

The Effect of Library Automation Services on the Utilisation of Information Resources in Bingham University Library

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Abstract

This work titled The Effect of Library Automation services on the Utilisation of Information Resources in Bingham University Library appraised the utilisation of automation services to access and utilise library information resources in Bingham University, Karu in Nasarawa State. A survey research method was adopted for the study, and the questionnaire was the instrument for data collection. The population of the study consisted of 751 students who registered with the library in the current academic year and out of which 254 users were randomly selected to respond to the questionnaire out of which 234 were retrieved and found usable representing 92.13% of the total respondents and data were analysed using frequency tables and percentages. The significant findings of the study were that majority of the respondents were not aware of many of the library automation services, which led to underutilisation of these services and low satisfaction. Ignorance of the existence of library automation services, inadequate searching skills of the users, inefficient computer systems, and inaccessibility of the library website. Others are nonfunctional computer systems, epileptic Wi-Fi signal, and irregular power supply contributed to underutilisation and low satisfaction of the automation services of the library. Based on the findings, the study recommended that the library should embark on massive awareness programs; library staff should be trained on how to market and encourage the students to use these automation services, and the library should regularly interview the users to ascertain their level of satisfaction. And the management of the university should continue to improve in the provision of power supply, Internet infrastructure, and provision of databases that are current and relevant to the courses run by the university.

Keywords: Library Automation, Library Services, Information Resources, University.

Introduction

The literature revealed that library automation is gradually gaining momentum among university libraries in Nigeria. This is because of the immense benefit of the application of computer technologies in library management for enhancing service delivery. Library automation facilitates the management of library resources and services like the library run with minimal human effort in creating access to information resources for library patrons.

The university library is one of the most critical institutions in the university because of the roles the library play in the academic life of the university. Aniebo (2004) defined the library as "an organised collection of books and non-book media such as films, filmstrips, slides, tape recordings, microfilms and microfiches set apart in a building for reading, study reference or research with professional librarians and other staff to assist the users". In defining the modern library, Eberhart (2010) sees the library as "a collection of resources in a variety of formats that is

(1) organised by information professionals or other experts who (2) provide convenient physical, digital, bibliographic, or intellectual access and (3) offer targeted services and programs (4) with the mission of educating, informing, or entertaining a variety of audiences (5) and the goal of stimulating individual learning and advancing society as a whole.” This definition is consistent with Ajibili (2012) who sees the library as "the place to get unrestricted access to information in many formats and from many sources. In addition to providing materials, they also provide the services of specialist librarians in navigating and analysing tremendous amounts of knowledge with a variety of digital tools". Therefore we could safely take the library as a place where free information is accessed in a different format and sources with the help of librarians and other information professionals that interpret and advance the utilisation of these information resources using bibliographic and other digital tools.

The modern library is no more limited by space or location as users can always get access to varieties of information sources beyond their immediate environment. This is made possible by the application of Information and Communication Technology (ICT) in rendering library services. The modern library is therefore automated to enhance the provision of information services and improve users' experience by providing accessible, timely, authoritative and quality Information.

The whole essence of automating the library is to facilitate all process of sourcing, acquisition, processing and dissemination of Information with great precision and efficiency to users who are the reason for establishing the library.

Adeyomoye (2008) defined “library automation as the application of computer and such related devices to the technical processes and public services as well as housekeeping function in libraries”. Accordingly, Tabusum, Saleem&Batcha (2013) stated that “Library automation is the general term for Information and Communication Technologies (ICT) that are used to replace manual systems in the library. At the same time, Yakubu (2014) defined library automation as the application of mechanical and electrical devices to carry out a particular task in the library, which is formally performed manually. This view was sustained by Ashikuzzaman (2016) who stated that Library automation confines itself to the use of data processing equipment and associated technology to perform precisely what has always and already been done in libraries through a manual process.

From the above review, library automation, therefore, is the application of Information and Communication Technologies (ICT) in libraries to improve on the manual traditional library practice of acquisition, cataloguing and classification, bibliographic control, circulation and electronic information services for better library user experience.

Library automation services are library services that came as a result of the application of the automation process in the library. They are those services emanating from the automation of the library that replaced the manual library practice. The two areas of library automation services are staff oriented which enables library staff to acquire, the process in terms of cataloguing and classification. The second area is the store and disseminates information to users, and user-oriented, which allows the library users to utilise all processed information resources stored in the library. This study investigates the effect of automation services which enable the user to use library information resources in Bingham University. These include:

1. The Online Public Access Catalogue (OPAC)

The Online Public Access Catalogue is the electronic version of the manual catalogue. It is also the user interface of the library software that drives the automation process in the library. Users can use the OPAC to determine the availability, location, reserve, and borrow any information resource of their interest stored in the database of the library software in use in a particular library through the author, title, subject or keywords search terms.

2. The Library Website

The Marriam Webster's Collegiate Dictionary (2003) described the website as "a group of web pages usually contain hyperlinks to each other and made available online by an individual, company, educational institution, government, or organisation". In contrast, the Oxford Advanced Learner's Dictionary (2015) described the website as a place connected to the Internet where a company or an organisation or a person put Information. The website, therefore, is a location on the Internet which contains one or more webpages of the World Wide Web where an individual or organisation put the Information to be accessed online. In Bingham University, users use the website to access the institutional repository, subscribed databases, communicate with the librarian in a remote location and read library news.

3. The Workstations (Computer Systems):

The computer station is the hallmark of an automated library. They are the computers you find in different locations in the library. They are used to access offline and online information resources of the library by users; even the OPAC is housed in the library computer station. All the electronic information resources of the library are housed in the library computer stations. They are also used to typeset document and other computing activities in the library, for example, students' assignment.

4. The Intranet (Wi-Fi Network):

The intranet is the Local Area Network (LAN) of an organisation. The Bingham University LAN is a Wireless Fidelity (Wi-Fi) process which enables users to access all electronic information resources (the offline database, or subscribed online databases through the Internet) from a remote location within the coverage area of the institution. Users use the intranet to browse the OPAC and other offline information resources of the library within the coverage area of the university environment.

Library information resources are the total of all information materials that make up the holdings of the library. The library information resources include books and non-book materials in electronic and non-electronic formats that are consulted by users to satisfy their various information needs. These include the textbooks, serials, reference books, students' projects, thesis and dissertations, CD Roms, e-books and subscribed databases etc.

The Bingham University, Karu in Nasarawa State is a mission faith-based, Christ-centred institution owned by Evangelical Church Winning All (ECWA). The Federal Government of Nigeria issued the operating license for the institution in January 2005, and academic activities started in May 2006. The University Library was opened for service on the same date. The Bingham University library (BHUL) automation process began with the installation of work station and the creation of LAN to interconnect all the computers right from the inception of the university library in 2006 and later in August 2015. The New Generation Library software

(NGL) was launched for the use, which gave rise to the Online Public Access Catalogue (OPAC) that enable the users to locate, access and utilised library information resources. The website was created and hosted in 2016. All these service infrastructures were designed to provide a better library user experience.

It is noteworthy to mention that the Bingham University library operates from six points: Bingham University Main Library, Main (Karu) Campus. The College of Health Sciences Library - Medical Library, Main (Karu) campus, the Computer Science Library, FOST Building, main (Karu) campus, The Faculty of Humanities, Social & Management Sciences Library Main (Karu) campus. The Bingham University Teaching Hospital (BHUTH) Jos, the Faculty of Science & Technology Library - Library Annex, Main (Karu) campus. All these libraries were connected via a wireless Process.

The main library of the university provides collections and services to support the faculties or programs not explicitly served by the branch libraries. The main library supports the branch libraries with central services, including acquisition, cataloguing and management of new materials including electronic resources, purchase of supplies and equipment, management and maintenance of information and library systems. (Bingham University Library, OPAC, 2019).

Problem Statement

Computer and telecommunication technologies have empowered the new breed of information professionals to select, organise, retrieve, and transfer the necessary information effectively and efficiently to the users. Library automation as regards to information resource utilisation merely provides access to information resources which may be in a variety of formats such as hard copy or soft copy, online or offline, e-books, journals, CD ROMs, computer databases and the Internet.

Users are faced with the challenge of knowing what information is stored and where it is stored and the technical know-how to manipulate the various access facilities to access and utilise library information resources. The service provider (the library) is making concerted effort to ensure that whatever is the information needs of the users, the user should be able to get it as fast as possible at all times. What the library is providing for users and how what is provided is affecting the users' experience is a question of research. The problem on the part of users in making use of what is provided is a question of research.

Literature has revealed that library automation in Nigeria is affected by many challenges as service providers and users are still battling with the capabilities to provide and use respectively to derive the immense benefit of library automation. It is important to note that the users are the primary reason for establishing the library, managing the library, therefore, requires that users' needs must be met; the library should be appraised to determine the extent of satisfaction and causes of dissatisfaction to the users.

Objectives

The objectives of this study were to:

1. Determine the extent of awareness of the availability of automation services of the university library by the users
2. Determine the extent of utilisation of automation services to access and utilise information resources by the users

3. Ascertain the extent of users' satisfaction in utilising library automation services to access and utilise information resources.
4. Investigate the factors hindering the effective use of library automation services to access and use information resources.

Literature Review

The emergence of ICT facilities in Libraries has changed the packaging and delivery of information services in the library. This latest phase of library development comes with a lot of benefits and challenges. The advantages must be exploited while the obstacles must be arrested.

In describing library automation, Adeyomoye (2008) defined "library automation as the application of computer and such related devices to the technical processes and public services as well as housekeeping function in libraries". Accordingly, Tabusum, Saleem & Batcha (2013) stated that "Library automation is the general term for Information and Communication Technologies (ICT) that are used to replace manual systems in the library. At the same time, Yakubu (2014) defined library automation as the application of mechanical and electrical devices to carry out a particular task in the library, which is formally performed manually. This view was sustained by Ashikuzzaman (2016) who stated that Library automation confines itself to the use of data processing equipment and associated technology to perform precisely what has always and already been done in libraries through a manual process.

From the above review, library automation, therefore, is the application of Information and Communication Technologies (ICT) in libraries to improve on the manual traditional library practice of acquisition, cataloguing and classification, bibliographic control, circulation and electronic information services for better library user experience.

The importance of library automated services that provide access facilities for users can never be overemphasised as the application of Information, and Communication Technologies (ICT) in libraries has taken over the primary aspect of library operations. ICT promotes the growth and development of libraries in several ways. They are: effective dissemination of services to users and providers of possibilities of networking as information (data) stored in one computer can be transmitted to another computer regardless of the distance (3) Simplifying many difficult or time-consuming tasks to an extraordinary degree (4) Provision of efficient ways to manage a large amount of information and (5) Easy access to bibliographic records and source materials, ICT is a concept that has shaped information storage and retrieval in libraries and information centres, Ronley (as cited in Abdullahi&Haruna, 2008). Suriya, Devi, Arumugan, Ganesh, & Parthasarathy (2011) asserted that "an effective and efficient access mechanism that allows a user to browse search and navigate digital resources becomes necessary. As electronic resources of a collection grow in number and complexion". While Reitz (as cited in Liman, Shuaibu, Danladi, & Mani, 2016), maintained that application of Information and Communication Technology in libraries could include access to online resources on the Internet such as e-journal, e-book, e-magazines, e-publishing using CD-ROM for literature search, and access to local network databases.

Many studies have been carried out and reported in the area of library automation services among which are Ossai-Ugbah (2010) who made a study on the impact of automated library services and usage on student's academic performance in Nigerian universities using three tertiary institutions in Nigeria: University of Ibadan, Covenant University, Sango Ota and

Ladoke Akintola University of Technology, Ogbomosho and reported that students who made use of automated library service perform better than students who do not. She also concluded that students who use automated library services tend to have higher levels of university academic performance because they access and use the facilities provided through automated library services.

Pandya & Darbar (2016) carried research on library automation service titled: 'User's Perception on Library Automation: A Survey' using online questionnaires for data collection, they discovered from the analysis of the data that users are aware of the automated system of the library, with automation the users working capacity is increased, they will complete their task in less time, and overall, library automation has a positive impact on users.

Nganga (2016) also studied "The effect of using computer-based library management system on information provision in University libraries: The case of University of Zambia Library". The study revealed that using computer-based library management system had enhanced efficiency in providing library and information services at the University of Zambia. The library concluded that because of the use of computer-based library management system removed the repetitive traditional library routines that characterised the processes of acquiring, processing, retrieval and dissemination of information in the manual system.

The introduction of technologies in libraries comes with some problems, especially in the less developed countries like Nigeria, where power generation is still feeble. Most of these technologies are produced in countries like America, Britain, Germany and the like and exported to Nigeria for use; It follows that Nigerian first and foremost have to learn how to use them and domesticate them for public service.

Many researchers in the area of library automation reported some of the problems encountered by both library service providers and users. Omosor (2014) studied the effect of technology on librarians in academic libraries in Nigeria, using twelve (12) tertiary institutions libraries in Delta State and reported that inadequate work station and printers to meet patron needs causes discontentment for the users. He recommended that management should design and implement strategies for training and retraining librarians to keep them abreast with relevant skills and abilities necessary for effective and efficient library and information service delivery.

The study made by Nganga (2016), revealed that there were challenges faced by both library staff and users such as high computer-student ratio; poor internet connectivity; and shortage of manpower for operations. Others are low maintenance of computers; obsolete equipment, mainly as a result of lack of fund, shortage of staff to train library users on how to use the equipment and software provided by the library for effective information retrieval. The study made recommendations such as the need to have a library service to minimise the poor internet connectivity since most of the library functions and operations rely on the availability of Internet; the need to employ qualified manpower for operations and maintenance of the computer. Other recommendations are the need to come up with user education policy to equip the users with knowledge and skills on information retrieval and other library services available.

Methodology

The survey research method was adopted for this study. The population for the study consists of 751 students who registered with the library in the year 2018/2019 (library users update their registration every academic year) and out of which 254 students were randomly

selected to respond to the questionnaire based on Krejcie and Morgan table, Krejcie & Morgan (as cited in Kempro, 2012). The questionnaire was the instrument for data collection. The questionnaire was distributed inside the library as the students came to use the library; this is to ensure that the respondents have the experience of using the automated library services. The data gathered were analysed using frequency tables and percentages.

Data Analysis and Discussion

A total of 254 questionnaires were distributed for data collection, out of which 234 were retrieved and found usable, representing 92.13% of the total respondents and data were analysed using frequency tables and percentages.

Table 1: Awareness of Library Automation

S/N	ITEMS	AWARE		NOT AWARE	
		Response Rate	%	Response Rate	%
1.	Using the OPAC to determine the availability of an information resource	96	41.0	138	59.0
2.	Using the OPAC to determine the location of an information resource	72	30.8	162	69.2
3.	Using the library website to communicate with a librarian in the university library.	24	10.0	210	89.7
4.	Using the library website to read library news and communications	66	28.0	168	71.8
5.	Using the library website to access the institutional repository	48	20.6	186	79.5
6.	Using the library computer system to access offline information resources	60	25.6	174	74.4
7.	Using the library computer system to access the Internet.	180	76.9	54	23.1
8.	Using the library computer system to do your academic assignment	174	74.4	60	25.6
9.	Using the Wi-Fi network to access the Internet.	186	79.5	48	20.5
10.	Using the Wi-Fi network to access the offline databases	78	33.3	156	66.7
11.	Using the Wi-Fi network to access the OPAC.	84	35.9	150	64.1

Table 1 shows that majority of the respondents were not aware of many of the automated library services except using the Wi-Fi network to access the internet 186(79.49%), using the library computer system to access the internet 180(76.92%). Other they were using the library computer system to do their academic assignment 174(74.36%) where the majority of the respondents agreed that they were aware.

It, therefore, concluded from the table that majority of the users are not aware of the majority of the automation services of the library.

Table 2: The Extent of Utilisation of Library Automation Services.

S/N	ITEMS	RESPONSE RATE (%)			
		Very High Extent	High Extent	Low Extent	Very Low Extent
1.	Using the OPAC to determine the availability of an information resource.	5.1	7.7	30.8	6.4
2.	Using the OPAC to determine the location of an information resource.	2.6	7.7	30.8	59.0
3.	Using the library website to communicate with a librarian in the university library.	5.1	5.1	23.1	66.7
4.	Using the library website to read library news and communications.	5.1	7.7	25.7	61.5
5.	Using the library website to access the institutional repository.	5.1	7.7	20.5	66.7
6.	Using the library computer system to access offline information resources	2.6	20.5	33.3	43.6
7.	Using the library computer system to access the Internet.	10.3	12.8	(5.6	51.3
8.	Using the library computer system to do your academic assignment	15.4	12.8	23.1	48.7
9.	Using the Wi-Fi network to access the Internet.	18.0	23.1	18.0	41.0
10.	Using the Wi-Fi network to access the offline databases.	5.1	15.4	28.2	51.3
11.	Using the Wi-Fi network to access the OPAC.	5.1	10.3	28.2	56.4

Table 2 revealed that the automated library services were grossly under utilised especially using the library website to communicate with a librarian in the university library 156 (66.67%), using the library website to access the institutional repository 156 (66.67%), using the library website to read library news and communications 144 (61.54%),. Others are using the OPAC to determine the location of an information resource 138 (58.97%) and using the OPAC to determine the availability of an information resource 132 (56.41%) rank the highest of 'very low Extent' utilisation. This implies that majority of the automation services of the library were grossly underutilised; there was fairly adequate utilisation of only a few services they users were aware of against the majority of the services they were not aware.

Table 3: The Extent of Users' Satisfaction on Library Automation Services

S/N	Items	Response Rate (%)			
		Very High Extent	High Extent	Low Extent	Very Low Extent
1.	Using the OPAC to determine the availability of an information resource	10.3	20.5	30.8	38.5
2.	Using the OPAC to determine the location of an information resource	7.7	20.5	30.8	41.0
3.	Using the library website to communicate with a librarian in the university library.	5.1	23.1	33.3	38.5
4.	Using the library website to read library news and communications	12.8	23.1)	25.6	38.5
5.	Using the library website to access the institutional repository	10.3	20.5	33.3	35.9
6.	Using the library computer system to access offline information resources	10.3	25.6	30.8	33.3
7.	Using the library computer system to access the Internet.	18.0	38.5	18.0	25.6
8.	Using the library computer system to do your academic assignment	28.2	33.3	23.1	15.4
9.	Using the Wi-Fi network to access the Internet.	25.6	38.5	20.5	15.4
10.	Using the Wi-Fi network to access the offline databases	5.1	38.5	33.3	23.1
11.	Using the Wi-Fi network to access the OPAC.	5.1	28.2	35.9	30.8

Table 3 revealed that the respondents were not satisfied with the automated library services except using the Wi-Fi network to access the Internet where the response was 'very high' 60(25.64%) and 'high' 90(38.46%). Others findings showed that using the library computer system to access the internet 'very high'42(17.95%) and 'high' 90(38.46%), and using the library computer system to do their academic assignment 'very high' 66(28.21%) and 'high' 78(33.33%).

The table also revealed that the primary reasons for low satisfaction were low awareness which led to underutilisation of library automation services of the library.

Table 4: Factors Hindering the Effective Use of Library Automation Services.

S/N	Items	Response Rate (%)			
		Very High	High	Low	Very Low
1	Ignorance of the existence of Bingham University Library automation services	35.9	30.8	15.4	18.0
2	Inadequate searching skills	7.7	41.0	33.3	18.0
3	Inaccessibility of the website	7.7	28.2	51.3	12.8
4	Inadequate computer systems in the library	7.7	30.8	38.5	23.1
5	Nonfunctional computer systems	5.1	35.9	30.8	28.2
6	Epileptic Wi-Fi signal	20.5	30.8	28.2	20.5
7	Irregular power supply	2.6	23.1	38.5	30.8

Table 4 shows that the various factors hinder the ability of the respondents to effectively utilised the automated library services most especially ignorance of the existence of Bingham University Library automation services where the response was: 'very high'84(35.90%) and 'high'72(30.77%), followed by epileptic Wi-Fi signal 'very high'48(20.51%) and 'high'72(30.77%). It is, therefore, safe to say that the significant factor that hinders effective utilisation of library automation services are ignorance of the existence of these services which may be as a result of poor publicity or inadequate user education and epileptic Wi-Fi signal.

Conclusion

Many Bingham University library users are not aware of the significant automation services of the library besides; only users who are aware of the existence of these services utilise them maximally. However, low awareness leads to low utilisation, and low utilisation leads to low satisfaction. Some of the challenges militating against the fulfilment and effective utilisation of this library automation services were discovered to be users' inadequate searching skills, inadequate computer systems, nonfunctional computer systems, epileptic Wi-Fi signal, and irregular power supply.

Recommendations

1. The library should engage in massive awareness programmes through means like:
 - a. Printing of flyers containing the various automated library services and how to access these services and also pasting these flyers on all notice boards on campus and hostels.
 - b. Posting e-copies of flyers on both the university and library websites.
 - c. User education course should be tailored towards significant awareness and utilisation of the library automation services.
2. Library staff should be trained on how to market and encourage the students on the use of these automation services to enable students to put them to maximum benefit.

3. The library should regularly interview users to ascertain their level of satisfaction.
4. The Management of the University should continue to improve in the provision of power supply, internet infrastructure, and provision of databases that are current and relevant to the courses run by the university.

References

- Abdullahi, Z., M., & Haruna, I. (2008). The Utilisation of Information and Communication Technology (ICT) for information service delivery in university libraries in Adamawa State. *The Information Technologist: Journal of Information and Communication Technology (ICT)*, 5(2), 24-30.
- Ademoyede, J. I. (2008). Library automation projects in Nigeria private universities: The case of Igbinedion University, Okada. *The Information Technologist: An International Journal of Information and Communication Technology, (ICT)*,5(2), 19-23.
- Ajibili D. O. (2012). Who is a librarian?: An introductory text to librarianship
Kana De World Graphic Nigeria
- Aniebo, M. U. (2004). The use of the library and information technology for higher education.
Owerri: Springfield Publisher
- Ashikuzzaman. (, 2016). *Library automation: The Concept*. Retrieved from www.lisbnet.com.
- Bingham University. (, 2019). *Library - Bingham University*. Retrieved from binghamuni.edu.ng/library/index.php/opac.
- Eberhart, G. (2010). *American Library Association*. Retrieved from: <http://libguides.ala.org/library-definition>
- Honby, A. S. (2015). Oxford advanced learner's dictionary 9th ed. Oxford, United Kingdom: Oxford University Press
- Kempro. (, 2012). *Sample size determination using Krejcie and Morgan table*. Retrieved from [www.kempro.com/sample size determination using Krejcie and Morgan table](http://www.kempro.com/sample-size-determination-using-krejcie-and-morgan-table)
- Liman, Y. A., Shuaibu, U., Danladi, D., & Mani, Y. D. (2016). Application of Information Communication Technology in libraries services and operations: The Nigeria experience. *Benue Journal of Library, Management and Information Science (BJLMIS)*,6(1), 39-53.
- Merriam Webster (2003). Merriam Webster's collegiate dictionary 11th ed. Massachusetts, USA Merriam Webster
- Nganga, P. W. (2016). *The effect of using computer-based library management system on information provision in University libraries: The case of the University of Zambia Library*. Retrieved from <http://dspace.unza.zm:8080/xmlui/handle/123456789/4267>.
- Omosor, U. A. (2014). Effect of technology on librarians in academic libraries in Nigeria. *Journal of Information and Knowledge Management*, 5(2), 203-212.
- Ossai-Ugbah, N. B. (2010).The impact of automated library services and usage on student's academic performance in Nigerian universities. *International Journal of Library and Information Science*, 2(9), 169-176.
- Pandya, D. M., & Darbar, M. (2016). User's Perception of Library Automation: A Survey. *Indian Journal of Library Science and Information Technology*, 1 (2), 42 - 45.

- Tabasum, S. Saleem, A. &Batcha, S. (2013). Impact of library automation in the development era. *IORS Journals of Humanities and Social Sciences* 17(5), 20 - 26, Retrieved from www.iosjournals.org.
- Yakubu, H. (2014). Library Automation in Federal University Dustin-Ma Library, Katsina State Nigeria. *Nigerian Libraries: Journals of the Nigerian Library Association*, 47(1), 91-101.