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INTERACTION BETWEEN LIBRARIANS' ICT SKILLS AND FACULTY MEMBERS' SATISFACTION WITH INFORMATION DELIVERY IN UNIVERSITY LIBRARIES

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ABSTRACT

The purpose of this paper was to find out the influence of Information and Communication Technology (ICT) skills of academic librarians on faculty members' satisfaction with information services in university libraries in South-East Zone of Nigeria. The population of this study was made up of 112 librarians and 4469 lecturers drawn from eleven (11) out of nineteen (19) universities within the study area. The research design used was a combination of descriptive survey and linear correlation. Two (2) customized rating scales were used for data collection. Census sampling was applied in choosing librarians while stratified random sampling technique was used to select respondents from the lecturers' sub-stratum. Out of the 447 and 112 copies of research instrument administered, 87 and 366 copies were returned by librarians and lecturers, respectively giving a total return-rate of 81.0%. Data was analyzed using a combination of descriptive and inferential statistics. The Pearson Product Moment Correlation (PPMC) was used to ascertain the strength of the relationship between ICT skills and faculty members' satisfaction (independent and dependent variables, respectively). Results from the correlation coefficient of the two variables showed that there is a weak and positive relationship between academic librarians' ICT skills and the satisfaction derived by faculty members from services received in the sampled university libraries. Recommendations made include: provision of regular ICT literacy training for librarians, employment of competent ICT technicians/experts, adequate funding and automation of library services in the studied Nigerian university libraries.

Keywords: ICT skills, Information delivery, User satisfaction, Academic libraries-Nigeria

Introduction

Several published research reports have shown that members of the university community make extensive use of the facilities and services of university libraries. There are ample research-based evidence that this claim is as true in Nigeria as it is in other countries of the developed and developing world (Nnadozie & Nnadozie, 2008; Shafique, Rehman & Mahmood, 2012). This can be attributed to the high concentration within the university campuses, of people who understand and appreciate the importance of information. Besides, their social and professional undertakings predispose them to regular use of information materials for knowledge generation and career advancement. However, there are further indications that lecturers rank among the major users of the university library and its stock of information offerings (Shafique, Rehman & Mahmood, 2012 and Nnadozie, 2006). This scenario can be understood against the backdrop that most of these faculty members rely on their institutions' libraries to obtain textbooks, reference materials, journals articles, newspapers reports, government publications and

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other vital sources that have informational, research and educational values. These information resources are complemented by other infrastructural facilities in order to enhance service delivery. The availability of these materials stems from the fact that the National Universities Commission (NUC) and other regulatory bodies insist on the provision of qualitative library services as a precondition for accreditation of academic programmes. Access to these materials enhances effective teaching, support research activities and facilitate the generation of new knowledge for enlightenment and general development of the larger society (Nnadozie, 2016).

The practice of university librarianship in Nigeria has been evolving over the years in terms of organizational structure, personnel, infrastructural facilities and services. These innovations are coordinated, primarily, by the professional staff who enjoy the privileges and discharge the responsibilities associated with academic status, like their teaching colleagues. Part of the changes in the administration and services of university libraries is the integration of information and communication technologies (ICTs) into their services and automation of routine activities of university libraries. Because of the complexity of university librarianship, its professional manpower (called academic librarians) is required to possess specific educational qualifications in addition to other professional certifications. Much of the necessary ICT facilities and services are reported adequate during statutory verification and accreditation exercises conducted by NUC and other regulatory professional associations in the country. Consequently, academic librarians in these university libraries are expected to be ICT literate. The concept of ICT skill or ICT literacy, has two interpretations both of which are mutually-reinforcing, viz: "understanding of the ICTs" and "dexterity in manipulation of ICTs". This competency or skill should improve the quality of their services, as well as enhance the satisfaction derived by their patrons, especially faculty members.

Considering that lecturers in universities need information services for the teaching, research and community services, it is not surprising that they rank among the major users of the services of university libraries. Most of these services are delivered under the guidance and supervision of academic librarians. Since these librarians are expected to be knowledgeable in ICT, it becomes necessary to ascertain if the ICT skill, literacy or expertise of academic librarians is evident in the quality of their services to the teaching staff. This study therefore examines the relationship between academic librarians' ICT skills (independent variable) and the satisfaction derived from information services by faculty members (dependent variable) in university libraries in South-East zone of Nigeria.

Research Question and Hypothesis

The following research question was derived from the purpose of this study:

1. What is the relationship between academic librarians' ICT skills and faculty members' satisfaction with information delivery in university libraries in South-East Zone of Nigeria?

This study is anchored on a null hypothesis stated as follows:

HO_1: The correlation coefficient between academic librarians' ICT skills and faculty members' satisfaction with information delivery in university libraries in South-East Zone of Nigeria is not statistically significant.

Significance of the Study

Deliberate policies are being implemented by various tiers of government in Nigeria and their agencies to improve availability of ICTs and promote their use in the country's university libraries. In addition to the basic academic qualifications, librarians in these libraries are also being made to acquire the necessary expertise in the use of computers and allied information-cum-electronic technologies. Consequently, several of these staff have attended workshops, seminars and conferences on ICT appreciation and application. It therefore becomes necessary to find out if any correlation exists between

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Journal homepage: https://www.mbjlisonline.org/

librarians' ICT skills and satisfactory delivery of information services to lecturers in Nigerian university libraries. There is no doubt that ascertaining the relationship between these variables (librarians' ICT skills and faculty members' satisfaction) will assist various authorities in designing appropriate strategies for improved service delivery and user satisfaction. Moreover, understanding the level of satisfaction or dissatisfaction based on ICT literacy would prompt more investigations to unravel the reasons. This will generate more research-based solutions and add to the stock of published knowledge.

Literature Review

Available published reports point to the fact that ICT skills and computer literacy are closely related and treated as synonyms by researchers (Uzo, 2006; Hornby, 2010). For purposes of convenience, the two concepts are often used interchangeably in this review. In the contemporary work environment, knowledge and use of computers and other ICTs signpost increased efficiency and productivity. It is not surprising, therefore, that employees of different educational levels and specializations have embraced computer literacy (Aderson & Dexter, 2002). The impact of computer literacy and ICT use on specific professional activities can be found in surveys conducted by Weiser (2001), Calverlay and Shepherd (2003), Agema and Adi (2006). Moreover, recent studies show that ICT skills enhances the use of social networking sites for study, research and other academic pursuits (Abdulahi, Jalil & Lumpur, 2014; Glass, Li & Pan, 2014 and Sevukan & Mohamed, 2015).

Studies indicate that the skill to manipulate ICT facilities/gadgets is widespread among library and information professionals practicing in the developed world (Schumacher & Morahan-Martin, 2001; Lin, Lin & Yuam, 2002 and Goldof & Unwin, 2005). This pre-supposes that their expertise in ICT/computer use manifests in different aspects of their professional practice, including management of library collection and delivery of various information services. However, the opposite appears the case in most under-developed countries as a study by Islam and Islam (2007) revealed lack of knowledge of computer and other ICT among librarians in Bangladeshi university libraries and other documents repositories. This result was inadvertently re-enforced by Uwa and Okoro (2009) who observed that most residents of Owerri Urban in Nigeria have little knowledge of ICTs and do not make adequate use of same in their daily activities. This situation may not have changed as a recent survey conducted in Sri Lanka revealed that only a handful of users obtained the needed e-resources in the university library (Wujetuge, 2015).

Therefore, considering the centrality of ICTs in contemporary librarianship, it is not difficult to conclude that computer literacy does not yet play a prominent role in the management of most libraries in under-developed societies. Regardless of the low penetration of ICT facilities and limited knowledge of computing skills in most under-developed countries (Syed-Ikhasan & Rowland, 2004), ICT skills or computer literacy remains a key enabler in implementing successful knowledge management programmes. This is because computers and other ICTs help in capturing, storing, transforming and disseminating information (Teece, 2000; Smith, 2001). Although ICT is not the sole determinant of successful information management programme, skills for its use (ICT skills) allow individuals in organizations to create and share knowledge effectively and contribute to the success of knowledge transfer (Atreyi, *et al,* 2003; Syed-Ikhasan & Rowland, 2004).

There are other research results that suggest a connection between computer literacy and management of knowledge resources in libraries. For instance, participants in the survey by Sarrafzadeh (2005) were asked to rank the importance of competencies listed for the LIS professionals to successfully implement knowledge management programmes in their workplaces. According to their responses, communication skills and ability to use information technologies (ICT skills) are highly important. This further establishes computer literacy as a necessity for the success in the management of information resources. AlSondos, Pangil and Othman (2012) advised the top management to consider computer literacy (ICT skills) as a priority and empower the information technology staff to deploy their computing

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skills towards effective knowledge management in their organizations. It is instructive that Vittal and Shivraj (2010) have made similar suggestions in their earlier study.

However, computer literary and availability of ICT facilities alone do not guarantee success in the administration of libraries and management of their knowledge assets. AlSondos, Pangil and Othman (2012) confirmed this assertion when they revealed that in both the academia and industry, the role of technologies in knowledge management has become a subject or topic of heated debates. Though the general impression is that ICTs and the skills to manipulate them have become instrumental to many knowledge management projects since the late 1990s, Eric (2005) observed that recent organizational emphasis has focused on the process and people as the critical success factor. This means that though technology and the expertise for its use (ICT skill/literacy) are important, they are not the sole success factors in knowledge management initiatives in most organizations, including universities and academic libraries (Andreea & Jing, 2002; Chong, Chong & Wong, 2009).

Despite the divergence of views amongst writers as shown in the literature, the documents reviewed are relevant to the present study. Amongst other reasons, this review points the pathway towards better understanding of the influence of ICT skills on effective management of knowledge resources and delivery of information services in libraries.

Methodology

Two (2) research designs were combined in this study, namely: descriptive survey and linear correlation. Descriptive survey design enabled the researchers to collect and analyze data from a representative sample of a larger population that is heterogeneous in location, gender, work experience, computer literacy level and career status at relatively low cost (Ifidon a& Ifidon, 2007). The descriptive survey design was combined with linear correlation which involved matching the mean rating of the independent and dependent variables as analyzed in the contingency tables. This helped to establish the extent to which the librarians' ICT skills (independent variable) affect or influence faculty members' satisfaction (dependent variable) with information delivery in the universities surveyed.

Two researcher-designed rating scales were used for data collection. The first of these modified Likert-scale type of instruments is entitled: *Rating Scale for Academic Librarians' ICT Skills in University Libraries* (i.e. ALICTSUL Rating Scale) while the second is called *Rating Scale for Faculty Members' Satisfaction with Information Delivery in University Libraries* (i.e. FMSIDUL Rating Scale). Both instruments were scrutinized by a University Librarian and a Reader in Education Measurement/Evaluation who confirmed their face and content validity. The computation of the reliability coefficient indices of the instruments using Cronbach's Alpha Testing Technique produced a reliability index of r=0.83 for *ALICTSUL Rating Scale* and r=0.85 for *FMSIDUL Rating Scale*.

Each of the participant-universities was visited for questionnaire administration and data collection. A combination of census sampling and stratified random sampling techniques was used to select respondents from the two sub-sets of the population. The census sampling method, which is a situation in which an 'entire population is studied' (Isanghedighi & Ogomaka, 1992, p. 108) was applied to librarians considering their small population while stratified random sampling technique was used to draw samples from the lecturers' sub-population. Every of the 112 librarians that has attained academic status in the selected universities was given the 'ALICTSUL Rating Scale' while the 'FMSIDUL Rating Scale' was issued randomly to 447 faculty members found in the sampled university libraries at the time of the visits. The sample of 447 represents 10% of the 4469 lecturers in the participant-universities in line with the suggestions of Borg and Gall (2006). This exercise, which lasted for three months (May - July, 2015), was accomplished with the assistance of colleagues in each library. At the end of the questionnaire administration, 87 and 366 copies were returned by academic librarians and faculty members, respectively. This amounts to a total return-rate of 81.0%.

Descriptive and inferential statistics were used for data analysis while results were presented in frequency tables. Responses to the item statements in the instrument are weighted as follows: Strongly

MBJLIS – Middlebelt Journal of Library and Information Science, Vol. 14, 2016
ISSN: 1596 - 1595
Journal homepage: https://www.mbjlisonline.org/

Agree (SD) = 4; Agree (A) = 3; Disagree (D) = 2 and Strongly Disagree (SD) = 1. A bar chart was further used to pictorially show the relationship between the independent and dependent variables using their mean scores. The Pearson Product Moment Correlation (PPMC) was used to ascertain the strength of the relationship between the two variables. A criterion mean of 2.5 was used while the hypothesis was tested at 0.05% level of significance. The table of p-value (see Table 4) was used for decision.

Findings

The mean value of response scores from academic librarians is presented first (Table 1). This is followed by the mean value of response by faculty members (Table 2). Answer to the research question was obtained by a correlation analysis of the grand mean scores of Tables 1 and 2 - i. e. independent and dependent variables (Table 3). The relationship between librarians' ICT skills and faculty members' satisfaction using the mean scores is shown pictorially in *Fig 1*. Lastly, the result of the test of hypothesis is presented in Table 4.

Table 1: Mean and Standard Deviation of Responses by Academic Librarians on ICT Skills

S/N	Item Statements	SA	A	D	SD	Total	Mean	Std. Dev
1.	ICT skill facilitates the management of knowledge resources in the university library.	38	34	11	4	87	3.218	0.8412
2.	Ability to typeset and print documents enhances the services of the university library.	26	32	8	21	87	2.724	1.138
3.	ICT skills in the use of software packages improves job performance by librarians in university libraries.	40	26	14	7	87	3.138	0.967
4.	Ability to process data and retrieve information is part of ICT skill that enhances library services in universities.	27	35	10	15	87	2.851	1.051
5.	Browsing/downloading of electronic documents aids library services in universities.	33	31	13	10	87	3	1
6.	Ability to send e-mails and make Internet calls facilitate library services in universities.	41	20	12	8	81	3.16	1.018
7.	Ability to create electronic archives/repositories promotes information delivery in university libraries.	30	35	9	13	87	2.943	1.027
8.	Knowledge of how to carry out minor repairs in ICTs enhance the provision of library services in universities.	5	7	46	29	87	1.862	0.7949
		Pooled Mean					**2.862**	**0.942**

N = 87 **Source: Field Survey, 2015**

MBJLIS – Middlebelt Journal of Library and Information Science, Vol. 14, 2016
ISSN: 1596 - 1595
Journal homepage: https://www.mbjlisonline.org/

From the analysis in *Table 1*, it can be observed that the mean score for item statements 1-7 are above the criterion mark of 2.5. Based on this result, it can further be deduced that proficiency in use of ICTs by academic librarians exerts a strong influence on various aspects of their work (i.e. management of knowledge-based assets and information service delivery) in the university libraries studied.

Table 2: Mean and Standard Deviation of Responses by Faculty Members on Satisfaction Based on Librarians ICT Skills in the University Libraries

S/N	Item Statements	SA	A	D	SD	Total	Mean	Std. Dev
1.	ICT skills ensure that knowledge resources of the university library are managed satisfactorily.	152	133	34	47	366	3.06557	1.0101
2.	Academic librarians that can typeset and print documents deliver more satisfactory information services to users of the university library.	124	146	58	38	366	2.97267	0.9562
3.	Academic librarians in the university library with ICT skills in software use provide quality information services.	136	129	42	59	366	2.93442	1.063
4.	The quality of library services in the university library is enhanced by the ability of librarians to process and retrieve data from the computer.	122	183	25	36	366	3.06830	0.8903
5.	Librarians in the university library provide services in the area of browsing and downloading of electronic documents.	24	36	202	104	366	1.94535	0.8022
6.	Assisting readers to send e-mails and make internet calls in the university library enhances user satisfaction.	21	25	186	134	366	1.81694	0.7951
7.	Access to electronic archives/repositories within the university library promotes user satisfaction.	16	27	194	129	366	1.80874	0.7524
8.	Ability of the academic librarian to repair minor defects in ICTs enhance the quality of library services in universities.	11	18	201	136	366	1.73770	0.6881
		Pooled Mean					**2.42**	**0.793**

N=366 **Source: Field Survey, 2015**

It can be seen in the analysis in *Table 2* that the mean values for item statements 1-4 are above the criterion set for this study while those for items 5-8 were low. However, the picture becomes clearer when the grand mean is considered. It can be inferred from this result that faculty members are of the perception that ICT skills amongst academic librarians is low in some areas and this affects the discharge of their functions in university libraries.

MBJLIS – Middlebelt Journal of Library and Information Science, Vol. 14, 2016
ISSN: 1596 - 1595
Journal homepage: https://www.mbjlisonline.org/

Table 3: Correlation Analysis between Academic Librarians' ICT Skills and Faculty Members' Satisfaction with Information Delivery in University Libraries

Items	Mean of Academic Librarians' ICT Skills	Mean of Faculty Members' Satisfaction Based on Academic Librarians' ICT Skills	Pearson's Product Moment Correlation Coefficient
1.	3.218	3.065574	0.347
2.	2.724	2.972678	
3.	3.138	2.934426	
4.	2.851	3.068306	
5.	3	1.945355	
6.	3.16	1.81694	
7.	2.943	1.808743	
8.	1.862	1.73770	

SPSS Correlation Analysis Output

Table 3 highlights the correlation analysis between academic librarians' ICT skills (computer literacy) and lecturers' satisfaction with information services in the studied university libraries. The result shows a correlation coefficient of 0.347 or 34.7% level of relationship coexisting between academic librarians' computer literacy and user satisfaction with information delivery to faculty members in these university libraries. The correlation coefficient of 0.347 suggests clearly that academic librarians' ICT skills (computer literacy) has weak impact level on faculty members' satisfaction with information delivery in these university libraries. This result indicates that aspects of academic librarians' ICT skills are yet to be applied in the delivery of information services in these universities.

Figure 1 is a pictorial representation of the relationship between the mean scores of academic librarians' computer literacy (independent variable) and lecturers' satisfaction (dependent variable), respectively.

MBJLIS – Middlebelt Journal of Library and Information Science, Vol. 14, 2016
ISSN: 1596 - 1595
Journal homepage: https://www.mbjlisonline.org/

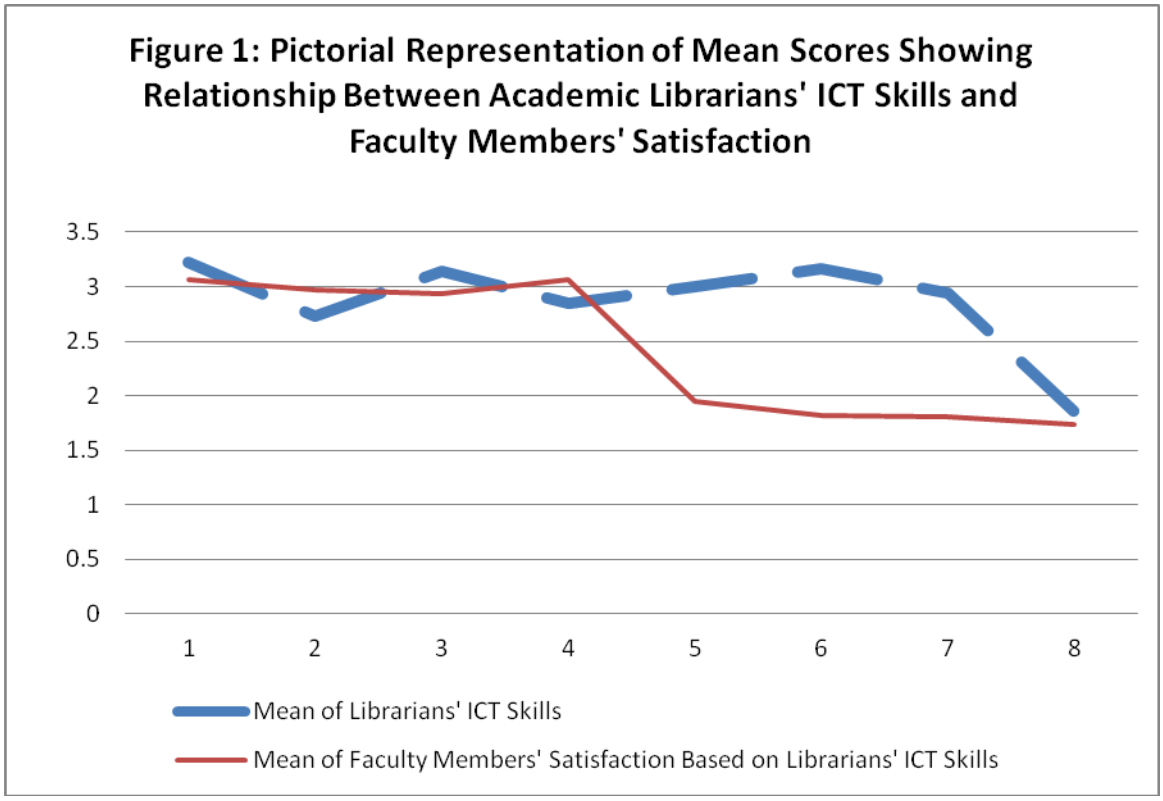

Figure 1: *Pictorial Representation of Mean Scores Showing Relationship Between Academic Librarians' ICT Skills and Faculty Members' Satisfaction*

Table 4: Correlation Analysis Between Academic Librarians' Computer Literacy and User Satisfaction with Information Delivery in the University Libraries.

Correlations

		Mean of Academic Librarians' ICT Skills	Mean of Satisfaction based on Librarians' ICT Skills
Mean of ICT Skills	Pearson Correlation	1	.347
	Sig. (2-tailed)		.399
	N	8	8
Mean of Satisfaction based on Librarians' ICT Skills	Pearson Correlation	.347	1
	Sig. (2-tailed)	.399	
	N	8	8

ISSN: 1596 - 1595
Journal homepage: https://www.mbjlisonline.org/

Table 4 contains the correlation analysis between academic librarians' ICT skills (independent variable) and faculty members' satisfaction (dependent variable) with information delivery in university libraries. The result discloses the correlation analysis output from SPSS version 19 which reveals a p-value of 0.399 and correlation coefficient of 0.347. The result also shows a p-value greater than 0.05% level of significance (i.e. P > 0.05). Thus, the correlation coefficient of the two (2) variables (i.e. ICT skills and faculty members' satisfaction) is statistically not significant. This test of hypothesis reveals that only a weak interaction exists between academic librarians' ICT skills (independent variable) and lecturers' satisfaction (dependent variable) with information delivery in university libraries studied. This implies that most of the academic librarians studied have not yet made their competence in ICT count in their service delivery to lecturers and other users of their university libraries. This result means that the original null hypothesis (H0) is accepted while rejecting the alternative which states that "the correlation coefficient between academic librarians' ICT skills and faculty members' satisfaction with information delivery in university libraries in South-East Zone of Nigeria is statistically significant".

Discussion of the Findings

The result indicated that a 34.7% level of relationship exists between academic librarians' ICT skills (independent variable) and faculty members' satisfaction (dependent variable) with information service delivery in university libraries in South-East Zone of Nigeria. This translates to a correlation coefficient of 0.347 (Table 3) which means that the relationship between the variables is weak. There was agreement by almost all the academic librarians that there is a correlation between ICT skills and delivery of satisfactory information services in the sampled university libraries. This accounts for the pooled mean of 2.9 with a standard deviation of 0.942 (Table 1). The result has also shown a total disagreement by large number of faculty members (library patrons) in their perception of user satisfaction based on librarians' ICT skills. This disagreement is captured in the low pooled mean score of 2.42 and SD of 0.793, respectively (Table 2). Notwithstanding this divergence of views among the two groups of respondents, the correlation analysis (Table 3) indicated the existence of a weak interaction between ICT skills and lecturers' satisfaction.

It is not really surprising that academic librarians and faculty members differed in their perception of the interaction between the independent and dependent variables of this study. ICTs, especially computers, enhance efficiency and productivity just as they process large volumes of data at record speed, reduce manual labour and minimize errors. As such, a staff, nay academic librarian, with ICT literacy would most certainly discharge official duties more satisfactorily. Pointers to this can be seen in the analysis (Tables 1 & 2) wherein respondents indicated that availability of ICT and the skill to manipulate these gadgets are necessary for efficient library services. This result is in line with the findings of Teece (2000) and Smith (2001). Although most university libraries in Nigeria are yet to fully computerize their routines, the result of this study generally suggests that the potentials inherent in being knowledgeable in ICTs is not lost on majority of the respondents, especially, academic librarians. This deduction is influenced by the high mean scores for all item statements in Table 1. This is in addition to the fact that a good number of librarians and lecturers may have undergone one aspect of computer literacy training or another. The reason for which lecturers expressed a contrary opinion on the relationship that exists between ICT skills and lecturers' satisfaction with information delivery could reside in the fact that most of these libraries are still to computerize their operations and services. This buttresses the submission of Syed-Ikhasan and Roland (2004) regarding the low penetration of ICT facilities in most under-developed countries. Besides, most of the basic ICT gadgets and internet/online information services in Nigerian university libraries are still at the rudimentary stages (Nnadozie, 2016). It is, therefore, not surprising that the correlation coefficient of librarians' ICT skills and faculty members' satisfaction with information delivery is not statistically significant as shown in Table 4. This situation could definitely affect their perception of the interaction between ICT knowledge and user satisfaction. Other studies that mirror this

ISSN: 1596 - 1595
Journal homepage: https://www.mbjlisonline.org/

aspect of the research findings include Islam and Islam (2007), Uwa and Okoro (2009) and Wijetunge (2015).

The test of hypothesis shows that a relationship (interaction) exists between ICT skills and lecturers' satisfaction with information delivery draws support from some available body of evidence. The inference to this effect can easily be drawn from available studies related to computer literacy. For instance, a survey by Sarrafzadeh (2005) found that computer literacy is a necessity for successful management of information resources and delivery of information services. Vittal and Shivraj (2010) and Nnadozie (2016) made a similar observation noting that top management should consider computer literacy (ICT skills) as a priority and empower computer literate staff to deploy their skills towards the delivery of qualitative and satisfactory services. Other earlier published researches which have drawn attention to the relationship between computer literacy (ICT skills), job performance and user/customer satisfaction, include: Anderson and Dexter (2002), Calverly and Shepherd (2003), Syed-Ikhasan and Roland (2004), Goldof and Unwin (2005) and Agema and Adi (2006).

It is equally instructive that the finding of this study is at variance with the outcome of some previous surveys. A ready instance is AlSondos, Pangil and Othman (2012) which revealed that in both the academia and industry, the role of information technologies in knowledge management has become a subject or topic of heated debates. Although the general impression is that ICTs and the skills to manipulate them (ICT skills) have become instrumental to many knowledge management projects and information delivery services since the late 1990s, Eric (2005) observed that recent organizational emphasis has focused on the process and people as the critical success factors. This means that though information technology and the expertise for its use (ICT skill) are important, they are not the sole success factor in knowledge management initiatives and user satisfaction in most organizations, including universities and academic libraries (Andreea and Jing, 2002 and Chong, Chong and Wong, 2009).

The reason for the discord between the result of the present study and some previous surveys could rest on the fact that computers and other ICTs are human-mediated. As such, these gadgets are still prone to some errors, especially at the in-put stage. Besides, most of the cited studies were carried out in the developed societies with high ICT density and application (Schumacher & Morahan-Martin, 2001; Lin, Lin & Yuan, 2002 and Goldof & Unwin, 2005). Moreover, majority of university libraries across different developing countries (including the ones in this survey) are yet to fully automate their operations (Islam & Islam, 2007; Uwa & Okoro, 2009). Inferences from response of lecturers in respect of browsing and downloading of electronic documents, e-mails and internet services, access to institutional repositories and repair of minor defects in the university libraries studied clearly suggest a low application of application of ICTs and other new media. This state of affair certainly affects the user satisfaction. Hence, would have been questionable if the test of hypothesis produced a strong correlation coefficient between academic librarians' ICT knowledge and faculty members' satisfaction with information delivery services in the university libraries covered in this survey.

Conclusion and Recommendations

The study therefore concludes that a relationship exists between academic librarians' ICT skills and satisfaction of lecturers with information services available in the university libraries covered in this survey. This relationship is, however, not very strong due to its statistical insignificant. Hence, the ICT knowledge of academic librarians is yet to make a strong impact on service delivered to lecturers in many university libraries in the country. The following were recommended:

1. Managers of university libraries studied should buy into the computerization of library operations and services. These information professionals should leverage the influence of their offices within the academic community to facilitate the procurement and installation of more modern

ISSN: 1596 - 1595
Journal homepage: https://www.mbjlisonline.org/

ICT facilities in university libraries. This would certainly smoothen their operations and enhance the quality of their services.

2. Considering the enormous benefits of ICTs and other computer gadgets, librarians working in the Nigerian university libraries studied should continue to improve on their proficiency in ICT use. This can be achieved through regular practical sessions and other on-the-job educational programmes. Such corps of ICT literate librarians would drive the push toward automation of these academic libraries and migration of library operation to electronic or digital platforms. This would definitely facilitate the provision of satisfactory information services to lecturers and other users of these libraries.
3. Regulatory agencies of the Federal Government of Nigeria (like the National Universities Commission) should get more involved in organizing ICT trainings for librarians. They can also formulate and implement policies targeted at automation of university libraries in the country. For instance, these supervisory bodies should directly champion the implementation of a policy making it mandatory for the nation's university libraries to provide functional internet services, electronic archive (or institutional repositories), as well as facilitate periodic ICT training for librarians and other cadre of staff.
4. Competent information technologists, computer engineers and media technicians should be recruited in the ICT/multi-media units in Nigerian university libraries. The need for this caliber of staff cannot be over-emphasized. This is because they would be handy in carrying out minor repairs on faulty ICT equipment thereby saving the library huge maintenance expenses. Besides, the ICT specialists/media technologists would easily provide technical assistance to lecturers and other users thereby adding to their satisfaction.
5. Incentives, such as scholarships, increase in salary and special allowances should be provided for ICT skilled librarians working in Nigerian university libraries. Such packages would motivate other staff to acquire and update their expertise in the manipulation of computer and allied ICTs.
6. The challenges of inadequate funding of university libraries in Nigeria should be addressed. Budgetary allocation for library services in universities should be increased and released as and when due. When this is done, these libraries would have the necessary financial resources to procure and install ICT facilities, diversify their services and maintain basic equipment. This would improve the capacity of Nigerian university libraries to deliver specific electronic information services targeted at faculty members and other specialized user-groups within these institutions of higher learning and research.

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