

PROSPECTS AND CHALLENGES OF THE USE OF SOFTWARE PACKAGES IN ACADEMIC LIBRARIES IN DELTA STATE

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Abstract *This study explores the prospects and challenges of the use of software packages in academic libraries in Delta State, Nigeria. In recent years, there has been a growing emphasis on the adoption of software packages to enhance library operations, services, and management. However, the implementation of software packages in academic libraries has encountered numerous obstacles. Therefore, this research aims to identify the potential benefits and barriers associated with the use software packages in academic libraries within Delta State. This study adopted a descriptive survey design. The population of this study comprised all the academic libraries in delta state. Purposive random sampling technique was used to sample 17 academic libraries in delta state, all librarians within the 17 academic libraries are used for this study. One hundred respondents were selected using simple random sampling technique. An instrument tagged "Questionnaire on the "prospects and challenges of the use of software packages in academic libraries" (QPCUSPAL). Copies of the research instrument were personally distributed to the libraries in Delta State, Nigeria with the assistance of two of my colleagues in the department. The data collected was subjected to analysis using simple percentage method. The generated research questions were answered using simple percentage method. The study reveals several prospects linked to the use of software packages in libraries. These include improved efficiency in cataloging and circulation, enhanced access to digital resources, and streamlining of administrative tasks. Additionally, software packages offer the potential for more sophisticated data analysis, leading to evidence-based decision-making and improved user services. However, the study also identifies various challenges faced by academic libraries in Delta State concerning the adoption and use of software packages. These challenges comprise limited financial resources, inadequate technological infrastructure, insufficient IT skills and knowledge among library staff, resistance to change from library professionals, and issues related to data security and privacy. In conclusion, the prospects of use software packages in academic libraries in Delta State are substantial, potentially leading to improved library services and operations. Nevertheless, several challenges need to be addressed to ensure successful implementation in academic libraries in Delta State which can effectively harness the benefits and overcome the barriers associated with software package utilization, thus transforming their services and meeting the evolving needs of their users.*

Keywords: *Prospects, Challenges, Software, Software Packages, Academic Libraries*

INTRODUCTION

Academic libraries have undergone significant changes in recent years due to the advancement of technology. One crucial aspect of these changes is the adoption and use of various software packages. These packages offer numerous benefits and opportunities for academic libraries, but they also present several challenges. In the digital era, academic libraries are increasingly relying on software packages to streamline their operations and enhance user experiences. These software packages encompass a wide range of functionalities, including cataloging, circulation, interlibrary loan, and digital asset management. This article explores the prospects and challenges associated with the use of software packages in academic libraries, highlighting their potential benefits and addressing the obstacles that may arise (Xiaojuan, Heting & Guo, 2017).

Software refers to a collection of programs, instructions, and data that enable a computer system to perform specific tasks or functions. It can be classified into two main categories: system software and application software. System software manages the hardware and provides a platform for running applications, while application software carries out specific tasks for users. For example, operating systems like Windows or macOS are system software, while word processors or web browsers are application software (Beekman & Quinn, 2013).

In addition to its commonly known sense as computer programs and operating systems, the term "software" is also used in other contexts. For instance, in the field of genetics, software can refer to the instructions and algorithms used for analyzing genomic data (Rao et al., 2014). In the context of biotechnology, software can be defined as the part of a medical device that controls its operation (U.S. Food & Drug Administration, 2019).

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Software packages are pre-compiled sets of software programs or applications bundled together for ease of installation and use. They typically include multiple programs that serve a common purpose or work together to provide a comprehensive solution. An example of a software package is Microsoft Office, which includes applications like Word, Excel, and PowerPoint (Shelly, Cashman & Vermaat, 2013).

Academic libraries are specialized libraries found within educational institutions, such as universities or colleges. They provide a wide range of resources, such as books, journals, databases, audiovisual materials, and software, to support the academic and research needs of students, faculty, and staff. Academic libraries play a crucial role in enhancing learning, teaching, and research activities within the educational community (Gupta, 2017).

TYPES OF SOFTWARE PACKAGES IN ACADEMIC LIBRARIES

There are several types of software packages that are commonly used in academic libraries. These software packages serve various purposes and help in managing library operations efficiently. Some of the types of software packages used in academic libraries are:

- *Integrated Library Systems (ILS)*: Integrated Library Systems are comprehensive software packages that manage all aspects of library operations, including cataloging, circulation, acquisitions, and serials management. They provide a centralized platform for librarians to manage the library's collection and services effectively (Hernon & Altman, 2017).
- *Digital Asset Management Systems (DAMS)*: Digital Asset Management Systems are used to organize and preserve digital collections, such as digitized books, images, audio, and video files. These systems enable librarians to store, search, and retrieve digital assets efficiently (Kaplan, 2016).
- *Institutional Repositories*: Institutional repositories are software platforms that facilitate the storage, preservation, and dissemination of scholarly works produced by the academic community. These repositories help in showcasing the research output of the institution and provide open access to scholarly materials (Crow & Casserly, 2004).
- *Electronic Resource Management Systems (ERMS)*: Electronic Resource Management Systems are used to manage electronic resources, such as e-books, e-journals, and databases. These systems assist librarians in tracking subscriptions, managing licenses, and providing access to electronic resources (Walters, 2012).
- *Reference Management Software*: Reference management software, such as EndNote, Zotero, and Mendeley, helps researchers and librarians in organizing and citing references. These tools allow users to collect, organize, and format bibliographic information for research papers and citations (Budden et al., 2015).

PROSPECTS OF SOFTWARE PACKAGES USE IN ACADEMIC LIBRARIES

- *Improved Efficiency*: Software packages can automate various library processes including cataloging, circulation, and interlibrary loan (McCabe, 2019). This improves efficiency by reducing manual labor and allowing librarians to focus on more value-added tasks.
- *Enhanced Access to Information*: Software packages provide powerful search capabilities, allowing users to quickly find and access relevant information from a vast collection of resources (Adams, 2020). This improves the overall user experience and enables researchers to more effectively utilize the library's resources.
- *Expanded Digital Collections*: Software packages enable academic libraries to digitize and manage their collections, making them easily accessible to users remotely (Hart, 2018). This expands the library's reach and eliminates geographical barriers, thus increasing the visibility and usage of digital resources.
- *Advanced Analytics and Reporting*: Software packages provide tools for collecting and analyzing data related to library operations, resource usage, and user behavior (Li, 2017). This data can help library administrators make informed decisions about resource allocation, collection development, and user services.
- *Improve User Experience*: Through the utilization of software packages, academic libraries can improve the overall user experience. These packages offer user-friendly interfaces, personalized features, and accessibility options that cater to the needs of different users. Additionally, software packages can provide remote access to resources, allowing users to access materials from anywhere at any time.
- *Facilitate Collaboration and Communication*: Software packages can enable collaboration and communication among library staff, researchers, and students. These packages often come with features such as discussion boards, chat functionalities, and document sharing capabilities, which foster interactions and information sharing.

The use of software packages in academic libraries offers several prospects that can greatly enhance library services and operations. Firstly, software packages can automate routine tasks such as cataloging, circulation, and inventory management, allowing library staff to focus on more value-added activities like user support and research assistance (Liu & Yang, 2018). This automation can lead to increased efficiency, reduced workload, and improved user satisfaction.

Secondly, software packages enable academic libraries to provide better access to digital resources. With the help of integrated library systems (ILS) and electronic resource management (ERM) software, libraries can easily manage and provide access to a wide range of digital materials, including e-books, e-journals, and databases (Kumar & Singh, 2019). This prospect is particularly important in the digital age, where the majority of scholarly resources are available in electronic formats.

Thirdly, software packages facilitate data-driven decision making in academic libraries. By utilizing analytics software, libraries can collect and analyze data on user behavior, resource usage, and library services to gain insights into user needs and preferences (Liu & Yang, 2018). This data-driven approach can help libraries make informed decisions regarding collection development, resource allocation, and service improvements.

CHALLENGES OF SOFTWARE PACKAGES USE IN ACADEMIC LIBRARIES

- *Cost and Budgetary Constraints:* Implementing and maintaining software packages can be expensive, especially for smaller academic libraries with limited budgets (Simmons, 2019). Licensing fees, hardware requirements, and ongoing support can add significant costs to the library's operations. Investing in and maintaining software packages can be a costly endeavor for academic libraries. The initial purchase or subscription fees, license renewals, and technical support expenses can pose significant financial challenges for libraries, especially those with limited budgets. Additionally, the integration of software packages with existing library systems may require additional resources and expertise.
- *Training and Technical Support:* Introducing new software packages requires training staff and users on their functionality and usage (Dawson, 2016). This may involve additional resources, including staff time and outside training services. Additionally, technical support may be needed to address any issues or difficulties that arise during the implementation and use of the software.

- *Integration with Existing Systems:* Academic libraries often have multiple existing systems, such as integrated library systems (ILS), discovery platforms, and learning management systems (Chan, 2018). Integrating new software packages with these existing systems can be complex and may require additional customization and compatibility checks.
- *Data Security and Privacy:* Software packages used in academic libraries handle sensitive user and library data. Ensuring the security and privacy of this data is crucial, as breaches can lead to significant consequences, including loss of trust from users and legal implications (Smith, 2020). Implementing and maintaining robust security measures to protect this data is a challenge that libraries must address.
- *User Resistance and Adoption:* Introducing new software packages to library staff and users may face resistance and reluctance to change (Jones, 2018). This can be due to fear of unfamiliar systems, reliance on existing workflows, or lack of awareness of the benefits that the software can bring. Libraries must invest in change management strategies and user education to increase despite the prospects, the use of software packages in academic libraries also presents several challenges that need to be addressed.

Firstly, the implementation and maintenance of software packages can be costly, requiring significant financial investment for purchasing licenses, hardware, and staff training (Kumar & Singh, 2019). Limited budgets and financial constraints can hinder the adoption of software packages in some academic libraries.

Secondly, interoperability and integration issues can arise when different software packages need to communicate and exchange data within the library ecosystem (Liu & Yang, 2018). Incompatibility between systems can lead to data inconsistencies, duplication of efforts, and inefficient workflows. Libraries need to ensure that the software packages they choose are compatible with existing systems and can seamlessly integrate with other library technologies.

Thirdly, privacy and security concerns can arise when handling sensitive user data within software packages. Libraries need to ensure that appropriate security measures are in place to protect user information and comply with data protection regulations (Kumar & Singh, 2019). This includes implementing access controls, encryption, and regular data backups.

STATEMENT OF THE PROBLEM

The use of software packages in academic libraries presents both prospects and challenges. However, there is a lack of comprehensive research that addresses these factors and

explores their implications for academic libraries. Therefore, it is essential to investigate the prospects and challenges associated with the use of software packages in academic libraries to gain a better understanding of their impact and to identify potential areas for improvement.

PURPOSE OF THE STUDY

The purpose of this study is to examine the prospects and challenges of utilizing software packages in academic libraries. By analyzing these factors, the study aims to provide insights into the effectiveness and efficiency of software packages and their impact on academic library operations. This research will contribute to the body of knowledge about software utilization in academic libraries and provide recommendations for enhancing their implementation and usage.

OBJECTIVES OF THE STUDY

The major focal point of this research is to examine prospects and challenges of the use of software packages in academic libraries. The definite objectives are to:

- To examined software packages that have been used in academic libraries?
- Find out the potential benefits and prospects of using software packages in academic libraries?
- Examined the challenges and limitations associated with the adoption and use of software packages in academic libraries?
- To what extend are software packages impact the efficiency and effectiveness of academic library operations?
- To examined the ways of enhancing effective utilization of Software packages in academic libraries?

RESEARCH QUESTIONS

- What are the software packages that have been used in academic libraries?
- What are the potential benefits and prospects of using software packages in academic libraries?
- What are the challenges and limitations associated with the adoption and use of software packages in academic libraries?
- How do software packages impact the efficiency and effectiveness of academic library operations?
- What are the ways out for enhancing effective utilization of Software packages in academic libraries?

METHODOLOGY

This study adopted a descriptive survey design. The population of this study comprised all the academic libraries in delta state. Purposive random sampling technique was used to sample 17 academic libraries in delta state, all librarians within the 17 academic libraries are used for this study. One hundred respondents were selected using simple random sampling technique. An instrument tagged “Questionnaire on the “prospects and challenges of the use of software packages in academic libraries” (QPCUSPAL). Copies of the research instrument were personally distributed to the libraries in Delta State, Nigeria with the assistance of two of my colleagues in the department. The data collected was subjected to analysis using simple percentage method. The generated research questions were answered using simple percentage method.

RESULT

Research Question 1: What are the software packages that have been used in academic libraries?

Table 1: What are the Software Packages that have been Used in Academic Libraries?

Software Packages Use in Libraries	Yes	%	No	%
X-Windows Library Automation System (X-LIB)	67	67%	33	33%
Institutional Repositories	80	80%	20	20%
The Information Navigator Library Management Software (TINLIB)	50	50%	50	50%
ALICE	53	53%	47	47%
Bibliophile	76	76%	24	24%
Micro Computerized Documentation System/Integrated Set of Information Storage and Software Package. (CDS/ISIS)	69	69%	31	31%
Graphical Library Automation System (GLAS)	56	56%	44	44%
Integrated Library Systems (ILS)	71	71%	29	29%
Digital Asset Management Systems (DAMS)	84	84%	16	16%
Electronic Resource Management Systems (ERMS)	92	92%	8	8%
Reference Management Software	89	89%	11	11%

Table 1 indicated the software packages that have been used in academic library. Electronic Resources Management has

the highest percentage followed by Reference Management software, Digital Asset Management Systems (DAMS), Institutional Repositories, Bibliophile, Integrated Library Systems (ILS), Micro Computerized Documentation System/Integrated Set of Information Storage and Software Package. (CDS/ISIS), X-Windows Library Automation System (X-LIB), Graphical Library Automation System (GLAS), Alice software package, The Information Navigator Library Management Software (TINLIB) As a result of this, it is shown that the Electronic Resources Management, Reference Management software, Digital Asset Management Systems (DAMS), Institutional Repositories, Bibliophile, Integrated Library Systems (ILS), constituted the software packages that have been the highest used for academic libraries in Delta State.

Research Question 2: What are the potential benefits and prospects of using software packages in academic libraries?

Table 2: What are the Potential Benefits and Prospects of using Software Packages in Academic Libraries?

Prospects of Software Packages Use in Libraries	Yes	%	No	%
Improved Efficiency	98	98%	2	2%
Expanded Digital Collections	88	88%	12	12%
Enhanced Access to Information	79	79%	21	21%
Advanced Analytics and Reporting	76	76%	24	24%
Improve User Experience	91	91%	9	9%
Facilitate Collaboration and Communication	66	66%	34	34%

Table 2 Shows that there are great prospects to the used of software packages in academic libraries in Delta State. It shows that software packages use in academic libraries improved Efficiency, improved users experience, Expand Digital Collection, Enhanced Access to information, Advanced Analytics and Reporting and Facilitate Collaboration and Communication in libraries in Delta State.

Research Question 3: What are the challenges and limitations associated with the adoption and use of software packages in academic libraries?

Table 3: What are the Challenges and Limitations Associated with the Adoption and Use of Software Packages in Academic Libraries?

Challenges to Software Packages Use in Libraries	Yes	%	No	%
Removing of inverted file	63	63%	37	37%
Issues of Staff Training	73	73%	27	27%
Corruption of relevant data on the system	85	85%	15	15%

Challenges to Software Packages Use in Libraries	Yes	%	No	%
Poor power supply	90	90%	10	10%
Errors in inverted file generation	89	89%	11	11%
No awareness by user	87	87%	13	13%
Cost of software packages	92	92%	8	8%
Hanging of systems	96	96%	4	4%
Errors in printing/sorting	67	67%	33	33%
Abnormal termination of the system	85	85%	15	15%
Errors in import/export	65	65%	35	35%
Backup errors	50	50%	50	50%
Errors of system installation	77	77%	23	23%

Table 3 indicated the challenges facing the use of software packages in academic libraries in Delta State are Hanging of systems, Cost of software packages, Poor power supply, errors in inverted file generation, no awareness by user, Abnormal termination of the system, Corruption of relevant data on the system, Issues of Staff Training, errors of system installation, Errors in printing/sorting, Errors in import/export, removing of inverted file, Removing of inverted file and Backup errors.

As a result of this, it is shown that the Hanging of systems, Cost of software packages, Poor power supply constituted the major challenges facing the use software packages in academic libraries in Delta State.

Research Question 4: How do software packages impact the efficiency and effectiveness of academic library operations?

Table 4: How Do Software Packages Impact the Efficiency and Effectiveness of Academic Library Operations?

Software Packages Impact on Libraries	Yes	%	No	%
Create Awareness	87	87%	13	13%
Improve Staff ICT ability	90	90%	10	10%
Reduce workload of staff	89	89%	11	11%
Easy Access to information	100	100%	-	-
Better resource sharing	86	86%	14	14%
It better institutional ranking	57	57%	43	43%

Table 4 above indicate that software packages impact greatly to academic libraries by making information easily accessible to users, improving staff ICT knowledge, reducing staff workload, creating awareness about the school and the library, it also betters resources sharing with other schools and libraries and it better the chances of institutional ranking.

Research Question 5: What are the ways out for enhancing effective utilization of Software packages in academic libraries?

Table 5: What are the Ways Out for Enhancing Effective Utilization of Software Packages in Academic Libraries?

Ways of Enhancing Software Packages Use in Academic Libraries	Yes	%	No	%
Provision of software manual	68	68%	32	32%
Provision of effective Oriented software packages	79	79%	21	21%
Proper library staff training	89	89%	11	11%
Good working environment	65	65%	35	35%
Improving on network problem	88	88%	12	12%
Releasing of funds	75	75%	25	25%
Frequent maintenance of the systems	84	84%	16	16%
Improving on software design	91	91%	9	9%
Provision of adequate software packages	78	78%	22	22%

Table 5 indicated the ways out for enhancing the use of software packages in academic libraries in Delta State. Improving on software design, proper library staff training, improving on network problem, Frequent maintenance of the systems, Provision of effective Oriented software packages, provision of adequate software packages, Releasing of funds, Provision of software manual and good working environment. As a result of this, it is shown that improving on software design, proper library staff training and improving on network problem constituted the major way out for enhancing the used of software packages in libraries in Delta State.

DISCUSSION OF FINDINGS

The findings indicated that the majority of the respondents agreed that software packages are used in academic libraries in Delta State and the responses are high. Electronic Resources Management, Reference Management software, Digital Asset Management Systems (DAMS), Institutional Repositories, Bibliophile, Integrated Library Systems (ILS), is high. This finding was confirmed by Rowley (2018) who stated that automation of academic library as a suite of programs that are packaged together because they perform specific functions academically.

The finding revealed that there are high prospects to the use of software packages, improved Efficiency, improved users experience, Expand Digital Collection, this finding is confirmed by McCabe (2019) which say that it reduces manual labor and allowing librarians to focus on more value-added tasks. The findings indicated the implementation of

automation of academic library in Nigerian Institutions was high. Therefore, this finding is in line with the findings of Edoaka (2013) who stated that the existence of automation of academic library in higher institutions of higher education such as Universities, Colleges of Education and Colleges of Technology polytechnics was high. The study shows that the Hanging of systems, Cost of software packages, Poor power supply constituted the major challenges facing the use software packages in academic libraries in Delta State. Adogbeji (2004) found that the poor use of computers in library operations can be caused in part by inadequacies of the selected software in Nigerian institutions. Mahmood (2008) also listed some other challenges in the utilization of Micro Computerized Documentation System/Integrated Set of Information Storage and Software Package (CDS/ISIS) which include; installation errors, system hangs, abnormal termination, data corrupted among others. The study also revealed that indicate that software packages impact greatly to academic libraries by making information easily accessible to users, improving staff ICT knowledge, reducing staff workload, creating awareness about the school and the library, it also betters resources sharing with other schools and libraries and it better the chances of institutional ranking. It was shown that improving on software design, proper library staff training and improving on network problem constituted the major way out for enhancing the used of software packages in libraries in Delta State. Haneefa (2017) concluded that provision of stable and good network services could improve on the effective utilization of automation of academic library in Nigerian institutions.

CONCLUSION

Software packages offer significant prospects for academic libraries, including enhanced efficiency, improved user experiences, data-driven decision-making, and collaboration opportunities. However, challenges related to cost, technical expertise, user resistance, and system integration must be addressed to fully leverage the potential benefits of these tools. Academic libraries need to carefully evaluate their requirements, seek collaborative partnerships, and invest in training and support to successfully implement and utilize software packages in their operations in academic libraries in Delta State.

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