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Abstract

This study aimed at assessing the status of library automation, the impact of automation on library services and challenges university library is facing in maintaining automated system towards effective library services delivery. The population in this study consists of 697 library personnel in 9 university libraries in Southwest Nigeria. A structured questionnaire Appendix A) was used for data collection. In all, 335 questionnaires were distributed but only 309 were found usable, which gave a response rate of 92.2%. Findings revealed that library automation in university libraries in South West Nigeria was partial. Library automation has a positive impact on library services. Lack of technical support from the vendor, lack of funding, attitude of library personnel and technophobia among were among the challenges faced.

Keywords

library automation, library personnel, library services, Nigeria, South West

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Background to the study

Based on the National Policy on Education (National, 2013) of Nigeria, university education is responsible for inculcatng both physical and intellectual skills that enable learners to become self-reliant and important to themselves and society at large. To actualize the aims of establishing university education, there is need for a standardized academic library within the university domain, with the responsibility of serving the information needs of the university community. Therefore, apart from services rendered by library personnel in the areas of acquisitions, cataloguing, classification etc., one of the major roles of any academic library is to make available to its clients valuable and resourceful information services. This role of academic libraries can only be actualized quickly, efficiently and effectively with automated systems.

University libraries are changing in their mode of operation and service delivery from traditional methods to advanced technological based operations. Academic library service delivery is now more effective, efficient and timely compared to the traditional mode of operation and service delivery (Hussaini, Vashistha, Jimoh and Jimah; 2017). Automated systems enhance user satisfaction with the information resources in academic library, save the time of both library staff and patrons, avoid duplication of work and make library services smooth and effective (Otunla, 2016; Hussaini, Vashistha, Jimoh and Jimah; 2017 and Nayana, 2019).

Manjunatha, Rekha and Saji (2007) added that automation removes the cumbersome job of printing cards, ensures that more than one person at a time can access resources, and ensures that information needed can be retrieved as quickly as possible compared to

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the traditional card catalogue. It also ensures that personnel can catalogue and classify as many books as possible with less stress through the use of Library of Congress online (Nwosu, 2014). Daniel, Chima and Udoaku (2015) pointed out that through library automation, catalogue cards can be generated with ease, cataloguers can input data for each item on predesigned work-sheets, and editing or revising of entries can also be carried out with ease without further stress/delay. All this can be actualized through the use of appropriate library management software rather than manual records. In another study, Omosor (2014) reported that automation of library services such as cataloguing, circulation and acquisitions has led to better management of library operations and improved services. Gbadamosi (2011) noted that library services that are manually based may no longer cope with the ICT-driven society of the 21st century.

Many academic libraries in Nigeria are yet to be fully automated. Many Nigerian university libraries carry out library services manually rather than employing automated library services. The services rendered by academic libraries do not meet with users' expectations; users find it difficult to access and locate information needed without stress. Information resources that are supposed to have been available for use are still being processed due to limited or inappropriate automation. Some information resources have been processing for years because the libraries in question are still using manual cataloging and classification.

A survey of the literature indicates a paucity of information on the role of automation in library services, using South-west Nigeria as a case study (Ossai-Ugbah; 2010). Some studies on automation in South-west Nigeria only focused on challenges of library automation and its importance. Studies on automation were limited to cataloguing and circulation services without taking cognizance of the effect on service delivery to users and library personnel in general (Onyebuchi, Daniel, Chima and Udoaku; 2015). Other studies evaluated library users' perceptions and opinions on the role of automation of library services but did not consider library personnel. A few that evaluated library personnel were limited to academic librarians (Omosor, 2014; Olakoge and Kolawole; 2019). This is the gap that the present study is intended to fill. It was designed to evaluate the perceptions of university library personnel on the impact of library automation on university library services in South West, Nigeria. The outcome will not only improve service delivery of academic libraries in general but will also assist them to take proactive measures by purchasing the best library management software. This study will go a long way towards improving users' satisfaction with library automation in relation to its service delivery.

Literature review

What is library automation?

The term 'library automation' is not a new concept as far as librarianship is concerned. According to Venkatesha and Sarasvathy (2018), it is a general term for computer based library systems that replace manual systems by a faster and more effective means of operation through information and communication technology (ICT). Jan and Sheikh (2011), Deshpande (2013), Yakubu (2013) and Otunla (2016) referred to library automation as the application of computers and ICT to complement manually performed library operations. Olakoge and Kolawole (2019) defined library automation as the process of automating all the departmental units of the library like reader services, technical unit, acquisitions, gifts and exchanges so that all the routine operations are performed electronically. Abbas (2014) indicated that library automation performs by bringing about improvement in accessing information among library patron and also making library operations more effective and efficient for library users with less stress, by using machines and ICT operations.

History of library automation in nigeria

Library automation started in Nigeria in the mid 1970s and early 1980s, when three notable universities - the University of Ibadan, the University of Lagos and Ahmadu Bello University, Zaria (Adegbore; 2010) - started computerization. As many academic institutions did not have fund for computerization, the National University Commission (NUC) presented a microcomputer and local area network together with the Information Navigator (TINLIB) software to 20 academic libraries in Nigeria (Uzomba, Oyebola, and Izuchukwu; 2015). Due to the efficiency in library operations and services as a result of using this software, many other academic libraries now began to introduce automation. In 1983 the University of Ilorin started automation and the Ahmadu Bello University (ABU) library in Zaria also started

in the year 1980s, while in the year 1990, the University of Jos library joined in the automation movement.

As reported earlier, the University of Ibadan Library started library automation with TINLIB in 1994, as did the Federal University of Agriculture Abeokuta, but later migrated to the GLAS sofyware. Olabisi Onabanjo University library in Ogun State started automation in 2000 using Alice for Windows software but they later migrated to Koha (Adegbore; 2010). A notable private university, Bowen University, started library automation in 2007 using Koha Integrated Library Systems Software (Otunla and Akanmu–Adeyemo; 2010).

According to Olakoge and Kolawole (2019) automation software that has been introduced in Nigeria academic libraries includes: Alice for Windows, Web-Based Integrated Library System (WEBLIS), The Information Navigator Library Software (TINLIB), Automated Library (AUTOLIB), Graphic Library Automation System (GLAS), Koha, Automation of Libraries and Centres of Documentation (ABCD), Integrated Library Management System, Evergreen Software, Newgenlib, Computer Documentation System/ Integrated Set of Information Systems (CDS/ISIS). Due to the limitation of some softwares, many libraries have migrated from one software to another in order to improve performance and services.

Services offered by university libraries

According to Adam (2017), the majority of university libraries offer circulation services, reference services, new arrivals list, Internet and current awareness services and photocopying services. A few of them offer Selective Dissemination of Information (SDI), newspaper clippings, interlibrary loan and fax. Eze and Uzoigwe (2013) and Ayodele and Mohammed (2016) stated that most university libraries in Nigeria provided a variety of services such as reference, Internet, interlibrary loans in support of university education; and provision of various library and information resources such as textbooks, newspapers and magazines, amongst others.

Umoh (2017) also highlighted the services rendered by academic libraries in Nigeria. According to him, circulation/borrowing, referencing, bibliographic verification, current awareness, reprographic, extension/community, technical, and interlibrary cooperation are some of the services provided by academic libraries in Nigeria. Lawal-Solarin (2013) investigated the information needs of students and the role of academic libraries in Covenant University library, Sango Ota, Ogun State. The library services most used by students in the university included lending service, Internet service, binding/photocopy service, reference services, and abstracting and indexing services, among others. The most used service was the lending service.

Influence of library automation on library services

Igbudu, Asen and Tyopev (2020) examined the influence of Koha software on technical operations of the public university libraries in North Central Nigeria. Data collection was done through a self developed questionnaire "Influence of Koha Software on Technical Operations Questionnaire" (IKSTOQ). Data was analysed using descriptive statistics and chi-square at 0.05 level of significance. It was found that Koha software packages have significant effect on acquisition, cataloguing and classification operations in public university libraries in North Central Nigeria.

Anyira (2020) assessed the need for adoption of Koha automation software management in Nigerian academic libraries. The theoretical literature gathered revealed that Koha automation software had been found to be effective in Nigerian academic libraries. According to the author, the effectiveness of Koha automated library management software was in the areas of information outburst, speed of library operation in the area of charging and discharging, cataloguing and classification of library materials, acquisition, patron management, and OPAC, amongst others.

Onyebuchi, Daniel, Chima and Udoaku (2015) examined the influence of automation on library services in some selected university libraries using automated cataloguing and circulation systems in South Western Nigeria The study revealed that through automated systems, materials and resources needed for teaching, learning and research became easy to access. The study also showed that automated circulation systems increases multiple access to information, ease access to information, increase sharing of information, save time, reduce error and help to keep track of location of items in the library. The result of a correlation test indicated that there was a positive relationship between automated cataloguing and circulation systems and library services.

Olagoke and Kolawole (2019) assessed the effect of library automation on the performance of librarians in South West, Nigeria. Of the six library services

evaluated in the study, five were automated. The study also reported that 90% of the private university libraries in South West Nigeria have automated their services. Findings further indicated that the performance of the academic librarians had improved by over 70% due to automated systems.

Nunekpeku (2019) assessed the level of satisfaction with automated library based services at a university library in Cape Coast, Ghana. In the study, a descriptive survey research design was utilized with a structured questionnaire and interview guide as the instruments adopted for data collection. Stratified random sampling was used to select three hundred and twenty two (322) undergraduates, postgraduates and academic staff of the university to participate in the study. The result indicated that more than 50% of the participants were satisfied with the state of automation at the Sam Jonah library. The level ofsatisfaction derived was as a result of effective service delivery brought about due to the automated system in place in the library.

Omosor (2014), with particular reference to twelve academic libraries in Delta State, examined the effect of technology on librarians in Nigeria. The result revealed that the role of technology in academic libraries was well appreciated. The author opined that technology has added to the work of library personnel, but has also increased the speed of accomplishment and accuracy.

Anas, Iqbal and Ahmed (2014) investigated the impact of automation on library management services of four selected management institutes at Aligarh, India. Findings revealed that the majority of the professional librarians sampled perceived that automation has brought about improvement in their library's services. About 85% of library users opined that automated library system is better than the traditional manual system.

Status of library automation in academic libraries

Emasealu (2019), in his study on automation of academic libraries and web development, reported that libraries in Nigeria are yet to achieve full automated status. Some aspects of library services are still done manually because of lack of technical know-how to utilize the important features of automation.

Anas, Iqbal and Ahmed (2014) investigated the impact of automation on library management services of four selected management institutes at Aligarh, India. Findings revealed that 75% of the sample libraries were partially automated, while 25% were fully automated. Another study by Jan and Sheikh (2011) compared automation between two academic libraries in Pakistan. The authors reported that Islamabad library was fully automated, whereas Khyber Pukhtoon Khwa library was only partially automated. Overall, 53% were fully automated and 33% were partially automated while 14% were not automated at all. In a study in Bangalore University by Nayana (2019), the author noted that 81.81% of libraries examined were automated while the remaining 18.19% were not.

Gbadamosi (2011) investigated library automation and virtual library development in four academic libraries in Oyo State, Nigeria. All the libraries investigated were partially automated. Otunla (2016) investigated the current status of academic libraries in Osun State, and reported that of the 13 libraries surveyed, only 7 were automated, while the others were planning to do so. Findings also showed that of the 7 automated libraries, 5 were university libraries and 2 were polytechnic libraries, while none were colleges of education libraries. In the opinion of Hussaini, Vashistha, Jimoh and Jimah (2017), there is no university library in Nigeria that is fully automated; less than 49% of university libraries in Nigeria were partially automated. Adegbore (2010) assessed the automated systems in the University of Agriculture Abeokuta library and Olabisi Onabanjo University, Ago Iwoye Library. In general, the status of automation in the two libraries can be said to be partial.

Challenges facing library automation towards enhancing effective library services

In the report of Daniel, Chima and Udoaku (2015), factors such as inadequate power supply, fluctuating network, limited access speed, inadequate computer systems, amongst others, were some of the challenges encountered on the use of automated system operation towards effective library services delivery. Findings by Ossai-Ugbah (2010) stressed that low internet speed, as well as limited/inadequate internet access to meet with increased students' enrollment were some of the challenges faced library automation towards effective library services.

Inadequate staff, lack of infrastructure, insufficient funds and lack of training for library staff were some of the challenges presented by Nayana (2019), while Upadhyay at al. (2012) also revealed that lack of

trained staff, support by management, computer facilities and funds were some of the factors limiting library automation at the Engineering Colleges in Jabalpur City, India. Raval (2013) emphasized that hardware and software issues, costs involved in the process of establishment and maintenance of the automation software, and lack of knowledge of the potential and consequences of library automation were also some of the challenges faced. Mulla and Chandrashekara (2010), Ossai-Ugbah and Ogunrombi (2013) and Otunla (2016), indict insufficient funds, librarians' attitude, lack of ICT staff, and insufficient number of staff as the major constraints faced by academic libraries. Adegbore (2010) indicated that poor power supply is the major problem of automation in Nigerian university libraries in their attempts to achieve effective service delivery. Lack of maintenance, lack of commitment by library staff, lack of resources, and staff training deficiency were also identified.

Objectives of the study

The broad objective of this research work is to examine the perceptions of university library personnel on the impact of library automation on university library services in South West Nigeria. Specifically, this study seeks to:

i. find out the perception of library personnel on the status of library automation in the university libraries in South West, Nigeria.
ii. assess the perceived impact of automated systems on library services
iii. find out the challenges faced by university libraries in South West, Nigeria in maintaining automation system towards effective library services.

Research questions

The following research questions will guide the study:

i. What is the perception of library personnel on the status of library automation in the university libraries in South West, Nigeria?
ii. What are the perceived impacts of automated systems on library services?
iii. What are the challenges facing the university libraries in South West, Nigeria in maintaining automated system towards effective library services?

Research hypothesis

There is no significant difference in the library personnel's perception of the status of library automation between State, Federal and Private Universities in South West, Nigeria.

Research methodology

This study adopts the descriptive survey research design. The target population comprised six hundred and ninety seven (697) library personnel in 7 Federal Universities, 10 State Universities and 25 Private Universities in South West Nigeria. In each of these three categories, three universities each were purposively selected based on years of establishment. The universities selected are presented in Table 1. Simple random sampling techniques were later used in order to give each member an equal chance of being selected to participate in the study.

The research instrument used for this study was a self designed structured questionnaire (see Appendix A). The questionnaire was divided into two sections. Section A included a Demographic Information Scale (DIS) which sought personal information on library personnel - gender, age, status, qualification and work experience. Section B included Library Automation Perception Scale (PAPS) and User Services Perception Scale (USPS). The four-point Likert scales sought information on respondents' perception of library personnel in terms of their knowledge of library automation, its influence on library services, status of automation, library services offered by the university library and challenges facing library automation towards effective service delivery. The instrument was validated by two Principal Librarians and two Lecturers in the Department of Art and Social Science Education, Faculty of Education, Olabisi, Onabanjo University, Nigeria. Questionnaires were distributed personally by the researchers and with the help of two research assistants. In all, 309 questionnaires were usable, which gave a 92.2% response rate. Data collected were analysed using descriptive statistics (simple percentage, mean and standard deviation) and inferential statistics (T-test and Analysis of Covariance) at 0.05 levels of significance.

Table 2 Automation software used in university libraries in South West, Nigeria.

It can be deduced that majority of the university libraries in Southwest Nigeria migrated from one software to another due to incompatibility issues, to

Table 1. Sample size for the Study.

	Universities in South-West, Nigeria	Years Established	Total Population
	Federal Universities		
1	Obafemi Awolowo University, Ile – Ife, Osun State.	1962	60
2	University of Ibadan, Ibadan, Oyo State.	1948	63
3	University of Lagos, Lagos State.	1962	39
		Sub-Total (A)	**162**
	State Universities		
1	Ekiti State University of Technology, Ifaki, Ekiti State.	1982	25
2	Lagos State University, Ojo Lagos State.	1983	24
3	Olabisi Onabanjo University, Ago- Iwoye, Ogun State.	1982	52
		Sub-Total (B)	**101**
	Private Universities		
1	Babcock University, Ilishan – Remo, Ogun State.	1999	16
2	Bowen University, Iwo, Osun State.	2001	15
3	Covenant University, Ota, Ogun State.	2002	41
	Sub-Total (C)		**72**
	Grand Total = Sub-Total (A) + Sub-Total (B) + Sub-Total(C) =		**335**

Source: Nigerian University Commission 2018.

Table 2. Automation software used in university libraries of South West Nigeria.

	Universities in South-West, Nigeria	Old Software	New Software
	Federal Universities		
1	Obafemi Awolowo University, Ile – Ife, Osun State.	Tinlib	VTLS
2	University of Ibadan, Ibadan, Oyo State.	Tinlib, Alice	VTLS
3	University of Lagos, Lagos State.	Tinlib, GLASS	Millennium
	State Universities		
1	Ekiti State University of Technology, Ifaki, Ekiti State.	Slam	Slam
2	Lagos State University, Ojo Lagos State.	Alice for Window	Koha
3	Olabisi Onabanjo University, Ago- Iwoye, Ogun State.	Alice for Window	Koha
	Private Universities		
1	Babcock University, Ilishan – Remo, Ogun State.	X-Lib	Koha
2	Bowen University, Iwo, Osun State.	Koha	Koha
3	Covenant University, Ota, Ogun State.	Alice	Millennium

satisfy the user information needs and also to improve library services in general.

Findings and discussion

Table 3 presents the demographic characteristics of library personnel across State, Federal and Private Universities in South-west, Nigeria. Males dominated the sample population, and 78.6% of the respondents were above 37 years of age. The majority were married with master's degrees. 51.8% of the respondents had between 11 and 20 years of work experience in the library environment.

Research questions

One: What is the perception of library personnel on the status of library automation in university libraries in South West, Nigeria?

Table 4 presents the perceptions of library personnel on the status of library automation in university libraries in South West, Nigeria. Library automation in these libraries is partial. In most libraries visited, the multimedia section is now taking charge of "training the trainer", and the multimedia modules are used for text formatting, image modification, animation for pictorial and training purposes, graphic design and for sound/digitized voice. Each of these activities

can be done in a desktop environment where the users can interactively manipulate information in different formats. This is responsible for the trend in the multimedia modules presented in Table 4. For example, the text format is used to read text documents in the computer database either as PDF or plain text. Also, digitized voices and videos, movie disks, and the like are cataloged like books for proper identification and to provide easy access to them.

Table 3. Demographic information.

Demographic Information	Frequency(f)	Percentage (%)
Gender		
Male	206	66.7
Female	103	33.3
Age Group		
18-27 years	29	9.4
28-37 years	37	12.0
38-47 years	144	46.6
48-57 years	59	19.1
58 years and Above	40	12.9
Marital Status		
Single	52	16.8
Married	237	76.7
Others	20	6.5
Educational Qualification		
SSCE/GCE	21	6.8
ND/NCE/ Diploma	41	13.3
B.Sc/BLIS	103	33.3
Masters Degree	108	35.0
Doctorate Degree	36	11.7
Work Experience		
1-10 years	82	26.5
11-20 years	160	51.8
21-30 years	36	11.7
31-40 years	26	8.4
41-50 years	5	1.6
University Status		
State	109	35.3
Federal	100	32.4
Private	100	32.4

The findings of this study corroborate the work of Emasealu (2019), in line with Horsfall and Fagbemi (2015), who stated that libraries in Nigeria are yet to attain full automated status. Adegbore (2010), emphasized that the level of automation in two university libraries in Ogun State were partial. Gbadamosi (2011) also reported partial automation of four academic libraries in Oyo State, while in Osun State, Otunla (2016) reported partial automation in five (5) university libraries. The findings of this study corroborate those of Hussaini, Vashistha, Jimoh and Jimah (2017) who affirmed that no university library in Nigeria was fully automated.

Two: What are the perceived impacts of automated systems on library services?

The result presented in Table 5 indicates the library personnel's perceptions of the impact of automated systems on library services in South West, Nigeria. The impact was ranked highest on the statement 'Library automation saves time of library users in search for information', followed by 'Library automation leads to increase in performance of library staff', and 'Library automation exposes librarians and other library personnel to current trends in IT' and 'Through library automation, materials and resources needed for teaching, learning and research becomes easy to access'. The least ranked was 'The speed of accomplishment and accuracy of the job of library personnel increases as a result of library automation'. In summary, one can conclude that library automation has a positive impact on library services.

The findings of this study correlate with those of Olagoke and Kolawole (2019) and Anas, Iqbal and Ahmed (2014), that automated systems had resulted in improved performance of academic librarians towards effective service delivery. Our findings also agree with those of Onyebuchi, Daniel, Chima and

Table 4. Status of library automation in South West, Nigeria.

S/N	Section/Unit	Fully Automated	Moderately Automated	Partially Automated	Not Automated
1	Cataloguing and Classification	28 (8.1%)	182 (58.9%)	89 (27.8%)	16 (5.2%)
2	Circulation/Readers Service	31 (10.0%)	51 (16.5%)	180 (58.3%)	47 (15.2%)
3	Acquisition	26 (8.4%)	36 (11.7%)	194 (62.4%)	53 (17.2%)
4	Serials	25 (8.1%)	91 (29.4%)	140 (45.3%)	53 (17.2%)
5	Multimedia	48 (15.5%)	103 (33.3%)	132 (42.7%)	26 (8.4%)
6	Gift and Exchange	5 (1.6%)	45 (14.6%)	161 (52.1%)	98 (31.7%)
7	Bindery	5 (1.6%)	10 (3.2%)	136 (44.0%)	158 (51.1%)

Table 5. Perceived impact of automated system on library services.

S/N	Impact of Library automation	SA	A	D	SD	Mean	SD
1	Library automation enhances user satisfaction of library services	126 (40.8%)	167 (54.0%)	15 (4.9%)	1 (0.3%)	3.35	.59
2	Library automation enhances multiple access to library information	145 (46.9%)	158 (51.1%)	4 (1.3%)	2 (0.6%)	3.44	.56
3	Library automation leads to easy access to library information	136 (44.0%)	161 (52.1%)	11 (3.6%)	1 (0.3%)	3.40	.58
4	Library automation saves time of library users in search for information	162 (52.4%)	143 (46.3%)	4 (1.3%)	0 (0.0%)	3.51	.53
5	Library automation leads to increase in performance of library staff	152 (49.2%)	147 (47.0%)	10 (3.2%)	0 (0.0%)	3.46	.56
6	Through library automation, materials and resources needed for teaching, learning and research become easy to access	146 (47.2%)	158 (51.3%)	3 (1.3%)	2 (0.6%)	3.45	.55
7	Speed of accomplishment and accuracy of the job of library personnel increases as a result of library automation	124 (40.1%)	157 (50.8%)	23 (7.4%)	5 (1.6%)	3.30	.67
8	Library automation boosts the image of the Institution and the webometric ranking	12 (39.5%)	176 (57.0.%)	9 (2.9%)	2 (0.6%)	3.35	.57
9.	Library automation exposes librarians and other library personnel to current trends in IT	151 (48.9%)	149 (48.2%)	9 (2.9%)	0 (0.0%)	3.46	.55
	N= 309; Criterion Mean = 2.50; Weighted Mean = 3.41						

SA= Strongly Agree; A = Agree; D = Disagree; SD = Strongly Disagree.

Udoaku (2015), and Omosor (2014), who reported that library automation has brought about easy access and retrieval of information resources, saves the time of patrons, helps in keeping track of the location of items in the library, and also leads to increase in the speed of accomplishment and accuracy of library tasks. The authors also reported a positive relationship between automated cataloguing and circulation systems and library services.

Three: What are the challenges facing university libraries in South West, Nigeria in maintaining automated systems towards effective library services?

The perceptions of librarians on the challenges of maintaining automated systems towards effective library services ranked highest on 'Lack of technical support from vendor' and 'Technophobia'. The least ranked challenge was 'Lack of user IT knowledge' (Table 6).

These findings corroborate the work of Emasealu (2019); Daniel, Chima and Udoaku (2015), Ossai-Ugbah (2010) and Adegbore (2010) who pointed out that inadequate power supply, fluctuating network, limited access speed, and inadequate computer systems were some of the challenges encountered in the use of automated systems for effective library services delivery. The findings of this study were also in accordance with the work of Upadhyay at al. (2012) and Nayana (2019), who reported that the challenges included insufficient funds, lack of training of library staff, lack of support by management and lack of computer facilities . Mulla and Chandrashekara (2010), Adegbore (2010), Ossai-Ugbah and Ogunrombi (2013) and Otunla (2016), also indicted insufficient funds, attitude of library staff, lack of ICT staff, and insufficient number of staff as the major constraints faced by academic libraries in maintaining automated systems.

Results and research hypothesis

There is no significant differences in the library personnel perceived status of library automation between State, Federal and Private universities in South West, Nigeria.

Table 7 presents the analysis of variance (ANOVA) showing differences in the library personnel's perceived status of library automation in State, Federal and Private universities in South West, Nigeria. The findings indicate no significant differences ($F = 0.737$; $P > 0.05$). Hence, the null hypothesis is hereby accepted.

Table 6. Challenges facing university libraries in maintaining automated systems.

S/N	Challenges	SA	A	D	SD	Mean	SD
1	Insufficient fund to maintain automated system	138 (44.7%)	161(52.1%)	10 (3.2%)	0 (0.0%)	3.41	.56
2	Technophobia	143 (46.3%)	158 (51.1%)	7 (2.3%)	1 (0.3%)	3.43	.56
3	Poor attitude of library staff	126 (40.8%)	173 (56.0%)	10 (3.2%)	0 (0.%)	3.38	.55
4	Inadequate power supply	131 (42.4%)	168 (54.4%)	8 (2.6%)	2 (0.6%)	3.39	.57
5	Internet fluctuation	131 (42.4%)	174 (56.3%)	3 (1.0%)	1 (0.3%)	3.41	.53
6	Lack of technical support from vendor	143 (46.3%)	157 (50.8%)	9 (2.9%)	0 (0.%)	3.43	.55
7	Software compatibility problems	145 (46.9%)	149 (48.2%)	11 (3.6%)	4 (1.3%)	3.41	.61
8	Lack of user IT knowledge	108 (35.0%)	175 (56.6%)	23 (7.4%)	3 (10.0%)	3.26	.63
	N= 309; Criterion Mean = 2.50; Weighted Mean = 3.39						

SA= Strongly Agree; A = Agree; D = Disagree; SD = Strongly Disagree.

Table 7. One way Analysis of Variance (ANOVA) showing significant differences in the library personnel's perceived status of library automation.

Universities	N	Mean	Std. Deviation	Std. Error	F-Cal	Probability
State	109	19.9266	2.98672	.28608	.737	.479
Federal	100	19.6000	1.72328	.17233		
Private	100	19.6000	1.75234	.17523		
Total	309	19.7152	2.25698	.12840		

Conclusion

From the findings of this study, there is no doubt of the importance of automation towards effective service delivery in university libraries in South West Nigeria. The management of university libraries should as a matter of urgency seek the support of the university management in terms of funding to acquire and install library management software that will compete favourably with first class libraries in the world to further enhance service delivery for both library personnel and library patron alike.

Recommendations

Based on the findings of this study, the following recommendations are made:

i. The university management should assist the library through funding to procure automated software that is user friendly, accessible, durable and compatible with the Internet.
ii. Library personnel of all cadres need to be trained and re-trained on effective utilization of automated software. This training should be based on all modules without separating one module from another. This training should first be handled by the agent or vendor and subsequently by another expert or those in charge of automation in the library.
iii. There is a need for attitudinal change among the library personnel in academic libraries towards automation. Yhey need to shift from ancient to modern day librarianship that is ICT driven.
iv. Academic institutions should ensure that the speed of the Internet connection (bandwidth) is sufficient enough to cater for a growing population.
v. More computer systems need to be procured for the libraries and be made accessible to users. These computers must be Internet compatible.

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Appendix

A. Questionnaire

Perceptions of library personnel on the impact of library automation on university library services in Southwest, Nigeria

Dear Sir/Madam

This questionnaire is designed to solicit your support in order to carry out a successful empirical study on the topic above. Your prompt and factual response will be highly appreciated.

Section A: Demographic Information

1. Name of University Library: .....
2. State: .....
3. Gender: (a) Male { } (b) Female { }
4. Age in years: .....
5. Marital Status: (a) Single { } (b) Married { } (c) Others .....
6. Level of Education: (a) SSCE or less { } (b) OND/NCE { } (c) BSc/BLS { } (d) MSc/MA/MIS/MSM/MLS { } (e) Ph.D { }
7. Work Experience: (a) 1-10 years { } (b) 11-20 years { } (c) 21-30 years { } (d) 31-40 years (e) 41-50 years { }

Section B

Objective one: Status of Library Automation

1. Is you Library Automated? (a) Yes { } (b) No { } (c) I can't say { }
2. If your answer to question 1 above is yes, how long has your university library automated? (a) Less than 5 years { } 5-10 years { } (c) 11-15 years { } (d) Above 15 years
3. Which of the following section of the library is automated? Tick as applicable

S/N	Section/Unit	Fully Automated	Moderately Automated	Partially Automated	Not Automated
1	Cataloguing and Classification				
2	Circulation/Readers Service				
3	Acquisition				
4	Serials				
5	Multimedia				
6	Gift & Exchange				
7	Bindery				

Objective Two: Library services available in your library

4. Which of the following services are available in your university library

S/N	Services	Yes	No	Can't Say
1	Internet Services			
2	Current awareness			
3	Bibliographic			
4	User education			
5	Interlibrary Loan			
6	Circulation/Borrowing			
7	Acquisition			
8	Reference services			
9	Technical services			
10	Abstract and Indexing			

Objective Three: Impact of automation on library services

5. Which of the following do you considered as the effect of library automation on library services

S/N	Impact of Library automation	Strongly Agree	Agree	Disagree	Strongly Disagree
1	Library automation enhance user satisfaction of library services				
2	Library automation enhance multiple access to library information				
3	Library automation lead to ease access to library information				
4	Library automation safe time of library users in search for information				
5	Library automation lead to increase performance of library staff				
6	Through Library automation, materials resources needed for teaching, learning and research becomes easy to access				
7	Speed of accomplishment and accuracy of the job of library personnel increases as a result of library automation				
8	Library automation boost the image of the Institution and the webometric ranking				

Objective Four: challenges faced by university library in southwest, Nigeria in maintaining automation system towards effective library services

6. Which of the following do you considered as challenges facing university library in maintaining automation system towards effective library services

S/N	Challenges	Strongly Agree	Agree	Disagree	Strongly Disagree
1	Insufficient fund to maintain automated system				
2	Techno phobia				
3	Poor attitude of Library staff				
4	Inadequate power supply				
5	Internet fluctuation				
6	Lack of technical support from vendor				
7	Software compatibility problems				
8	Lack of user IT knowledge				

Thank you for the prompt response.

Yours Sincerely

_____ Researchers

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