APPLICATION OF INFORMATION TECHNOLOGY FOR EFFECTIVE DELIVERY OF LIBRARY SERVICES IN FEDERAL COLLEGE OF EDUCATION, ABEOKUTA, OGUN STATE

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Abstract
This study examined the application of information technology for effective delivery of library services in Federal college of education, Abeokuta, Ogun State. The study investigated the extent to which information technology is utilized in library service delivery and its impact on the accessibility, storage, retrieval and dissemination of information resources. A descriptive survey research design was adopted for the study. The population comprised all students of Federal College of Education, Abeokuta,Ogun State. Simple random sample was used for this study. Five (5) schools were selected in which twenty (20) students were chosen from the selected schools to make a total of one hundred (100) respondents for the study. A self-designed questionnaire titled —Application of information Technology for Effective Delivery of Library Services Questionnaire (AITEDLSQ)‖ was used for data collection. The instrument was validated by experts who affirmed its reliability was established using Cronbach's Alpha, yielding a reliability coefficient of 0.82. Data collected were analyzed using descriptive statistics, frequency counts and simple percentages. Findings revealed that the integration of information Technology (IT) into library services has significantly transformed the way information is accessed, stored, retrieved and disseminated. The study also showed that modern libraries have evolved beyond traditional physical spaces into digital knowledge centres that provide instant and remote access to information resources. The use of IT facilities such as Online Public Access Catalogues (OPACs), digital repositories, automated circulation systems and cloud-based databases has enhanced operational efficiency, improved user satisfaction and increased the overall effectiveness of library services. Based on the findings, the study recommended that government agencies, educational institutions, and stakeholders should provide adequate funding for the acquisition and maintenance of ICT facilities in libraries. It further recommended regular training for librarians on emerging technologies and digital services delivery methods, as well as the adoption of user-friendly digital platforms to facilitate seamless access to library resources and services.
Keywords: Automation, Digital, Delivery, Information, Services

Introduction

Information is a fundamental resource that is essential for human survival and development in today's highly competitive and technology-driven world. It is widely recognized as a critical asset for socio-economic, educational, scientific and cultural advancement.Information plays a significant role in decision-making, problem-solving, planning, research and innovation. According to Kemps (1976), information is regarded as the "information in all aspects of human endeavor. Consequently, providing timely and efficient access to in fifth need of man' after air, water food and shelter. This assertion highlights the indispensable nature of information has become one of the primary responsibilities of libraries and information centres. Information is universal in nature and serves as a means of reducing uncertainty. It can be communicated in various forms, including facts, data, ideas, knowledge and opinions. The effective management and dissemination of information are crucial to the achievement of educational and developmental goals. As the volume of information continues to grow rapidly, traditional methods of information storage and retrieval have become inadequate in meeting the

information needs of users. This development has necessitated the adoption of modern technologies for efficient information management and service delivery.

Information Technology (IT) refers to the collection of technologies used for the creation, processing, storage, retrieval, transmission and dissemination of information. It encompasses computers, telecommunications systems, software applications, databases, networking technologies and other digital tools that facilitate information handling. The emergence of information technology has revolutionized the way information is generated, organized, accessed and communicated across the globe. It has transformed various sectors of society, including education, healthcare, business, government and library services (Sewell,2021).The application of information Technology (IT) has become one of the most significant developments in contemporary library and information service provision. Information Technology refers to the utilization of computers, telecommunications systems, software applications, databases, networking technologies and other electronic tools for the acquisition, processing, storage, retrieval and dissemination of information. The rapid advancement of information technology has transformed libraries from traditional repositories of printed materials into modern information centres capable of providing access to vast digital resources and services.

Historically, library operations were largely manual and labor-intensive. Cataloguing, classification, circulation, acquisition and reference services were performed using manual procedures, resulting in delays in information retrieval and limited accessibility to information resources. The evolution of library technology began in the 1950s with experiments in administrative automation and documentation systems. A major breakthrough occurred in the late 1960s with the development of Machine-Readable Cataloguing (MARC), which facilitated the standardization and exchange of bibliographic records among libraries. According to Hider (2018), the introduction of MARC revolutionized bibliographic control and laid the foundation for modern library automation systems.The1980s and 1990s witnessed significant advancements in library automation through the development of Integrated Library Systems (ILS), which enabled libraries to automate core operations such as cataloguing, circulation, acquisitions, serials control and inventory management (Jones**,**2021**).** These technological developments enhanced operational efficiency and improved the quality of services provided to library users. Breeding (2023) observes that integrated Library Systems continue to play a crucial role in modern library management by supporting efficient resource organization and facilitating access to information resources. According to Corrall and Jolly (2020), digital technologies have significantly expanded the scope of library services, enabling libraries to support teaching, learning, research and lifelong learning in a more flexible and efficient manner. Recent technological developments have introduced emerging technologies such as cloud computing, artificial intelligence (AI), machine learning, big data analytics and mobile applications into library operations. According to Cox et al. (2019), artificial intelligence has the potential to reshape library services through intelligent search systems, recommendation services and automated user support mechanism.

Despite the numerous benefits associated with the application of information technology in libraries, several challenges continue to affect its effective utilization, particularly in developing countries such as Nigeria (Kroski, 2021). These challenges include inadequate staff training, cyber security concerns and resistance to organizational change. Aina (2022) argues that these challenges have hindered the full implementation of information technology initiatives in many Nigerian academic libraries.For institutions such as Federal College of Education, Abeokuta, the application of information technology is particularly important in ensuring that students and staff have timely access to relevant information resources. Therefore, examining the role of information technology in enhancing library service delivery

is essential for understanding its contributions, identifying existing challenges and developing strategies for improving library services in the institution (Cunningham**,**2020**).**The integration of IT has the potential to enhance service delivery, yet many libraries face challenges such as limited resources, outdated infrastructure, and the digital divide. Libraries in developing regions particularly struggle to implement and maintain modern IT systems. These obstacles hinder the ability to provide efficient and inclusive services.

Objectives of the Study

The purpose of this is to access the application of information technology for effective delivery of library services in Federal College of Education, Abeokuta, Ogun State, specifically, the objectives are to:

1. evaluate the current state of Information Technology (IT) infrastructure in librariesanditsimpactontheeffectivenessofservicedelivery**.**
2. identify the key challenges and barriers faced by libraries in implementing IT solutions, including resource limitations, staff training, and access to modern technology.

Research Questions

1. How does the integration of information technology enhance the accessibility and efficiency of library services in both physical and digital formats?
2. What are the challenges and barriers faced by libraries in adopting information technology, and how can these obstacles be overcome to improve service delivery?

Methodology

The study investigated the extent to which information technology is utilized in library service delivery and its impact on the accessibility, storage, retrieval and dissemination of information resources. A descriptive survey research design was adopted for the study. The population comprised all students of Federal College of Education, Abeokuta,Ogun State. Simple random sample was used for this study. Five (5) schools were selected in which twenty (20) students were chosen from the selected schools to make a total of one hundred (100) respondents for the study. A self-designed questionnaire titled "Application of information Technology for Effective Delivery of Library Services Questionnaire (AITEDLSQ)" was used for data collection. The instrument was validated by experts who affirmed its reliability which was established using Cronbach's Alpha, yielding a reliability coefficient of 0.82. Data collected were analyzed using descriptive statistics, frequency counts and simple percentages.

Data Presentation and Analysis

The data is analyzed using frequency counts and simple percentages to address the research questions regarding the application of Information Technology (IT) in library services.

Table 1: Efficiency of Automated Management System

OPTION	**RESPONDENTS**	**PERCENTAGE**
Strongly Agreed	69	69%
Agreed	28	28%
Disagreed	2	2%

Strongly disagreed	1	1%
TOTAL	**100**	**100%**

Analysis: The data shows that a combined 97% of students believe that automated systems (such as computerized borrowing and returning) significantly enhance the speed of library operations. This indicates that the transition from manual to digital processes is highly valued by the user base.

Table 2: Cloud Storage and Digital Preservation

OPTION	**RESPONDENTS**	**PERCENTAGE**
Strongly Agreed	14	14%
Agreed	68	68%
Disagreed	16	16%
Strongly disagreed	2	2%
TOTAL	**100**	**100%**

Analysis: 82% of respondents recognize the importance of cloud-based infrastructure. This suggests that students feel more secure knowing that digital resources are backed up remotely, ensuring that academic materials are preserved against physical loss or local server failures.

Table 3

: High Implementation Costs as a Barrier

OPTION	**RESPONDENTS**	**PERCENTAGE**
Strongly Agreed	63	63%
Agreed	24	24%
Disagreed	11	11%
Strongly disagreed	2	2%
TOTAL	**100**	**100%**

Analysis: Despite the benefits, 87% of the population identifies high costs as a major hurdle. This finding highlights the financial difficulty institutions face when trying to keep up with the rapid pace of technological hardware and software updates.

Table 4: Privacy and Security Concern

OPTION	RESPONDENTS	PERCENTAGE
Strongly Agreed	27	27%
Agreed	50	50%
Disagreed	22	22%
Strongly disagreed	1	1%
TOTAL	**100**	**100%**

Analysis: A majority of respondents (77%) expressed concern regarding data privacy. This suggests that for IT delivery to be "effective," libraries must not only provide tools but also guarantee the security of user data to build trust in digital platforms.

Table 5: Institutional Funding and Support

OPTION	RESPONDENTS	PERCENTAGE
Strongly Agreed	64	64%
Agreed	22	22%
Disagreed	13	13%
Strongly disagreed	1	1%
TOTAL	**100**	**100%**

Analysis: 86% of the respondents believe that the library lacks adequate funding. This is a critical finding, as it shifts the responsibility from technical staff to college administrators and government stakeholders to provide the necessary financial backing.

Table 6: Digital Literacy and User Competence

OPTION	RESPONDENTS	PERCENTAGE
Strongly Agreed	32	32%
Agreed	33	33%
Disagreed	26	26%
Strongly disagreed	9	9%
TOTAL	**100**	**100%**

Analysis: 65% of students admit that a lack of digital skills hinders their ability to use library IT effectively. This demonstrates a need for the library to transition from being a "provider of books" to a "provider of digital training."

Discussion of Findings

The findings of this study revealed that the application of information technology has significantly enhanced the effectiveness of library service delivery in Federal College of Education, Abeokuta. The results indicated that information technology has positively influenced various library operations, including information storage, retrieval, circulation, cataloguing and access to information resources. This was affirmed by Corrall and Jolly (2020) who say that digital technologies have significantly expanded the scope of library services, enabling libraries to support teaching, learning, research and lifelong learning in a more flexible and efficient manner.

The study further revealed that the utilization of technological facilities such as Online Public Access Catalogues (OPACs), digital repositories, electronic databases and internet-based information services has improved users‘ access to information resources. This was in connection with the studyof Smith (2020) who was of opinion that recent technological developments have introduced emerging technologies such as cloud computing, artificial intelligence (AI), machine learning, big data analytics and mobile applications into library operations. It also revealed that inadequate digital literacy among some users constitutes another challenge to effective utilization of information technology facilities. This was in consonance with the study of Aina (2022) that argues that these challenges have hindered the full implementation of information technology initiatives in many Nigerian academic libraries. The finding was also affirmed by the study of Breeding (2023) who observes that integrated Library Systems continue to play a crucial role in modern library management by supporting efficient resource organization and facilitating access to information resources. Also, it was demonstrated by Becker **(**2021**)** that while information technology has significantly improved library service delivery, there is still a need for sustained investment, capacity building and infrastructural development to maximize its benefits within the library system of Federal College of Education, Abeokuta.

Conclusion

Based on the findings, it can be concluded that information technology plays a critical role in enhancing the quality, efficiency and effectiveness of library services. The adoption of technological tools such as Online Public Access Catalogues (OPACs), digital repositories, electronic databases, automated circulation systems and internet-based services has significantly improved information access, retrieval, storage and dissemination. The study also concludes that the full benefits of information technology have not been completely realized due to challenges such as inadequate funding, insufficient ICT infrastructure, poor internet connectivity, inadequate user digital literacy and irregular power supply.

Recommendations

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

1. Provision of Adequate Funding: Government, institutional management and relevant stakeholders should allocate sufficient financial resources for the acquisition, maintenance and upgrading of information technology facilities in the library.
2. Improvement of ICT Infrastructure: The library should be equipped with modern technological facilities including computers, servers, networking equipment, digital repositories and reliable internet connectivity to enhance service delivery.

3. Regular Training for Library Personnel: Librarians and other library staff should receive continuous professional training on emerging technologies, digital resource management, library automation systems and innovative service delivery techniques.
4. Improvement of Internet Services: Efforts should be made to provide stable and high-speed internet connectivity within the library to facilitate seamless access to online information resources and digital services.
5. Promotion of Collaboration and Resource Sharing: The library should collaborate with other academic libraries and information centers through networking and resource-sharing arrangements to expand access to information resources and improve service delivery.

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