

Assessment of the relationship of information communication technology competency and the training of academic staff of state universities in South East, Nigeria.

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ABSTRACT

Universities which primary business is acquisition, capturing, storing and transferring of knowledge should use effectively and efficiently the faculties of ICT to obtain all the useful information needed for the development of their staff. The aim of this study was to assess the level of relationship of information communication technology competency and the training of academic staff of state universities in South East, Nigeria. The results showed that Information communication technology competency had positive significant relationship with the academic staff training of state universities in South East, Nigeria $r(95, n = 784) = 0.75, p > 0.05$. In conclusion this study stated that to a great extent information communication technology competency, positively contributed to academic proficiencies, learning outcome, training of academic staff of state universities in South East, Nigeria.

Keywords: Information communication technology, Universities, academic staff.

INTRODUCTION

Competency in Information Communication Technology has immensely facilitated the staff development of institutions of higher learning and in recovering and storing information which has led to an important growth in the database of knowledge industry [1,2]. [3], suggests that with the advent of ICT, the whole world has become a "Global Village". Information and communication technology involves essentially the storage and communication of information. The greatest potentiality of ICT, thus, is its ability to serve as a tool to circulate information and to induce a qualitative change in the life of a man. [4], posit it that ICT is a generic term which basically refers to programs, computers and telecommunications. IT competency is said to be broader and refers to the use of these technologies for the satisfactions of the organization's information needs. ICT is multidimensional and conceptually complex. Universities as a barn of

knowledge can use it to develop their staff and also create a competitive advantage [5]. [6], opines that new method and applications of ICT development has facilitates and helped organizations for better delivery of quality products and services. In the words of [7] ICT increases knowledge transfer by extending an individual's reach beyond formal lines of communications. [8] suggest that getting an information is no longer a problem rather the problem lies in obtaining quality information. Quality here is measured in terms of the accuracy of the information, how reliable, how precise and the timeliness, and the extent of relevant of the information in the organizational decision making [9]. However, universities which primary business is acquisition, capturing, storing and transferring of knowledge etc, should use effectively and efficiently the faculties of ICT to obtain all the useful information needed for the development

of their staff so they can meet up with the above functions [10]. [11] conducted a study on “ Would-be teachers’ competence in applying ICT: Exposition and preconditions for development”. The study aver that within higher education, one of the outstanding of teaching challenges has always been ‘helping students to bridge the gap between knowledge and real life practice’. This has become so imperative in applied academic disciplines where professional knowledge is constantly being renewed and recreated through real practice [12]. The National Policy on ICT in Education and Framework launched in 2010 presents a holistic and broad vision for ICT integration in the education sector in Nigeria [13]. This policy moves beyond a basic technology literacy approach. It rather focuses on leveraging technology to transform the roles of the teacher and the learner in the classroom. It has been widely acclaimed that for Nigeria’s vision 20:2020 (the economic blueprint aimed at placing Nigeria among the biggest 20 economies in the world by 202) to be achieved, education, especially teacher development, will play a key role and ICT equally so sector [14]. [15], opined that academic staff development is clearly required to prepare lecturers with ICT skills so they can equip

REVIEW OF RELATED LITERATURE

Knowledge Management: In this 21st century modern organizations, knowledge plays an increasingly important role. Business processes are dynamic and complex; manual labour is replaced with knowledge work, requiring a high level of skills and expertise. [7], aver that knowledge and skills that are of value to the organization tend to be embodied in individuals, and they are difficult to substitute. Marketplace has become global and relationships between organisations are highly enmeshed. Middle management is disappearing, leaving higher responsibilities for lower levels in the organisation. To cope with these characteristics, it behoves the organisations to think about the way to create or acquire, retain and manage knowledge for business sustainability [8]. What is Knowledge: [9], defined Knowledge as an important source for value creation in an organization which

Anzor students with the kinds of critical skills needed if they, as members of the society, are to contribute meaningfully in the country’s future development. All lecturers/teachers need to be familiar with ICT applications and competent in the use of ICT applications. [16], recommends that teachers need to experience online learning as part of their professional development. The National Universities Commission (NUC) has worked assiduously to lay the foundation for ICT integration in higher institutions through investment in ICT infrastructure, management information systems, e-mail access, and library information services. [17] states that there have been essentially three kinds of ICT infrastructural provisions in Nigerian tertiary institutions. They include: Local initiatives; conceived and developed using local resources Corporate initiatives; corporate organizations such as Cisco and Microsoft International partnership initiatives; for instance the NetTel@Africa telecommunications management post graduate programme project sponsored by the Nigerian Communications Commission in partnership with regional stakeholders united in their desire to increase the capacity of African ICT sector [8].

needs to be managed carefully. It is a vibrant force in the rapidly changing global economy and society. [13], discovered that knowledge is power, people, money, leverage, learning, flexibility and most importantly competitive advantage. The information generated is captured in various documents and databases and made available for researchers which can be visible in books or electronic technologies. Information can only become knowledge when it is applied in a manner that can add value. Knowledge also includes insight and wisdom of employee and could be used for decision making. It is also embedded in work processes, teams and exists in all core functions of an organization as well as its systems and infrastructure [14]. It behove us to understand that in knowledge management context, knowledge encompasses far more than factual knowledge. It includes the entire

range of norms and values, opinions and attitudes, emotions and intuition, skills and experience, expectations and ambitions that constitute our identity and personality, that also guide and define our group and individual behaviour [15]. Tacit and Explicit Knowledge (the Main Types of KM): Knowledge can be distinguished into two different types [16]. [17], describe knowledge as existing in two dimensions - tacit and explicit knowledge. In essence, knowledge is most commonly categorized as either explicit (coded) or tacit (that which is in people's heads). Tacit knowledge is the personal and context specific knowledge of a person that resides in the human mind, behaviour, and perception [13]. It evolves from people's interactions and requires skill and practice. [15], defines tacit knowledge, to be experimental, intuitive, and experience based knowledge that cannot be expressed in words, sentences, and formalized or articulated and it is therefore difficult to share also. Tacit knowledge is highly personal (held within the holder), subjective, difficult to formalize, articulate and communicate fully, experience based, contextualized, job specific, transferred through conversation or narrative, not captured by formal education or training and may even be subconscious but capable of becoming explicit knowledge [14]. It is the type of knowledge that is used mostly by organizational members in the performance of duties. Tacit knowledge is hard to verbalize because it is expressed through action based skills and cannot be reduced to rules and recipes. It is deeply rooted in action, procedures, commitment, ideals, values and it can only be indirectly accessed [17]. Knowledge Management and Organisational Developments: Logically, knowledge management is the outcome of some developments envisaged recently in organisations: [8] posits it in this manner, first, work is being substituted by more intelligent kinds of work, which include: the activities of lecturers, managers, researchers, consultants, engineers, lawyers, policy developers, and teachers. Secondly, the development of Information and communication technologies to support or automate

Anzor work processes. However, Knowledge creates power, and employed individuals who naturally kept their knowledge and skill for themselves now share it in the organisation. Again, knowledge obtains its maximum value when it is shared, i.e. when knowledge is no longer owned and protected by individuals, but by the organisation as a whole. People (employees) obtain knowledge through the work the environment created, the organisation therefore has a right to own and use knowledge held by individual employees [9]. Information Communication Technology Competency and Staff Development: Competency in Information Communication Technology has immensely facilitated the staff development of institutions of higher learning and in recovering and storing information which has led to an important growth in the database of knowledge industry. [3], suggests that with the advent of ICT, the whole world has become a "Global Village". Information and communication technology involves essentially the storage and communication of information. The greatest potentiality of ICT, thus, is its ability to serve as a tool to circulate information and to induce a qualitative change in the life of a man. [5] posit it that ICT is a generic term which basically refers to programs, computers and telecommunications. IT competency is said to be broader and refers to the use of these technologies for the satisfactions of the organization's information needs. ICT is multidimensional and conceptually complex. Universities as a barn of knowledge can use it to develop their staff and also create a competitive advantage. The Imperativeness of Knowledge Management to Nigerian Universities: [7], assert that the emerging knowledge society, "universities" are the expected drivers of innovation, thereby contributing to the development of a learning society. It may, therefore, be correct to posit that a nation's development is dependent on the ability of its universities to produce new knowledge, new technology, and quality graduates. In contributing to national development, universities have a role in preparing graduates, not simply for the present time, but also for the emerging

society which is characterized by technological advancements [9]. Universities are therefore, seen as the key drivers in the emerging knowledge economy who are thus required to innovate as well as collaborate with

Theoretical Frame Work

The Socialization, Externalization, Combination, and Internalization (SECI) Model: Ikujiro Nonaka propagated a model of knowledge creation in books and series of articles in early 1990s. This model opine that knowledge creation is a spiralling process of interactions between explicit and tacit knowledge. These interactions lead to the creation of new knowledge [1]. The SECI (Socialization, Externalization, Combination, and Internalization) model first appeared in 1991 [5] and was recognized as a useful but rigorous approach to describing knowledge generation, transferred and re-creation of knowledge in organizations. In brief, the proposed model has the following important aspects:

- * An interaction dynamic (transfer)
 - Two forms of knowledge - tacit and explicit
 - Three levels of social aggregation - individual, group, context
 - Four knowledge-creation processes - socialization, externalization, combination and internalization
- The model in figure 3 proposes that a "knowledge-creating organization" consciously Core Assumptions and How it Relates to the Study: The core behavioural assumption in this model is that knowledge creating organizations (universities) continually encourage the flow of knowledge between individuals (students) and groups to improve both tacit and explicit knowledge stocks. The critical knowledge management assumption of the SECI process is that knowledge is created and improved as it flows through different levels of the

industries for research and development purposes. In the same vein, [13] opine that higher education institutions should be able to meet the needs of students and society while attending to the well-being of the institution itself.

organization and between individuals and groups. Thus, knowledge value is created through synergies between knowledge holders i. e. the academics (both individual and group) within a supportive and developmental organizational context [9]. Organizational Learning(OL)Theory: Organizational Learning (OL) Theory was propagated by Chris Argyris and Donald Schon in the year 1978. Argyris & Schon contend that it is a product of organizational inquiry. This means that whenever expected outcome differs from actual outcome, an individual (or group) will engage in inquiry to understand and, if necessary, solve this inconsistency. In the process of organizational inquiry, the individual will interact with other members of the organization and learning will take place. Learning is therefore a direct product of this interaction. Argyris and Schon insist that this interaction often goes well beyond defined organizational rules and procedures [16]. Summary of the Model and Theory: Though the above approaches of both models and theories have differentiating factors, but the most important aspect noticeable here is the organizations' possession of different dimensions of knowledge; namely: tacit, explicit, embrained, embedded, embodied, encultured and encoded, etc. Therefore, organizations can organize and behave themselves as knowledge-

possession, generation and transmission systems. They are cognitive agents - demonstrating

or depicting a distinct corporate rationality or mindset [18].

Empirical Review

Knowledge Management and the University: [5] investigated the "Knowledge Management in Nigerian Universities: A Conceptual Model". The researcher aver that knowledge management has been identified as a strategy for driving innovative processes. The objectives of the study include: to propose a conceptual model for knowledge management application in Nigerian universities and to examining various definitions of knowledge management. The study is conceptual in nature, a literature survey was conducted for the examination of the concept of knowledge management and its application in higher Education institutions. Findings from the literature informed the development of a conceptual model, suggesting how universities can adopt knowledge management practices and strategies in order to drive innovation and improve performance. The study concludes that, as knowledge management has the capability for improving performance within universities, the proposed model must be subjected to empirical validation for onward amendments and improvements. Share Knowledge and Contributions to Academic Proficiencies of the Universities: [3,8] conducted a study on "knowledge sharing among university students in Taiwan". The objectives of the study include: To analyze information management instructors' behaviour regarding knowledge sharing at technological universities; Explore the relationship between personal motives and knowledge sharing of information management instructors; Identify the barriers to the knowledge sharing of

information management instructors at technological universities; Explore the influence of activities, materials, social incentives and inspiring systems on the knowledge sharing of information management instructors. The study adopted three variables of knowledge sharing, knowledge internalization, and knowledge creation. In their findings from both quantitative and qualitative analyses suggested that: the blended knowledge management model is effective in improving knowledge, dispositions, and abilities of creativity. Again, that there is an online sharing and evaluation of creative products, learning communities and discussions. Finally, that the practice of creativity strategies have substantial effects on all three aspects of creativity. They observed that peer evaluation of group assignments and creativity-related feedback enhance the learning of knowledge and dispositions.[9] investigated on "Linking Knowledge Sharing and Employee Creativity: Decomposing Knowledge Mode and Improving the Measure of Tacit Knowledge Sharing". The objective is to address the following question: Does sharing of knowledge with others increase one's own creativity? - If so, how creative process engagement relates with knowledge sharing and eventually leads to an individual's more creative performance? They aver that over time, Knowledge management (KM) has been theorized as an important source of organizational competitive advantage. They suggested that by developing dynamic capabilities that will leverage intellectual assets, an organization is expected to

innovatively respond to various changes in the environment. Here, they specify the sharing of two modes of knowledge. The study proposes and verifies a theoretical model linking creative process engagement with individual creativity via the mechanisms of tacit and explicit knowledge sharing. The study uses a two-wave survey design. They collected data from a sample of 194 employees and their supervisors. The results showed that three types of specific engagement in creative activities (i.e., problem identification, information searching and encoding, and idea generation) differentially and interactively affect employees' creative behavior, in which processes tacit knowledge sharing and explicit knowledge sharing played different roles. Information Communication Technology Competency and the Training of Academic Staff: [13], examined "Information and Communication Technology Literacy among Student Teachers in Universities in Nigeria". The following forms the objectives of the study: to examine the level of ICT literacy among university student-teachers in the North Central Zone of Nigeria. To investigate on the student-teachers' level of ICT literacy vary based on gender 3. To examine the student-teachers' area of specialization that influence their ICT literacy level. The study was conducted to find out the ICT literacy levels among student and lecturers in the universities in North-Central Nigeria. The study involved a total of 638 student and lecturers consisting of 360 males and 248 females. The instrument used for the study was a researcher-design questionnaire with a reliability index of .74. The results indicated that student-teachers in North-central Nigeria have an average ICT literacy level. No significant difference was established in the

Anzor level of ICT literacy between male and female student-teachers $t(636)=1.672 >.05$ and there was no significant difference in the level of ICT literacy by student-teachers in the Arts, Sciences, and Social Sciences $\{F(2,635) = 0.935 > 0.05\}$. The study however recommended that universities should make available more ICT equipment and facilitate to student lecturers in adopting the culture of integrating ICT into pedagogy and educational administration since they have an average ICT literacy level. Tacit knowledge and Quality of Learning Outcome:[8] did a study on "Tacit to Tacit Knowledge Transfer within the Informal Environment of Higher Education", the study emphasized on Nonaka's SECI model (Socialization Externalization-Combination Internalization) of knowledge management, where Nonaka strongly emphasized on the tacit to tacit knowledge transfer within the socialization process. How tacit knowledge transfer could be emerged among academicians in the informal environment? The study dealt with transformation process of tacit-to-tacit knowledge in the theoretical frame work where it investigated the higher educational settings in the Turkish Republic of Northern Cyprus. The empirical examination of other works was done via qualitative methodology and in-depth interview technique was used for gathering data from the academicians on how they interact and transfer tacit to tacit knowledge with each other in the academia in an informal environment. The results from discussed contributions of tacit - to-tacit knowledge transfer in an informal environment among the academicians include: There are four areas that need attention by organizations in order to promote the transfer of tacit to tacit knowledge: (1) tacit

knowledge awareness (2) Benefits of tacit knowledge (3) Organizational conditions for knowledge transfer (4) Management support. In order to promote lifelong learning in an

Anzor informal way, important suggestions and further directions have been recommended for TRNC's higher educational settings.

Gaps in the literatures

In the course of reviewing past literatures, this study identified a number of gaps which include:

Quite a number of studies on knowledge management reviewed focused on developed countries, yet the ignorance of knowledge management application and poor development of academic staff is alarmingly high in developing countries including Nigeria. The few conducted in Nigeria, some used a limited sample size while the present study used a large population for the study which will also established a variation. Again, none of these studies really studied the "assessment of the contributions of knowledge management on the capacity development of state Universities in South East, Nigeria". Some that researched on the tertiary institutions did not consider the following proxies: to identify the extent to which shared knowledge contributes to academic proficiency of State Universities in South East, Nigeria; to ascertain the level of contributions of tacit knowledge on quality of learning outcome in State Universities, South East, Nigeria; and to assess the relationship that exists between information communication technology competency and staff development of State Universities in South East, Nigeria. a fact that adds to the significance of the study and helps to fill in the knowledge gap.

Objective of the Study

The objective of the study was to assess the level of relationship of information communication technology competency

and the training of academic staff of state universities in South East, Nigeria.

Research Questions

For this study to accomplish the desired objective, this research question will be formulated. What contribution does information communication technology

competency have on academic staff training of State Universities in South East, Nigeria?

Research Hypothesis

The following hypothesis will be formulated for this study: Information communication technology competency

highly contribute to academic staff training of State Universities in South East, Nigeria.

METHODOLOGY

Research Design

Research design is an accessible, explicit strategy or procedure that directs the entire research in collection and analysis of data to provide answers to research questions, hypothesis testing and eventual solution to the problem under investigation. In the study, analytic descriptive survey design will be applied to draw data from the selected academic staff of the five universities in the South

East, Nigeria. A survey questionnaire was used to collect both quantitative and qualitative data from the selected academic staff of these five universities. The aim was to identify, describe and compare variables to ascertain differences and relationships of the dependent and independent variables used for hypotheses with appropriate and amenable test statistics.

Sources of Data

In the course of carrying out the research, two sources were used to gather the necessary information. These

included: primary and secondary sources of data.

Primary Sources of Data

The primary data was collected through systematically planned questionnaire

administered to the sampled lecturers of the university under study.

Secondary Sources of Data

The secondary sources of data for the study were from published sources like:

textbooks, journals, Internet and statistical bulletins, etc.

Population of the Study

The study was limited to five (5) State universities in the South East of Nigeria. The universities included: Enugu State University of Science and Technology Enugu, Ebonyi State University, Imo State University Abakaliki, Anambra State University of Science and Technology Uli, and Abia State University Uturu, Okigwe. The population of the study was three

thousand two hundred and fifty (3250) which consisted of lecturers both male and female of different cadres in the selected universities. It became imperative to study the lecturers since their duties are to search for knowledge, (Research), and impact the knowledge to students.

Table 1: Universities and the Population for the Study

S/N	NAME OF UNIVERSITY	LOCATIO N	ASSISTANT LECTURER	LECTURER II	LECTURER 1	SENIOR LECTURER	READER	PROFESSOR	TOTAL NO OF STAFF
1	Enugu State University of Science and Technology	Enugu State	20	234	189	197	35	45	698
2	Imo State University, Owerri.	Imo State	8	233	115	173	42	42	633
3	Abia State University, UturuOkigwe,	Abia State	12	213	138	211	38	38	650
4	Ebonyi State University, Abakaliki,	Ebonyi State	27	220	128	217	29	38	659
5	Anambra State University, Igbariam,	Anambra State	9	203	124	211	23	40	610
	Total								3250

Source: Personnel Units of the South East Universities.

Sample Size Determination

Considering the relative large size of the population, using the entire population would be cumbersome, hence the need for sampling. In dealing with large the population, the sample size was determined using normal approximation to the binomial distribution. The approximation was premised on the fact

that the population was large and the sample was small. Therefore to determine the sample size for small populations, we used the normal approximation to the hyper geometric distribution. The sample size formula includes:

$$n = \frac{Z^2 N p q}{N e^2 + Z^2 p q}$$

Where:

n = the required sample size

N = the population size

P and q = the population proportions. It is set at 0.5

Z=the value that specifies the level of confidence.

Level of confidence was 97%, in which case z was set to 2.18.

e=Error margin. The study was set with an accuracy of plus or minus 3%, that is, (e) is set to 0.03.

$$n = \frac{3250 \times 2.18^2 \times 0.5 \times 0.5}{0.03^2 (3250) + 2.18^2 \times 0.5 \times 0.5} = \frac{3861.3}{2.925 + 4.7524 \times 0.5 \times 0.5} = \frac{3861.3}{4.1131} = 938.78$$

= 939.

Therefore, the sample size approximately for the study was 939.

Sampling Technique

For the purpose of the study, the actual population was three thousand, two hundred and fifty (3250) academic staff. However, to ensure that the sample was represented of each university, the proportionate stratified random sampling technique was used to determine the number of selected

academic staff from each of the five universities. That ensured a fair representation of the respondents in each stratum of the population for the study. The proportional allocation formular was utilized to ensure equitable representation of the universities.

$$n_h = \frac{n \times N_h}{N}$$

Where n_h = number of questionnaire allocated to each of the institution

n=Total sample size

N_h=Number of proposed lecturers from each university

N=Population size.

Example:For Enugu State University of Science and Technology:

Number of questionnaire $\frac{3250 \times 939}{3250} = 939$

Table 2: Questionnaires Allocation to Each University

S/NO	Name of the University	Population	Proportional Distribution
1	Enugu State University of Science and Technology	698	202
2	Imo State University, Owerri.	633	183
3	Abia State University, Uturu Okigwe,	650	188
4	Ebonyi State University, Abakaliki,	659	190
5	Anambra State University, Igbariam,	610	176
	Total	3250	939

Source: Personnel Units of the South East Universities.

Method of Data Collection and Distribution

The instrument for data collection in the study was structured questionnaire. The structured questionnaire consisted of sections A and B. Section A contained a total of seven items to elicit responses from research subjects. Section B consisted of measures of shared knowledge, academic proficiencies, tacit knowledge, learning outcomes, information communication technology competencies, training of

academic staff, knowledge capturing, staff retention, knowledge creativity and academic delivery. The measuring instruments for each of the attitudinal variables were developed and designed on a 5-point Likert Scale of Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D) and Strongly Disagree (SD) with their corresponding weights of 5, 4, 3, 2 and 1, respectively.

Validity of Research Instrument

Face and content validities were used for the validation of the study and validators (Internal assessors, a data analyst, and management experts) ensured that the items of the questionnaire captured the variables of the study. The variables were the objectives, research questions

and the hypotheses of the study which were structured on the basis of the related literature awareness. Again, the structure and language of the questionnaire were modified so as to minimize the effect of error such as inconsistency and ambiguity.

Reliability of the Instrument

In the study, the test-retest method of reliability was used. The same research instrument was administered to 60 respondents in the five universities under study in order to ascertain the extent to which there was a correlation between the two sets of scores obtained.

The study employed the Spearman's Rank Correlation Coefficient denoted as r_s to determine the strength of the relationship and hence the reliability of the instrument and the formula is stated thus:

Where:
$$r_s = 1 - \frac{6 \sum d^2}{n(n^2-1)}$$

d:= the difference between any pair of rank, and
n =the number of data pairs

Table 3: The Computation of the Reliability is Thus

Scale	1 st Respondent	Rank	2 nd Respondent	Rank	D	d ²
SA	24	1	30	1	0	0
A	15	2	13	3	-1	1
U	10	4	7	4	0	0
D	12	3	14	2	1	1
SD	9	5	6	5	0	0
Total	60		60			2

Substituting the values:

$$r_s = 1 - \frac{6 \times 2}{5(5^2 - 1)}$$

$$r_s = 1 - \frac{12}{5(25 - 1)}$$

$$r_s = 1 - \frac{12}{5(24)}$$

$$r_s = 1 - \frac{12}{120}$$

$$r_s = 1 - 0.1$$

$$r_s = 0.9$$

Since the correlation coefficient is 0.9, it implied that there was reasonable agreement between the two sets of test

administered. Therefore, we concluded that the measuring instrument was reliable.

Data Analyses Technique

Usually, in statistics, the types of data collected determine the tool to be used in the presentation and subsequent analysis. The item questionnaire which was designed with a view to pursuing the achievement of the research objectives (that was stated in chapter one) was analyzed using descriptive statistics such as the mean and standard deviation. The hypothesis was tested using Pearson correlation coefficient and Kolmogorov-Smirnov Z-test.

correlation coefficient was used in testing hypothesis three in other to obtain the relationship between the dependent and independent variable while Kolmogorov-Smirnov Z-test was adopted for first, second, fourth and fifth objectives since the sample size was more than thirty and normal distribution was assumed. The formula below was applied for Kolmogorov-Smirnov Z-test: The Z-score was found as

$$Z = \frac{\bar{x} - \mu}{s/\sqrt{n}}$$

where:

- z = standard normal deviate
- \bar{x} = mean of the mean responses
- μ = Population mean
- S = standard deviation

Decision Rule

The rule in the use of the z-test criterion was to accept the alternate hypothesis if the calculated z-score was higher than the theoretical z-score. The hypothesis $Z_{critical} > Z_{cal}$, do not reject, otherwise reject

was not to be rejected if the theoretical value was less than the calculated z-value.

Data Presentation

Table 4: Distribution and Return of the Questionnaire

S/NO	State Universities	Number Distributed	No Returned	Percent %	No not Returned	Percent %
1.	Abia (ABSU)	202	154	16	48	5
2.	Anambra (ANSU)	183	151	16	32	4
3.	Ebonyi (EBSU)	188	160	17	28	3
4.	Enugu(ESUT)	190	171	18	19	2
5.	Imo (IMSU)	176	148	16	28	3
Total		939	784	83	155	17

Source: Field Survey, 2021

As shown in table 4, a total number of nine hundred and thirty nine (939) copies of the questionnaire were distributed to the respondents (the academic staff of the above universities). Out of the nine hundred and thirty nine (939) distributed, seven hundred and

eighty four (784) copies were returned, giving a response rate of 83 percent. Therefore, 155 out of the 939 copies of questionnaire administered were not returned, thus, giving a non-response rate of 17 percent.

Table 5 : Presents the Various Frequency and Percentage of the Respondents from the State University

University	Frequency	Percent	Valid Percent	Cumulative Percent
Abia State	139	17.7	17.7	17.7
Anambra State	151	19.3	19.3	37.0
Imo State	153	19.5	19.5	56.5
Ebonyi State	165	21.0	21.0	77.6
Enugu State	176	22.4	22.4	100.0
Total	784	100.0	100.0	

Source: Field Survey, 2021

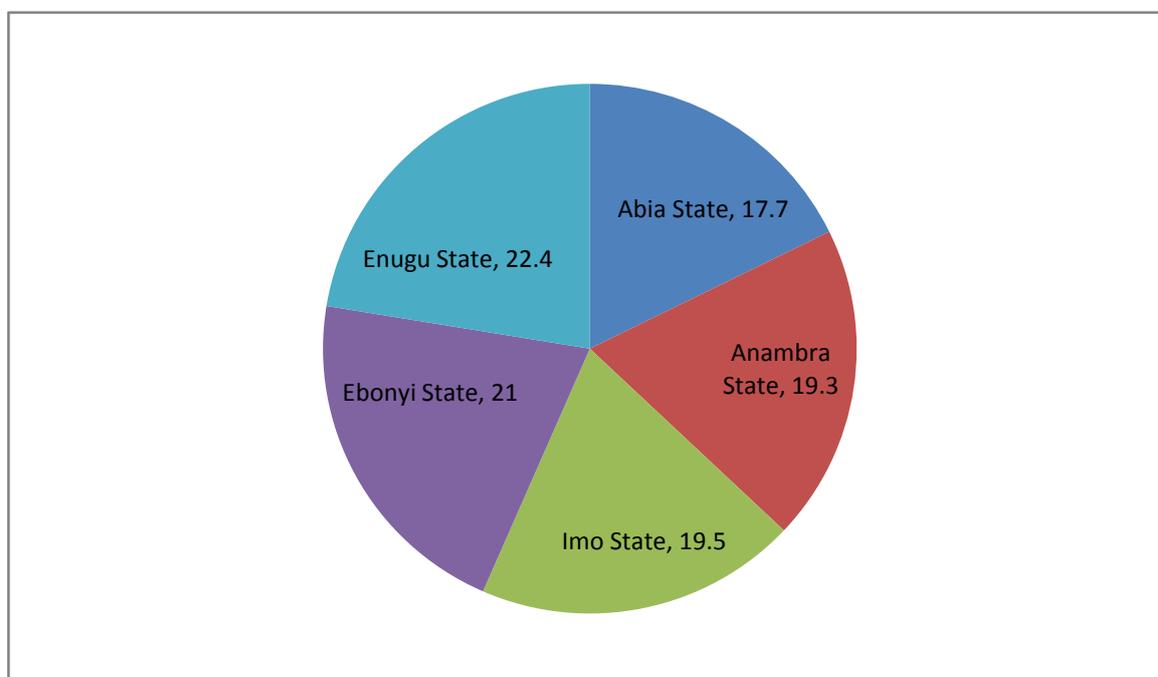


Table 5 , represented in the pie chart figure 1, indicates that 139 respondents out of 784, representing 17.7 percent from Abia State University; 151 respondents with 19.3 percent from Anambra State University; 153 respondents representing 19.5 percent from Imo State University;165

respondents representing 21 percent Ebonyi state University , while 175 respondents representing 22.4 percent from Enugu State. This implies that greater proportion of the respondents came from Enugu State University of Science and Technology, Enugu State.

Bio-Data

This subdivision comprises of the bio data of the respondents based on the university, age, marital status,

educational qualifications and years of experience of the respondents under study.

Table 6 : Age Distribution of the State Universities

	Frequency	Percent	Valid Percent	Cumulative Percent
20 - 29years	186	23.7	23.7	23.7
30 - 39years	424	54.1	54.1	77.8
40 years- and above	174	22.2	22.2	100.0
Total	784	100.0	100.0	

Source: Field Survey, 2021

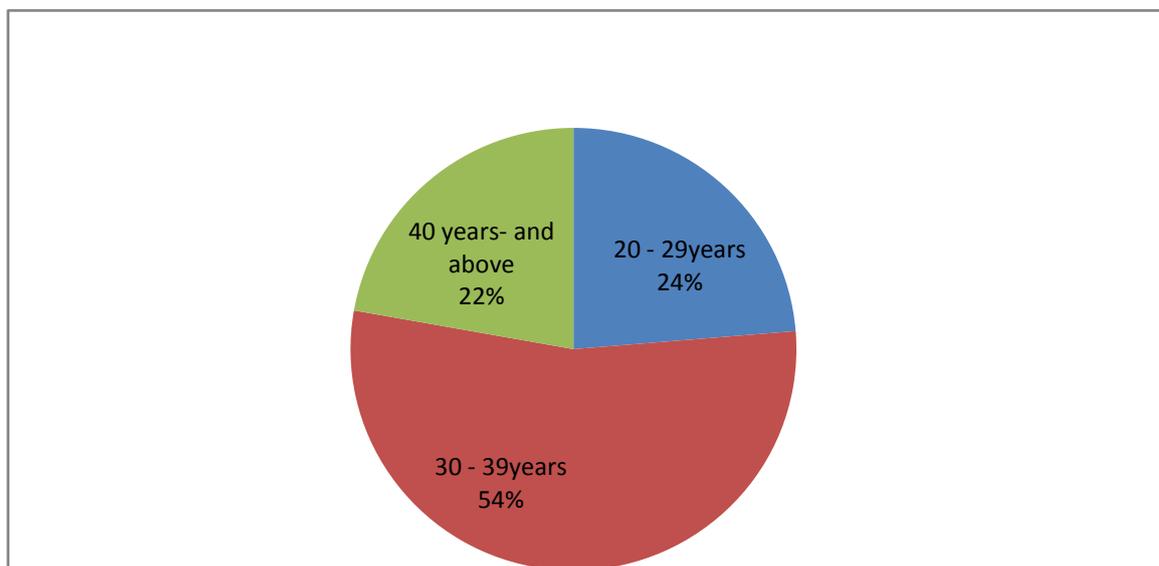


Table 6, represented in the pie chart figure 2, indicates that 186 respondents out of 784 representing 23.7 percent were 40 years and above, 424 respondents with 54.1percent were within the age bracket of 30-39, 174

respondents representing 22.2 percent were within the age bracket of 20-29years. This implies that greater proportion of the respondents fall within the ages of 30-39 years.

Table 7: Distribution of Respondents according to Marital Status

	Frequency	Percent	Valid Percent	Cumulative Percent
Single	70	8.9	8.9	8.9
Married	693	88.4	88.4	97.3
Widowed	13	1.7	1.7	99.0
Divorced	8	1.0	1.0	100.0
Total	784	100.0	100.0	

Source: Field Survey, 2021

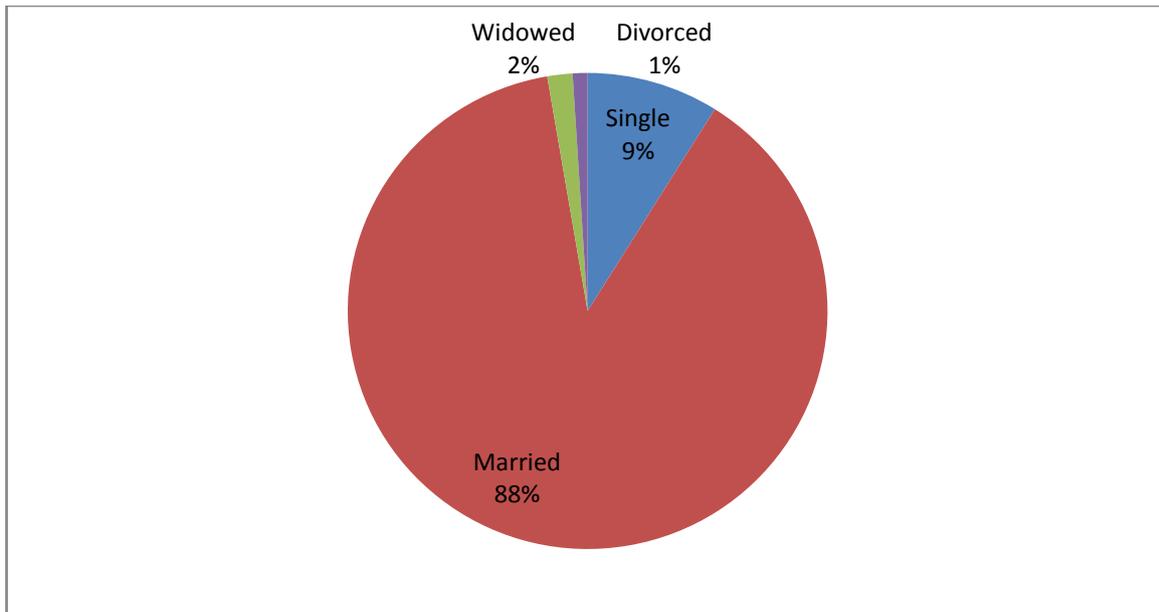


Figure 3: Pie Chart of the Marital Status of Distribution of the Respondents.

Source: Field Survey, 2021

Table 7, represented in the pie chart figure 3, reveals that 70 respondents out of 784 representing 8.6 percent were single, 693 respondents representing 88.4 percent were married. 13

respondents representing 1.7 percent were widow, 8 respondents representing 1.0 percent were divorced. This implies that greater percentages of respondents are married and responsible.

Table 8 : Distribution of Respondents According to Educational qualification

	Frequency	Percent	Valid Percent	Cumulative Percent
MBA	93	11.8	11.8	14.8
M.Sc	275	35.0	35.0	62.6
Ph.D	416	53.2	53.2	100.0
Total	784	100.0	100.0	100.0

Source: Field Survey, 2021

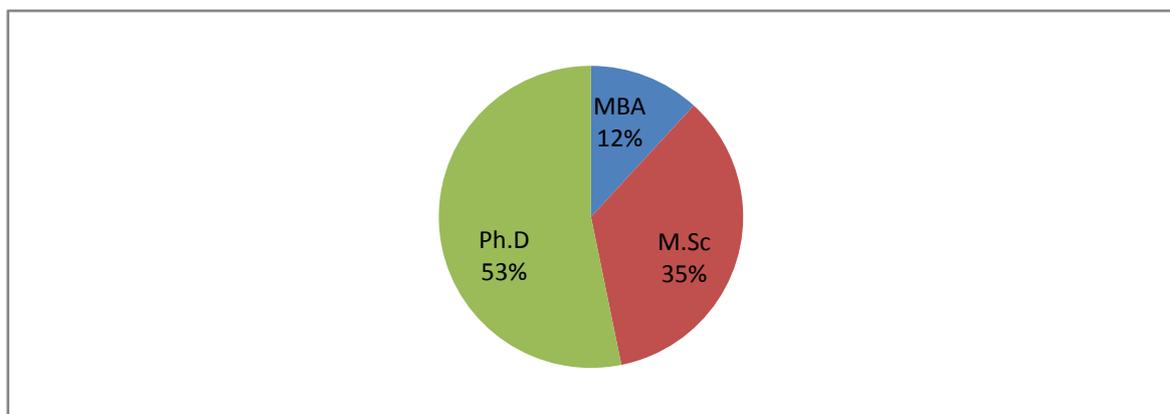


Figure4:Pie Chart of the Educational Qualification of Distribution of the Respondents.Source: Field Survey, 2021

Table 8, represented in the pie chart figure 4, reveals that 93 respondents representing 11.8 were holding MBA. While 259 respondents representing 33.0

percent were holders of Masters degree and 416 respondents representing 53.2 percent were holders of Ph.D

Table 9 : Number of Distribution According to Years of Experience

No. of Years	Frequency	Percent	Valid Percent
Below 5 years	36	4.6	4.6
5-10 years	148	18.9	18.9
11- 20 years	311	39.7	39.7
21-30 years	185	23.6	23.6
31 years and above	104	13.3	13.3
Total	784	100.0	100.0

Source: Field Survey, 2019

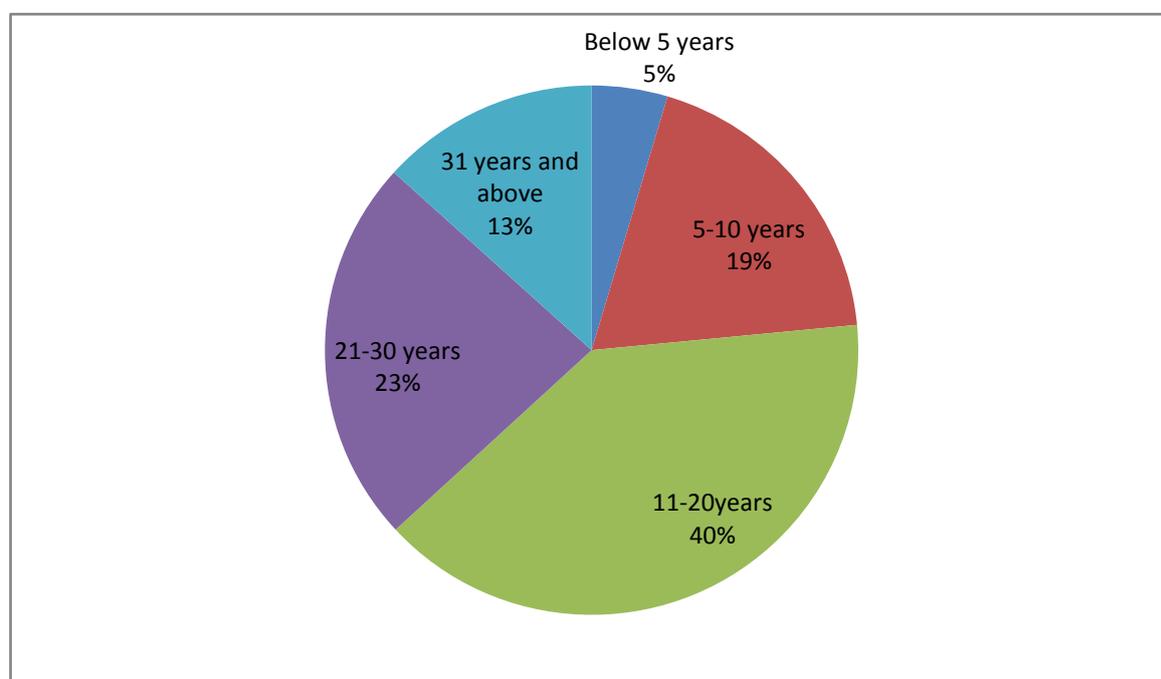


Figure 5: Pie chart of number of distribution according to Years of experience.

Source: Field Survey, 2021

Table 9 represented in the Pie chart figure 5, shows that 36 respondents out of 784 representing 4.6 percent were below 5 years; 148 respondents with 18.9 percent were within the years of experience bracket of 5-10; 311 respondents representing 39.7 percent were within the years of experience bracket of 11-20years; 185 respondents representing 23.6 percent were within

the years of experience bracket of 21-30; while 104 respondents representing 13.3 percent were within the years of experience bracket of 31 years and above. This implies that greater proportion of the respondents fall within the year's of experience bracket of 11 - 20 years.

Research Question one:What contribution does information communication technology competency have on academic staff training of State Universities inSouth East, Nigeria?

Table 10:Response on the statement Information Technology provides a number of functionalities that enables the training of academic staff

Respondents	Frequency	Percent	Valid Percent	Mean(χ)	Std.
Strongly Agree	194	24.7	24.7	4.7649	.28286
Agree	209	26.7	26.7	4.2584	.39739
Neutral	138	17.6	17.6	3.2493	.66170
Disagree	111	14.2	14.2	2.1297	.77302
Strongly disagree	132	16.8	16.8	1.7697	.67019
Total	784	100.0	100.0	3.2344	0.557032

Source: Field Survey, 2021

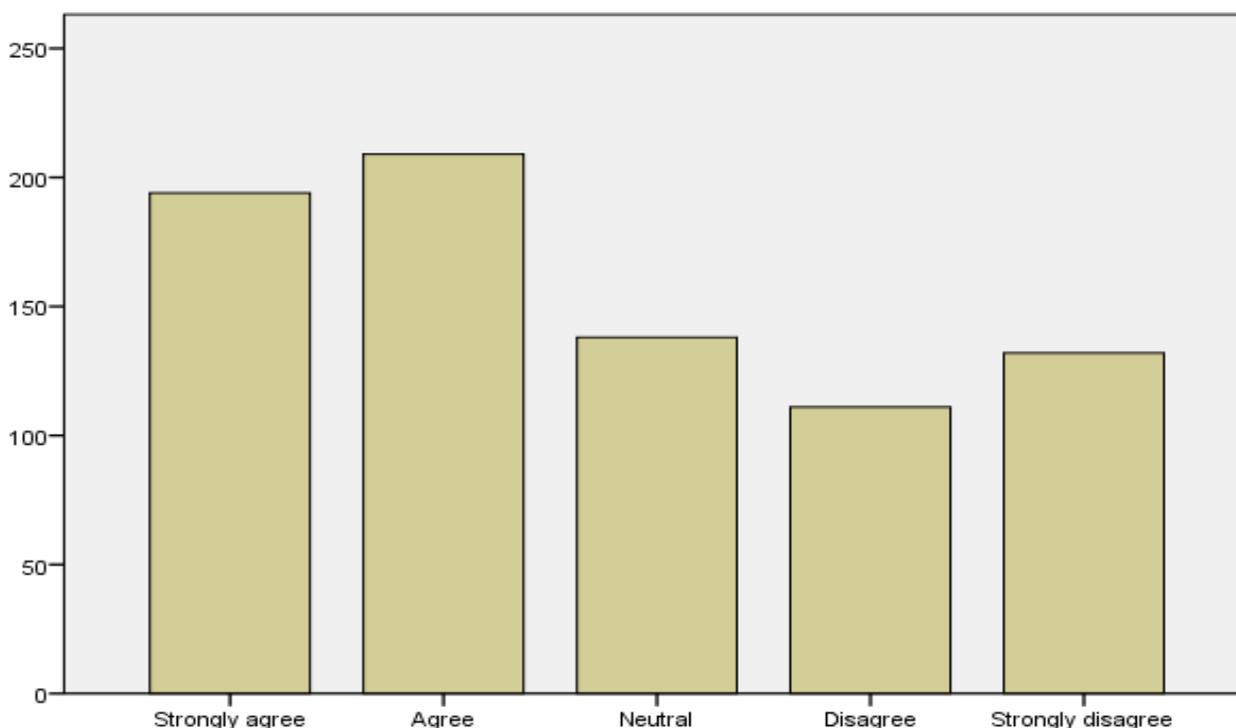


Figure 6: Single Bar Chart of Responses on Extent Information Technology provides a number of functionalities that enables the training of academic staff.

Source: Field Survey, 2021

Table 10, and represented in the bar chart figure 6, indicates that 194 respondents out of 784 representing 24.7 percent with mean score of (4.7649) and standard deviation of (.28286) strongly agree Information Technology provides a number of functionalities that enables the training of academic staff. 209 respondents representing 26.7 percent with mean score of (4.2584) and standard deviation of (.39739) Agree, 138 were neutral respondents representing 17.6 percent with mean score of (3.2493) and standard deviation of (.66170) that Information Technology provides a number of functionalities that enables

the training of academic staff. 111 respondents representing 14.2 percent with mean score of (2.1297) and standard deviation of (.77302) disagree. 132 respondents representing 16.8 percent with mean score of (1.7697) and standard deviation of (.67019) strongly disagree that Information Technology provides a number of functionalities that enables the training of academic staff. Total mean score of (3.2344) and standard deviation of (0.557032). Therefore, in response with the oral interview guide, Information Technology provides a number of functionalities that enables the training of academic staff.

Table 11: Response on the statement Web browsing/Internet and Intranet are some of the major means of academic staff training

Respondents	Frequency	Percent	Valid Percent	Mean(\bar{x})	Std.
Strongly Agree	258	32.9	32.9	4.6915	.36841
Agree	150	19.1	19.1	4.1280	.39274
Neutral	133	17.0	17.0	3.2271	.39063
Disagree	172	21.9	21.9	2.1291	.66021
Strongly disagree	70	8.9	8.9	1.4086	.61332
Total	784	100.0	100.0	3.11686	0.485062

Source: Field Survey, 2021

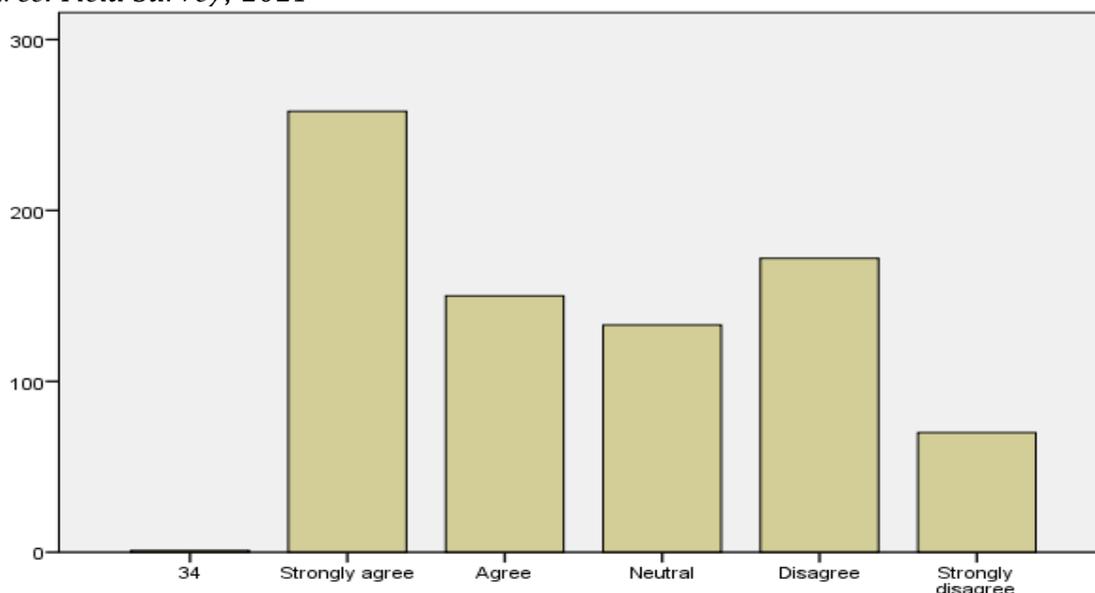


Figure 7: Web browsing/Internet and Intranet are some of the major means of academic staff training. Source: Field Survey, 2021

Table 11 and represented in the bar chart figure 7, indicates that 258 respondents out of 784 representing 32.9 percent with mean score of (4.6915) and standard deviation of (.36841) strongly agree that Web browsing/Internet and Intranet are some of the major means of academic staff training. 150 respondents representing 19.1 percent with mean score of (4.1280) and standard deviation of (.39274) Agree, 133 were neutral respondents representing 17.0 percent with mean score of (3.2271) and standard deviation of (.39063) that Web browsing/Internet and Intranet are some of the major means of academic staff

training. 172 respondents representing 21.9 percent with mean score of (2.1291) and standard deviation of (.66021) disagree. 70 respondents representing 8.9 percent with mean score of (1.4086) and standard deviation of (.61332) strongly disagree that Web browsing/Internet and Intranet are some of the major means of academic staff training. Total mean score of (3.11686) and standard deviation of (0.485062). Therefore, in response with the oral interview guide, Web browsing/Internet and Intranet are some of the major means of academic staff training.

Table 12: Response on the statement ICT competency is a serious aid to academic staff training

Respondents	Frequency	Percent	Valid Percent	Mean(\bar{x})	Std.
Strongly Agree	190	24.2	24.2	4.6516	.44087
Agree	265	33.8	33.8	4.2362	.44743
Neutral	116	14.8	14.8	3.0914	.65216
Disagree	86	11.0	11.0	1.9395	.54886
Strongly disagree	127	16.2	16.2	1.5827	.40239
Total	784	100.0	100.0	3.10028	0.498342

Source: Field Survey, 2021

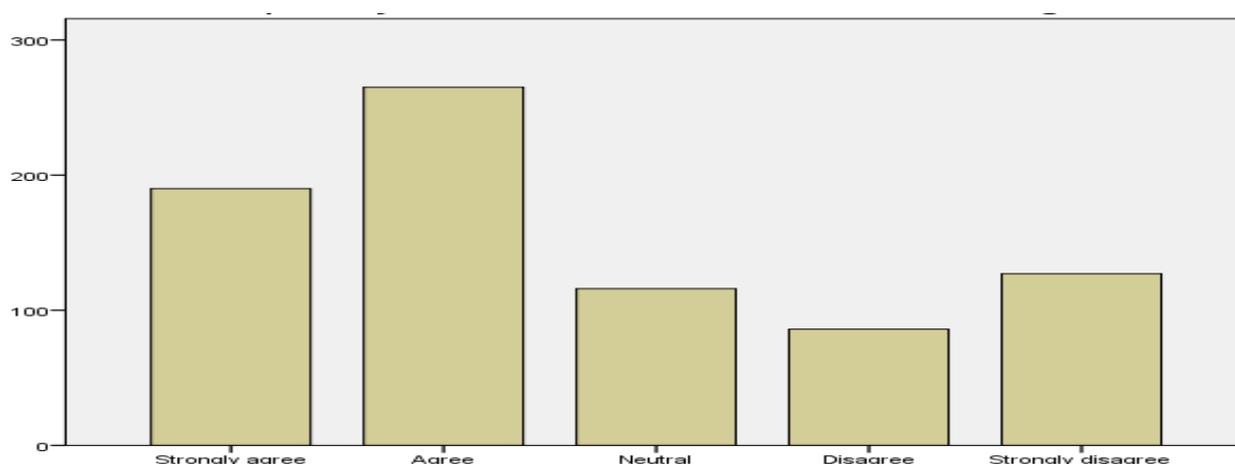


Figure 8: ICT competency is a serious aid to academic staff training

Source: Field Survey, 2021

Table 12, and represented in the bar chart figure 8, indicates that 190 respondents out of 784 representing 24.2 percent with mean score of (4.6516) and

standard deviation of (.44087) strongly agree that ICT competency is a serious aid to academic staff training. 265 respondents representing 33.8 percent

with mean score of (4.2362) and standard deviation of (.44743) Agree, 116 were neutral respondents representing 14.8 percent with mean score of (3.0914) and standard deviation of (.65216) that ICT competency is a serious aid to academic staff training. 86 respondents representing 11.0 percent with mean score of (1.9395) and standard deviation of (.54886) disagree. 127 respondents representing 16.2 percent with mean

score of (1.5827) and standard deviation of (.40239) strongly disagree that ICT competency is a serious aid to academic staff training. Total mean score of (3.10028) and standard deviation of (0.498342). Therefore, in response with the oral interview guide, ICT competency is a serious aid to academic staff training.

Table 13: Response on the statement with the aid of ICT, information/data are created and stored for the training of the academic staff.

Respondents	Frequency	Percent	Valid Percent	Mean(\bar{x})	Std.
Strongly Agree	342	43.6	43.6	4.5871	.39328
Agree	113	14.4	14.4	3.9150	.20320
Neutral	123	15.7	15.7	3.0878	.63872
Disagree	154	19.6	19.6	1.8403	.17321
Strongly disagree	52	6.6	6.6	1.1231	.16875
Total	784	100.0	100.0	2.91066	0.315432

Source: Field Survey, 2021

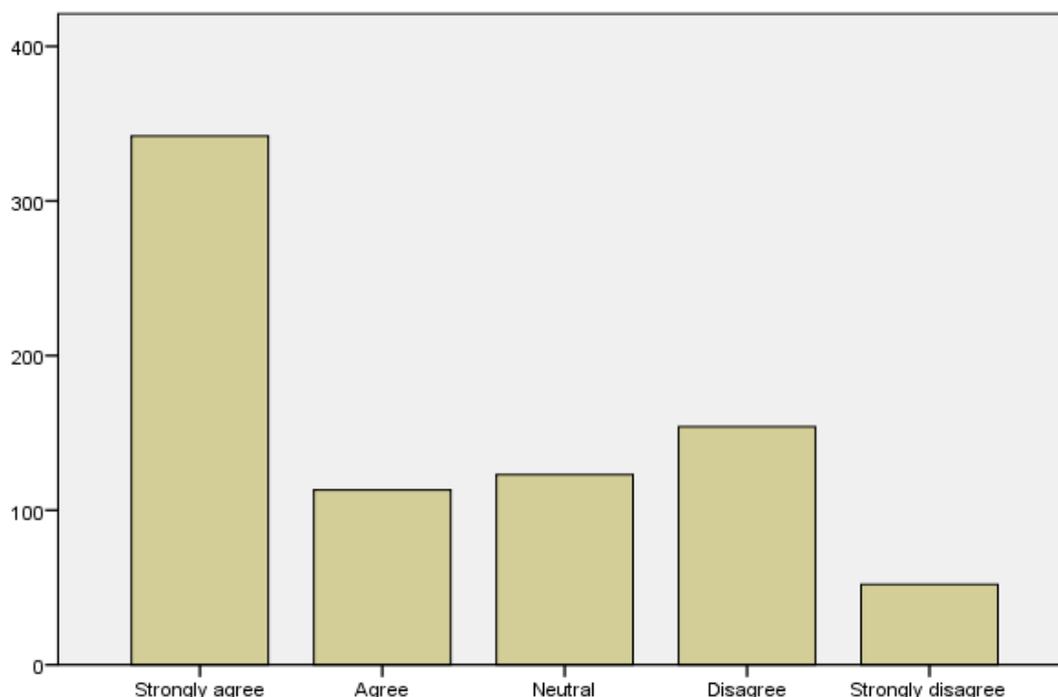


Figure 9: Single Bar Chart of Responses on Extent With the aid of ICT, information/data are created and stored for the training of the academic staff

Source: Field Survey, 2021

Table 13, and represented in the bar chart figure 9, indicates that 342 respondents out of 784 representing 43.6 percent with mean score of (4.5871) and standard deviation of (.39328) strongly agree that With the aid of ICT, information/data are created and stored for the training of the academic staff. 113 respondents representing 14.4 percent with mean score of (3.9150) and standard deviation of (.20320) Agree, 123 were neutral respondents representing 15.7 percent with mean score of (3.0878) and standard deviation of (.63872) that with the aid of ICT, information/data are created and stored for the training of the

academic staff. 154 respondents representing 19.6 percent with mean score of (1.8403) and standard deviation of (.17321) disagree. 52 respondents representing 6.6 percent with mean score of (1.1231) and standard deviation of (.16875) strongly disagree that with the aid of ICT, information/data are created and stored for the training of the academic staff. Total mean score of (2.91066) and standard deviation of (0.315432). Therefore, in response with the oral interview guide, with the aid of ICT, information/data are created and stored for the training of the academic staff.

Table 14: Response on the statement presentation of software, statistical analysis packages, computational algorithms, intelligent agents AI, expert system are some of ICT facilities that aids academic staff training.

Respondents	Frequency	Percent	Valid Percent	Mean(χ)	Std.
Strongly Agree	224	28.6	28.6	4.5205	.55893
Agree	255	32.5	32.5	4.2408	.38991
Neutral	99	12.6	12.6	3.0000	.68094
Disagree	162	20.7	20.7	1.8123	.20993
Strongly disagree	44	5.6	5.6	1.0955	.16418
Total	784	100.0	100.0	2.93382	0.400778

Source: Field Survey, 2021

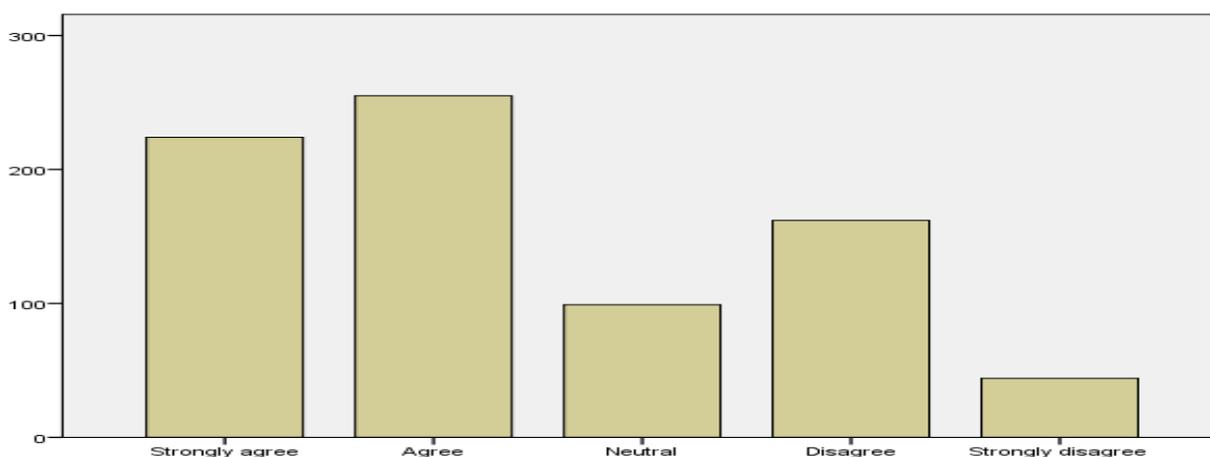


Figure 10: Single Bar Chart of Responses on Extent Presentation of software, statistical analysis packages, computational algorithms, intelligent agents AI, expert system is some of ICT facilities that aids academic staff training.

Source: Field Survey, 2021

Table 14, and represented in the bar chart figure 10, indicates that 224 respondents out of 784 representing 28.6 percent with mean score of (4.5205) and standard deviation of (.55893) strongly agree that Presentation of software, statistical analysis packages, computational algorithms, intelligent agents AI, expert system is some of ICT facilities that aids academic staff training. 255 respondents representing 32.5 percent with mean score of (4.2408) and standard deviation of (.38991) Agree, 99 were neutral respondents representing 12.6 percent with mean score of (3.0000) and standard deviation of (.68094) that Presentation of software, statistical analysis packages, computational algorithms, intelligent agents AI, expert system is some of ICT facilities that aids academic staff

training. 162 respondents representing 20.7 percent with mean score of (1.8123) and standard deviation of (.20993) disagree. 44 respondents representing 5.6 percent with mean score of (1.0955) and standard deviation of (.16418) strongly disagree that Presentation of software, statistical analysis packages, computational algorithms, intelligent agents AI, expert system is some of ICT facilities that aids academic staff training. Total mean score of (2.93382) and standard deviation of (0.400778). Therefore, in response with the oral interview guide, Presentation of software, statistical analysis packages, computational algorithms, intelligent agents AI, expert system is some of ICT facilities that aids academic staff training.

Test of Hypothesis one

Information communication technology with the academic staff training of State Universities in South East, Nigeria.

Table 15: Contingency Table of Research Question Three

S/N		SA	A	N	D	SD
11	Information Technology provides a number of functionalities that enables the training of academic staff	194	209	138	111	132
12	Web browsing/Internet and Intranet are some of the major means of academic staff training	256	150	133	172	70
13	ICT competency is a serious aid to academic staff training	190	265	116	86	127
14	With the aid of ICT, information/data are created and stored for the training of the academic staff.	342	113	123	154	52
15	Presentation software, Statistical analysis packages, Computational algorithms, Intelligent agents AI, Expert Systems are some of ICT facilities that aids academic staff training.	224	255	99	162	44
	Total	1206	992	609	685	425

Table 16: Pearson Correlation on Information communication technology competency has significant relationship with the academic staff training of State Universities in South East, Nigeria.

Pearson	Information communication technology competency	Correlation coefficient (2-tailed)	Sig.	Information communication technology competency	Academic staff training. 749(**)
	Academic staff training	N			
		Correlation Coefficient			
		Sig. (2 tailed)			
		N			
			784		000
			.749(**)		784
			000		
			784		

** correlation is significant at the 0.05 level (2 tailed)

Table 16 is the Pearson correlation matrix on the information communication technology competency has positive relationship with the number of academic staff training showing the correlation coefficients, significant values and the number of cases. The correlation coefficient shows 0.749. This value indicates that correlation is significant at 0.05 level (2

tailed) and implies that information communication technology competency had significant relationship with the academic staff training of State Universities in South East, Nigeria (r=.749). The computed correlations coefficient is greater than the table value of r = .195 with 879 degree of freedom at alpha level for a two-tailed test (r=.749,p<.05).

Decision Rule

The decision rule is to accept the null hypothesis if the computed r is less than

the tabulated r otherwise reject the null hypothesis.

Decision

Since the computed r = 0.749 is greater than the table value of .195, we reject the null hypothesis. Therefore, we concluded that information communication technology competency had significant

relationship with the academic staff training of State Universities in South East, Nigeria as reported in the probability value of (r=.749,p<.05).

CONCLUSION

In conclusion this study stated that to a great extent information communication technology competency, positively contributed to academic proficiencies, learning outcome, training of academic staff of state universities in South East, Nigeria. Almost every new employee entered an organization with little or no knowledge of the modus operandi of the

organization; but through orientation and training/development which he/she undergoes, the staff would accumulate a lot of knowledge concerning the goals of the organization. However, Knowledge creates power, and employed individuals who naturally kept their knowledge and skill for themselves now share it in the organisation.

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