Assessment of Library Automation and Impact on Housekeeping in Professor Jibril Aminu Library, Federal Polytechnic Mubi

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Abstract

The study on Assessment of Library Automation and Impact on Housekeeping Operations in Professor Jibril Aminu Library, Federal polytechnic Mubi. The research focused on four key objectives: the extent of automation, the software used, staff competency in utilizing automated systems, the effectiveness of automation in library management and the challenges faced in using automated library system. A survey method was employed and data was gathered through a structured questionnaire and checklist. Analysed data revealed that the library studied is partially automated, its reliance on open-source integrated library systems (ILS) like Koha and NewGEN Lib, and the staff are proficient in using automated systems. A significant portion of library processes, such as borrowing and returning books, have been automated, though some manual processes remain. Despite the positive impacts of automation on resource management and error reduction, challenges such as technical issues, financial constraints and inadequate training hinder full automation. The One-Way ANOVA test shows a significant relationship between staff competence and the effectiveness of automated library housekeeping, emphasising the need for continued professional development to fully capitalise on automation's potential.

Keywords: Library Automation, House-keeping, Library Service, Information Communication Technology (ICT)

Introduction

In the contemporary era, the integration of automation technologies in libraries has become a vital trend that significantly transforms how libraries operate and deliver services. Library automation refers to the use of computers, software and other technological tools to manage and streamline various library operations such as cataloguing, circulation, acquisitions, and housekeeping tasks. These innovations have brought about notable improvements in the efficiency, accuracy and accessibility of information resources. In academic libraries, where the need for effective resource management and timely service delivery is paramount, automation is increasingly adopted to enhance the overall operational workflow. The Professor Jibril Aminu Library at Federal Polytechnic Mubi, like many other academic libraries, has begun to implement automated systems to support her housekeeping operations. Housekeeping tasks, which include routine operations such as the organization of books, catalog maintenance, shelf management and circulation control, are crucial for the smooth functioning of the library. Automation in this context is expected to enhance staff productivity, reduce the time spent on repetitive tasks and improve the accuracy of information handling.

This research aims to assess the level of automation implemented in the Professor Jibril Aminu Library and examine its impact on housekeeping operations. By evaluating the efficiency, challenges and benefits of library

automation in this institution, the study seeks to provide insights into how technology can further optimise library services, making it more responsive to the needs of its users.

Statement of the problem

The rapid advancement in technology has transformed the operations of academic libraries worldwide, with automation playing a crucial role in enhancing the efficiency of library services. Housekeeping operations, including cataloguing, circulation, shelving and inventory management, are essential tasks that directly affect the accessibility and availability of information resources. Despite the benefits of automation in these areas, the extent of its impact and effectiveness in improving housekeeping operations in many Nigerian academic libraries, such as the Professor Jibril Aminu Library at Federal Polytechnic Mubi, remains unclear. Preliminary observations suggest that while some level of automation has been introduced, challenges such as limited technical expertise, inadequate funding, and resistance to change may hinder its full implementation. These issues raise concerns about whether the library's automated systems have truly improved the speed, accuracy, and overall efficiency of housekeeping operations or if manual processes continue to dominate certain areas.

Therefore, this study addressed the gap by assessing the current level of automation in housekeeping operations at the Professor Jibril Aminu Library at Federal Polytechnic Mubi and determine the impact on the quality of library services. This assessment is essential to identify potential areas for improvement and to provide recommendations for maximising the benefits of automation in the library.

Objectives of the Study

The general objective of the study seeks to appraised automated system in library house – keeping in professor Jibril Aminu library at the Federal Polytechnic Mubi, and the specific objectives include to:

1. determine the software packages available, not available, in used, not in used for library automation in Professor Jibril Aminu Library;
2. ascertain the staff competencies in using Automated Library facilities for library housekeeping in Professor Jibril Aminu Library;
3. determine how effective automation is in library management in Professor Jibril Aminu Library; and
4. ascertain the challenges faced when applying automation for library housekeeping in Professor Jibril Aminu Library.

Research Questions

1. What are the software packages available, not available, in used, not in used for library automation in Professor Jibril Aminu Library?
2. How competent are the staff in handling automated library facilities for library housekeeping in Professor Jibril Aminu Library?
3. How effective is the use of automation in library management in Professor Jibril Aminu Library?
4. What are the challenges faced when applying automation for library housekeeping in Professor Jibril Aminu Library?

Research Hypothesis

Ho_1: There is no significant relationship between staff competence in library automation and the effectiveness of automated library housekeeping.

Scope and Limitation

The research work dealt with the appraisal of

automated system in library-housekeeping in academic libraries. The study covers only Professor Jibril Aminu Library at Federal, Polytechnic Mubi.

Literature Review
Concept of Library Automation

The automation of library house-keeping processes has become an essential component of modern library management. It enhances efficiency, accuracy and service delivery in academic libraries by streamlining routine tasks such as cataloging, circulation and acquisitions. This literature review examined existing research on the appraisal of automated library house-keeping, with a focus on Professor Jibril Aminu Library at Federal Polytechnic Mubi. The review was structured to assess whether the library is automated, evaluated the level of automation, examined staff competencies in using ICT, measured the effectiveness of automation, and identified challenges encountered during the automation process.

The word "automation" has been derived from Greek word "automose" which means approximately something, which has power of spontaneous motion or self-movement. The term "Automation" was first announced by D.S. Harder in 1936, who was then with General Motor Company in the U.S. He used the term automation to mean automatic handling of parts between progressive production processes. Automation is technology of automatic employed in which the handling method, the process and design of professional material are integrated. This is the effort to achieve an automatic and self-regulating chain of processes. According to Kent (2008) in Encyclopedia of Library and Information Sciences, Library automation refers to the use of computers and other related technologies to carry out library operations that would otherwise be done manually. Automated

systems improve efficiency in library management, particularly in housekeeping tasks such as cataloging, circulation and acquisitions. Library automation refers to the application of information and communication technology (ICT) to library operations to improve efficiency and service delivery. According to Ezeani (2016) automation transforms traditional library operations by enabling faster processing of materials, reducing human errors and providing easier access to information. The implementation of Integrated Library Systems (ILS) has been a substantial development in library automation, permitting for the seamless management of various library tasks, including cataloging, circulation, and acquisitions.

Importance of Library Automation

The motto of library automation is to provide the right information to right person, in right manner, and in right time. While, justifying need of library automation are more than the cost effectiveness, the benefits derived by the library users become the major consideration (Ashikuzzaman, 2018) he further identified the importance of library automation are these include:
- Better access to the collection
- Allows easy sharing of resources, sharing with other libraries
- More interface with library users with other information resources
- Better facilities for the users as other libraries are also automated
- Enhance consistency in the collection, streamlines circulation
- Speed up of searching for users
- Time saving of clerical and repetitive tasks

Automated Housekeeping Operations

Dhawan (2017) stated that library housekeeping operations may be classified in four parts, such as acquisition, processing, use and maintenance. He renowned that library housekeeping operations and

routine work can be carried out with the help of a computer or a network of computers speedily and cheaply. Library housekeeping operations are diverse in nature but are interrelated to each other. Library housekeeping operations include acquisition, classification, cataloguing, circulation and serial control. Acquisition of library material is the rudimentary function of any library. Acquisition's tasks include selection, ordering, receiving and accessioning of library materials. Classification is the foundation of librarianship. Through classification, library resources can be organized according to specific subject contents. Catalogue is a fundamental key to a library. Through the catalogue, users can find the location of their desired materials. Circulation encompasses charging (issue of material) and discharging (return of materials) in a library. This function needs to keep records of users and material that is lent by the library (Dhawan, 2017).

State of Automation in Academic Libraries

The implementation of automation in academic libraries in Nigeria varies widely. Though some libraries have fully automated their operations, others are still in the initial stages of adopting automated systems. Oyelude (2018) asserted that automation in Nigerian polytechnic libraries is often stalled by financial constraints, lack of technical expertise and inadequate infrastructure. Studies have revealed that even in libraries where automation has been implemented, the level of automation is often partial, with some functions still being carried out manually (Okiki & Asiru, 2019). Library automation involves the use of computer-based systems to manage and streamline library operations. According to Kumar (2015), automation in libraries enhances the accuracy and speed of processing library materials, reducing manual errors and improving service delivery. It includes the implementation of integrated library systems (ILS) that facilitate

various library functions such as cataloging, circulation, and acquisition (Odunlade & Aluko, 2016). The adoption of automated systems is particularly essential in academic libraries, where the volume of materials and user demands are significant (Abubakar, 2019).Determining whether Professor Jibril Aminu Library is automated is foundational to understanding the current state of its library services. Automation is essential in modern libraries for managing resources efficiently and providing users with timely access to information. Previous studies have shown that many academic libraries in Nigeria have embarked on the journey of automation, although the level of adoption varies significantly across institutions (Onyekwe, 2017). For instance, Afolabi and Abayomi (2018) stated that automation in some Nigerian polytechnic libraries is still in its nascent stage, with many libraries struggling with partial automation or relying on manual processes. The level of automation in a library can be assessed based on the extent to which various house-keeping operations are computerized. Levels of automation range from partial to full automation, where all library operations are managed through an integrated system. Studies by Adeyemi and Ugboma (2020) suggest that while some Nigerian polytechnic libraries have made significant strides towards full automation, others remain at the initial stages, often due to financial and infrastructural constraints. In Professor Jibril Aminu Library, it is essential to evaluate the areas where automation has been implemented, such as cataloging, circulation, and acquisition.

Automation Software used in Nigerian Libraries

Currently, library management software solutions are about to cross a threshold from mere discovery to discoverability. Hence, library managers should take it as a matter, of course, to invest in platforms that can make their offerings available on web search. This way, they can increase their libraries' visibility and widen the reach of their services.

With new insights, Imed (2024) highlighted that library management softwares such as CodeAchi Library Management system (LMS), Libero, Alexandria, Evergreen ILS, Mandarin M5, Niche Academy, TMAS, Liberty are the best library management softwares which are also available in the market today. Similarly, Peter and Robert (2021) analysed that among the management software being used in some academic libraries are CDS/ISIS, Integrated Management System, KOHA, ADLIB, E-Print, DSPACE, GLAS, SLAM, VIRTUA, TINLIB, and ALICE. Several authors assert that KOHA, SLAM and VIRTUA library management software are more prominent than others in Nigeria. Furthermore, Muhammad (2023) stated that a library software is a complete management of library systems and having module of material acquisition, Cataloguing, Circulation, serial and OPAC. He further, opined that there are two types of library software used in libraries. Open source library software which is open for all and freely available for everyone and includes software such as Koha, Greenstone, SLAMS, BiblioTEQ, Evergreen etc and commercial library software also referred to as license software meaning they are not freely available; libraries have to pay subscription charges for these software. Such software include Virtua, Symphony Sirsidynix, Destiny Library Manager (Follette), Liberio, Alexandria etc.

Effects of Automated Housekeeping Operations and Services on Work Output

The effectiveness of automation in library management can be evaluated based on improved service delivery, user satisfaction, and operational efficiency. Automated systems are designed to reduce manual errors, speed up processes and provide users with quick access to resources. Research by Usman and Musa (2022) indicates that libraries with well-implemented automated systems report higher levels of user satisfaction and more efficient management of resources. The effectiveness of automation in Professor Jibril Aminu Library can be measured by examining user feedback, the efficiency of house-keeping tasks, and the overall improvement in library services since the adoption of automation. Sahu Italiare (2013) have stated due to the fact that the modern libraries are automated, the libraries should train their employees in ICT as the automation has a positive effect on their productivity. Adekunle et al. (2017) noted that librarians in Nigerian universities had a positive attitude towards the use of ICT because they had skills and knowledge, and appreciated the benefits of application of ICT in their routine work. They have to get nonstop information and capacities/training because of expediently changing correspondence innovation to give great library administration to the users

Challenges Faced when using automation in library management

Despite the benefits of automation, several challenges hinder its successful implementation and use of library automation in academic libraries. These challenges include inadequate funding, lack of skilled personnel, resistance to change, and poor infrastructure (Okafor, 2020). In Nigerian polytechnic libraries, these challenges are particularly pronounced, with many libraries facing issues related to power supply, limited internet connectivity, and insufficient training for staff (Okojie & Akinyemi, 2021). According to Howden (2019) some challenges have been noted to hamper the effective utilization of automation in academic library Includesthe complexity of the Software challenges: It is not all software that is easy to master. In such situations, it could take a long time to study such software, especially without the assistance of the software developer. This poses a great hindrance to the effective utilization of such software as the users could make mistakes along the line while trying to do some applications. CDS/ISIS can only be used on a single user system. In other words, it does not allow two

people to use it at the same time. There is awareness that a lot of benefits are derived, through the adoption and use of automation in libraries, nevertheless, there are many challenges to be addressed. These include: Limited Financial Resources, Shortage of ICT Facilities and ICT Skills, Lack of ICT skills places a serious restriction on the application of ICT to provision of library services, Poor maintenance of automation Equipment, Erratic Power Supply, Staff attitude towards ICT utilisation/technophobia, Inadequate training and technical/skilled manpower Power outage. Automation of library house-keeping processes is essential for modern library management, offering numerous benefits in terms of efficiency, accuracy, and service delivery. However, the extent of automation and its effectiveness depend on several factors, including the availability of resources, staff competence, and infrastructural support. In the context of Professor Jibril Aminu Library, it is crucial to assess the current state of automation, the challenges faced, and the effectiveness of the systems in place to ensure continuous improvement and enhanced service delivery.

Theoretical Framework

The study on appraisal of automated library house-keeping in Professor Jibril Aminu Library, federal polytechnic Mubi adopts the Technology Acceptance Model theory (TAM) proposed by Davis (1989). TAM explains the factors that influence users' acceptance and adoption of new technology. In the context of this study, TAM can help identify the key factors that affect the appraisal of automated library house-keeping in the Professor Jibril Aminu Library of Federal Polytechnic Mubi.According to TAM, perceived usefulness and ease of use are critical determinants of users' acceptance of technology. Perceived usefulness refers to the extent to which a user believes that a particular technology will

enhance their job performance or make their tasks easier to accomplish. Perceived ease of use, on the other hand, refers to the degree to which a user believes that using the technology will be effortless and straightforward.

Research Method

Survey research design method was adopted for this study. Survey research design is a quantitative method used to collect data from a sample of respondents through structured questionnaires or interviews to gather information on attitudes, opinions, behaviours, or characteristics of a larger population (Ponto, 2017). This design is considered appropriate for this study because the study sought to appraise automated library house – keeping in Federal Polytechnic Mubi library. The study area covers only Federal Polytechnics Mubi Library. The population of the study comprised of librarians and non- professional (library officers and supporting staff) working in the library at federal polytechnic Mubi. The total number of professional is 14 and non-professional staff is 18 who were the targeted respondents. The sampling technique adopted is census sampling technique. Census sampling is a method in which data is collected from every member of a population, rather than from a selected sample, to obtain comprehensive information about that population (Mishra & Alok, 2017). This approach was used because the population is manageable. The researcher use questionnaire and checklist for data collection. These methods were adopted because the type of data required for the research was quantitative in nature the type of questionnaire used was structured questionnaire, in which respondents were provided with options to choose the appropriate answer to the questions. The use of structured question made data processing and analysis easier and straight forward. The questionnaire was administered personally by the researchers to individual respondents, this is to obtain valid responses and to avoid missing

questionnaire by the respondents.

Data analysis and Interpretation
Table 1. Objective One: Determine the software packages available, not available, In used, not in used for library automation in Professor Jibril Aminu Library

S/N	Statements	Available	Not Available	In used	Not In used
1.	Alexandria	√			×
2.	Virtua		×		×
3.	Koha	√		√	
4.	NewGEN Lib	√		√	
5.	ALICE for Windows		×		
6.	BiblioTech		×		
7.	PROQUEST		×		
8.	Libero		×		
9.	Mandarin		×		
10.	Greenstone	√			×
11.	Millennium	√			×
12.	Evergreen ILS	√		√	

Source: Field Survey,2024. Key: Available = √, Not Available = ×, In used = √, Not In used = ×

On the checklist table above it shows the availability and usage of various software packages for library automation in Professor Jibril Aminu Library. Available Software Packages include: Alexandria, Koha, NewGEN Lib, Greenstone, Millennium and Evergreen ILS. Not Available Software Packages: Millennium, ALICE for Windows, BiblioTech, PROQUEST, Libero and Mandarin. Software packages available but not in use: Alexandria, Virtua, and Greenstone. The Software Packages available and predominantly in use to satisfy the users' needs includes: Koha, NewGEN Lib and Evergreen ILS

Table 2. Objective Two: Ascertain the staff competencies in using Automated Library facilities for library housekeeping in Professor Jibril Aminu Library.

S/N	Statements	SA	A	D	SD
1.	I am proficient in using automated system for cataloguing and classification of library materials	4(12.5%)	18(56.3%)	10(31.3%)	0(0%)
2.	I have the ability to understand and use multiple automated information systems.	3(9.4%)	18(56.3%)	11(34.4%)	0(0 %)
3.	I Can troubleshoot basic ICT issues related to library automated systems.	15(46.9%)	10(31.3%)	5(15.6%)	2(6.3 %)
4.	I am familiar and have confident in handling automated library systems.	5(15.6%)	20(62.5%)	7(21.9%)	0(0%)
5.	I can effectively use automated system devices such as smartphones, laptops and desktop PCs	8(25.0%)	20(62.5%)	4(12.5%)	0(0%)

Source: Field Survey,2024. Key: SA= Strongly Agreed, A = Agreed, DA= Disagreed, SD = Strongly Disagreed

On proficiency in using Automated Systems for

Cataloging and Classification, the result shows a significant majority (68.8%) of staff feel confident in their proficiency with cataloging and classification using automated systems. However, nearly one third (31.3%) expressed disagreement, indicating a need for additional training or support in this area. While 65.6% of staff agreed or strongly agreed with their ability to handle multiple automated systems, 34.4% disagreed. This suggests that while most staff can manage the current systems in use, there may be challenges in adapting to new or additional systems, highlighting a potential area for professional development. A robust majority (78.2%) of staff are confident in their ability to troubleshoot basic ICT issues, which is critical for maintaining the smooth operation of automated systems. Only 21.9% expressed a lack of confidence, suggesting that overall, the staff are well-equipped to handle minor technical problems. A total of 78.1% of staff feel familiar and confident in handling automated systems, which is essential for efficient library housekeeping. The 21.9% who disagreed may benefit from targeted training to enhance their comfort and familiarity with these systems. An impressive 87.5% of staff agreed or strongly agreed that they can effectively use devices like smartphones, laptops, and PCs. This high level of proficiency is crucial for interacting with automated library systems and supports overall operational efficiency. Only a small minority (12.5%) disagreed, indicating a generally strong technical skill set among the staff. From the foregoing, it can be deduced that the staff at Professor Jibril Aminu Library demonstrated a high level of competency in utilising automated library systems, particularly in areas such as troubleshooting ICT issues and effectively using essential devices. While the majority of staff feel proficient and confident in their roles, there is a notable minority who may require additional training or support, especially in expanding their ability to manage multiple automated systems and enhancing their proficiency in cataloging and classification. Addressing these gaps could further strengthen the library's operational efficiency and adaptability to new technologies.

Table 3 Objective Three: determine how effective is the automation in library management in Professor Jibril Aminu Library.

S/N	Statements	SA	A	D	SD
1.	The automation of Prof. Jibril Aminu Library has modernized the library management system.	5(15.6%)	22(68.8%)	5(15.6%)	0(0%)
2.	Prof. Jibril Aminu Library automated systems have reduced errors in the daily library operations	20(62.5%)	10(31.3%)	2(6.3%)	0(0%)
3.	The efficiency and standard of Prof. Jibril Aminu Library services has increased since its automation.	5(16.6%)	13(40'6%)	14(43.8%)	0(0%)
4.	Users are satisfied due to the automation of the library.	2(6.3%)	20(62.5%)	10(31.3%)	0(0%)
5.	Automation has enhanced the management of Prof. Jibril Aminu Library to manage library resources.	10(31.3%)	15(46.9%)	7(21.9%)	0(0%)

Source: Field Survey,2024. Key: SA= Strongly Agreed, A = Agreed, DA= Disagreed, SD = Strongly Disagreed

On how effective is the automation of Prof. Jibril Aminu Library, a significant majority of the

respondents agreed that automation has modernized the library management system, with 68.8% agreed and 15.6% strongly agreed, making a cumulative score of 84.4%. Only 15.6% disagreed, indicating that automation is widely perceived as a modernising force in the library. Automation has been highly effective in reducing errors in daily operations, as 62.5% strongly agreed and 31.3% agreed (a combined 93.8%), with only a small fraction (6.3%) disagreed. This shows strong confidence in the ability of automated systems to minimise operational errors. Respondents are more divided on whether efficiency and standards have improved since automation. While 40.6% agreed and 15.6% strongly agreed (a total of 56.3%), a notable 43.8% disagreed, indicating mixed perceptions on the impact of automation on service efficiency. User satisfaction due to automation appears relatively strong, with

62.5% agreed and 6.3% strongly agreed, adding up to 68.8% of respondents feeling satisfied. However, 31.3% of the respondents express dissatisfaction, reflecting room for improvement in user experience. Automation has been effective in enhancing the management of library resources, with 46.9% agreed and 31.3% strongly agreed (a combined 78.1%). However, 21.9% disagreed, suggesting that some respondents may still feel the need for further improvements in resource management. In overall, the automation of Professor Jibril Aminu Library is viewed as a positive development, particularly in reducing errors and modernising the library system. While there is strong agreement that automation has enhanced management and increased satisfaction, there are mixed views on whether it has significantly improved service efficiency and standards, suggesting that further refinements might be needed in those areas.

Table 4 Objective four: Challenges faced in Applying Automation for Library Housekeeping at Prof. Jibril Aminu Library.

S/N Statements	SA	A	D	SD
1. Technical issues related to the success-ful installation of automated systems in the library.	20(62.5%)	12(37.5%)	0(0 %)	0(0 %)
2. High cost of subscriptions and mainte-nance associated to library automated systems and online resources.	22(68.8%)	10(37.5%)	0(0 %)	0(0 %)
3. Resistance to change from manual sys-tems to automated system among library staff	25(78.1%)	0 (0%)	7(21.9%)	0 (0%)
4. Inadequate training of staff and work-shops to effectively use library automated systems	20 (62.5%)	9(28.1%)	3(9.4%)	0 (0%)
5. Erotic power supply and unavailability of a dependable network source.	22(68.8%)	9(28.1%)	1(3.1%)	0(0 %)

Source: Field Survey,2024. Key: SA= Strongly Agreed, A = Agreed, DA= Disagreed, SD = Strongly Disagreed

On the result of challenges faced in applying automation of library at Prof. Jibril Aminu Library, a majority of respondents (62.5%) strongly agreed that technical issues related to the

installation of automated systems pose challenge, while 37.5% agreed. This indicates that technical difficulties are a significant barrier, with no respondents disagreed. A substantial 68.8% strongly agreed that the high costs of subscriptions

and maintenance for automated systems and online resources are problematic. Another 31.3% agreed, showing consensus that financial constraints are a major challenge. The majority (78.1%) strongly agreed that resistance to shifting from manual to automated systems among library staff is a challenge. A smaller group (21.9%) disagreed, suggesting that while most recognise this issue, a few do not see it as a significant problem. A large portion (62.5%) strongly agreed that inadequate training and workshops for staff present challenges in using the automated systems. Another 28.1% agree, with 9.4% disagreed. This shows that staff training is viewed as an important factor but with some variation in opinions.

Most respondents (68.8%) strongly agreed that erratic power supply and unreliable network access are challenges; another 28.1% agreed, and only 3.1% disagreed. This suggests that infrastructure issues like power and network reliability are seen as major obstacles to successful automation. Overall, the data indicates widespread recognition of several challenges, with technical, financial, infrastructural and human resource issues being the most prominent.

Research Hypothesis
Ho_1: There is no significant relationship between staff competence in library automation and the effectiveness of automated library housekeeping.

Test result
One-Way Anova Test on the relationship between staff competence in library automation and the effectiveness of automated library housekeeping

Table 5: Relationship between staff competence in library automation and the effectiveness of automated library housekeeping.

Comparison between staff competence in library automation and the effectiveness of automated library housekeeping	Sum of Squares	df	Mean Square	F	Sig
Between Groups	249.405	10	24.940	85.928	.000
Within Groups	6.095	21	290		
Total	255.500	31			

Source: Fieldwork, 2024

From table 5 above, it is displayed that One-Way Anova test result (P-value = 0.0000) is less than the significance level (0.05). Therefore, we reject the null hypothesis and accept the alternative hypothesis. This signifies that there is relationship between staff competence in library automation and the effectiveness of automated library housekeeping.

Conclusion
The findings indicate that Professor Jibril Aminu Library has embraced partial automated system in some areas, with notable success in automating borrowing and returning processes, and offering online catalog access. However, the library still operates with a hybrid, that is manual and automated processes. The software packages used for automation are limited to Koha, NewGEN Lib, and Evergreen Integrated Library System with no indication of other specialized tools in use. Staff members demonstrate a high level of competence in handling automated systems, though gaps exist in managing multiple systems and cataloging processes, which require further training. Automation has proven effective in reducing operational errors and improving resource management, though its overall impact on service efficiency and user satisfaction shows room for improvement. Several challenges, including

technical difficulties, financial constraints, resistance to change, inadequate training, and infrastructure issues, continue to impede the full implementation of automation.

Recommendations

From the findings of the study, the following recommendations were made:

i. The library should aim to transition fully to automated processes by addressing the remaining manual operations. This could involve upgrading existing systems or introducing new automated tools for areas like material searches and daily library operations.

ii. Continuous training programs should be implemented to improve staff proficiency in handling multiple automated systems and cataloguing processes. Special emphasis should be placed on staff who express discomfort with the current technologies.

iii. While Koha, NewGEN Lib and Evergreen Integrated Library System are efficient for library automation, exploring additional software options may provide more comprehensive solutions for various library functions. This could enhance operational efficiency and expand the range of services offered.

iv. The library should seek alternative funding or partnerships to mitigate the high costs of maintaining automated systems. Technical support for installation, maintenance, and troubleshooting should be strengthened to minimize downtime.

v. Regular assessments of the effectiveness of automation should be conducted to ensure ongoing improvements in service delivery, operational efficiency and user experience.

References

Abubakar, A. (2019). Automation in academic libraries: Challenges and prospects in Nigeria. *Journal of Library and Information Services, 5(2), 45–57.*

Adekunle, P. A., Omopupa, K. T., & Olatunji, A. A. (2017). Librarians' attitudes towards ICT use in Nigerian universities. Library Philosophy and Practice, 1–14.

Adeyemi, I. A., & Ugboma, M. U. (2020). Assessing automation in polytechnic libraries in Nigeria. Nigerian Libraries, 53(1), 23–37.

Afolabi, M., & Abayomi, A. (2018). The state of library automation in Nigerian polytechnics. *International Journal of Library and Information Science, 10(2), 19–27.*

Ashikuzzaman, M. (2018). Importance of library automation. Library & Information Science Articles. Retrieved from *https://www.lisbdnetwork.com*

Adeleke, I. A., Muraina, I. O., & Adegbuyi, K. K. (2020). *Adoption of Cloud Computing Technology for Effective University Administration in Nigeria.CJAST, 39(40), Article CJAST.62832. https://doi.org/10.9734/cjast/2020/v39i4031106*

Adeoye, A. A., Oyewusi, F. O., & Oyeboade, S. A. (2020). Digital libraries and information access in Nigerian federal universities: An assessment of students' use and satisfaction. *Journal of Applied Information Science and Technology*, 13(1), 45-62.

Awosan, R. K. (2014). *Factor Analysis of the Adoption of Cloud Computing in Nigeria. African Journal of Computing & ICT, 7.*

Bamgbose, A. A., Adeyemi, K. O., & Ogunniyi, S. O. (2024). Adoption of cloud computing in academic libraries in Lagos and Ogun States: Library personnel awareness and implementation challenges. *Preservation, Digital Technology & Culture*, 53(4), 187-203.*https://doi.org/10.1515/pdtc-2024-0039*

Bamgbose, A. A., Mohd, M., Tengku Wook, T. S. M., & Mohamed, H. (2025). Factors influencing the trustworthiness of digital repositories in Nigerian university libraries. *Journal of Librarianship and Information Science*, 57(1), 123-145. https://doi.org/10.1177/02666669251331223

David, I. C., Anyim, W. O., & Umunnakwe, F. C. (2021). Digital information resources use and accessibility in Federal University Library, Lokoja: Implications for strategic planning and service delivery. *Library Philosophy and Practice*, 2021(1), 1-18.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319–340. *https://doi.org/10.2307/249008*

Dhawan, S. M. (2017). Library housekeeping operations in the digital age. New Delhi: Ess Ess Publications.

Ezeani, C. N. (2016). Impact of automation on library operations in Nigeria. Library Philosophy and Practice, 1–10.

Howden, N. (2019). Challenges in implementing automated systems in libraries. *Journal of Information Technology in Libraries, 8(3), 66–74.*

Imed, K. (2024). Emerging trends in library management software: A review. International *Journal of Digital Library Systems, 15(1), 22–34.*

Kent, A. (2008). Encyclopedia of library and information sciences (3rd ed.). CRC Press.

Kumar, V. (2015). Library automation in developing countries: Problems and prospects. *International Journal of Library Science, 12(1), 1–8.*

Mishra, S., & Alok, S. (2017). Handbook of research methodology. New Delhi: Educreation Publishing.

Muhammad, U. (2023). Comparative study of open source and commercial library software in Nigerian libraries. *Journal of Library Automation Studies, 9(2), 44–55.*

Okafor, C. (2020). Constraints of library automation in Nigeria. Journal of Information and Knowledge Management, 11(1), 88–96.

Okojie, V., & Akinyemi, F. (2021). Barriers to effective automation in polytechnic libraries in Nigeria. Library Philosophy and Practice, 1–12.

Okiki, O. C., & Asiru, S. (2019). Automation of library services in Nigerian universities: Challenges and opportunities. *African Journal of Library, Archives and Information Science, 29(1), 57–68.*

Onyekwe, O. (2017). Library automation in Nigerian universities: A case study. Nigerian Libraries, 50(2), 15–28.

Oyelude, A. (2018). State of library automation in Nigerian polytechnics. Library Hi Tech News, 35(8), 12–16.

Peter, T., & Robert, J. (2021). Review of library management software in academic institutions. Library Management Review, 42(4), 245–258.

Ponto, J. (2017). Understanding and evaluating survey research. *Journal of the Advanced Practitioner in Oncology, 8(4), 168–171.*

Sahu Italiare, R. (2013). ICT application and its impact on library staff productivity. *International Journal of Information Science, 3(2), 25–32.*

Usman, A., & Musa, M. (2022). Effects of automated library systems on user satisfaction in Nigerian academic libraries. *Journal of Library and Information Science Research, 14(1), 33–46.*