

INFLUENCE OF LIBRARY AUTOMATION ON CATALOGUING AND CLASSIFICATION PRACTICES IN SELECTED ACADEMIC LIBRARIES IN SOUTH-WEST, NIGERIA

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Abstract

The development of Information and Communication Technology (ICT) is reshaping libraries, shifting operations from human-dependent to machine-dependent processes and from stand-alone to networked systems. This study investigated the influence of library automation on cataloguing and classification practices in nine selected academic libraries in South-West Nigeria. The descriptive survey design was adopted, and the purposive sampling technique was used to select all 75 cataloguing department staff as the study population, of whom 67 valid responses were retrieved and analysed. Data were analysed using frequency counts, percentages, and mean scores to answer three research questions. Findings showed that cataloguing and circulation were fully automated in most libraries, while acquisition, serials, and reference services remained partially automated. The automated system was found to be quicker, to provide more access points and to ease updates to bibliographic details compared with the manual system. Automation was also found to have improved interpersonal relationships, job satisfaction and professional self-esteem among cataloguers, although it was associated with health hazards such as techno-stress from prolonged sitting. The study concluded that automation has considerably improved cataloguing and classification practices in the libraries studied, despite the persistence of partial automation in some functions. It was recommended, among others, that automation grants be made available to libraries, that non-automated libraries adopt automation promptly, that regular ICT training be organised for cataloguing staff, and that ergonomic work conditions be improved to mitigate automation-related health hazards.

Keywords: Academic Libraries, Cataloguing, Librarians, Automated Systems

Introduction

The advancement of Information and Communication Technology (ICT) has brought far-reaching changes to almost every sector of society, and libraries are no exception. Library operations have progressively shifted from human-dependent, manual routines to machine-dependent, networked systems, altering the way information is organised, stored, and delivered to users. This shift, generally referred to as library automation, has affected virtually every unit of the library, including circulation, acquisition, serials, reference, cataloguing and classification.

Cataloguing and classification remain central to library service delivery because they determine how effectively users can locate and retrieve information resources. Cataloguing provides the bibliographic description of library materials, while classification indicates the subject area to which a resource belongs; together, they form the backbone of resource organisation in any library. In many academic libraries in Nigeria, these processes have historically been carried out manually, a practice that is often slow, labour-intensive and prone to error. The introduction of automation into cataloguing and classification practices therefore represents a significant development, with implications for the efficiency of library operations and the job experiences of cataloguing staff.

Despite the increasing adoption of automated systems in academic libraries in Nigeria, the extent to which this shift has influenced cataloguing and classification practices, and how cataloguing staff themselves perceive this influence, remains insufficiently documented, particularly in the South-West geopolitical zone, which hosts a mix of federal, state and private academic libraries at different stages of automation. It is against this background that this study investigated the influence of library automation on

cataloguing and classification practices in selected academic libraries in South-West Nigeria.

Research Questions

This study was guided by the following research questions:

1. What is the level of library automation use in academic libraries in South-West Nigeria?
2. What are the basic differences between the manual and automated systems of cataloguing?
3. To what extent does automation influence cataloguing and classification practices?

Literature Review

Conceptual Review

Concept of Library Automation

Library automation refers to the application of computer-based systems to library housekeeping operations and services, and is often used interchangeably with terms such as electronic library and computer-based library system (Otunla, 2016). Harrod's Librarians' Glossary and Reference Book describes automation as a generic term representing the use of computer-based systems in a wide variety of library tasks and contexts, ranging from circulation control, acquisitions, and cataloguing to the provision of web services and electronic databases, and extending to the general-purpose personal computers used by library staff. Nwalo (2003) similarly described library automation as the full application of computers to library routines hitherto performed manually and identified the broad objective of library computerisation as making library services more

effective and efficient. In a related sense, library automation has also been described as the general term for the Information and Communication Technologies used to replace manual systems in the library (Chinelo Ezechukwu & Adewole-Odeshi, 2018).

Concept of Technical Services

Technical services refer to those library operations concerned with the selection, acquisition, organisation, physical processing, and maintenance of library collections, as distinct from the direct delivery of public services (Oladele et al., 2023). Nwalo (2003) described technical services as “services behind the scene”, because they are rendered out of the sight of library users, spanning the point at which the need for an information source is identified to the point at which the acquired resource is made available on the open shelves for use by patrons. Technical services activities include selection, acquisition, cataloguing, classification, and the conservation of information sources, and are typically carried out by staff in the acquisitions, cataloguing, serials, and bindery units under a Technical Services Librarian. Although technology has considerably changed how technical services operate, it has not altered their basic functions; rather, three of the most prominent trends currently affecting technical services are technology, budgetary issues, and outsourcing (Evans, Intner, & Weihs, 2002).

Concept of Cataloguing and Classification

Cataloguing and classification are two closely related activities within the cataloguing department that ultimately assist library users in locating specific pieces of information. Although the two go hand in hand, cataloguing typically precedes classification (Odeyemi & Musa, 2018). Cataloguing is the process of preparing a structured

arrangement of the bibliographic details of the information sources held by a library, producing an inventory that serves as an access point to library resources; because information without access effectively does not exist within a library, cataloguing is often described as the hub of librarianship. While cataloguing provides the bibliographic description of a resource, classification indicates the subject area to which the resource belongs.

Empirical Review

A growing body of empirical research has examined the extent and effects of automation on library operations in Nigeria. Otunla (2016), investigating the status of automation in academic libraries in Osun State, Nigeria, found that automation had been adopted to varying degrees across the libraries surveyed, with cataloguing and circulation typically automated ahead of other functions. Similarly, Onuoha (2022), in a study of the perceived effects of ICTs on cataloguing and classification at the Michael Okpara University of Agriculture Library, reported that ICT adoption had substantially improved the organisation and accessibility of library resources. Chinelo Ezechukwu and Adewole-Odeshi (2018), in an evaluative study of automation in two Nigerian academic libraries, similarly found that automation had improved service delivery, although at varying levels of maturity across the two libraries.

Ajani and Buraimo (2022), examining the perceived impact of automation on university library services in South-West Nigeria, found that automation enabled easier access to library materials and allowed library personnel to serve patrons more effectively across acquisitions, cataloguing, circulation, and reference functions. This finding is

corroborated by Umeji, Nwobi, and Igwebuike (2026), who reported similarly positive perceptions of the impact of automation on cataloguing and classification among staff of federal university libraries in South-East Nigeria. In a related study, Odeyemi and Musa (2018) evaluated automated applications and their effects on cataloguing and classification practices in selected academic libraries in South-West Nigeria and found notable improvements in the speed and accuracy of bibliographic processing following automation.

Beyond service efficiency, studies have also examined the human and professional dimensions of automation. Amannah and Ojekudo (2015), in a study of automated library systems in higher institutions in Nigeria, highlighted both the operational benefits of automation and the need for staff retraining to adapt to new technologies. Oyetola (2013) linked automated cataloguing systems in academic libraries in Oyo State, Nigeria, to job satisfaction among library personnel, while Oladele, Nafisat, and Muhammed Ibrahim (2023), in a study of motivational factors and perceptions towards modern cataloguing and classification practices among library school students in Kwara State, Nigeria, found that exposure to modern automated practices positively shaped students' motivation towards the profession.

Summary of Literature Review

The reviewed studies suggest a general consensus that automation positively influences library service delivery, cataloguing efficiency, and, to some extent, staff job satisfaction in Nigerian academic libraries. However, most of these studies focused broadly on automation across library functions or on specific institutions, with limited attention paid specifically to how automation influences cataloguing and classification practices, and

the associated job-related experiences of cataloguing staff, across multiple academic libraries of differing ownership types within a single geopolitical zone. This study addresses this gap by focusing specifically on cataloguing department staff across nine academic libraries of varied ownership in South-West Nigeria.

Methodology

This study adopted a descriptive survey research design because the survey method is broad in scope and allows a great deal of information to be obtained from a large population, as data collection can be spread across a wide geographical area. Data generated from the sample were used to infer facts about cataloguing and classification practices in academic libraries in South-West Nigeria. All 75 professional and paraprofessional cataloguing department staff of nine selected federal, private, and state academic libraries in South-West Nigeria constituted the population of the study. Table 1 presents the library staff population of the nine selected academic libraries.

Table 1: Population of the Study

Name of Institution	Professional/ Librarians	Paraprofessionals/ Library Officers	Cataloguing Department Staff	Other Staff
University of Ibadan	32	30	12	41
Federal University of Technology, Akure	15	15	14	58
Ladoke Akintola University of Technology	14	8	7	21
Redeemer University	4	12	4	8
Obafemi Awolowo University, Ile-Ife	20	10	13	7
The Polytechnic, Ibadan	7	7	7	27

Name of Institution	Professional/ Librarians	Paraprofessionals/ Library Officers	Cataloguing Department Staff	Other Staff
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

Note. Figures were retrieved from institutional websites and records offices.

A sample frame comprising the 75 cataloguing department personnel (professional and paraprofessional) across the nine government- and privately-owned academic libraries in South-West Nigeria constituted the sample for this study. The purposive sampling technique was adopted because only cataloguing department staff were relevant to the study, and total enumeration was applied given the manageable size of this population. The sample comprised cataloguing staff of the Kenneth Dike Library (University of Ibadan), Olusegun Oke Library (Ladoke Akintola University of Technology, Ogbomoso), The Polytechnic Ibadan, Federal College of Education (Special) Oyo State, Federal Polytechnic Ado-Ekiti, Redeemer University, College of Education Ikere Ado-Ekiti, and Obafemi Awolowo University Ile-Ife.

Table 2: Sample Size

Name of Institution	Cataloguing Department Staff
University of Ibadan	12

Name of Institution	Cataloguing Department Staff
Federal University of Technology, Akure	14
Ladoke Akintola 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
Obafemi Awolowo University, Ile-Ife	13
Total	75

Data for the study were collected using a structured questionnaire. Seventy copies of the questionnaire were administered to respondents and retrieved immediately upon completion, out of which 67 were found valid and used for analysis. Data were analysed using frequency counts, percentages, means, and standard deviations.

Results and Discussion

Demographic Information of Respondents

This section presents the descriptive analysis of respondents' demographic information, including age, gender, highest educational qualification, years of experience in the library and current designation.

Table 3: Age Distribution of the Respondents

Age Range	Frequency	Percentage
25 years and below	2	3.0
26–35 years	13	19.4
36–45 years	40	59.7

Age Range	Frequency	Percentage
46–55 years	11	16.4
Above 56 years	1	1.5
Total	67	100.0

Table 3 shows that most respondents, 40 (59.7%), were aged 36-45 years, followed by those aged 26–35 years, 13 (19.4%). The remaining respondents were aged 46–55 years (11, 16.4%); 25 years and below (2, 3.0%); and 56 years and above (1, 1.5%).

Table 4: Gender Distribution of the Respondents

Gender	Frequency	Percentage
Male	40	59.7
Female	27	40.3
Total	67	100.0

Table 4 shows that most respondents (40, 59.7%) were male, while 27 (40.3%) were female.

Table 5: Educational Qualifications of the Respondents

Educational Qualification	Frequency	Percentage
O/L Certificate	1	1.5
Diploma Certificate	11	16.9
Bachelor's Degree	24	36.9
Master's Degree	26	40.0
Doctorate Degree	0	0.0
Others	3	4.6

Educational Qualification	Frequency	Percentage
Total	65	100.0

Table 5 shows that most respondents held a Master's Degree (26, 40.0%), followed by a Bachelor's Degree (24, 36.9%). None of the respondents held a Doctorate Degree, indicating that respondents were generally well educated.

Table 6: Distribution of Respondents by Years of Experience in the Library

Range of Years of Experience	Frequency	Percentage
5 years and below	15	23.1
6–10 years	18	27.7
11–15 years	21	32.3
16–20 years	4	6.2
Above 20 years	7	10.8
Total	65	100.0

Table 6 shows that most respondents (21, 32.3%), had between 11 and 15 years of experience, followed by those with 6–10 years (18, 27.7%), and those with 5 years or less (15, 23.1%).

Table 7: Distribution of Respondents by Current Designation

Designation	Frequency	Percentage
Professional	34	51.5
Para-Professional	32	48.5
Total	66	100.0

Table 7 shows that a slight majority of respondents (34, 51.5%) were professionals, while 32 (48.5%) were para-professionals.

Research Question 1: What is the Level of Library Automation Use in Academic Libraries in South-West Nigeria?

Table 8: Level of Library Automation

Application	Full Automation Freq (%)	Partial Automation Freq (%)	Overall Remark
Cataloguing	50 (76.9)	15 (23.1)	Full Automation
Circulation	35 (53.8)	30 (46.2)	Full Automation
Acquisition	32 (49.2)	33 (50.8)	Partial Automation
Serials	26 (39.4)	40 (60.6)	Partial Automation
Reference	22 (34.4)	42 (65.6)	Partial Automation

Table 8 shows that cataloguing (76.9%) and circulation (53.8%) were the practices most likely to be fully automated, while acquisition, serials, and reference remained predominantly partially automated, with reference recording the lowest level of full automation (34.4%). This indicates that automation efforts in the libraries studied have concentrated on cataloguing and circulation, leaving other technical service functions less fully automated. This finding is consistent with Otunla (2016), who similarly found that cataloguing and circulation modules were more frequently automated than acquisition and serials modules in academic libraries in Osun State, Nigeria.

Research Question 2: What are the Basic Differences between Manual and Automated Systems?

Table 9: Differences between Manual and Automated Systems

Statement	Mean Score	Remark
Cataloguing is quicker with the automated system than the manual system	3.66	Agree
The automated system is preferred to the manual system	3.61	Agree
There are more access points to locate materials in the automated system	3.45	Agree
The automated system eases updates to bibliographic details	3.37	Agree

Statement	Mean Score	Remark
Integration of section activities is more flexible with the automated system	3.28	Agree
The automated system changes how bibliographic details are created and displayed	3.15	Agree
Monotonous routines are eliminated with automation	3.07	Agree

As shown in Table 9, cataloguing speed recorded the highest mean score (3.66), confirming that respondents strongly agreed that cataloguing is quicker under the automated system than the manual system. This was followed by a general preference for the automated system over the manual system (mean = 3.61) and the availability of more access points to locate materials (mean = 3.45). The lowest-rated difference, though still agreed upon, was those monotonous routines such as correcting typing errors are eliminated by automation (mean = 3.07). Overall, respondents consistently rated the automated system more favourably than the manual system across all measured dimensions, corroborating the findings of Ajani and Buraimo (2022) and Umeji et al. (2026), both of which reported that automation facilitates easier access to materials and more efficient service delivery.

Research Question 3: To What Extent Does Automation Influence Cataloguing and Classification Activities?

Table 10: Influence of Automation on Cataloguing and Classification Activities

Statement	Mean Score	Remark
Automation has improved interpersonal relationships	3.25	Agree
Respondents are more satisfied with their job now	3.24	Agree
There is better library cooperation	3.18	Agree
Automation makes staff feel like professionals	3.12	Agree
Automation increases self-esteem	3.09	Agree

Statement	Mean Score	Remark
Automation has health hazards such as techno-stress	3.05	Agree
Para-professional routines are more routine and less flexible	2.67	Agree
Automation makes no difference in cataloguing practices	2.18	Disagree
Automation makes cataloguers less important	2.06	Disagree

Table 10 shows that the highest-rated influence of automation was improved interpersonal relationships among staff (mean = 3.25), followed closely by increased job satisfaction (mean = 3.24) and better library cooperation (mean = 3.18). Respondents also agreed that automation increases self-esteem (mean = 3.09) and contributes to health hazards such as techno-stress (mean = 3.05). Two statements were rejected by respondents: that automation makes no difference to cataloguing practices (mean = 2.18) and that it makes cataloguers less important (mean = 2.06). These findings indicate that automation is perceived overwhelmingly positively by cataloguing staff, notwithstanding its association with occupational health risks, and are in tandem with the findings of Oyetola (2013) and Amannah and Ojekudo (2015), which similarly reported both operational and job-related benefits of automation alongside its associated workplace strain.

Recommendations

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

1. Automation grants should be made available by school authorities and the federal government to enable academic libraries to become fully automated in all their activities, particularly acquisition, serials, and reference services, which remain only partially automated.

2. Libraries that are yet to adopt automation should do so promptly, given the demonstrated benefits of automation for cataloguing efficiency, service delivery, and user access to library materials.
3. Regular in-service ICT training and capacity-building programmes should be organised for cataloguing and para-professional staff to sustain the effective use of automated systems.
4. Library management should implement ergonomic measures, such as adjustable workstations and scheduled breaks, to mitigate technology-related health hazards such as techno-stress reported by cataloguing staff.
5. Professional bodies such as the Nigerian Library Association should develop clear guidelines and standards for automation implementation across academic libraries to ensure consistency in adoption and practice.

Conclusion

This study has shown that automation has considerably influenced cataloguing and classification practices in academic libraries in South-West Nigeria. Automated systems were found to be faster, to provide more access points, and to ease bibliographic updates compared with manual systems, while also improving cataloguers' job satisfaction, interpersonal relationships, and professional self-esteem. However, automation remains only partially implemented in several core functions, particularly acquisition, serials, and reference services, and its adoption has been accompanied by health-related challenges, such as techno-stress. On balance, the positive influence of automation outweighs its

negative effects, reinforcing the need for continued and more comprehensive automation of academic library operations in the region.

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