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Evaluation of Automated Applications and Their Effects on Cataloguing and Classification Practices in Selected Academic Libraries in Southwest, Nigeria

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Abstract **- Academic library automation is germane to achieving the main objectives of setting it. Development of Information Communications and Technology is playing a crucial role in the restructuring of libraries. Shift from human dependent operations to machine dependency, mechanization (data processing) to knowledge processing, and astand-alone system to network computing. This study is majorly designed to evaluate the automated applications deployed and used in the selected academic library and to determine the influence of them on the cataloguing and classification in the academic library. The study adopted the descriptive survey research design. The purposive sampling technique was used to select a total of 75 respondents, out of which only 67 copies were retrieved and used for data analysis. The descriptive frequency counts and percentages were used to analyse and answer the three (2) formulated research questions. The following are some of the applications in cataloguing section: computer, local area network, internet connectivity, servers, printers, and bar code readers. The influence of automation in the selected academic libraries cannot be overemphasized. The extent of the influence includes positive and negative; however, the positive influence overruled the negative ones. The positive ones include the facts that: it has helped improve interpersonal relationship; cataloguers are more satisfied with their jobs; there is improved cooperation in the library; cataloguers feel like professionals even when they are yet to be one; their self-esteem is being boosted, thereby making them feel important; library para-professional routines become more routine and less flexible; and that it makes a whole lot of difference with respect to cataloguing. The negative influence includes the fact that automation results in some health hazard like technostress as a result of sitting for long. Recommendations were made, based on the findings that; automation grants should be made available to academic libraries so as to make them fully automated in all their activities; libraries that are yet to imbibe automation should do so as digitisation has become the growing trend in the world today, more importantly, because of its numerous benefits.**

Keywords: **Academic Libraries, Cataloguing, Librarians, Applications and Automated systems**

I. INTRODUCTION

Academic libraries have a primary obligation to meet the information needs of the members of their community or institution. Functions outside this, such as availability to the general public, are secondary, though fee-based services are becoming significant. This study focuses on the academic library, which is the type of library found in higher institutions of learning like the university library. The academic library acts as a central agency for meeting the information requirements of the academic community it serves. The university library is an important component of any university institution consequently, no university can lay claim to academic excellence without a good library to back up its teaching, research and public service mandates (Agboola, 2000).

Libraries, whether special, private, public or academic form an integral part of their parent organisations or institutions which they are meant to serve as they provide current, reliable, accurate and relevant information that foster the realisation of organisational/institutional goals and objectives. Abubakar (2011) opines that libraries such as academic libraries are at the forefront of providing information services to their respective user communities in order to support curriculum and research needs of their parent institutions. It is worth noting that the library is seen as an integral aspect of the institution since it is heavily relied upon for the provision of needed information through a healthy collection development and management of information resources – print and non-print. He went further to assert that researchers have emphasized on the crucial roles of libraries in research and scholarship, business operations and processes in institutions and organisations which has caused libraries to be seen as the heart or nerve centres of institutions of higher learning and business organisations.

The objectives of university libraries are tied to those of their parent institutions, which among others include: promotion and dissemination of knowledge; conducting of research; manpower development; providing intellectual leadership and promoting unity and international understanding. It is from these that the objectives of the university library can be derived. Clarke, (1999) describes the following Universities library objectives: Provision of materials in support of teaching and research, provision of materials to assist library users in their own personal self-development, meeting the specialised information needs of the community in which the university is established, provision of assistance to readers in the use of these materials by means of publications, individual and group instructions, and other instructional means designed to facilitate their use, relating with other libraries so as to benefit the scholars elsewhere, who need accessional uses of

the university resources; and also to benefit the University scholars who need to consult the resources of other libraries, preservation of the materials to ensure their availability for future generation of users and organization of the materials through bibliographical records to aid their location and maximum use.

Anunobi and Okoye (2008) posit that a well-established library is essential for any academic institution as a focal point for teaching, learning and research and is expected to provide standard information sources meant to drive its parent institution towards the realization of its aims and objectives. These functions range from tracking the assets held by the library, managing lending, facilitate the generation and organisation of data/information to supporting the daily workflow of information in the organisation. These systems are used in almost all libraries, large and a small. As an information system, libraries' roles entails the identification, collection, organising, storage, retrieval, dissemination, and archival of organisations' information. To perform these functions, so many resources – data, technology, personnel, material and finance are harnessed to ensure that information is readily available when needed, flow through the right channel and to the right destination as well as support informed decision making and to enhance students' actualisation of their academic goals. To this end, the library as an information system within a larger system (the organisationor institution) where it i s domiciled is as important as it is the nexus for the generation and management of information in the academic environment.So, for a library to achieve all these objectives there is a need for implementation of Information Communication and Technology.

The advancement of science and technology has made a tremendous improvement and change in almost all walks of life. Information Communication and Technology (ICT), which is the convergence of computer technology and telecommunications as a result of digitization, has pervaded our work and our lives. Information Communications and Technology is the science and skills of all aspects of computing, data storage, and communications. It is a new, rapidly growing area that is radically changing the world by making possible new ways of doing business, making entertainment, and creating art. The Information Communication and Technology (ICT) has proven its role in accelerating sustainable development and bridging the ever-growing gap in our present-day society. There is,however, a critical need to channel the vast potentials of Information Communications and Technology (ICT) in the right direction for the betterment of society and effective human development. Information Communications and Technologies (ICTs) present a r evolutionary approach to addressing developmental questions due to their unequalled capacity to provide access to information instantaneously from any location in the world at a relatively low cost. This has brought down global geographic boundaries faster than ever thought possible. The resulting new interconnected digital world heralds the fluid and seamless flow of information, capital, ideas, people and products (Padmamma, 2008).

Development of Information Communications and Technology is playing a crucial role in the restructuring of libraries. Shift from human dependent operations to machine dependency, mechanization (data processing) to knowledge processing, a stand-alone system to network computing, Local Area Network (LAN) to wireless access protocol systems. Document-centred information to user-centered information; print media to electronic media, data capture methods, human to machine oriented, library automating to web-enabled services Wide Area Network Access (WANA), and online information retrieval to Compact Disc Read-only Memory (CD-ROM), Databases to the Internet. Nwalo (2006) argued that these prolonged shifts in the application of innovative Information Technology (IT) to library and information profession can be attributed to the changes emanated in the last two decades. This study is majorly designed to evaluate the influence of library automation applications on cataloguing and classification practices in five randomly selected Academic libraries in South-west part of Nigeria. This will help to determine the rate of introduction, adoption and widespread use of Information Communications and Technology in libraries in the study areas.

Technology has played an ever-greater role in changing the way in which technical services operate but has not changed their basic functions. According to Greaves (2003), "routines are the foundation of library services. Well-established routines are the only means of achieving maximum effectiveness but in developed countries, as far as library routines are concerned, computers have replaced human beings". Similarly, Evans *et al.* (2002) opined that "the three most prominent trends affecting technical services include technology, budgetary issues,and outsourcing". All libraries, regardless of the type, whether academic or the school library perform routine activities. This is so because without such activities like selection, acquisition, cataloguing,and classification, charging and discharging, the mission of the library as an organisation that exists to meet information needs of patrons cannot be met. The technical services include different sections such as acquisition, cataloguing,and classification, which is the interest of this study.

Cataloguing and classification are two activities that take place in the cataloguing department. These activities are carried out to ultimately assist users in locating specific pieces of information by providing an index tool to the library collection. Here, access to information in many forms and formats are possible and related information sources are collocated together. They go hand in hand though cataloguing comes before classification (Ajibero, 2006). Cataloguing is the hub of librarianship. It is the process of preparing a catalogue. It is a structured arrangement of the bibliographic details of all the information sources available in a library. The process produces an inventory that serves as access points to the

library resources. Cataloguing is important in a library because information without access in a l ibrary does as good as not exist. Consequently, cataloguing makes access possible. While cataloguing gives the bibliographic detail of a library resource or an information source, classification points out the subject area the source belongs.

With this development, Libraries and librarians now face a major paradigm shift of transition from paper to electronic media as a result of information explosion and the development of information technology in the last three decades of the 20th century (Jagboro 2003). Information and information sources can now be gotten almost anywhere without the help of the library once there is access to the internet. The internet is referred to as the information superhighway. It houses much information and information sources that the library would have traditionally housed; as a result, library systems are automated to exploit the immense resources available on the internet, organize them and make them accessible to the users because librarians want to remain relevant to their users and the community they serve. They go ahead to combine the traditional library routines as organizing the resources, which will not be automatically found on the internet without some fees attached that would ordinarily cost a lot more on the internet and subsidize such for their users. Nwalo (2005) in Nigeria wrote that cataloguers need to provide electronic guides as part of the local library's catalogue. More so, to move along the current trend, resolve the challenges of the paradigm shift faced by librarians as Kanamadi and Kubar (2007) in India opined that it is "transition of information sources and systems from paper to electronic media, Complexity in information needs of highly demanding clientele and increase in the cost and quality of information"; libraries are getting their systems automated. In the same vein,informal discussions with librarians and a study by Otunla and Akanmu-Adeyemo (2010) in Nigeria show that libraries in Nigeria are trying to, while some have automated their systems; with the aim of making information easily accessible. The study found out the level of accessibility and usage of library automation.

Libraries and librarians now face a major paradigm shift of transition from paper to electronic media as a r esult of information explosion and the development of information technology in the last three decades of the 20th century (Jagboro 2003). The past studies show that academic libraries in Nigeria are trying to get automated, therefore the researcher wants to find out the type of automated applications being used and their effect on cataloguing and classification.

The general objective of this study is to evaluate different automated applications in the academic libraries and their effects on cataloguing and classification practices in selected academic libraries in the southwest, Nigeria while the specific objectives are to:

1. Examine the automated applications deployed in the cataloguing section of the selected libraries.
2. Investigate the influence the automated system has on cataloguing practices.

The following research questions will guide the study:

1. What are the automated applications deployed in the cataloguing section of your own library?
2. To what extent do automation influences cataloguing and classification activities?

II. METHODOLOGY

This study adopted the descriptive survey research design because the survey method is wide in scope and allows a great deal of information to be obtained from a large population as the collection of data can be spread over a large geographical area. More so, data generated on the sample size were used to infer facts about the general cataloguing and classification sections of academic libraries in South-West Nigeria. All the 75 library professional and paraprofessional of the selected nine federal, private and state academic libraries in South-West Nigeria constituted the population of this study. The data presented in Table I represent the population of the library staff of nine selected academic libraries in South-West Nigeria.

TABLE I NUMBER OF RESPONDENTS PER UNIVERSITY

Name of Institution	Professional /Librarians	Paraprofessionals /Library officer	Cataloguing department staff	Other staff
University of Ibadan	32	30	12	41
Federal University of Technology, Akure	15	15	14	58
LadokeAkintola University of technology	14	8	7	21
Redeemer University	4	12	4	8
ObafemiAwolowo University, IIe-Ife	20	10	13	7
The Polytechnic Ibadan	7	7	7	27
Federal Polytechnic Ado-Ekiti	12	3	6	28
Federal College of Education (special), Oyo	10	12	4	26
Federal College of Education Ikere, Ado-Ekiti	4	7	8	18
TOTAL	126	113	75	244

The sources in this table were retrieved from the internet and their records office.(04/08/2016)

A sample frame comprising 75 cataloguing department personnel in nine (9) South-West public universities were used in this study. Purposive sampling technique was used because cataloguing staff alone are used for this study. Total enumeration technique was used for the study as a result; the whole 75 staff constituting the sample was used for the study.

The sample for this study comprised cataloguing librarians of Kenneth Dike Library, University of Ibadan, OlusegunOke Library, LadokeAkintola University of Technology Ogbomosho, The Polytechnic Ibadan, Federal College of Education (Special), Oyo State, Federal Polytechnic Ado-Ekiti, Redeemer University, Lagos, College of Education Ikere, Ado-Ekiti and ObafemiAwolowo University, Ile-Ife.

A sample frame comprising of 75 cataloguing department personnel (professional and paraprofessionals) in nine government and private owned Academic libraries in South-west Nigeria constituted the sample for this study.

TABLE II SAMPLE SIZE

Name of Institutions	Cataloguing department Staff
University of Ibadan	12
Federal University of Technology, Akure	14
LadokeAkintola University of Technology	7
Redeemer University	4
The Polytechnic Ibadan	7
Federal Polytechnic Ado-Ekiti	6
Federal College of Education (special), Oyo	4
Federal College of Education Ikere, Ado-Ekiti	8
ObafemiAwolowo University IIe-Ife	13
Total	**75**

Data for this study were collected using the questionnaire. A total of 70 copies of the questionnaire were distributed to the respondents and collected immediately after completion.The analysis of data was done using frequency count, percentages, mean and standard deviation.

III. RESULTS AND DISCUSSION

A. Research Question 1: What are the automated applications deployed in the cataloguing section of the selected academic libraries?

TABLE III AUTOMATED APPLICATIONS DEPLOYED IN THE CATALOGUING SECTION OF THE LIBRARIES

Application	Available and functioning	Available but not functioning	Not available
	Frequency (Percent)	Frequency (Percent)	Frequency (Percent)
Computer	65(97.0)	2(3.0)	-
Local Area Networking	62(92.5)	4(6.0)	1(1.5)
Internet connectivity	55(82.1)	10(14.9)	2(3.0)
Servers	61(91.0)	6(9.0)	-
Printers	64(95.5)	3(4.5)	-
Bar code readers	38(58.5)	19(29.2)	8(12.3)

Table III shows the automated applications deployed in the libraries studied. Results from this table reveal that virtually all of the respondents 65(97.0%) ascertained that Computer systems were available and functioning in their libraries, while an insignificant percentage 2(3.0%) ascertained that computer systems were available in their libraries, however, were not deployed. Likewise, the majority of the respondents 62(92.5%) indicated that Local Area Networking (LAN) was available and functioning, 4(6.0%) indicated it was available though not functioning, while only 1(1.5%) of the respondents claimed that LAN was not available at all in the library. Similarly, most of the respondents 55(82.1%) claimed the availability and deployment of internet connectivity in their libraries,

10(14.9%) of the respondents also claimed its availability in their libraries even though the application was not functioning, while a very few of the respondents 2(3.0%) claimed its non-availability in their libraries.

Also, findings from the table show that majority of the respondents 61(91.0%) claimed that servers were available in their libraries and were functioning; while the minority of the respondents 6(9.0%) claimed that in their libraries, servers were available but not functioning. Moreover, most of the respondents 65(95.5%) were of the view that printers were available in their libraries and functioning as well; while 3(4.5%) of the respondents claimed otherwise that though printers were available, they were not functioning. Besides, more than half of the respondents 38(58.5%) ascertained the availability and deployment of bar codes in their libraries; 19(29.2%) of the respondents ascertained its availability in their libraries but not being deployed; while 8(12.3%) of the respondents claimed that bar codes were not available at all in their libraries.

The first objective sought to examine the automated applications deployed in the cataloguing section of the selected libraries as to whether these applications are available and functioning, available but not functioning or not available at all. Results and findings from this study hence revealed that in most all the academic libraries understudied, applications that are available and functioning include: Computer; Local Area Networking; Internet Connectivity; Servers; Printers; and Bar code readers. However, in a few other libraries, it was indicated that these automated applications were either available but not in use or were not available at all.

B. Research Question 2: What are the influence of automation in cataloguing and classification of academic libraries?

TABLE IV EXTENT OF THE INFLUENCES OF AUTOMATION IN CATALOGUING AND CLASSIFICATION ACTIVITIES

S. No.	Statements	SA	A	D	SD	Mean Score	Overall Remark
		Freq(%)	Freq(%)	Freq(%)	Freq(%)		
1	I am more satisfied with my job now	29(43.9)	24(36.4)	13(19.7)	-	3.24	Agree
2	There is improvement in the interpersonal relationship	20(29.9)	44(65.7)	3(4.5)	-	3.25	Agree
3	There is better library cooperation	22(32.8)	35(52.2)	10(14.9)	-	3.18	Agree
4	Automation makes no much difference in cataloguing practices	6(9.0)	9(13.4)	43(64.2)	9(13.4)	2.18	Disagree
5	Automation makes the cataloguers less important	3(4.5)	7(10.6)	47(71.2)	9(13.6)	2.06	Disagree
6	Automation has made the library para-professional routines more routine and less flexible	10(14.9)	26(38.8)	30(44.8)	1(1.5)	2.67	Agree
7	Automation has a way of increasing my self-esteem	16(23.9)	42(62.7)	8(11.9)	1(1.5)	3.09	Agree
8	Automation makes me feel like professional	19(28.8)	37(56.1)	9(13.6)	1(1.5)	3.12	Agree
9	Automation has some health hazard like technostress as a result of sitting for long	19(28.4)	31(47.0)	16(24.2)	-	3.05	Agree

C. Key: SA-Strongly Agree; A-Agree; D-Disagree; SD-Strongly Disagree

Table IV presents the results of the extent of the influences of automation on cataloguing and classification activities in the libraries studied. It further reveals that amongst all the above statements, the first ranked influence with the highest mean score of 3.25, the largest proportion of respondents 20(29.9%) and 44(65.7%) strongly agreed and agreed respectively that automation has greatly improved the inter-personal relationship in their libraries. On the other hand, only 3(4.5%) of the respondents disagreed that there is an improvement in an interpersonal relationship in their libraries. Likewise, having a mean score of 3.24, most of the respondents 29(43.9%) and 24(36.4%) strongly agreed and agreed respectively that automation has increased their job satisfaction; while 13(19.7%) of the respondents disagreed that automation in cataloguing and classification activities has increased their job satisfaction. Correspondingly, having a mean score of 3.18, majority 22(32.8%) and 35(52.2%) strongly agreed and agreed that automation has made cooperation in the library better; while 10(14.9%) of the respondents disagreed with this.

Furthermore, the table reveals that with a mean score of 3.12, most 19(28.8%) and 37(56.1%) of the respondents strongly agreed and agreed that automation makes them feel like professionals; while 9(13.6%) and 1(1.5%) of the respondents strongly disagreed and disagreed that automation makes them feel like professionals. Besides, with a mean score of 3.09, most of the respondents 16(23.9%) and 42(62.7%) were of the opinion that automation has a way of increasing their self-esteem; while 8(11.9%) and 1(1.5%) had a contrary opinion. In addition, having a mean score of 3.05, the majority of the respondents 19(28.4%) and 31(47.0%) were of the view that automation

has some health hazards like technostress, which results from sitting too long. On the other hand, 16(24.2%) of the respondents had a contrary view of this. Also, the table reveals that with a mean score of 2.67, majority of the respondents 10(14.9%) and 26(38.8%) supported the fact that automation has made the library para-professional routines more routine and less flexible; while 30(44.8%) and 1(1.5%) were against this view.

However, with a low mean score of 2.18, a significant number of respondents 43(64.2%) and 9(13.4%) holistically disagreed with the view that automation makes no much difference in cataloguing process; while a very few 6(9.0%) and 9(13.4%) were in support of this view. Lastly and similarly, with the least mean score of 2.06, most of the respondents 47(71.2%) and 9(13.6%) were not in support of the view that automation makes the cataloguers less important; while minority of the respondents 3(4.5%) and 7(10.6%) supported the view that automation makes cataloguers less important.

Lastly, the second objective of this study also sought to investigate the extent of the influence of library automation in cataloguing and classification activities. Findings revealed that majority of the respondents were in support with these statements that: automation has improved interpersonal relationship; they are more satisfied with their job now; automation has brought about better library cooperation; automation makes them feel like professionals even when they are yet to be one, which is line with findings of Nwalo (2006); automation has a way of boosting their self-esteem; automation has some health hazard like techno stress as a result of sitting for long, which is in tandem with findings of Olalude (2011); and that automation has made the library para-professional routines more routine and less flexible. Findings of Lubanski (2012) also corroborate with these study's findings. On the other hand, findings further revealed that majority of the respondents utterly disagreed that automation makes no much difference in cataloguing practices and that automation makes the cataloguers less important.

IV. CONCLUSION AND RECOMMENDATION

It is of no doubt that to a very large extent, automation makes cataloguing and classification practices better off as against the manual system. Automation is also advantageous to the cataloguers as well as the library users. Hence, it can be said that an automated library gradually becomes a digital library.

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

1. Automation grants should be made available by school authoritiesor federal government so as to make academics libraries fully automated in all their activities.
2. Academic libraries that are yet to embrace automation should do so as digitization has become the growing trend in the world today. More importantly because of its numerous benefits.

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