# SOCIO-DEMOGRAPHIC VARIABLES AND UTILIZATION OF ICT AMONG MEMBERS OF STAFF OF UNIVERSITY LIBRARIES IN CROSS-RIVER AND AKWA-IBOM STATE NIGERIA.

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## ABSTRACT

This study investigated the influence of socio-demographic variables such as age, level of education, belief, and gender on the utilization of ICT among library staff in university libraries in Cross-River and Akwa-Ibom States, Nigeria. To carry out this study, three research objectives that were later translated to hypotheses were generated on the basis of age, gender, level of education, and belief, to guide the research. Literature relating to the variables selected were reviewed to cover both conceptual and empirical sources. The Ex-post facto research design was utilized for the study. A sample of 461 respondents was drawn from six university libraries using the purposive (census) sampling technique. A structured questionnaire titled, 'Socio-demographic Variables and Utilization of Information and Communication Technology for Library services (SDVUICTLS)' was used as the main instrument for data collection. The tool was subjected to face and content validation by experts in Test, Measurement and Evaluation Faculty of Education, University of Calabar. The reliability coefficient ranged from 0.75 to .88 and was established through Cronbach's Alpha method. The hypotheses were tested at .05 alpha levels. The data analysis techniques used were One-way Analysis of Variance (ANOVA), and independent t-test. The results of data analyses revealed that age (F=8.195), level of education (F = 5.232), belief (F = 4.242), significantly influenced utilization of ICT by library staff in the university libraries, while there was no significant influence of gender t=.252) on the utilization of ICT by library staff for library services. Based on these findings, it was recommended that library management/ parent institutions should embark on aggressive training and retraining of staff especially those that are 40 years and above with special reference to utilization of ICT for provision of services in the libraries. The study equally recommended that Librarians should make personal effort to train themselves with or without the assistance of the management because this will make them to be more relevant and effective in delivering library services to the library users

## INTRODUCTION

The emergence of information and communication technology (ICT) has changed the quality of service delivery in libraries from traditional method to just – in-time access. Among these technologies are personal computers, storage space to internet speed, software, hardware, cloud computing, online cataloguing, metadata description, content management, and web 2.0, among others.

Since libraries are at the forefront of providing information to the user in all formats, they are expected to keep up with developments in technology for the benefit of all the users. The deployment of ICT in most aspects through human endeavors has instituted a paradigm shift. This shift has now made it more difficult and complex for an individual to make tangible contributions to human civilization without access to, and proficiency in ICT usage. These developments have made it

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mandatory for library staff to imbibe the idea of using ICT to provide library services, especially now that information explosion has taken its toll on the traditional system of managing information resources.

Mullins (2002) observed that organizations such as University libraries that are wishing to fulfill the objectives for their establishment must foster the use of innovations among their members. He also added that library staff are providers of information required to facilitate teaching, learning as well as research, and should lead in accessibility and use of ICT. This according to him will go a long way to put the members of staff abreast with developments in the business of identification, acquisition, processing, storing, retrieving and dissemination of necessary information products and services. Ogunjimi, Eyong, & Offon, (2022) concurred that librarians constitute human factors that are determinant to the fulfillment of whatever goal the University libraries have set in support of parent bodies. Each of the library staff has certain socio-demographic characteristics that distinguish him or her from another. Olatokun (2009) contended that there exists a measure of variance in individuals' use of ICT owing to demographic factors.

These Socio-demographic variables among others consist of age, gender, level of education, and belief. Gender as a factor refers to the state of being male or female. Though generally, society believed that men are more technologically inclined than women, this view really deserves being subjected to appropriate verifications. The level of education is a broad selection of educational ladder and progress from elementary to the highest level of learning. It is observed that level of education attainment at all times exposes individual to a better value of life and standard of living including utilization of ICT. Through education, knowledge is acquired, awareness is created, and ignorance is removed. An individual's belief about a particular construct or efficacy of a device goes a long way to influence the individual's attitudinal disposition towards the observance or utilization of such a device. Therefore, there is a need to find out the type of role that the belief of library staff in ICT plays in its utilization for library services. An individual's chronological age has a direct bearing on the individual's experience, knowledge about general issues, and understanding of possible solutions to general problems relating to life. Hence a thirty – year old person would naturally be expected to have a clearer understanding of issues much more than an eighteen – year old person. How age factor has impacted on the utilization of ICT for library services is equally of great interest to the researcher.

## Objective of the study

The objective of the study was to investigate the influence of socio-demographic variables on utilization of Information and Communication Technology (ICT) among library staff of University libraries in Cross-River and Akwa-Ibom States, Nigeria. Specifically, the study sought to;

1. Determine the influence of age on utilization of ICT among library staff of university libraries in
    Cross-River and Akwa-Ibom States.
2. Examine the influence of gender on utilization of ICT among library staff of university libraries in Cross-River and Akwa-Ibom States.
3. Ascertain the influence of level of Education on utilization among library staff of university libraries in Cross-River and Akwa-Ibom States.
4. Determine the influence of belief on utilization of ICT among library staff of university libraries in
    Cross-River and Akwa-Ibom States.

## Statement of Hypotheses

The following hypotheses were tested in the study

1. Age does not significantly influence the utilization of ICT among library staff of university libraries in Cross-River and Akwa-Ibom States.
2. Gender has no significant influence on the utilization of ICT among library staff of university libraries in Cross-River and Akwa-Ibom States.
3. Level of education does not significantly influence the utilization of ICT among library staff of university libraries in Cross-River and Akwa-Ibom States.
4. Belief does not significantly influence the utilization of ICT among library staff of university libraries in Cross-River and Akwa-Ibom States.

## Statement of the problem

Despite the numerous benefits derivable from the use of ICT, results from many of the studies conducted in some of the developing nations including Nigeria, revealed that, ICT has not been properly utilized in many of the libraries. However, most of the studies attributed this development to lack of constant power supply, poor infrastructure and poor funding among others. Many of these aforementioned factors are being taken care of through funding intervention by Tertiary Education Trust Fund (TETFUND) to institutions. There is also the provision of infrastructure and donation of computers and generating plant by private groups and multinationals such as shell Petroleum Company, Chevron, and Total group among others. With all these put in place, the libraries are therefore expected to exhibit a high level of utilization mode of ICT. But studies such as;

Owolabi (2013), Robert and Edem (2016), and Robert and Edamagbor (2017), have revealed that the problem of poor utilization still persist. The researcher equally observed during the pre-research visits to different libraries that there were computers and other facilities to be utilized for services in some of the libraries, that were not being properly utilized. This development has heightened the curiosity to unravel other causes that may be responsible for poor utilization of ICT. Hence, the need therefore arises for investigation to be conducted into other probable causes of this development. The socio-demographic factors of members of staff in the libraries come to mind; hence the need to investigate whether socio-demographic factors of members of staff in the libraries could influence the utilization of ICT in rendering library services. These Socio-demographic variables under focus in this study consist of age, gender, belief, and level of education.

## Literature review

The review of literature focused attention on the sub-variables under study. These are age, gender, level of education, and belief and utilization of ICT

### Age and utilization of information and communication technology

Age can be described as the period of time someone has been alive, or the actual measure of time that has elapsed since someone's birth. (Webster dictionary). Many studies have been conducted on the age of an individual as it affects utilization of ICT. International telecommunication Union (ITU) (2003), noted that there are digital divides in the access and use of ICT, because of socio-cultural and economic factors which include gender, age, education around the world. In the area of age according to Owolabi (2013) there is a wide gap between access and use of ICT among old and younger generation. In a study conducted by Olatokun (2009) on analysing socio-demographic differences in access and use of ICT in Nigeria using the capability approach. A survey research was adopted and the population comprised 500 respondents selected from two different locations (Urban and rural). A structured questionnaire was the instrument used to collect data. Chi-square analysis was done to determine significant factors affecting staff access and use of ICTs. The results showed that the younger generations of respondents (youth) between 21-40 were more capable of using most of the facilities than the older staff, especially in areas of surfing the internet. To Olatokun, (2009) the only explanation for this was the fact that the internet was a more recent development and as such the younger members of the population could have had the benefit of being exposed to it in their schools. The findings of another study conducted by Aramide, Ladipo and Adebayo (2015) in Nigeria were copiously quoted in a similar study carried out by Joyous and Paul (2016) on social factors that

influenced the use of ICT in Agriculture extension in Southern Africa. Their study revealed that there was the influence of age on the use of ICT by young members of staff than the older ones. Findings of their study went further to reveal that staff within the age range of 21 -40 were more capable of using ICT than those within every other age group. The reason behind this view (according to them) was that ICT was quite a recent development to which the younger population readily had the benefit of being easily exposed to in their schools. Their recommendation was that the Librarian must stay ahead of technologies to be relevant in the world of technology, especially in this era where the people they are servicing are born into the computer age. It can be deduced that the younger employees and staff of the library could be utilizing ICT for library services than the older members of staff.

In another study conducted by Jegede (2009) on Age and ICT- Related behaviours of Higher Education Teachers in Obafemi-Awolowo University, Ile-Ife, Nigeria. The study examined ICT attitude, competence, use pattern and effect of the age of educators on time used in interacting with ICT. Four hundred and sixty seven teacher educators from 10 teacher education institutions (5 colleges of education and 5 universities) participated in the study. Data were collected with the aid of four research instruments. Resulting data were analyzed using One-way ANOVA and Chi-square statistics. Findings revealed that age was not a factor when considering the attitudes, competence and ICT use pattern of teacher educators. In addition, age was not found to affect the time used on ICT by higher education teachers in Nigeria.

### Gender and utilization of information and communication technology

Gender refers to the socially constructed roles, behaviour attribute and practices that any given society considered to be appropriate for men and women (WHO, 2015). Mbaba as cited in Okonna, (2011) stated that gender is a cultural construct that distinguishes the role, behavior, mental and emotional characteristics between female and male developed by a society. The issue of gender differences is widely discussed in psychological literature with physical mental and social differences of men and women. Wiklund in Emmanuel and Benake-Ebiele (2012), opined that gender is understood as a social phenomenon with a fundamental social structural ordering of men and women in the society. Ford, Muller and Moss (2001), asserted that female tend to experience more difficulty finding information online using internet. In the use of technologies women preferred social collaborations, contextual information and personal identification while men's usage of technologies were determined by preferences of individual work and competition. Furthermore, for men new technologies represent an intellectual challenge and for women more

occurrence of emotional perception (Emmanuel & Bernake-Ebiele, 2012). That is why it is important to include information in broader context because in learning women make use of personal identification and imagination.

A study conducted by Kennedy,Wellman, and Klement, (2003) proved that women suffer from low-self confidence in managing technologies for service delivery. Susol and Steineroval (2007) observed that gender as a cultural and social construction of a personality is manifested in qualities and behavior of men and women. They reported that women use the internet slightly less than men, that women showed a higher proportion of rare and non-use as well as lower proportion of frequent use. Emmanuel and Benake-Ebiele (2012) conducted a study on gender differences in information seeking behaivour of librarians. The study adopted a descriptive survey method, questionnaire and interview were used for the data collection and a sampled of 250 respondent was selected from the total population of 985 (three universities in South-South Geo-political zone were utilized). Data collected were analysed using frequency count and percentages.  The study revealed that female librarian relied on human assistance for information more than their male counterparts; also differences exist between male and female in the use of internet and databases to retrieve information. In another study conducted by Enochsson (2005), it was reported that among the new generation, the socio-cultural background of gender still leaves women with more computer anxiety and feeling of lower self-efficacy. The two studies under reference above showed that women were afraid of technologies and they always exhibit low self-esteem.

Saka (2014) equally conducted a study on assessment of the level of gender as a predictor of ICT use and service delivery by library personnel. Survey research design was utilized and a well structured questionnaire was used to collect data from 33 males and 29 females who were randomly selected. The study revealed that there was a significant difference between the mean score of male and female in technology usage. He observed that female perform slightly higher than men did. Findings from the study conducted by Owolabi (2013) also revealed that female workers tended to do better in ICT usage than the male workers because they were more ready to learn than their male counterparts were. This study equally revealed a big difference between male and female staff of the library in terms of technology or ICT utilization because men were more analytical in their thinking and more focused than women in technical ability but women as observed by the researcher used ICT for more interaction, shopping and chatting. For instance, a female that could chat using whatsApp may not be willing to search for information pertaining to educational research for a client. A study by Adnan, Muhammed and Ahmed (2013) on gender's association with ICT Usage in Pakistan, made use of 57 respondents out 5,630

population. The survey consisted of 29 male and 28 females, a well-structured questionnaire was utilized in the study. Data were analysed using chi-square for the association. The result from their study showed no viable relationship.

## Level of education and utilization of information and communication technology

The level of education of an individual staff could be an important factor in the utilization of ICT in library services. Honrby (2000) define education as a process of teaching, learning especially in schools or colleges to improve knowledge and developed skills. The International standard classification of Education (ISCED, 2013) saw the term level of education as a broad selection of educational ladder and progress from elementary school to the highest level of learning, embracing all fields and programmes that may occur at any stage of education. The term could also refer to educational attainment or qualification (ISCED, in Asuquo, 2017). Losh (2003), contended that Education do play a key role in achieving community development in the process of globalization through technological development. Education in general term according to National teacher's Institute manual (2011) It is also the process of transmitting societal lores, values and desirable attitude from one generation to another, in other to equip them with the desired mode of behaviour that is in conformity with the way of life of the society in which they live. Dib in Arikpo (2017) saw education as a systematic organized education model, structured and administered according to a given set of laws and norms. Therefore, presenting a rather rigid curriculum as regards objectives content and methodology human being learns because of the capacity to attain a certain level of maturity and has through learning constantly improve upon his knowledge. Therefore, the librarian's level of education cannot be overlooked in this information age, especially in this era where curriculum of librarianship has been modified to include the emerging technologies in librarianship. This is because through education, knowledge is acquired, awareness is created and ignorance removed. Su (2009) applied f-test according to educational level in order to study correlation factors like the prospective librarians sense of efficacy, belief, and attitude about use of technology. A significant discrimination was analysed only of the factor of librarian's belief about technology. It was discovered that the librarian who had different educational levels had different belief about technology usage; librarians with low educational level unlike their counterparts struggled with ICT and were not willing to attend to the users. Adeyinka (2007) examined Nigerian secondary school teacher-librarians' use of ICT and its implication for further development of ICT use in Nigerian secondary schools. The study through a census drawn on 700 teacher-librarians from twenty-five (25) tenaciously chosen remitant schools in Ibadan, Oyo state, Nigeria. The result

showed that teacher-librarians were able to use ICT in diverse ways because most of them possessed higher level of education.

In a study conducted by Lawal and Ocheibi (2010) on Education and training of non- professional staff in Nigerian library in information practice and education: Current Trend and Issues. The study examined the process of education and training of para-professional staff in Nigerian academic libraries, It equally identified and discussed seven essential strategies, provided in the curricular for the education of these staff in libraries. The position paper suggested that the education of these cadres should be mounted at three levels, namely: Library Assistant, senior library assistant and the Assistant library officers'.  This implies that educating and training these cadres of staff that provides essential services to the end users would not only help to improve the image of their work setting but also enhance the image of the profession. In addition, it would go a long way in creating awareness in the use of ICT. In a study conducted by Maria-Gorretti (2012) on the challenges of effective adoption of information and communication technology in Academic libraries in South-East Nigeria. Descriptive survey method and purposive sampling technique were utilized to select 3 federal universities in South-Eastern, geopolitical zone. The population comprised 100 professional librarians in selected universities and out of 100 copies of questionnaire distributed, 80 copies were retrieved and used for the analysis. The study revealed that sampled university libraries faced different challenges toward effective utilization of ICT, but  education qualification of library staff 75(93.8%) was the most common challenge toward the adoption of ICT.

In Owolabi (2013), attention was on Socio-demographic factors as determinant of access and use of ICT by staff of university libraries in Oyo state. The study area consisted of Ladoke Akintola University, Lead City University and Bishop Ajayi Crowther University. Descriptive survey method was used and the population of the study comprised all categories of library staff which included professional, para-professional and support staff in the selected University Libraries in Oyo, State Nigeria. Questionnaire was used to collect data from 150 sampled respondents. Data was analysed using SPSS, frequencies & percentages. Librarians with only secondary education accounted for  12%, OND 28%, and HND (8%) respectively, those with bachelor and masters degrees accounted for (20%) and (32%) respectively. The results showed that there was high correlation between technology usage and level of Education, thereby confirming the importance of education in service delivery as it was the case in every other industry.

**Beliefs and utilization of Information and Communication Technology**

Belief refers to a state of mind in which trust or confidence is placed in some persons or things. It may also be regarded as something that is believed especially, a tenet or body of faith held by an individual or any group of people or church. According to American Heritage Dictionary of English Language (2011), belief is defined as mental act, a condition or habit of placing trust or confidence in something or a person.  For Ebeigbe, Kior, and Okafor, (2013), one of the common reasons why people refused to utilize devices that can make living and working more comfortable, such as wearing of prescribed eyeglasses is the belief that the prescribed eyeglasses could cause the eyes to become sunken or pushed in. To these authors, such belief has made people with correctable refractive errors to abhor the use of the prescribed eyeglasses even when specialist eye doctors free of charge give such prescribed eyeglasses to them. Castonon, Congdon and Patel (2006) submitted that more than half of their sampled population believed that prescribed devices such as eyeglasses, and ICT hard/software could be used to correct refractive errors and or make the execution of jobs and tasks much easier. The authors equally revealed that significant percentage of their respondents have positive beliefs about the usefulness of modern devices including ICT but expressed regret on their affordability. The respondents were reported to have added that they would wear prescribed eyeglasses if specially ordered for them or if the dispensing cost of such eyeglasses and other devices were affordable.

Inability to afford the cost of devices such as eyeglasses or ICT did not necessarily remove the fact of the beliefs expressed in respect to their usefulness. Fears had been expressed about the cost of not only buying ICT devices such as computer, equipment and software but more in hiring those few who understand it. Not only were computer experts needed to manage and maintain networks, they were also needed as trainers. These fears were borne out of challenges/difficulties being encountered by users of ICT in developing nations like Nigeria. Equally, fears of the possibility of many workers becoming redundant in the future as a result of deployment of technology (ICT) into work environment were not uncommon. These positions and fears were at best the bye products of the belief that workers, according to Robert and Edem (2016) had in their capability and capacity to use ICT to turn things around in the work space. The trust, faith, reliance and confidence being expressed in respect of efficacy of ICT in solving multivarious problems at work places were not misplaced. Several research studies conducted by scholars in library and information science such as Obinya, Obinyan and Aidenoje (2011), Namugera (2014), and Daramola (2016) among others highlighted the various areas and functions that the introduction/ utilization of ICT had revolutionalised within the libraries around the world. These highlights on the other hand had reinforced the strong belief held by the generality of

the people in the efficiency and the efficacy of the ICT.

In a study conducted by Oshiotse (2011) to investigate the mediating influence of cultural beliefs on the communication behaviours of Librarians in the Edo State Public Library in Benin City. Data for the study were generated through a questionnaire administered to 36 staff in the Cataloguing Division of the public library. Results of data analysis indicated that: Edo and Igbo ethnic groups members had different cultural, beliefs but common psychological communication response orientation. Conclusively, the researchers observed that most of the studies reviewed in respect of utilization of ICT were on demographic characteristics of students that were patronizing the library, while only few were done on staff who were operators of these devices for the benefit of the users. The current study, therefore, assists in filling a major gap in the study especially in relation to the selected variables concerning the library staff who are operators of technology in the libraries for the benefit of end users.

**METHODOLOGY**
Ex-post facto research design was adopted for the study. This is a type of design that explores the cause of a condition that already exists. The population of the study comprised all library staff serving in university libraries in Cross River and Akwa Ibom States. The sample for this study consists of 475 librarians from the Universities in Cross River and Akwa Ibom States. Purposive sampling technique was used for the study. The instrument used for data collection was a structured

questionnaire design to elicit appropriate and relevant information from the respondents. The validity of the instrument was ascertained. Cronbach alpha method was used to determine the reliability of the instrument. The reliability coefficient ranged from .745 to .884, indicating that the result of the reliability coefficient of the sub-scale are high enough to qualify the instrument to be used for the study. A total of four hundred and seventy-five copies of questionnaire were administered and the entire numbers were retrieved. However, only four hundred and sixty-one (92%) out of the copies retrieved were found treatable and used for the study. The statistical tool used for the study was One Way Analysis of variance (ANOVA), and Independent t-test.

**RESULTS AND DISCUSSION**
Results of this study are presented on the basis of each of the hypotheses set to guide the study. The hypotheses were tested at 0.05 level of significance.

**Hypothesis one**
Age does not significantly influence utilization of ICT among library staff of university libraries.

The independent variable in this hypothesis is Age (below 30 years, 31 to 40 and 41 and above); while the dependent variable is utilization of ICT among library staff of university libraries. To test this hypothesis, utilization of ICT among library staff of university libraries from age; below 30 years, 31 to 40 and 41 and above were compared using One-way Analysis of Variance (ANOVA). The result of the analysis is presented in Table 1.

**TABLE 1:**Summary of data and One-way Analysis of Variance (ANOVA) of the influence of Age on utilization of ICT among library staff of university libraries (N=461)

| Age | N | $\bar{x}$ | SD | | |
|---|---|---|---|---|---|
| Below 30 years– 1 | 84 | 33.5238 | 7.36235 | | |
| 31 to 40– 2 | 201 | 29.9602 | 8.61211 | | |
| 41 and above – 3 | 176 | 29.5170 | 6.95781 | | |
| Total | 461 | 30.4403 | 7.91251 | | |
| Source of variance | SS | Df | Ms | F-ratio | p-level |
| Between group | 995.027 | 2 | 497.513 | 8.195* | .000 |
| Within group | 27804.583 | 458 | 60.709 | | |
| Total | 28700.610 | 460 | | | |

\* Significant at .05 level, critical F=3.00, df= 2, 458.

The result on Table 1 revealed the calculated F-value to be 8.195 and higher than the critical F-value of 3.00 at .05 level of significance, with 2 and 458 degrees of freedom. This result, therefore, implied that, age significantly influenced utilization of ICT among library staff of university libraries. With the result, the null hypothesis was rejected.

Since Age had significant influence on utilization of ICT among library staff of university libraries, a post hoc analysis was conducted using Fishers' Least Significant Difference (LSD) multiple comparison analysis. The result of the analysis is as presented in Table 2.

**TABLE 2:** Fishers' Least Significant Difference (LSD) multiple comparison analysis of the influence of Age on utilization of ICT for library services among staff of university libraries

| (I) Age | (J) Age | Mean Difference (I-J) | Std. Error | p-level |
|---|---|---|---|---|
| Below 30 years | 2.00 | 3.56361[*] | 1.01230 | .000 |
| | 3.00 | 4.00676[*] | 1.03328 | .000 |
| 31-40 | 1.00 | -3.56361[*] | 1.01230 | .000 |
| | 3.00 | .44315 | .80434 | .582 |
| 41 and above | 1.00 | -4.00676[*] | 1.03328 | .000 |
| | 2.00 | -.44315 | .80434 | .582 |

\* The mean difference is significant at the .05 level.

The result of the analysis in Table 2 showed that Librarians whose age were below 30 years were significantly different in their utilization of ICT from those librarians whose ages were either 31 to 40 or 41 and above. Also Librarians whose ages were 31 to 40 were significantly different from those who were 41 and above in utilization of ICT within university libraries.

**Hypothesis two**

**TABLE 3:** Independent t test of the influence of gender on utilization of ICT for library services among staff of university libraries (N=461)

| Gender | N | $\bar{x}$ | SD | t-value |
|---|---|---|---|---|
| Male | 150 | 30.3067 | 7.27499 | |
| | | | | .252 |
| Female | 311 | 30.5048 | 8.21284 | |

Not Significant at .05 level, critical t=1.96, df = 459.

The result in Table 3 revealed that the calculated t-value of .252 is lower than the critical t-value of 1.96 at 0.05 level of significance with 459 of degrees of freedom. With this result the null hypothesis that gender has no significant influence on utilization of ICT among library staff of university libraries was retained. This implies that gender had no significant influence on utilization of ICT among library staff of university libraries.

**Hypothesis three**
Level of education has no significant influence on utilization of ICT among library staff of university libraries.

Gender has no significant influence on utilization of ICT among library staff of university libraries
The independent variable in this hypothesis is gender (male and female); while the dependent variable is utilization of ICT library among staff of university libraries. To test this hypothesis, utilization of ICT among library staff of university libraries from male and female gender were compared using independent t-test. The result of the analysis is presented in Table 3.

The independent variable in this hypothesis is Level of education (Diploma(low level), BLS, B.Sc.(moderate level) and MLS/Phd (high level)); while the dependent variable is utilization of ICT for library services among staff of university libraries. To test this hypothesis, utilization of ICT among library staff of university libraries of low, moderate and high Levels of educational attainment were compared using One-way Analysis of Variance (ANOVA). The result of the analysis is presented in Table 4.

**TABLE 4:** Summary of data and One- way Analysis of Variance (ANOVA) of the influence of Level of education on utilization of ICT for library services among staff of university libraries (N=461)

| Level of education | N | $\bar{x}$ | SD | | |
|---|---|---|---|---|---|
| Diploma – 1 | 125 | 29.9280 | 7.76175 | | |
| BLS. – 2 | 102 | 28.6569 | 7.75809 | | |
| B.Sc. – 3 | 129 | 30.4031 | 8.73348 | | |
| MLS/Phd – 4 | 105 | 32.8286 | 6.60049 | | |
| Total | 461 | 30.4403 | 7.91251 | | |
| Source of variance | SS | Df | Ms | F-ratio | p-level |
| Between group | 956.314 | 3 | 318.771 | 5.232 | *.001 |
| Within group | 27843.295 | 457 | 60.926 | | |
| Total | 28799.610 | 460 | | | |

*Significant at .05 level, critical F=3.00, df= 2, 458.

The result on Table 4 revealed that the calculated F-value of 5.232 is higher than the critical F-value of 3.00 at .05 level of significance with 3 and 458 degrees of freedom. With this result the null hypothesis was rejected. This result, therefore, implied that, level of education significantly influenced utilization of ICT among library staff of university libraries. Since level of education had a significant influence on utilization of ICT among library staff of university libraries, a post hoc analysis was done using Fishers' Least Significant Difference (LSD) multiple comparison analysis. The result of the analysis is presented in Table 5.

**TABLE 5:** Fishers' Least Significant Difference (LSD) multiple comparison analysis of the influence of Level of education on utilization of ICT among library staff of university libraries

| (I) EDUCATION | (J) EDUCATION | Mean Difference (I-J) | Std. Error | p-level |
|---|---|---|---|---|
| Diploma | 2.00 | 1.27114 | 1.04150 | .223 |
| | 3.00 | -.47510 | .97965 | .628 |
| | 4.00 | -2.90057[*] | 1.03328 | .005 |
| BLS | 1.00 | -1.27114 | 1.04150 | .223 |
| | 3.00 | -1.74624 | 1.03422 | .092 |
| | 4.00 | -4.17171[*] | 1.08516 | .000 |
| B.Sc. | 1.00 | .47510 | .97965 | .628 |
| | 2.00 | 1.74624 | 1.03422 | .092 |
| | 4.00 | -2.42547[*] | 1.02594 | .018 |
| MLS/Ph.D | 1.00 | 2.90057[*] | 1.03328 | .005 |
| | 2.00 | 4.17171[*] | 1.08516 | .000 |
| | 3.00 | 2.42547[*] | 1.02594 | .018 |

* The mean difference is significant at the .05 level.

The result of the fisher's multiple comparison analysis in Table 5 showed that librarians whose level of educational qualification was Diploma were significantly different in their utilization of ICT from those whose level of educational qualification was either BLS, B.Sc. or MLS/PhD. Also librarians whose level of educational attainment was BLS were significantly different from those who were either B.Sc. or MLS/PhD in utilization of ICT among library staff of university libraries. Again librarians whose level of educational qualifications was B.Sc were significantly different from those who were MLS/PhD in utilization of ICT among library staff of university libraries.

**Hypothesis four**

Belief has no significant influence on utilization of ICT for library services among staff of university libraries. The independent variable in this hypothesis is Belief (Low, Moderate and high); while the dependent variable is utilization of ICT for library services among staff of university libraries. To test this hypothesis, utilization of ICT for library services among staff of university libraries whose belief was low, moderate or high were compared using One-way Analysis of Variance (ANOVA). The result of the analysis is as presented in Table 6.

**Table 6:** Summary of data and One-way Analysis of variance (ANOVA) of the influence of Belief on utilization of ICT among library staff of university libraries (N=461)

| Belief | N | $\bar{x}$ | SD | | |
|---|---|---|---|---|---|
| Low – 1 | 90 | 29.6667 | 8.44945 | | |
| Moderate– 2 | 214 | 29.6776 | 7.70913 | | |
| High – 3 | 157 | 31.9236 | 7.70576 | | |
| Total | 461 | 30.4403 | 7.91251 | | |
| Source of variance | SS | Df | Ms | F-ratio | p-level |
| Between group | 523.774 | 2 | 261.887 | 4.242* | .000 |
| Within group | 28275.835 | 458 | 61.738 | | |
| Total | 28799.610 | 460 | | | |

\* Significant at .05 level, critical F=3.00, df= 2, 458.

The result on Table 6 revealed that the calculated F-value of 4.242 is higher than the critical F-value of 3.00 at .05 level of significance with 2 and 458 degrees of freedom. With this result the null hypothesis was rejected. This result therefore implied that, belief had a significant influence on utilization of ICT for library services among staff of university libraries. Since belief had a significant influence on utilization of ICT for library services among staff of university libraries, a post hoc analysis was conducted using Fishers' Least Significant Difference (LSD) multiple comparison analysis. The result of the analysis is as presented in Table 7.

**TABLE 7:** Fishers' Least Significant Difference (LSD) multiple comparison analysis of the influence of Belief on utilization of ICT among library staff of university libraries

| (I) BELIEF | (J) BELIEF | Mean Difference (I-J) | Std. Error | p-level |
|---|---|---|---|---|
| Low | 2.00 | -2.25690* | 1.03885 | .030 |
| | 3.00 | -.01090 | .98715 | .991 |
| Moderate | 1.00 | -2.24600* | .82567 | .007 |
| | 3.00 | .01090 | .98715 | .991 |
| High | 1.00 | 2.24600* | .82567 | .007 |
| | 2.00 | 2.25690* | 1.03885 | .030 |

\* The mean difference is significant at the .05 level.

The result of the analysis in Table 7 showed that librarians whose belief was low were significantly different in their utilization of ICT for library services from those whose belief were either moderate or high. Also librarians whose belief was moderate were significantly different from those whose belief was high in utilization of ICT for library services in university libraries.

**DISCUSSION OF FINDINGS**
This section is concerned with the discussion of findings from the study. The discussion is presented in accordance to the variables of the study.

**Age and utilization of ICT for library services among staff of university libraries.**
The result of the study indicated that, age significantly influenced utilization of ICT among library staff of university libraries. The findings of this study were in line with that of a similar study conducted by Joyous and Paul (2016) on social factors that influenced the use of ICT in Agriculture extension in Southern Africa, as well as the one by Aramide, Ladipo and Adebayo (2015), who revealed that there was influence of age on the use of ICT by young members of staff than the older. The revelation from the current study therefore is not in any way surprising, because the ICT is the 21st century invention, with which the younger generation, sometimes known as the computer age generation were more conversant. Very much unlike the days of the older generation, where there were no internet and computers, ICT is now taught from kindergarten level of education and this has made the younger generation more conversant with the usage of ICT than it is with the older generation. However, a contrary result was found from the study conducted by Jegede (2009) on Age and ICT- Related behaviours on Higher Education Teachers in Obafemi- Awolowo University, Ile-Ife, Nigeria. The findings revealed that age was not a factor when considering attitude, competence and ICT use among teacher- educators. This implies that irrespective of the teacher's age, it does not affect his ICT related behaviour. The variation in the findings may have been because of the differences in the type of professions as well as

status and the category of the respondents that were used for the different studies.

From the findings of the present study, it can be deduced that the use of ICT was more pronounced among the younger generation of staff, and that they could easily contend with the challenges and complexities of new technology innovation. It was also worthy of note that the older librarians appeared to be naturally wary of ICT use hence the popular saying that "you cannot teach an old dog new trick". This seems to describe their disposition towards the use of ICT. This disposition portends a great danger and bleak landscape for poor and nonexistent use of ICT in libraries. There is therefore a greater need for reorientation and in-service seminar/training.

**Gender and utilization of ICT for library services among staff of university libraries.**

The result of the second hypothesis revealed that, gender had no significant influence on utilization of ICT among library staff of university libraries. This implied that whether a library staff is a male or female, it does not matter and does not influence or affect his or her utilization of Information and communication technology. This finding is in line with the findings of a similar study conducted by Benake-Ebiele (2012); Adnan, Mohammed and Ahmed (2013) on gender's association with ICT usage in Pakistan. The result from the two studies showed that no association existed between gender and ICT usage. The implications of this revelation are that: men and women could utilize ICT without any difference in their level of effectiveness; and that the ICT was not meant for just one sex only. In addition, there should not be gender disparity among the library staff, because gender did not really guarantee or serve as a qualification to use ICT for library services. However, the finding is at variance with the studies conducted by Saka (2014) and Owolabi (2013) who observed that female library staff does better in the use of technology than their male counterparts. The current findings equally contradicts the views of Owolabi (2013), Kennedy, Wellman and Klement (2003). Their study revealed that women suffered from low-self confidence in managing technologies for service delivery, and the implication of the current study, which revealed that there was no statistically significant difference in the use of ICT on the basis of gender, therefore is that the study supported the drive for gender equality and elimination of gender disparity that may arise in university libraries. There is no basis for gender stereotype as regards ICT policy formulation, since gender is viewed to be a social construct; where societal obstacles are eliminated, both male and female gender have equal opportunity to utilize ICT. All creatures of God are given equal right, male or female, there is no social barriers against females in the Use of ICT.

**Level of education and utilization of ICT for library services among staff of university libraries.**

The result of the third hypothesis indicated that, level of educational attainment significantly influenced utilization of ICT for library services among staff of university libraries. This finding agrees with that of Losh (2003) and Owolabi (2013) who observed high correlation between technology usage and level of Education, and concluded that education was accepted to have played a key role in the achievement of community development, the process of globalization through technological development, and research, teaching-learning process, at the various stages of learning. The findings of this current study confirmed the importance of education in service delivery as it is the case in every other industry where those with high education are known to possess high level of acceptable attitude and disposition to work. The implication of this in the current information age, is that those who are educated would be able to cope with the inherent complexity of new technology innovation. The library system requires expertise in library services like cataloguing, indexing, bibliometrics, database management, web 2.0, online cataloguing and classification. To carry out all this activities, the library requires service of those individuals who possessed a good (high level) education. Equally, the findings of the present study was in agreement with the one conducted by Maria-Gorretti (2012) on the challenges of effective adoption of ICT in academic libraries in South-East Nigeria. The study revealed that the sampled university libraries faced different challenges toward effective utilisation of ICT and that educational qualification of library staff 75(93.8%) was the most common challenge toward the adoption of ICT.

The current study equally revealed that the higher the level of educational attainments, the greater is the level of awareness towards innovations. Also it exposed the fact that the level of educational attainment, at all times exposes individual to better values of life; standard of living, and better utilization of ICT. Therefore, the librarians level of education cannot be overlooked in this information age, especially in this era where the curriculum of librarianship had been modified to include the emerging technologies in librarianship. This is because through education, knowledge was acquired, awareness was created and ignorance was removed. This is in consonance with the findings of Su (2009) who revealed that librarians who had different educational levels had different belief about technology usage, while the librarians with low educational attainment struggled with ICT and were as such not willing to attend to the users. The users of today's library are so enthusiastic about the use of technology. The importance of education was equally supported by the findings of Adeyinka (2007) who examined Nigerian secondary school teacher librarians' uses of ICT and its implication for further development of ICT use in

Nigerian secondary schools. In view of the critical nature of information and communication, technology in delivery of effective services to the 21st century users who are conversant with technology from their kindergarten days would certainly pose a big challenge to librarians who are not well educated.

The variations observed between the B.Sc. and BLS degree holders may be due to the fact that BL degree curriculum is much more library programme specific than that of the BSc. It is on record that the curriculum of library and information science from first degree, PGD, Masters and Ph.D had been reviewed to accommodate the recent innovations in ICT such as digital preservation, social- networking, building of library consortium, metadata management, databases library software development among others. It is only when a librarian attained these higher level of education that he would be able to make use of technological innovation in librarianship for a better service delivery. This implies that higher level of education that is geared towards professional development would continue to influence utilization of Information and communication technology for library services.

**Belief and utilization of ICT for library services among staff of university libraries.**

The result of the fourth hypothesis indicated that, belief significantly influenced utilization of ICT among library staff of university libraries. The findings are in line with the view of Castonon, Congdon and Patel (2006) who submitted that more than half of their sampled population believed that prescribed devices such as eyeglasses, and ICT hard/software could be used to correct refractive errors and or make the execution of jobs and tasks much easier. The authors reported that a significant percentage of their respondents had positive beliefs about the usefulness of modern devices including ICT, but expressed regret on their non-affordability. The respondents were reported to have added that they would wear prescribed eyeglasses, if specially ordered for or if the dispensing cost of such eyeglasses and other devices were affordable. Inability to afford the cost of devices such as eyeglasses or ICT did not necessarily remove the fact of the beliefs expressed in respect of their usefulness.

The findings in this current study corroborated those of Daramola (2016), who highlighted that the utilization of ICT had revolutionalised services within the libraries around the world. Revolutionalisation has reinforced the strong belief held by the generality of the people in the efficiency and the efficacy of the ICT. Fears have been expressed about the cost of not only buying ICT devices such as computer, equipment and software, but also more in hiring/appointment of those few who understood and had the skills to operate them. Computer experts are needed to manage and maintain networks, and at the same time, serve as trainers. It could therefore, be deduced that library staff have confidence and trust that ICT would increase efficiency, save the time of users, avoid repetition of efforts, assist in the creation of library networks, help to attract the users, enjoy round the clock access and access to unlimited pieces of information from different sources. Though fears of the possibility of many workers becoming redundant in the future as a result of deployment of technology (ICT) into work environment were not uncommon. The trust, faith, reliance and confidence being expressed, in respect of efficacy of ICT in solving multi various problems at work were still not misplaced.

**CONCLUSION**

Based on results of the study the following conclusions were drawn; age, Level of education, and belief significantly influenced the utilization of information and communication technology for library services among staff of University libraries in Cross River and Akwa Ibom States, Nigeria. The result further revealed that, gender did not significantly influence the utilization of information and communication technology for library services among staff of University libraries in Cross River and Akwa Ibom States, Nigeria. It was therefore, imperative to apply the theory of self-efficacy, using mastery experience, modeling, verbal persuasion and physiological factors to become competent in the utilization of modern technologies.

**RECOMMENDATIONS**

Based on the findings and conclusion of this study, the following recommendations were made:

1.      Library management and Parent institutions should embark on a compulsory (thorough ICT ) training and retraining of staff especially those library staff that are 40 years and above. They must ensure they organize interactive sessions for the staff at least on quarterly basis. This will help them to adapt to the changing roles and demand for library services and librarians.

2.      Library management should make sure that every library staff has access to ICT facilities available in the library irrespective of gender.

3.      Librarians should be encouraged to embark on some self-help projects and undertake aggressive research to further their education to the highest level. Because through education knowledge is acquired, awareness is created and ignorance is removed.

4.      The Librarians Registration council should review the library and Information Science School Curriculum as a matter of urgency to accommodate the emerging technologies in librarianship. University authorities should be willing to release staff for relevant studies.

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