An Assessment of ICT Usage in Library Automation by Federal Colleges of Education Libraries North-West Nigeria

Abbas Hamisu

University of Gezira Sudan

ABSTRACT

This paper assessed ICT usage in library automation of the Federal Colleges of Education libraries North-West Nigeria. The majority of the institutions of learning in North-West Nigeria operated in traditional library services, which doesn't tally with today's digital library user information needs. Therefore, the overall objective of the study was to examine the extent of ICT usage in library functions and services of the Federal Colleges of Education libraries North-West Nigeria. The population of the study involved a sample of 62 professional library staff and 1887 students across the relevancy colleges. A descriptive survey method was used, and a questionnaire for data collection. Before the survey, questionnaire items were validated by lecturers in the Department of Library and Information Science, University of Gezira Sudan. And a reliability test (alpha level 0.05) results in Cronbach's Alpha Coefficient 0.876 on availability of ICTs for library automation, 0.718 on ICTs usage in library automation, and 0.873 on the relevancy of library automation to student information needs. Data collected were analyzed using simple frequency count and mean scores, and ANOVA on ranks for hypothesis.

Keywords: Academic Library, ICT, Library Automation, Northern Nigeria.

Classification: FOR Code: 139999

Language: English

An Assessment of ICT Usage in Library Automation by Federal Colleges of Education Libraries North-West Nigeria

Abbas Hamisu

PhD Student, Department of Library and Information Science, University of Gezira Sudan

ABSTRACT

This paper assessed ICT usage in library automation of the Federal Colleges of Education libraries North-West Nigeria. The majority of the institutions of learning in North-West Nigeria operated in traditional library services, which doesn't tally with today's digital library user information needs. Therefore, the overall objective of the study was to examine the extent of ICT usage in library functions and services of the Federal Colleges of Education libraries North-West Nigeria. The population of the study involved a sample of 62 professional library staff and 1887 students across the relevancy colleges. A descriptive survey method was used, and a questionnaire for data collection. Before the survey, questionnaire items were validated by lecturers in the Department of Library and Information Science, University of Gezira Sudan. And a reliability test (alpha level 0.05) results in Cronbach's Alpha Coefficient 0.876 on availability of ICTs for library automation, 0.718 on ICTs usage in library automation, and 0.873 on the relevancy of library automation to student information needs. Data collected were analyzed using simple frequency count and mean scores, and ANOVA on ranks for hypothesis. However, 62 (100%) staff questionnaires and 1757 (93.1%) student questionnaires were retrieved for data analysis. And findings revealed that, the general level of ICT facilities available for automation in the libraries was very low, although there was a significant difference among the libraries. A second finding showed that the library staffs of the colleges were in agreement for purposes which available ICT facilities were being used for library automation, although significant difference exists among the libraries too. And lastly, the extent of relevance of automation by the academic libraries to student information needs was low, and there was no significant difference that exists among the libraries. The researcher concluded on the note that, the level of availability of ICT facilities for library automation is not satisfactory among the libraries, although the little ICTs available were utilized for purposes of library automation but not all were relevant to the information needs of the student. Thus, the study recommended the need for the libraries to improve in library automation provision, to a level that it becomes all relevant to student information needs which were not limited to electronic retrieval catalog systems, online information sharing, time-saving in needless travel to the library, online library instruction, visual-online exhibition of library resources, and online ask librarian assistance, among others. Another suggestion provided was the need for the libraries to integrate the following missing ICT tools for library automation: Radio-frequency identification, Smart Bookshelf, Book Drop and Sorting Unit, Library website, Wide Format Scanner Digital Cameras, Smart Self-Collection Box, Book Dispenser, Mobile Stock Take Trolley,

London Journal of Research in Humanities and Social Sciences

الملخص: العربية

قيمت هذه الورقة استخدام تكنولوجيا المعلومات والاتصالات في أتمتة المكتبات في مكتبات كليات التربية الفيدرالية شمال غرب نيجيريا. تعمل غالبية مؤسسات التعليم في شمال غرب نيجيريا في خدمات المكتبات التقليدية ، والتي لا تتوافق مع احتياجات مستخدمي المكتبة الرقمية اليوم من المعلومات. لذلك ، كان الهدف العام من هذه الدراسة هو دراسة مدى استخدام تكنولوجيا المعلومات والاتصالات في وظائف المكتبة وخدمات مكتبات كليات التربية الاتحادية شمال غرب نيجيريا. وشمل سكان الدراسة عينة من 62 من موظفي المكتبة المهنية و 1887 طالب في جميع الكليات الخمس. تم استخدام طريقة المسح الوصفي ، واستبيان لغرض جمع البيانات. قبل المسح، وتم التحقق من صحة بنود الاستبيان من قبل المحاضرين في قسم علوم المكتبات والمعلومات ، جامعة الجزيرة السودان. ويؤدي اختبار الموثوقية (مستوى ألفا 0.05) في معامل ألفا 0.876 لشركة كرونباخ حول توفر تكنولوجيا المعلومات والاتصالات لأتمتة المكتبة ، و 0.718 على استخدام تكنولوجيا المعلومات والاتصالات في أتمتة المكتبة ، و 0.873 حول ملاءمة أتمتة المكتبة لاحتياجات معلومات الطالب. وقد تم تحليل البيانات التي تم جمعها باستخدام عدد الترددات البسيطة وعشرات الدرجات ، وأنوفا على الرتب لغرض الفرضية. ومع ذلك ، تم استرداد 62 (100 ٪) استبيانات الموظفين و 1757 (93.1 ٪) استبيانات الطلاب لتحليل البيانات. وكشفت النتائج أن المستوى العام لمرافق تكنولوجيا المعلومات والاتصالات المتاحة للتشغيل الآلي في المكتبات كان منخفضًا للغاية ، على الرغم من وجود اختلاف كبير بين المكتبات. وأظهر الاستنتاج الثاني أن موظفي المكتبة في الكليات كانوا متقنين لأغراض استخدام مرافق تكنولوجيا المعلومات والاتصالات المتاحة لأتمتة المكتبة ، على الرغم من وجود فرق كبير بين المكتبات أيضا. وأخيرًا ، كان مدى أهمية أتمتة المكتبات الأكاديمية لاحتياجات الطلاب منخفضًا ، ولم يكن هناك فرق كبير بين المكتبات. وخلص الباحث في الملاحظة إلى أن مستوى توفر مرافق تكنولوجيا المعلومات والاتصالات لأتمتة المكتبات ليس مرضياً بين المكتبات ، على الرغم من أن القليل من تكنولوجيا المعلومات والاتصالات المتاحة كانت تستخدم لأغراض أتمتة المكتبة ولكن لم تكن جميعها ذات صلة باحتياجات الطالب من المعلومات. وبالتالي ، أوصت الدراسة بضرورة تحسين المكتبات في توفير أتمتة المكتبات ، إلى مستوى يصبح كل ما يتعلق باحتياجات معلومات الطالب التي لم تقتصر على أنظمة كتالوج الاسترجاع الإلكتروني، وتبادل المعلومات عبر الإنترنت ، وتوفير الوقت في السفر غير الضروري إلى مكتبة وتعليمات مكتبية عبر الإنترنت ومعرض مرئي على الإنترنت لموارد المكتبة ، وطلب مساعدة أمين مكتبة على الإنترنت ، من بين أشياء أخرى. هناك اقتراح آخر تم تقديمه وهو

ضرورة قيام المكتبات بدمج أدوات تكنولوجيا المعلومات والاتصالات المفقودة التالية لأتمتة المكتبة: تحديد الترددات الراديوية، رف الكتب الذكي ، وحدة إسقاط الكتب وفرزها ، موقع المكتبة ، الكاميرات الرقمية ذات الماسح العريض الواسع ، صندوق تجميع الذات الذكي ، كتاب موزع ، عربة نقل الجوال ، نظام التوصية ، الويكي ، المدونات ، تسجيل الصوت والفيديو ، الحوسبة السحابية ، الشبكات الاجتماعية ، موجزات Real Simple Syndication ، ونظام المراقبة الذكي ، إلخ.

الكلمات الرئيسية: المكتبة الأكاديمية ، تكنولوجيا *keywords:* معلومات والاتصالات ، أتمتة المكتبات ، شمال نيجيريا.

I.   INTRODUCTION

Information and Communication Technologies (ICTs) have come in a time when professionals in various fields of disciplines like engineering, medicine, aviation, and so on are looking for mediums of improving their process, and of services. Librarians are not an exception to the quest for new discoveries to effectively discharge their activities, they require ICTs most – especially at this day of the world where the entire community focus and rely so greatly on ICT. So, the role of libraries as safe gate keepers of information will be facilitated by integrating ICTs to the library system. Nonetheless, libraries existed for a long time in history but today, we can categorically classify them as either traditional or modern libraries comprising various functions and services of information related. The nature of library routines and or services in a traditionally oriented library differs from that of a modern library. The line of demarcation or differentiation of the two libraries, 'traditional' and 'modern library', is the utilization of automation. While the former is not characterized by a paradigm shift in the automation of it functions and services, the latter does. Most libraries, especially academic libraries in developed countries like America, had already automated their functions (library basic routines) and services (hooked on the internet for information delivery). The MARC (Machine Readable Catalogue) project by the library of congress in about the 1970s is a good example in the United State of America (Seikel & Steele, 2011). Although developing countries like Nigeria is in the move to the ICT world but yet the majority of their libraries can be seen not

An Assessment of ICT usage in Library Automation by Federal Colleges of Education Libraries North-West Nigeria

automated, and the library old ways of activities will no longer be relevant to users. For example, the use of traditional public catalogue to locate books in the library is no longer the expectation of the library user; in fact, the library user perceives the use of the public catalogue as a waste of time and effort where there exists the Google search engine. But the presence of an Online/Offline Public Access Catalogue (OPAC) or Web Public Catalogue (WEBPAC) suites the digital age user need.

Library routines and services in a typical traditional library setting is less rewarding compared to an automated one. It requires such libraries selecting their information resources via a variety of traditional (for example, book) catalogue received from vendors, and they acquire these information resources through direct (manual) purchase, consortium, gifts and or exchange procedures. Organization is then done on the bases of classification, and cataloguing. The cataloguing process is the description of the library collections (non-printed and printed materials). The cataloguing is done on a card catalogue or in form of dictionary catalogue, book catalogue, subject stripe index catalogue and microform catalogue. Though the microform catalogue was a forerunner advance technology of the others, it is still seen as a traditional form of library process in the 21st century. While classification basically involves the use of classification schemes and sears list of subject headings which are in volumes of book format. While regarding information delivery or services rendered by traditional libraries, disseminating information includes direct and indirect reference services, user education service, loan services, exhibition service, SDI (Selective Dissemination of Information) and CAS (Current Awareness Services), which are carried out either written or on oral bases as the case may be with service intended. These traditional ways of library processes have given way to modern techniques via ICT.

Automation using ICTs is the new trend for libraries, highly essential, and has a wide range of activities. The automation is economically feasible and technologically required in modern libraries to cope up with the requirements of new knowledge, the enormous increase in the collection of materials, problems of acquisition, storage, processing, dissemination and transmission of information (Bhardwaj & Shukla, 2000). This is why (Madu, 2004) is of the view that one of the reasons for library automation is the efficiency which results in the use of an automated system, and elaborately (Eme, Sampson, & Esiere, 2012) identify the advantages of library automation each as a subject to include multiple access, information retrieval, preservation and conversation, space, added value, and round the clock availability etc. These advantages in automation cannot be over emphasized. (Lubanski, 2012), defines automation as the use of machines or technologies to optimize productivity in the production of goods and delivery of services. While (Mudassir, 2013), refer to ICT as hardware, software, networks and media for collection, storage, processing, transmission, and presentation of information in the formats of voice, data, text and images. Harmoniously, (Ukachi, Nwachukwu, & Onuoha, 2014), refer to library automation as the process of applying or utilizing ICTs to perform those tasks that are traditionally performed manually in libraries such as acquisition, cataloguing, circulation, serials management, etc. Also, library automation has changed the way libraries, especially academic libraries, select, acquire, organize, and disseminate information. In other words, library automation, so vast in scope like ICT with miscellaneous facets, is the general term for Information and Communication Technologies (ICTs) that are used to replace manual systems in the library to perform the different sets of activities in the library. Some of the ICTs essential for library automation process include computers, databases (such as Encarta, Hinari, Science Direct, Ebscohost, Datab, etc), software (such as Alice for windows, Evergreen, Koha, Tinlib, Cdsis, Libsys, Soul, Virtua, Glas, Caliban, Autolib, etc), and Web 2.0/3.0–internet

based facilities (such as syndication, tagging, blogging, pod casting, wikis, etc).

II. STATEMENT OF THE PROBLEM

(Sperring, 2008), observed that library users visit the library for one common reason, to find information, and if libraries don't provide them with that information they will go elsewhere to find it. Thus, libraries a better position to establish right contact between the right information, and the right user in the right service possible. However, majority of the libraries visited in Northern Nigeria still stick and make much concentration on the conventional library way, such as the use of traditional public catalogue system for information access, circulation manual procedures of charging and discharging processes, serial manual processes in abstracting newspapers and journals, and of the processes in SDI (Selective Dissemination of Information), CAS (Current Awareness Services), exhibition, and so on, all put together are not present library usage. In fact, the manual systems is very slow, limited in scope, obstacle, and not responding to the dynamic needs of users (Sambe, Omeje, & Onah, 2013). Could it be that the libraries under study have no ICT facilities needed for library automation? In every human endeavour, there is always a need to make an assessment in order to know if one is making progress or not (Abdullahi & Pisagih, 2009). Therefore, this study sets to examine the state of ICT usage in library functions and services by the academic libraries of Federal Colleges of Education North-West Nigeria.

III. OBJECTIVES OF THE STUDY

1.2.1 General Objective

The overall objective of the study is to examine the extent of ICT usage in library functions and services by the academic libraries of Federal Colleges of Education North-West Nigeria. Specific objectives:

1. To investigate the availability of ICT facilities for library automation in the academic libraries of Federal Colleges of Education North-West Nigeria.
2. To find out areas of ICT usage in library automation in the academic libraries of Federal Colleges of Education North-West Nigeria.
3. To also examine the degree to which library automation provision in the academic libraries of Federal Colleges of Education North-West Nigeria are relevant to the information needs of the library users.

IV. HYPOTHESIS

One hypothesis was formulated on the basis of library automation provision by the academic libraries and users' information needs.

H1 – There is a significant difference among the Federal Colleges of Education libraries North-West Nigeria in their library automation provision to users' information needs.

V. LITERATURE REVIEW

In the past, studies have been conducted to provide insights on ICT usage in library automation across Nigeria. Some of these literatures were discussed in the following. (Idowu & Mabawonku, 1999), years back in the 20th century indicated the application of IT (information technology) gradually taking firm root in Nigerian university libraries. The author observed the university of Ibadan library as far the most advance in IT application in the country by fully automated cataloguing and circulation processes, using the network version of the TINLIB (The Information Navigator Library Management) software. Also, other federal universities and one state university used the four-workstation network version of the same TINLIB software mostly for cataloguing purpose. (Oketunji, Daniel, & Okojie, 2002), studied ICT in national, academic and special libraries in Nigeria, and results of their investigation found that an average of five computers could be located in each of the libraries they studied. And the

major operating system use in the computers was windows 98. Other IT tool available included photocopiers. (Kenneth, 2003), in his book, observed library routines in the image of computer application. The computer can be used in a library routine in what he first called CAR (Computerized Acquisition Routines). CAR functions in book selection, bibliographic searching, receipts of new book, check and claiming of the new acquired library products, payment to suppliers, and keeping of acquisition statistics. For CAR purpose, the author devised a cataloguing tool called MDIF (Master Data Input Form) which was seen essential in descriptive and subject cataloguing. Apart, CSR (Computerized Serial Routines) functions in the generation of orders of serials, financial management, including checking and claiming purposes. While a CCR (Computerized Circulation Routine) possibly can execute the activities of registering users, updating, browsing and printing of records, books records, and charging and discharging procedures. The computer-based library system provides a better service at lesser or no great a cost and gives added benefits at lesser cost. (Anunobi, 2004), studied the availability of ICT and use in 19 university libraries across Nigeria. About 84% of the libraries had at least a personal computer, 73% use CD-ROM, 58% use LAN (Local Area Network), internet and e-mail facilities. The use of available ICT facilities in the libraries was much applicable to administrative day-to-day library routines compared to routines of cataloguing and classification, acquisition, evaluation and serials management, and this confirms her affirmation that there is a scarcity of ICT facilities in third generation universities in Nigeria and almost total absence of these facilities in state funded university libraries. (Omekwu & Echezona, 2008), deliberated on the emerging challenges and opportunities for Nigerian libraries in a global information system. The authors corroborated benefits of ICT as follows: libraries are now situated in cyberspace, library services are no longer constrained to time of opening and closing hours, library users can access services in libraries beyond their own and

beyond their country and continent, and the virtual of information resources means that millions of users can access one resource at the same time. They saw these benefits as an opportunity for Nigerian libraries to no alternative than to embrace ICT usage.

(Anunobi & Nwakwuo, 2008), studied the state of ICT in 8 university libraries in South-East Nigeria surveying the availability of the hardware, software, e-resources and their challenges. Most of the studied libraries have above average ICT literate professional staff, and computers found were used for document processing. Majority of the libraries could boast of standalone computers as against library software, network operating systems and LAN (Local Area Network), which are visibly absent in library operations. But a few of the libraries subscribe to online databases such as EBSCOhost (online reference system), HINARI (Access to Research in Health), AGORA (Access to Global Online Research in Agricultures), OARE (Online Access to Research in the Environment), and TEEAL (The Essential Electronic Agricultural Library). And some of the libraries were predominately of CD-ROM (Compact Disc Read Only Memory) electronic resources. (Abbas, 2014), studied Nigeria's ICT environment surveying the current state of automation in Nigerian university libraries with particular reference to, Ahmadu Bello University (ABU) Zaria and University of Ibadan (UI) libraries. The functions of acquisition, cataloguing, reference, circulation, and serial were all found partially implemented in the libraries, but cataloguing was completed in UI library. The UI study explored the processes worth considering in automating the library functions. These processes includes planning and managing the implementation project, infrastructure development, system configuration in terms of automation software and determining the hardware components, ensuring the system integration/compatibility, staff trainings, and retrospective conversion of library records. Last but not the least, (Makeri, 2017), studied the importance of information technology on electronic libraries in Nigerian

universities, adopting descriptive survey design and questionnaire. Two university libraries identified as John Harris Library (JHL) and Institute of governances and management Nigeria University Library (IGMN) were the case study. Both libraries were found computerized/automated applying SLAM integrated library management software, and the computerized areas constitute readers services, technical service and collection development divisions. The libraries indicated to an extent the usefulness of ICT in terms of a search engine, World Wide Web, CD/ROM, and online database. Based on the effectiveness of ICT in both the university libraries, the librarians indicated that the automation has eased their library operations, aid their library in meeting users need quickly, speeded up the process of cataloguing and classifications of library materials, reduced anti-library crimes, and with automation the libraries have proven been effective in selective dissemination of information and positively impacted charging and discharging of books of the libraries.

VI. METHODOLOGY

The five college libraries in Federal Colleges of Education North-West Nigeria were subjected for assessment to find out their state of ICT usage in library automation. The survey method was used, and the use of survey method has long enjoyed the application in educational fields essentially for the purpose of generalization of findings. The population of the study involved 63 professional library staff and 59,505 NCE student across the aforementioned colleges. Using (Yamane, 1967) sample size formula at 0.05 Margin of Error and 95% confidence, a total of 62 library staff and 1887 student were sampled across the five colleges. Both respondents were selected randomly using table of random numbers. A table of random numbers ensures the researcher gave an equal chance in selecting the respondents. A questionnaire was administered for the purpose of data collection. But prior to that, the questionnaire instrument undergone thorough vetting in terms of relevance, clarity and merit by lecturers in the Department of Library and Information Science, University of Gezira Sudan. And a pilot study conducted at Isa Kaita College of Education (COE) Dutsin-Ma Katsina and Shehu Shagari COE Sokoto libraries indicated, a reliability result (alpha level 0.05) of Cronbach's Alpha Coefficient 0.876 on availability of ICTs for library automation, 0.718 on ICTs usage in library automation, and 0.873 on relevancy of library automation to student information needs. Data collected for this study was analysed using simple frequency count and mean scores, and ANOVA on ranks (non-parametric test) for the purpose of hypothesis.

VII. RESULTS AND DISCUSSION

A total of 62 (100%) library staff questionnaires and 1757 (93.1%) student questionnaires were retrieved and used for data analysis. The findings answered questions about Federal Colleges of Education libraries North-West Nigeria on (1) ICT facilities availability, if any, (2) ICT facilities used for library automation, and (3) extent to which library automation provision being relevant to student information needs. However, tables 1.1, 1.2, and 1.3 below provided the findings accordingly.

Table 1.1: Level of ICT facilities available for automation in academic libraries of Federal Colleges of Education North-West Nigeria

S/N	ICT Facilities	Response categories					Mean	Remarks
		HA	AA	UD	LA	NA		
1	Computers	35	27	0	0	0	4.565	Available
2	CD-ROM	19	32	0	5	6	3.855	Available

3	Wide format scanner Digital cameras	9	4	17	17	15	2.597	Not Avail
4	Book scanner	10	22	9	10	11	3.161	Available
5	Dark rooms lighting equipment	4	1	12	12	33	1.887	Not Avail
6	Local Area Network	26	26	2	2	6	4.032	Available
7	Wide Area Network	23	29	0	8	2	4.016	Available
8	Server	26	31	0	3	2	4.226	Available
9	Library software	21	27	4	5	5	3.871	Available
10	Database	22	20	4	3	13	3.565	Available
11	Radio-frequency identification (RFID)	2	9	13	5	33	2.065	Not Avail
12	Smart Bookshelf	2	15	0	12	33	2.048	Not Avail
13	Smart Self-Collection Box	2	1	11	6	42	1.629	Not Avail
14	Mobile Stock Take Trolley	11	3	0	0	48	1.855	Not Avail
15	Book Drop and Sorting Unit	12	1	3	5	41	2.000	Not Avail
16	Booking System	6	4	6	3	43	1.823	Not Avail
17	Self-Check In/Out Station	6	3	7	1	45	1.774	Not Avail
18	Book Dispenser	5	0	8	3	46	1.629	Not Avail
19	Intelligent Monitoring System	1	1	7	2	51	1.371	Not Avail
20	Real time location system	1	1	7	1	52	1.355	Not Avail
21	Recommender System	0	1	5	2	54	1.242	Not Avail
22	Face Recognition System	0	0	5	4	53	1.226	Not Avail
23	Smart Senior Corner	4	0	3	5	50	1.435	Not Avail
24	Interactive Library Wall	2	1	6	9	44	1.516	Not Avail
25	Mobile library	8	4	2	5	43	1.855	Not Avail
26	Library website	13	9	3	2	35	2.403	Not Avail
27	Social networking	5	8	4	2	43	1.871	Not Avail
28	Cloud computing	7	5	4	2	44	1.855	Not Avail
29	Pod and Video casting	7	5	3	7	40	1.903	Not Avail
30	Google Docs	6	4	3	3	46	1.726	Not Avail
31	Wikis	2	3	9	2	46	1.597	Not Avail
32	Blogs	1	2	10	4	45	1.548	Not Avail
33	Real Simple Syndication feeds	4	5	7	6	40	1.823	Not Avail
	Cumulative mean						2.283	

Standard/decision mean=3.000

From table 1.1 above, the general level of ICT facilities available for automation in the academic libraries of Federal Colleges of Education North-West Nigeria is very low, because 2.283 stood below the decision mean 3.000. Although, ICTs such as computers, server, library software, CD-ROM, databases, book scanner, Local Area Network, and Wide Area Networks were eminent for library automation across the libraries. The ICT facilities that were found not available for library automation included include Radio-frequency identification (RFID), Smart Bookshelf, Book Drop and Sorting Unit, Library website, Wide Format Scanner Digital Cameras, Smart Self-Collection Box, Book Dispenser, Self-Check In/Out Station, Mobile Stock Take

Trolley, Recommender System, Wikis, Blogs, Pod and Video casting, Cloud Computing, Social Networking, Real Simple Syndication feeds, Intelligent Monitoring System, Mobile library, Interactive Library Wall, Smart Senior Corner, Real Time Location System, Booking System, Face Recognition System and Google Docs. Hence, the widely held of the lacking ICT tools for library automation by the Federal Colleges of Education libraries are obviously current trends for libraries. However, (Abram, 2009) observed that libraries had no alternative than to adopt emerging technologies, and similarly, (Chan, 2015) have explored the concept of Library 3.0 on the opinion of (Noh, 2012) evolution of library. In view of the already said, it is important to observe that, a

significant difference exist among the Federal Colleges of Education libraries North-West Nigeria regarding the availability of ICT facilities for library automation. A scheffe post hoc test result showed that FCE Gusau has the highest level of availability of ICT facilities (111.0909), compared with FCE Bichi (72.0000) and FCE Katsina (80.3333), while FCE Zaria (60.1818) and FCE Kano (67.3077) had the least level of ICT facilities.

Table 5.8: Level on purposes for which ICT facilities are used in library automation by the academic libraries of Federal Colleges of Education North-West Nigeria

S/N	Items	Response categories					Mean	Remarks
		SA	A	UD	D	SD		
1	Digitization for library resources	17	30	3	2	10	3.677	Agreed
2	Internet networking	17	39	3	2	1	4.113	Agreed
3	Computerized acquisition of library resources	11	35	6	6	4	3.694	Agreed
4	Computerized cataloguing and classification routines	10	29	8	11	4	3.484	Agreed
5	Computerized circulation routines	10	27	8	12	5	3.403	Agreed
6	Computerized serial routines	9	31	4	15	3	3.452	Agreed
7	Computerized reserve routines	7	17	10	18	10	2.887	Agreed
8	Computerized library security	8	11	12	22	9	2.790	Disagreed
9	Online selective dissemination of information	7	23	6	17	9	3.032	Agreed
10	Online current awareness services	7	18	7	20	10	2.871	Disagreed
11	Online exhibition services	8	11	12	21	10	2.774	Disagreed
12	Online reference services	12	13	6	22	9	2.952	Disagreed
13	Online database services	11	19	4	19	9	3.065	Agreed
14	Web PAC/OPAC services	12	12	11	16	11	3.000	Agreed
	Cumulative mean						3.226	

Standard/decision mean = 3.000

Form table 1.2 above, a cumulative mean response of 3.226, higher than the 3.000 decision mean showed that, the library staffs were generally in agreement in purposes for which available ICT facilities are being used for library automation. These areas of ICT usage by the libraries were not limited to internet networking, computerized acquisition of library resources, digitization for library resources, computerized cataloguing and classification routines, computerized serial routines, computerized circulation routines, online database services, online selective dissemination of information, and Web PAC/OPAC services. On another hand, areas of none ICT usage by the libraries included online exhibition services, computerized library security, online current awareness services, computerized reserve routines, and online reference services.

Nevertheless, may it be that because the libraries lacked some ICT tools such as Face Recognition System and Intelligent Monitoring System which are useful in 'computerized library security', and ICTs such as Cloud Computing, Mobile library, Interactive Library Wall and so on, which are also vital for purposes like 'online exhibition services', 'online current awareness services', and 'online reference services'? In a similar note, (Hamisu, 2016), once found that, the library staff of FCE Zaria were particularly unskilled in using online information services, online databases, library database, CD-ROMs and OPAC. However, many authors such as (Kenneth, 2003), (Okiy, 2010), (Abbas, 2014), and (Ebunuwele, Ola, & Uduebor, 2014), have pointed at areas of ICT usage in library activities and the importance cannot be over mentioned. However, a scheffe post hoc test

result showed that significant difference exist among the Federal Colleges of Education libraries North-West Nigeria in the purpose for which they use ICT facilities for library automation. This was justifiable where FCE Zaria had the least mean (37.3636) placed in subset 1, followed by FCE Kano (42.3077) and FCE Bichi (44.1429) placed in subset 2, while FCE Katsina (51.6667) and FCE Gusau with the highest mean score (59.4545) placed in subset 3.

Table 1.3: Extent of relevancy of library automation provision by the academic libraries of Federal Colleges of Education North-West Nigeria to student information Needs

S/N	Items	Response categories				Mean	Remarks
		SA	A	D	SD		
1	Access to various search engines	50	641	868	198	2.309	Disagreed
2	Electronic book resources	126	807	654	170	2.506	Agreed
3	Electronic retrieval catalogue systems	1	78	1296	382	1.828	Disagreed
4	Internet accessibility	71	1624	39	23	2.992	Agreed
5	Online information sharing	0	30	1547	180	1.915	Disagreed
6	Online library-user interactive session	0	27	1667	63	1.980	Disagreed
7	Online ask librarian assistance	0	20	1645	92	1.959	Disagreed
8	Online suggestion box	0	18	1675	64	1.974	Disagreed
9	Online library instruction	0	25	1626	106	1.954	Disagreed
10	Online referral advice	4	7	1725	21	1.997	Disagreed
11	Online/offline library databases	34	80	1570	73	2.043	Disagreed
12	Time saving in needless travel to the library	0	19	1599	139	1.932	Disagreed
13	Visual-online exhibition of library resources	1	5	1681	70	1.964	Disagreed
	Cumulative mean					2.104	

Standard/decision mean = 2.500

From table 1.3 above, an overall mean response of 2.104 showed that the extent of relevance of library automation by the academic libraries to student information needs was low, because 2.104 stood below the decision mean of 2.500. Although, library automation was found relevant to student information needs in terms of electronic book resources and internet accessibility and to some extent, access to various search engines. This may not be surprising, because a good representation of the student had passion for a computerized library services despite their low levelness in computer literacy skills. Library automation provision by the libraries that was found not relevant to the student needs included areas of electronic retrieval catalogue systems, online information sharing, time saving in needless travel to the library, online library instruction, visual-online exhibition of library resources, online ask librarian assistance, online referral advice, online library-user interactive session, online suggestion box, and online/offline library databases. However, there seem an illogicality such that, the library staff in an earlier finding acclaimed ICT usage for the purposes of computerized cataloguing/classification routines and Web PAC/OPAC services, and to this juncture, the student were indicating none relevancy of library automation provision by the libraries to their information needs on 'electronic retrieval catalogue systems', and 'online/offline library databases'. Therefore, it means the libraries lack effective library automation provision in those said aspects to satisfy student information needs. A scheffe post hoc test result on library automation provision by the libraries in relevancy to the student information needs placed all mean

responses of the libraries in one same subset, which implies that library automation provision by all the libraries being relevant to the student information needs is relatively the same. The mean scores were 38.2948, 38.6973, 38.7577, 38.9169, and 39.1227 for FCE Bichi, FCE Gusau, FCE Kano, FCE Kastina and FCE Zaria in that order of magnitude.

VIII.   CONCLUSION

The study assessed ICT usage in library automation by Federal Colleges of Education libraries North-West Nigeria. The problem being that most libraries in North-Western Nigeria rely on traditional library activities, which is not the expectation of today digital library user. The library staff and student of the five Federal Colleges of Education were sampled for the study. Findings revealed that: (1) The general level of ICT facilities available for automation in the Federal Colleges of Education libraries North-West Nigeria was very low, although, there exist a significant difference among the libraries. (2) The library staffs of the colleges are in agreement for purposes which available ICT facilities are being used for library automation, although, significant difference exist among the libraries too. And lastly, (3) The extent of relevance of library automation provision by the academic libraries to student information needs was low, and there is no significant difference that exists among the libraries. In summary, the researcher concluded on the note that ICTs availability for library automation is not satisfactory in the studied libraries. Although, the little available ICTs were utilized for some purposes in library automation, but not to a serious extent was library automation provision relevant to the information needs of the student-library user.

IX.   RECOMMENDATIONS

Based on findings in this study, the following recommendations certainly will upsurge areas of feebleness in library automation of the academic libraries of Federal Colleges of Education North-West Nigeria:

There is the need for the libraries to integrate the following missing ICT tools for library automation. These included, Radio-frequency identification (RFID), Smart Bookshelf, Book Drop and Sorting Unit, Library website, Wide Format Scanner Digital Cameras, Smart Self-Collection Box, Book Dispenser, Self-Check In/Out Station, Mobile Stock Take Trolley, Recommender System, Wikis, Blogs, Pod and Video casting, Cloud Computing, Social Networking, Real Simple Syndication feeds, Intelligent Monitoring System, Mobile library, Interactive Library Wall, Smart Senior Corner, Real Time Location System, Booking System, Face Recognition System and Google Docs.

There is the need for the libraries to incorporate areas of none ICT usage in library functions and services, such as online exhibition services, computerized library security, online current awareness services, computerized reserve routines, and online reference services.

There is the need for the libraries to improve in library automation provision, to a level that it becomes all relevant to student information needs that are not limited to electronic retrieval catalogue systems, online information sharing, time saving in needless travel to the library, online library instruction, visual-online exhibition of library resources, online ask librarian assistance, online referral advice, online library-user interactive session, online suggestion box, and online/offline library databases.

REFERENCES

1. Abbas, K. D. (2014). Automation in Nigerian University Libraries: Mirage or Reality? *Information and Knowledge Management, 4*(4), 1-6.
2. Abdullahi, A., & Pisagih, H. C. (2009). Assessment of the use of ICT facilities in retrieving information by students of Gombe State University. *Nigerian Journal of Library and Information Science: A Journal of Nigerian Library Association Bauchi State Chapter, 5*(1), 20-29.

3. Anunobi, C. (2004). ICT availability and use in Nigeria university libraries. A *Global review of library and information science, 1*(1), 39-47.

4. Anunobi, C. V., & Nwakwuo, O. (2008). The State of ICT in University Libraries in South-Eastern Nigeria. *Samaru Journal of Information Studies, 8*(1), 35-43.

5. Bhardwaj, R. K., & Shukla, R. K. (2000). A Practical Approach to Library Automation. *Library Progress (International), 20*(1), 1-9.

6. Elisha, M. J. (2006). The application of Information and Communication Technology (ICT) in Nigerian academic libraries prospects and problems. *The Information Manager, 6*(1 & 2), 35-39.

7. Eme, S. N., Sampson, & Esiere. (2012). New Trends in Library Automation in Nigeria. *Colin Journal of Library and Information Science: Journal Committee of College libraries in Nigeria, 5*(1 & 2), 51-64.

8. Idowu, A. O., & Mabawonku, I. (1999). Information Technology Facilities and Applications in some Nigerian Research and University Libraries. *African Journal of Library, Archival and Information Science, 9*(1), 27-35.

9. Kenneth, N. (2003). *Fundamentals of Library Practice: A Manual on Library Routines.* Ibadan, Nigeria: Stirling Horden Publishers Nigeria Limited.

10. Lubanski, M. (2012). *Building Clouds: building hybrid clouds that can support any device from anywhere.* Retrieved August 11, 2016, from http://blogs.technet.com/b/privatecloud/arch ive/2012/10/22/what-is-automation-by-mich aellubanski.aspx

11. Madu, E. C. (2004). *Automation and service provision in libraries and information center in Developing countries.* Ibadan: Evi-Coleman publications.

12. Makeri, Y. A. (2017). The Importance of Information Technology on E-Libraries in Nigerian Universities. *International Journal of Advanced Research in Computer Science and Software Engineering, 7*(1), 58-67.

13. Mudassir, A. A. (2013). Availability and Utilization of ICT Facilities for Teaching, Learning, and Research: The Librarian's Perspective. *Middle belt Journal of Library and Information Science: Nigerian Library Association, 11*(1), 100-106.

14. Oketunji, I., Daniel, J. O., & Okojie, V. O. (2002). Forty years of Information and Communication Technology (ICT) library service to the Nation. *40th natured Annual Conference and AGM of the Nigeria Library Association.* Topo-Badagry: Nigeria Library Association.

15. Okiy, R. B. (2010). Globalization and ICT in Academic Libraries in Nigeria: The Way Forward. *Library Philosophy and Practice, Paper 501.*

16. Omekwu, C., & Echezona, R. (2008). Emerging Challenges and Opportunities for Nigerian Libraries in a Global Information System. *Compendium of Papers 46th Annual National Conference and AGM of the Nigerian Library Association* (pp. 62-76). Kaduna: Nigerian Library Association.

17. Onoriode, O. K., & Ivwighreghweta, O. (2012). Automation in Library's Collection Development and Acquisition Process in Academic Institutions in Delta Central, District of Delta State, Nigeria. *International Journal of Library Science, 1*(4), 66 – 71.

18. Sambe, M. J., Omeje, C. O., & Onah, E. E. (2013). Library oriented software packages in University libraries in North Central Nigeria. *African Library Sentinel Journal of Library and Information Science: A bi-annual journal on practices and research in Library and Information Science in Africa, 2*(1), 74-83.

19. Seikel, M., & Steele, T. (2011). How MARC Has Changed: The History of the Format and Its Forthcoming Relationship to RDA. *Technical Services Quarterly, 28*(3), 322-334.

20. Sperring, D. (2008). Libraries, the Internet, Web 2.0, and Library 2.0. *One-Person Library, 25*(2), 5-6.

21. Ukachi, N. B., Nwachukwu, V. N., & Onuoha, U. D. (2014). Information and Knowledge Management. *Library automation use of open*

An Assessment of ICT usage in Library Automation by Federal Colleges of Education Libraries North-West Nigeria

software to maximize library effectiveness, 3(4), 74-82.

22. Yamane, T. (1967). *Statistics: An Introductory Analysis* (2nd Edition ed.). New York: Harper and Row.