

**LIBRARIANS' TECHNOLOGICAL COMPETENCE, PERFORMANCE,
EXPECTANCY, AND PERCEIVED EASE OF THE USE OF AUTOMATION
SOFTWARE IN ACADEMIC LIBRARIES IN OGUN STATE**

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Abstract

This study examined librarians' technological competence, performance, expectancy, and perceived ease of the use of automation software in academic libraries in Ogun state. A descriptive survey research design was adopted for this study. The total enumeration method was employed to select 104 respondents for the study. A self-designed and close-ended questionnaire was used as the instrument for gathering data from the respondents. The data gathered was analyzed using descriptive statistics such as frequency counts, percentages, mean, and standard deviation. Findings revealed there was a high level of librarians' technological competence of librarians. There was a high level of librarians' performance expectancy of automated software. The perceived ease of the use of automation software was high. The study revealed that the major problems affecting the use of automation software by librarians are frequent virus attacks, non-compatibility of the software, inadequate technical support of the automation software, and limited user community. It was therefore recommended that librarians should enhance ongoing professional development programs to keep librarians abreast of the latest advancements in automation software, ensuring they stay proficient and adaptable in the rapidly evolving technological landscape.

Keywords: Technological Competence, Performance, Expectancy, Perceived Ease of the Use of Automation Software

Introduction

Automation software refers to the computerized mechanization of library maintenance chores. Libraries use automation software, such as an enterprise resource planning system, to handle inventory, orders, payments, and other important data (Moruf & Olajojo, 2020). Libraries in the twenty-first century must become automated to run successfully, provide excellent services to their patrons, and compete worldwide. Automation software can help libraries enhance their acquisition, circulation, cataloging, and reference services (Ajani and Buraimo, 2021). Perceived ease of use refers to how easily individuals feel a system will perform. Consumer ratings of the amount of effort required to understand and grasp new technologies were used to determine perceived ease of use (Nicholas, Keni, Pauline, & Pattyranie, 2021). Technology enables and enforces change. Librarians must make several changes for each automation project, whether it is a migration or the initial deployment (Moruf & Olajojo, 2020).

Technology competencies are essential for library professionals to develop in their careers and ensure the success of their organizations. They are characterized as a set of skills, knowledge, and attitudes associated with library technology (Shanmugathan & Thirunavukkarasu, 2023). In addition to providing a variety of computerized services to its clients, the majority of libraries today employ computers and the most modern technological tools and techniques to handle a variety of housekeeping tasks, including acquisition, processing, and serial control (Nayana, 2019). Librarians, as information professionals, must be computer literate to boost customers' consumption of library resources, meet their information needs, and promote successful service delivery (Ndaro, Basse, Sylvanus, & Basse, 2024). Furthermore, librarian's performance and expectations have a significant impact on the success of integrating new technology or procedures, as well as the smooth operation of libraries (Igbudu, Asen & Tyopev, 2020). Librarians appreciate the necessity of adjusting to rapidly changing technology and fluctuating client expectations (Subhajt, 2023). Hence, it is imperative to investigate librarians' technological competence, performance, expectancy, and perceived ease of the use of automation software in academic libraries in Ogun state.

Statement of the Problem

Despite the growing body of research on technology adoption in academic libraries across Nigeria, significant gaps remain in understanding the specific factors influencing librarians' technological competence, performance expectancy, and perceived ease of use of automation software in academic libraries in Ogun State. Previous studies (Aliyu & Dutse, 2017; Izuagbe *et al.*, 2019; Odelami *et al.*, 2023; Ijeh *et al.*, 2022; Omehiaiet *et al.*, 2021) have largely focused on various aspects of technology acceptance and use, yet they have not fully addressed the combined impact of these factors on librarians' ability to effectively use automation software in this region. However, these studies did not specifically address the unique context of Ogun State, nor did they comprehensively analyze the interplay of technological competence, performance expectancy, and perceived ease of use among librarians using automation software. This study aims to fill these gaps by investigating librarians' technological competence, performance, expectancy, and perceived ease of the use of automation software in academic libraries in Ogun state. With specific objectives of determining the level of librarians; technological competence; finding out librarians' performance expectancy of automated software, assessing the perceived ease of the use of automation software, and examining the problems affecting the use of automation software by librarians in academic libraries in Ogun state.

Research Questions

- (i) What is the level of librarians' technological competence of librarians in academic libraries in Ogun state?
- (ii) What is the level of librarians' performance expectancy of automated software in academic libraries in Ogun state?
- (iii) What is the perceived ease of the use of automation software in academic libraries in Ogun state?
- (iv) What are the problems affecting the use of automation software by librarians in academic libraries in Ogun state?

Literature Review

Izuagbe, Ibrahim, Ogiamien, Olawoyin, Nwokeoma, Ilo, and Osayande (2019) examined librarians' intentions for actual library technology acceptance using a correlational research design and multistage sampling procedure. Results showed that e-skill is the strongest determinant of technology acceptance intention among librarians, with PEOU significantly moderating librarians'

intention towards library technology acceptance when e-skills are insufficient. This study extends and refines the understanding of the determinants of behavioral intention captured in the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAT). Odelami, Folorunso, and Igbinovia (2023) examined the relationship between external control, effort expectancy, and use of Electronic Information Resources (EIRs) among undergraduates in two selected universities in Oyo State, Nigeria. The study found that both independent variables of external control and effort expectancy had individual significant relationships with undergraduates' use of EIRs. Both independent variables when taken together significantly influence the use of EIRs among the undergraduates.

Ijeh, Omorodion, and Oloruyomi (2022) investigated effort expectancy and performance expectancy as determinants of librarians' use of cloud computing technologies in libraries in South-West, Nigeria. The study employed a descriptive correlational research design, with 259 professional librarians from selected institutions in the region as respondents. The findings revealed a significant positive relationship between effort expectancy and librarians' use of cloud computing technologies in academic libraries in South-West, Nigeria. Omehia, Okwu, and Nsirim (2021) determined the extent of the relationship between Librarians' ICT competencies and the utilization of emerging technologies in academic libraries in Rivers State, Nigeria. The study used a correlational design, with three research questions, three objectives, and three null hypotheses formulated and tested at the 0.05 level of significance. The findings showed a significant relationship between basic computer competencies, information retrieval competencies, and web 2.0 competencies of librarians and the utilization of emerging technologies in academic libraries in Rivers State, Nigeria.

Methodology

Research Design

A descriptive survey research design was adopted for this study.

Population of the Study

The population of this research study was librarians in six (6) selected academic libraries, which was 104.

Table 1: Population Distribution of the study

S/N	University Libraries	Number of Librarians
1	Babcock University	28
2	Olabisi Onabanjo University	13
3	Nimbe Adedipe Library, Federal University of Agriculture, Abeokuta (FUNAAB)	23
4	Gbenga Daniel Library, Tai Solarin University of Education	7
5	Covenant University	22
6	Christopher University	11
	Sample Size	104

Source: Librarians' office in each of the selected libraries

Sample and Sampling Technique

The total enumeration method was used to capture all the librarians in the selected academic libraries surveyed.

Research Instrument

A self-designed and close-ended questionnaire was used as the instrument for gathering data from the respondents. The questionnaire comprised of two (2) main sections. Section A focused on the demographic information of the respondents, while Section B comprised relevant questions about the research questions about the research questions raised for the study.

Results

Research Question 1: What is the level of librarians' technological competence of librarians in academic libraries in Ogun state?

Table 4: Level of librarians' technological competence of librarians

Items	Mean	Std. Dev.
Ability to work with integrated library management systems.	3.69	.613
Knowledge of how to evaluate suitability of software for digital projects.	3.61	.846
Knowledge of digital preservation.	3.45	.940
Knowledge of data security by keeping back-up of digital contents in case of any disaster.	3.31	.717
Ability to design, develop, and analyze systems.	3.24	.798
Capability of sending and receiving emails.	3.24	.903
Competencies in building digital collections.	3.16	.865
Database search skills.	3.15	1.112
Metadata development skills.	3.08	.919
Applying new technologies into library services.	3.07	1.007
Uploading documents to online.	3.02	1.034
Skills to communicate and transmit information through various virtual channels.	2.93	1.329
Ability to apply security software firewalls and filtering routers.	2.90	1.148
Skills of using computers, the Internet and communication networks to handle information, and research services.	2.86	1.099
Knowledge of network and system security.	2.77	1.134
Library website development skills.	2.76	1.055
Capability to deal with cloud computing in the library.	2.75	1.262
Ability to manage and design databases.	2.75	1.057
Knowledge of copyright laws in the digital environment.	2.68	1.073
Proficient in all Microsoft Office applications.	2.63	1.281
Average Mean	3.05	1.010

Decision: It has been adjudged that means score of $X=2.50$ and above is significant.

Result in table 4 revealed the level of librarians' technological competence of librarians. The result showed that with an average mean of ($\bar{x} = 3.05$) which greater than the criterion mean score ($\bar{x} = 2.50$), the result indicates that there is high level of librarians' technological competence of librarians, which is favourable to working with integrated library management systems and evaluating suitability of software for digital projects and digital preservation.

Research Question 2:What is the level of librarians' performance expectancy of automated software in academic libraries in Ogun state?

Table 5: Level of librarians' performance expectancy of automated software

Items	Mean	Std. Dev.
Automated software enhances the accessibility and availability of digital resources	3.32	.914
Automated software improves search efficiency and accuracy	3.30	.830
Librarians anticipate that automated software will be a valuable addition to their work environment	2.81	1.022
Using automated software saves time in cataloging and classification tasks	2.63	1.080
Automated software can adapt to the changing needs and demands of the library	2.55	1.105
Automated software assists in streamlining circulation and check-in/out processes	2.41	1.222
Librarians can learn to use automated software effectively with appropriate training	2.31	1.210
Librarians believe that automated software supports better patron services	2.20	1.063
Automated software contributes to better data management and reporting	1.89	.932
Automated software helps in reducing human errors in record-keeping	1.83	.986
Average Mean	2.53	1.036

Decision: It has been adjudged that means score of $X=2.50$ and above is significant.

Result in table 5 revealed the level of librarians' performance expectancy of automated software. The result showed that with an average mean of ($\bar{x} = 2.53$) which greater than the criterion mean score ($\bar{x} = 2.50$), the result indicates that there is high level of librarians' performance expectancy of automated software in academic libraries in Ogun state.

Research Question 3:What is the perceived ease of the use of automation software in academic libraries in Ogun state?

Table 6: Perceived ease of the use of automation software

Items	Mean	Std. Dev.
I receive adequate training and professional development opportunities to enhance my skills in using the automation software	2.94	1.176
I believe that using the automation software is convenient and user-friendly	2.91	1.045
The interface of the automation software is user-friendly and intuitive	2.79	1.093
The software updates and maintenance do not pose significant challenges or disruptions	2.75	1.123
The software provides clear and helpful user documentation or tutorials	2.65	1.031
Learning to use the automation software is straightforward and does not require extensive training	2.59	.958
The automation software offers support resources, such as customer service or helpdesk, that are responsive and effective	2.40	1.119
Integrating the automation software into our existing library systems is a seamless process	2.37	1.116
I feel confident in my ability to troubleshoot and resolve issues while using the automation software	2.25	1.123
I find it easy to navigate through the different features and functions of the automation software	2.18	1.138
Average Mean	2.58	1.092

Decision: It has been adjudged that means score of $X=2.50$ and above is significant.

The result in Table 6 revealed the perceived ease of the use of automation software and the result showed that the perceived ease of the use of automation software in academic libraries in Ogun state is high ($\bar{x} = 2.58$), which is favorable to receiving adequate training and professional development opportunities to enhance their skills in using the automation software as well as using the automation software is convenient and user-friendly.

4.1.4 Research Question 4: What are the problems affecting the use of automation software by librarians in academic libraries in Ogun state?

Table 7: Problems affecting the use of automation software by librarians

Items	YES	NO
Frequent virus attack makes it unattractive	80(78.4%)	22(21.6%)
Non-compatibility of the software with the new hardware configuration is worrisome	79(77.5%)	23(22.5%)
The technical support of the automation software is inadequate	68(66.7%)	34(33.3%)
The limited user community of the software is quite challenging	68(66.7%)	34(33.3%)
Non-availability of web 2.0 features in the automation software is a big problem	61(59.8%)	41(40.2%)
The opposing attitude of librarians toward the automation software is unfavourable	49(48.0%)	53(52.0%)
The inability to generate needed reports in the library is disadvantageous to the automation software	44(43.1%)	58(56.9%)
Frequent downtime of the system is a great problem for the automation software	40(39.2%)	62(60.8%)
A possible threat may be the ever library's negative attitudes of management to automation software in my institution	34(33.3%)	68(66.7%)
Other competitors may become threats in the future as some of them are planning to provide library software free of charge	33(32.4%)	69(67.6%)

Results showed that the problems affecting the use of automation software by librarians are: Frequent virus attacks 80(78.4%); non-compatibility of the software 79(77.5%); inadequate technical support of the automation software and limited user community 68(66.7%).

Discussion of Findings

The study revealed that there is a high level of librarians' technological competence of librarians, which is favorable to working with integrated library management systems and evaluating the suitability of software for digital projects and digital preservation. This is consistent with the study of Nayana (2019) who affirmed that today, majority of the libraries are using computers and the latest technology tools and techniques for performing various housekeeping jobs such as acquisition, processing, and serial control and also for delivering various computerized services to the users.

The study showed that there is a high level of librarians' performance expectancy of automated software in academic libraries in Ogun state. This correlates with the study of Chad (2020) who noted that librarians also anticipate that automated software will improve accessibility and inclusivity for all users, including those with disabilities. These systems can offer features such as text-to-speech, screen readers, and accessible interfaces. The expectations of librarians regarding automated software are rooted in a desire to improve their performance and the overall effectiveness of library operations.

The study revealed that the perceived ease of the use of automation software in academic libraries in the Ogun state is high, which is favorable to receiving adequate training and professional development opportunities to enhance their skills in using the automation software as well as using the automation software is convenient and user-friendly. This aligns with the assertion of Aguboshim (2019) who noted that perceived ease of use is influenced by various factors, including the software's user interface, ease of customization, training and support, and the degree to which it aligns with the librarians' existing workflows.

The study revealed that the major problems affecting the use of automation software by librarians in academic libraries in Ogun state are frequent virus attacks, non-compatibility of the software, inadequate technical support of the automation software, and limited user community. To buttress this assertion, Muhammad and Lubna (2023) stated that the level of short staffing is apparent while the little on the ground is so little or no computer knowledge. This posed a lot of technical problems to the automation exercise. In moreover cases it was found that one or two professionals are saddled with the responsibility of managing the system unit thereby limiting the outcome of service delivered to clients.

Conclusion

In conclusion, librarians have a high degree of technological competence. In academic libraries in Ogun state, librarians have a high degree of performance expectancy for automated software, implying that automated software increases digital resource accessibility and availability, as well as search efficiency and accuracy. Librarians expect automated tools to be a helpful addition to their work environment. The perceived ease of use of automation software in academic libraries in Ogun state is high. The principal issues inhibiting librarians' use of automation software in academic libraries in Ogun state are frequent virus attacks, software incompatibility, insufficient technical support for automation software, and a small user community.

Recommendation

1. It was recommended that librarians should enhance ongoing professional development programs to keep them abreast of the latest advancements in automation software.
2. Librarians should stay proficient and adaptable in the rapidly evolving technological landscape.
3. University Management should invest in robust technical support systems to address challenges such as virus attacks and software compatibility issues.
4. The Management should also provide librarians with the necessary resources to maintain the integrity and functionality of automation software.
5. Software developers should continuously improve the user interface and user experience of automation software.

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