the most important determinant for the success or failure of ICT implementation (Wahdain& Ahmad, 2014). Besides lecturers' ICT competency skills, lecturer's acceptance and adequate use of ICT resources are other vital elements. However, a growing body of researches unearthed paucity of ICT skills competencies among academic staff in Nigerian universities (Bassey &Ofre, 2013; Akpan, 2014; Chukwuedo&Igbinedion, 2014; Emeasoba&Ezenwafor, 2014; Kaware&Sain, 2015; Kpolovie&Awusaku, 2016, Ojeniyi&Adetimirin, 2016; Duhu&Ezugu, 2017; Omotunde, 2017; Echols, Neely &Dusick, 2018; Tor, Shiekuma, Olatunji &Adisa, 2020). This creates uncertainty whether these universities lecturers have at their disposal ICT training opportunities for them to equip themselves with requisite ICT competencies skills. In order to find empirical answer to this, the need for this study heightened, to investigate the lecturers' ICT competency skills and job effectiveness in Universities in Bauchi State, Nigeria.

Aim of the Study

The major aim of the study is to investigate the lecturers' ICT competency skills and job effectiveness in Bauchi State Universities and specifically to:

1. Investigate the competency skills of universities lecturers in the use of ICT resources in Bauchi State, Nigeria
2. Determine the kind of skills universities lecturers need to acquire in order to be effective in an ICT based learning environment
3. Ascertaining the types of information and communication technology (ICT) resources used by universities lecturers in their onsite and online teaching in Bauchi State, Nigeria
4. Ascertaining the challenges to academic usage of ICT resources and competence skills among universities lecturers in Bauchi State.

Research Questions

Based on the specific objectives, the following research questions were raised:

1. What are the competency skills possessed by the university's lecturers in the use of ICT resources in Bauchi State, Nigeria?
2. What kinds of skills will universities lecturers need to acquire in order to be effective in an ICT based learning environment?
3. What are the types of information and communication technology (ICT) resources used by universities lecturers in their onsite and online teaching in Bauchi State, Nigeria?
4. What are the challenges to academic usage of ICT resources and competence skills among universities lecturers in Bauchi State, Nigeria?

Research Hypotheses

For the purpose of this study, the following research hypotheses are formulated:

Ho_1: There is no significant relationship between the competence skills possessed by the university's lecturers in the use of ICT and their job effectiveness in Bauchi state.

Ho_2: There is no significant relationship between the types of information and communication technology (ICT) resources used by universities lecturers and their job effectiveness in Bauchi State.

Ho_3: There is no significant relationship between the university's lecturers' ICT competence skills and their job effectiveness in Bauchi State.

Ho_4: There is no significant relationship between the challenges to academic usage of ICT resources and competence skills among universities lecturers in Bauchi State.

Significance of the Study

The significance of the study would be derived from the lecturers' ICT competency skills and job effectiveness in Bauchi State Universities. It is hoped that the findings of this study would be beneficial to the following groups of stake holders: lecturers, students,

government, school administrators, curriculum planners, researchers and textbook writers and the larger society.

When lecturers are exposed to computer technologies with adequate technical know-how, there will be high level of commitment and motivation to discharge concrete teaching and impart knowledge and zeal for the profession may also improve and remarkable success would be recorded. For students, this study would help them acquire the necessary skills they require to compete favourably in the labour market after their graduation. It would also help them in carrying out independent research in their programmes of studies. The study would enhance research into related problems by relevant bodies/authorities and teachers, facilitate capacity building to improve and update the quality of the existing teaching force, and ensure that university programme integrate pedagogy and technology for optimum efficiency and effectiveness of the programme in Nigeria

This study would help universities lecturers and management to know the trend of use of ICT competence skills and ICT resources, the purpose of use of ICT resources and the challenges that lecturers face in the use of information and communication technology (ICT). This would afterwards help them to see the need to come up with programmes and training that can enhance the use of ICT skills. Furthermore, findings from this study would sensitize universities lecturers and curriculum planners on the impacts of ICT skills on job efficiency and also, university management and other stakeholders to evaluate the relevance and impact of ICT competence skills in tertiary institutions.

Research Design

The study aims to assess the lecturers' ICT competence skills and job effectiveness in universities in Bauchi state, Nigeria. Descriptive survey research design will be used to carry out the study because it deals with collection of data primary, secondary and other relevant information to describe and interpret the existing conditions, practice, beliefs and attitudes. In the opinion of Ibelegbu (2013), descriptive survey design answers questions pertaining to characteristics frequencies of occurrences, vital facts of people, their belief, opinions, attitudes, activities and behaviours. Descriptive Survey design is appropriate for determining the opinions of the whole population on ICT competence skills needed by these lecturers in universities in Bauchi State for effective instruction.

Population of the Study

The study population consisted of one thousand three hundred and fifty three (1,353) lecturers from Abubakar Tafawa Balewa University Bauchi, Bauchi State University, Gadau and Federal University of Health Sciences, Azare respectively. A breakdown of the population revealed that there were nine hundred (900), three hundred and fifty (350) and one hundred and three (103) academic staff in Abubakar Tafawa Balewa University

Bauchi, Bauchi State University and Federal University of Health Sciences, Azare respectively. The population distribution of the academic staff is as shown below:

Table 1: Population Distribution of the Academic Staff

S/No	Name of Institutions	Number of Academic Staff
1.	**Abubakar Tafawa Balewa University**	**900**
2.	**Bauchi State University, Gadau**	**350**
3.	**Federal University of Health Sciences, Azare**	**103**
Total Population		1,353

Source: Offices of Directors of Academic Planning, 2023

Sample and Sampling Technique

A Sample of 434 academic staff were selected from the total population of 1,353 academic staff from Abubakar Tafawa Balewa University, Bauchi State University, Gadau and Federal University of Health Sciences, Azare respectively. This was done in line with Krejcie and Morgan (1970) determining sample size. Proportional sampling techniques was adopted to select academic staffs from each university.

Table 2: Sample of the Study

S/No	Name of Institution	Population	Sample Size
1.	**Abubakar Tafawa Balewa University**	**900**	**333**
2.	**Bauchi State University, Gadau**	**350**	**75**
3.	**Federal University of Health Sciences, Azare**	**103**	**26**
Total		1,353	434

Source: Field survey, 2023

Research Instrument(s)

The instrument for data collection was structured questionnaire titled Universities Lecturers' ICT Competence Skills and Job Effectiveness Questionnaire (ULICTSJEQ) adapted from Gastelu et al. (2015). It was intended to elicit the objective opinions of the respondents on the information and communication technology (ICT) competence skills possessed by universities lecturers for effective instruction.

The questionnaire was divided into three main parts, A, B and C. Part A of the questionnaire elicits personal information of the respondents such as gender, age, highest qualifications and cadre. Part B of the questionnaire was further divided into five (5) sub-sections (**i -v**) consist of 55 items in line with the specific purposes of the study to elicit data on ICT competence skills posses and need by lecturers in universities in Bauchi State, Nigeria for effective instructional delivery.

Procedure for Data Collection

The data collection period lasted for one (1) week and all the prepared questionnaires was distributed to all selected universities lecturers captured in the sample size of the study and enough time was given to the respondents to ensure that responses were made accordingly. For the smooth administering of the questionnaires, the researcher employed the service of two trained research assistants. The said research assistants were briefed on how to administer the questionnaire, the technique and procedure for collecting the completed questionnaire.

Method of Data Analysis

The data obtained for this study was analyzed using both descriptive and inferential statistics. Frequency count and Percentage will be used to analyze demographic characteristics (bio-data) of the respondents. Research questions 1-5 were analyzed using descriptive statistics to present frequency count alongside with their respective mean rating. Pearson Product Moment Correlation (Statistics) was used to test null hypotheses 1-4. Pearson Product Moment Correlation Statistics was employed because is an effective statistically tools use in testing the influence of independent variables on dependent variables and also use in finding the relationship that exist between two groups mean (Odekunle, 2013). The entire null hypotheses were tested at 0.05 levels of significance. On the decision rule, Null hypothesis is rejected where the calculated table value was greater than critical table value or where p-value was less than Alpha value of 0.05 level of significance. On the other hand, the null hypothesis is retained where the calculated table value was equal to or less than the critical table value or where p-value was equal or greater than Alpha value of 0.05 level of significance.

Results and Discusstion

Results

1. What are the competency skills possessed by the universities lecturers in the use of ICT resources in Bauchi State, Nigeria?

S/N	Variables	N	X	SD	Decision
1	Use word processing, save and design file names to documents	434	3.23	0.59	HS
2	Insert menu and view menu to manipulate the page layout	434	2.88	0.73	HS
3	Use Microsoft excel and Corel Draw	434	2.92	0.91	HS
4	Use superscript and numbers and exit command in a file	434	2.88	0.45	HS
5	Microsoft Power point presentation	434	2.89	0.62	HS

6	Access the internet, access different websites and download files	434	2.68	0.58	HS
7	Send and access electronic documents	434	3.19	0.69	HS
8	Usage of computers and/or mobile technologies to create Multimedia presentations.	434	2.20	0.72	LS
9	I am proud of what I can do to help people learn. Engage in electronic commerce business	434	3.66	0.84	HS
10	Networking and Data Analysis	434	2.76	0.65	HS
	Grand Mean		**2.93**	**0.68**	**HS**

Source: Field Survey 2022

Table 1 explains the mean and standard deviation of the lecturers' ICT competency skills and job effectiveness in Bauchi State Universities. It was discovered from the respondents that the majority of the lecturers are highly skill in ICT for job effectiveness in Bauchi State Universities only few disagree with item statement 8 with mean scores of 2.20 and were found to be low skill. Therefore, the grand mean of 2.93 clearly shows that the majority of respondents have ICT competency skills for job effectiveness in Bauchi State Universities.

2. What kinds of skills will universities lecturers need to acquire in order to be effective in an ICT based learning environment?

S/N	Variables	N	X	SD	Decision
1	Access the Internet	434	2.76	0.63	HN
2	Access different websites	434	2.16	0.89	NN
3	Download and save files	434	2.87	0.55	HN
4	Send and access electronic documents	434	2.65	0.62	HN
5	Use internet phones and use facsimiles	434	2.13	0.82	NN
6	Engage in electronic commerce business	434	2.88	0.51	HN
7	Knowledge of distance education, education delivery	434	2.19	0.52	HN
8	Skills in analyzing data using statistical tools packages	434	2.68	0.84	HN
9	Create simple data base structure	434	2.99	0.92	HN

10	interpret result of analysis	434	2.92	0.73	HN
	Grand Mean		**2.62**	**0.70**	**HN**

Source: Field Survey 2022

Table 2 presents the mean and standard deviation of the kinds of skills will universities lecturers need to acquire in order to be effective in an ICT based learning environment in Bauchi State, Nigeria. Therefore, the respondents mean scores are above the bench mark of 2.5 while for questionnaire item 2, and 5, there mean scores is less than 2.5, thereby considered as Somewhat Needed. Hence, the grand mean of 2.62 shows that the Highly Needed the kinds of skills will universities lecturers need to acquire in order to be effective in an ICT based learning environment in Bauchi State, Nigeria.

3. What are the types of information and communication technology (ICT) resources used by universities lecturers in their onsite and online teaching in Bauchi State, Nigeria?

S/N	Variables	N	X	SD	Decision
1	Computer Machine	434	2.76	0.63	AU
2	Multimedia Projector	434	2.16	0.89	RU
3	Electronic Media board	434	2.87	0.55	AU
4	Smartphone/ Android Phones	434	2.65	0.62	AU
5	Online Tutorial	434	2.13	0.82	RU
6	Smartphone/ Android Phones	434	2.88	0.51	AU
7	Library Online Public Access Catalogue OPAC	434	2.19	0.52	RU
8	Electronic mail (E-mail),	434	2.68	0.84	AU
9	World Wide Web (WWW)	434	2.99	0.92	AU
10	Social Networking	434	2.92	0.73	AU
11.	E-reference materials: E-tutorials, E-maps	434	2.63	0.78	AU
12.	Digital Cameral	434	2.51	0.62	AU
13.	Scanner and Photocopier Technologies	434	2.65	0.65	AU
14.	E-book, E-journals, E-news, E-magazines, E-conferencing	434	2.58	0.36	AU
15.	Online databases, Online reviewing, & Online publishing	434	2.78	0.33	AU
	Grand Mean		**2.63**	**0.65**	**HN**

Source: Field Survey 2022

Table 3 presents the mean and standard deviation of the types of information and communication technology (ICT) resources used by universities lecturers in their onsite and online teaching in Bauchi State, Nigeria. Therefore, the respondents mean scores are above the bench mark of 2.5 while for questionnaire item 2, and 7, there mean scores is less than 2.5, thereby considered as Rarely Use. Hence, the grand mean of 2.63 shows that the Always Use information and communication technology (ICT) resources used by universities lecturers in their onsite and online teaching in Bauchi State, Nigeria.

4. What are the challenges to academic usage of ICT resources and competence skills among universities lecturers in Bauchi State, Nigeria?

S/N	Variables	N	X	SD	Decision
1	High cost of pocurement/financial constraints	434	2.66	0.63	SA
2	High cost of maintenance	434	2.76	0.89	SA
3	poor maintenance culture by the institution	434	2.81	0.55	SA
4	Unreliable internet access or facilities in the institutions	434	2.63	0.62	SA
5	Low level of computer literacy on the part of lecturers	434	2.55	0.82	SA
6	Poor Internet connectivity/Low Internet bandwidth	434	2.71	0.51	SA
7	Erratic power supply	434	2.52	0.52	SA
8	Poor attitudes to the use of ICT facilities by the lecturers	434	2.18	0.84	SD
9	Resistance to change and unwillingness	434	2.19	0.92	SD
10	Inadequate computer facilities, lack of training/technical assistance	434	2.65	0.61	SA
	Grand Mean		**2.57**	**0.69**	**SA**

Source: Field Survey 2022

Table 4 presents the mean and standard deviation of the challenges to academic usage of ICT resources and competence skills among universities lecturers in Bauchi State, Nigeria. Therefore, the respondents mean scores are above the bench mark of 2.5 while for questionnaire item 8, and 9, there mean scores is less than 2.5, thereby considered as Strongly Disagree. Hence, the grand mean of 2.57 shows that there is challenges to academic usage of ICT resources and competence skills among universities lecturers in Bauchi State, Nigeria.

Test of Null Hypotheses

Results of data collected from fieldwork used to test the null hypotheses is as presented in Table 5

Null Hypothesis One: There is no significant relationship between the competence skills possessed by the universities lecturers in the use of ICT and their job effectiveness in Bauchi state.

PPMC analysis relationship between the competence skills possessed by the universities lecturers in the use of ICT and their job effectiveness is as presented in Table 5.

Table 5:

Pearson Correlation on relationship between the competence skills possessed by the universities lecturers in the use of ICT and their job effectiveness

Variables	N	Mean	SD	Df	R-Ctit	R-Cal	Sig
CS	434	0.648	6.681				
ICT	434	0.0158	3.565	432	0.624	0.841	0.000

Source: **. Correlation is significant at the 0.05 level (2-tailed).

From the Table, the computations indicated calculated R value of 0.841 greater than critical R-value of 0.624 at α = 0.05, the observed value of (R = 0.841) was significant. The summary from the analysis indicating that R-crit is greater than R-cal. The result indicates 74% of the variability in CS determined by ICT. The result shows that relationship between the competence skills possessed by the universities lecturers in the use of ICT and their job effectiveness. Hence the null hypothesis is not accepted.

Null Hypothesis Two: There is no significant relationship between the types of information and communication technology (ICT) resources used by universities lecturers and their job effectiveness in Bauchi State.

PPMC analysis of relationship between the types of information and communication technology (ICT) resources used by universities lecturers and their job effectiveness is as presented in Table 6.

Table 6:

Pearson Correlation on relationship between the types of information and communication technology (ICT) resources used by universities lecturers and their job effectiveness

Variables	N	Mean	SD	Df	R-Ctit	R-Cal	Sig
ICT	434	1.823	1.342				
JEFF	434	0.019	1.210	432	0.089	0.071	0.001

Source: **. Correlation is significant at the 0.05 level (2-tailed).

The summary of the analysis shows calculated R value of 0.089 which is less than R-value of 0.089 at 0.05 alpha levels. The observed Value (R=0.089) is not significant. The

summary from the analysis indicating that that R-crit is greater than R-cal. It was observed to be sig at 0.071, indicating that only 0.9% of the variance in the ICT is influence by JEFF. Hence relationship between the types of information and communication technology (ICT) resources used by universities lecturers and their job effectiveness. Therefore, the null hypothesis is retained.

Null Hypothesis Three: There is no significant relationship between the universities lecturers' ICT competence skills and their job effectiveness in Bauchi State.

PPMC analysis of relationship between the universities lecturers' ICT competence skills and their job effectiveness is as presented in Table 9.

Table 7:

Pearson Correlation on the relationship between the universities lecturers' ICT competence skills and their job effectiveness.

Variables	N	Mean	SD	Df	R-Ctit	R-Cal	Sig
ICT COPMT	434	1.735	1.349				
JEFF	434	0.019	1.218	432	0.089	0.051	0.001

Source: **. Correlation is significant at the 0.05 level (2-tailed).

The result of regression analysis used to test the null hypothesis revealed calculated R value of 0.051 which is less than R-value of 0.089 at 0.05 levels of significance. The observed Value (R=0.051) is not significant. Therefore, the null hypothesis is retained. It was observed to be sig at 0.051, indicating that only 0.5% of the variance in relationship between the universities lecturers' ICT competence skills and their job effectiveness. Therefore, the null hypothesis is retained.

Null Hypothesis Four: There is no significant relationship between the challenges to academic usage of ICT resources and competence skills among universities lecturers in Bauchi State.

PPMC analysis of relationship between relationship between the challenges to academic usage of ICT resources and competence skills is as presented in Table 9.

Table 8:

Pearson Correlation on the relationship between the relationship between the challenges to academic usage of ICT resources and competence skills

Variables	N	Mean	SD	Df	R-Ctit	R-Cal	Sig
ICT CHA	434	1.235	1.341				
CS	434	0.0198	1.362	432	0.082	0.091	0.001

Source: **. Correlation is significant at the 0.05 level (2-tailed).

The result of PPMC analysis used to test the null hypothesis revealed calculated R value of 0.091 which is greater than R-value of 0.082 at 0.05 levels of significance. The observed Value (R=0.091) is significant. Therefore, the null hypothesis is not retained. It was observed to be sig at 0.091, indicating that only 0.9% of the variance in relationship between the challenges to academic usage of ICT resources and competence skills. Therefore, the null hypothesis is retained.

Discussion of Findings

The finding of research question 1 and its corresponding null hypothesis 1 revealed that the competency skills possessed by the universities lecturers in the use of ICT resources in Bauchi State, Nigeria was high. The finding is consistent with OkoNgaji & Veronica (2021) who maintained that, for the lecturer to do his work diligently and assure good results, he must be versatile with the new technologies that would help him to be effective. Asubioju & Ajaiyi (2017) stressed that ICT competence is one of the most important factors needed to perform various tasks in education especially in the process of searching for new information, teaching and learning in the classroom environment.

The finding of research question 2 and its corresponding null hypothesis 2 revealed that the kinds of skills will universities lecturers need to acquire in order to be effective in an ICT based learning environment. The finding is consistent with Philip and Samuel, (2018) for the standard of education to improve; there is need universities lecturers to be computer literates and possess adequate ICT skills so as to make their primary assignments easier and improve their job performance.

The finding of research question 3 and its corresponding null hypothesis 3 revealed that the types of information and communication technology (ICT) resources used by universities lecturers in their onsite and online teaching in Bauchi State, Nigeria. The finding is consistent with Duhu and Ezegu, (2017) ICT tools such as e-mail, facsimile, internet, world-wide-web, intranets, extranets, online databases and other networking technologies in the performance of their job. Also, Hanushek &Woessmann, (2015) Information and communication technology (ICT) is an existing and widely deployed technology that can be mobilized to step up the pace and scale of transformation in teaching and learning processes in higher institution of learning.

The finding of research question 4 and its corresponding null hypothesis 4 revealed that there are challenges to academic usage of ICT resources and competence skills among universities lecturers in Bauchi State, Nigeria. The finding is consistent with Akanwa & Eluwa, (2014) challenges faced academic usage of ICT resources and competence skills includes high cost of procurement/financial constraints, high cost of maintenance, poor maintenance culture by the institution, unreliable internet access or facilities in the institutions, low level of computer literacy on the part of lecturers, poor internet connectivity/low internet bandwidth, and poor attitudes to the use of ICT facilities by the lecturers.

Conclusion

The study concluded that the acquisition and possession of ICT competencies in word processing, spreadsheet, graphic, E-book, E-journals, E-news, E-magazines, E-conferencing and internet by lecturers will greatly enhance the realization of stated objectives of business education and other academic programmes in tertiary institutions in Nigeria. The need for ICT skill update of lecturers for effective teaching in contemporary society is imperative and perhaps necessitated this study. The study was considered necessary because of the continuous low ICT skills and competencies among lecturers which of cause affect their teaching in modern days. When the teaching is not effective, the rate of assimilation of the learners and their interest in learning diminishes which undermine the realization of the objectives of school programme.

Recommendations

Based on the findings of this study the following recommendations are made;

1. Conducive working environments with adequate ICT teaching resources should be provided for the realization of the educational goals and objectives in Bauchi state universities.
2. That the identified ICT competencies in word processing, spreadsheet, graphic and internet should be used for retaining of teachers and lecturers for effective use of ICTs for teaching and learning in Bauchi State Universities.
3. That the identified ICT competencies in word processing, spreadsheet, graphic and internet should be adopted by curriculum planners at state and federal levels to further improve the existing curriculums in Universities.
4. That the States governments through its state own university, should help package the identified ICT skills items in word processing, spreadsheet, graphic and internet into programmes for training lecturers in Bauchi state universities.

Suggestion for Further Study

Based on the findings of this research, the following suggestions were offered for further studies;

i. This study needs to be replicated in other private universities in the state in order to get a better general picture of the whole country. This will facilitate better decision making as regards to lecturers' ICT competency skills and job effectiveness.

ii. The study should be carried out using both private and public universities in other states.

iii. Further investigations should be done covering a large population of samples, in order to make appropriate generalization of the findings of the present study.

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