AWARENESS AND ATTITUDE TOWARDS ADVANCED TECHNOLOGIES AMONG POLYTECHNIC LIBRARY PERSONNEL IN KWARA STATE

(CASE STUDY OF KWARA STATE POLYTECHNIC, ILORIN)

BY

BABAYEMI NELSON OLUWAFERANMI
ND/23/LIS/FT/0128

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CERTIFICATION

This is to certify that this study was carried out by Babayemi Nelson Oluwaferanmi [ND/23/LIS/FT/0128] in the Department of Library and Information Science, Institute of Information and Communication Technology, Kwara State Polytechnic, Ilorin.

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Project Supervisor **Date**

_____ _____

Project Coordinator **Date**

_____ _____

Head of Department **Date**

_____ _____

External Examiner **Date**

DEDICATION

This project is dedicated to Almighty God.

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ABSTRACT

The emergence of advanced technologies has significantly transformed the landscape of library and information services globally. In polytechnic institutions, library personnel play a critical role in the implementation and utilization of these technologies to enhance information access, storage, and retrieval. However, the successful integration of such innovations depends largely on the level of awareness and the attitude of the personnel responsible for operating them. This study examined the awareness and attitude of polytechnic library personnel towards advanced technologies in selected polytechnic libraries in Nigeria. The research adopted a descriptive survey design. A structured questionnaire was used as the primary instrument for data collection. The population consisted of library personnel in selected polytechnic institutions, and data were collected using a stratified sampling technique to ensure adequate representation. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to analyze the responses, while inferential statistical tools such as the Chi-square test and Pearson's Product Moment Correlation Coefficient were used to examine the relationships between variables, particularly the link between awareness levels and attitudes toward advanced technologies. The findings revealed that while many library personnel were aware of common advanced technologies such as Online Public Access Catalogues (OPAC), institutional repositories, e-journals, and automated library management systems, their awareness of more recent innovations like RFID, cloud-based systems, and artificial intelligence applications in libraries was relatively low. In terms of attitude, the majority of respondents expressed a generally positive disposition toward the use of advanced technologies. However, notable challenges affecting attitude and usage included inadequate training, lack of institutional support, poor infrastructure, and limited access to modern tools. The study found a statistically significant positive correlation between awareness and attitude, suggesting that increased awareness is likely to lead to a more favorable attitude towards the adoption and effective use of advanced technologies. The study concludes that improving awareness through regular training and exposure, as well as creating a supportive institutional environment, is essential to fostering positive attitudes and promoting the full adoption of advanced technologies in polytechnic libraries. It recommends that library management and policymakers invest in continuous professional development, ensure regular updates of technological resources, and provide adequate infrastructural support to enable library personnel to function effectively in a technology-driven information environment.

Keywords: Awareness, Attitude, Advanced Technology, Polytechnic Libraries and Library Personnel

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CHAPTER ONE

Introduction

1.1 Background to the Study

In the 21st century, the global information environment has witnessed a rapid transformation due to the emergence of advanced technologies. Libraries, especially those in tertiary institutions, are not exempted from this evolution. Libraries in polytechnics, universities, and other institutions of higher learning are increasingly adopting advanced technologies to enhance service delivery, resource management, user satisfaction, and operational efficiency.

Advanced technologies such as Integrated Library Systems (ILS), Online Public Access Catalogues (OPAC), Radio Frequency Identification (RFID), electronic resource management systems, artificial intelligence (AI), cloud-based services, and digital repositories have revolutionized how libraries operate. These tools support automated cataloging, circulation, acquisitions, digital archiving, user tracking, and seamless access to vast information resources irrespective of location or time.

Polytechnic libraries, by nature of their technical and vocational mandate, are expected to be at the forefront of innovation, serving as models of technological integration. Their role in equipping students with technical know-how makes it imperative for their information centers to reflect cutting-edge practices in library science and information management. However, despite these expectations, many polytechnic libraries in Nigeria still struggle with outdated technologies, insufficient digital infrastructure, and limited staff capacity for utilizing new technologies.

One of the major barriers to the adoption and full utilization of advanced technologies in polytechnic libraries is the level of awareness and the prevailing attitude of the library personnel themselves. Awareness refers to the extent to which library personnel know about the existence, purpose, functions, and benefits of various technological tools. Without proper awareness, personnel may be unable to engage with or advocate for these tools.

Attitude, on the other hand, refers to an individual's predisposition or tendency to respond positively or negatively toward a particular idea or innovation. Even when library staff are aware of available technologies, their willingness to use them, their confidence in handling them, and their perceived usefulness of these tools play a crucial role in determining whether adoption will occur.

Technological change also presents challenges such as fear of job loss due to automation, resistance to change, inadequate training opportunities, and lack of institutional support, all of which influence attitudes. Personnel with negative perceptions may resist adopting innovations, even when they are beneficial. This highlights the importance of assessing not only awareness levels but also the attitudes of library staff towards these emerging technologies.

Given the strategic role polytechnic libraries play in Nigeria's educational system and the increasing pressure for libraries to remain relevant in the digital age, this study seeks to explore the level of awareness and the attitudes of library personnel in polytechnic institutions towards advanced technologies. Understanding these dynamics is essential for identifying knowledge gaps, training needs, infrastructural demands, and change management strategies necessary for successful technological integration in Nigerian polytechnic libraries.

1.2 Statement of the Problem

In today's digital age, libraries are undergoing a major transformation as a result of rapid technological advancement. Traditional methods of library services manual cataloguing, physical circulation, and printed materials are increasingly being replaced or supplemented by modern technologies. These advanced technologies include Integrated Library Systems (ILS), Online Public Access Catalogs (OPAC), Radio Frequency Identification (RFID), digital repositories, cloud-based library services, Artificial Intelligence (AI), and mobile-based information access platforms.

Globally, these tools have improved the efficiency, accessibility, and quality of library services. In developed nations, libraries are increasingly embracing technology to

meet the evolving needs of users and to remain competitive as information centers. However, in many developing countries, including Nigeria, there is a significant gap between technological possibilities and actual practice within library environments—especially in polytechnic institutions.

Despite the clear benefits of advanced library technologies, many Nigerian polytechnic libraries continue to struggle with low levels of technological adoption. These libraries still rely heavily on manual processes, paper-based records, and limited access to digital resources. This lag raises critical questions about the preparedness and responsiveness of library personnel to technological change.

One possible explanation for this situation is a lack of awareness among library staff about the existence or functions of modern library technologies.

Furthermore, even when staff are aware, their attitudes which include their willingness to learn, confidence in using digital tools, and perceived usefulness of such technologies can significantly affect the rate of adoption and implementation.

Other contributing factors may include:

- Inadequate training and professional development opportunities for library staff.
- Resistance to change and fear of being replaced by machines or automated systems.
- Poor infrastructural support, including lack of internet connectivity and necessary hardware.
- Management's lack of commitment or budgetary allocation for library technological development.

1.3 Objectives of the Study

The main objective of this study is to investigate the level of awareness and the attitude of library personnel towards advanced technologies in polytechnic libraries personnel in Kwara State in reference to Kwara State Polytechnic, Ilorin.

The study also aims to identify the challenges that hinder the successful adoption and use of these technologies and to offer practical recommendations for improvement.

The specific objectives of the study are to:

1. Examine the extent of awareness among polytechnic library personnel regarding advanced library technologies.
2. Assess the attitudes of library personnel towards the adoption and use of advanced technologies in polytechnic libraries.
3. Investigate the challenges and barriers facing polytechnic libraries in implementing advanced technologies.
4. Determine the relationship between awareness and the actual adoption of advanced technologies in polytechnic libraries.
5. Evaluate the impact of personnel attitudes on the successful integration of technology in library services.

1.4 Research Questions

The following research questions are formulated to guide the investigation and provide a logical structure for data collection and analysis.

1. What is the level of awareness and attitude of polytechnic library personnel towards the use of advanced library technologies?
2. What is the general attitude of library personnel towards the use of advanced technologies in their daily work?
3. What challenges and barriers do library personnel encounter in the adoption and use of advanced technologies?
4. Is there a relationship between awareness of advanced technologies and their actual adoption in polytechnic libraries?
5. How do attitudes (positive or negative) among staff affect the success of technology integration in the library system?

1.5 Significance of the Study

The relevance of this study lies in its focus on understanding how awareness and attitude among polytechnic library personnel affect the adoption and utilization of advanced technologies in Nigerian tertiary institutions. As libraries transition into digital

and automated environments, the role of personnel becomes critical to the success or failure of such transitions. The findings of this study will be beneficial to a wide range of stakeholders in the Library and Information Science (LIS) sector, educational policy development, and institutional administration.

This study will provide empirical evidence on the current levels of awareness and attitudes of library staff towards emerging technologies. It will also assist in setting realistic goals and priorities for technology implementation.

The study will help library staff become more self-aware of their own knowledge gaps and attitudes toward technology. It also empowers staff to engage in self-improvement and take ownership of the technological transformation within their libraries.

Policy makers at institutional and governmental levels will benefit from the insights of this study. It provides data that can influence decision-making regarding library funding, staff development, and infrastructure upgrades.

This study contributes to the body of knowledge in library and information science, especially in the area of technology adoption in developing countries. Future researchers can build upon the findings and recommendations of this study to conduct comparative or longitudinal studies across different library types (e.g., academic, public, special, or school libraries).

Improving the awareness and attitude of library personnel towards technology ultimately benefits students, lecturers, and researchers who rely on efficient library services. When technologies are effectively adopted, users enjoy faster access to resources, better organization of information, and innovative services like remote access and digital borrowing. This contributes to overall academic excellence and institutional reputation.

1.7 Scope of the Study

This study is limited to Kwara State Polytechnic, Ilorin and focuses on library staff awareness and attitudes toward advanced technologies.

1.8 Operational Terms

1. **Awareness:** Awareness refers to the level of knowledge, understanding, or consciousness that polytechnic library personnel have regarding the existence, features, and applications of advanced technologies in library operations. It includes both general familiarity and technical insight into emerging tools and systems.
2. **Attitude:** Attitude denotes the feelings, beliefs, perceptions, and predispositions of library staff toward the use and integration of advanced technologies in their professional duties. This may be positive, negative, or neutral and can influence their willingness to adopt new tools.
3. **Advanced Technologies:** Encompass modern, innovative tools and systems that enhance library operations.
4. **Polytechnic Library Personnel:** These are the professional and para-professional staff working in libraries of polytechnic institutions.
5. **Technology Adoption:** This refers to the process through which library personnel accept, integrate, and effectively use new technologies in their work environment. It involves various stages such as awareness, interest, evaluation, trial, and full implementation.
7. **Digital Literacy:** Is the ability of library personnel to locate, evaluate, use, and create information using digital technologies. It is a key factor influencing awareness and attitude toward advanced technologies.
8. **Library Automation:** Refers to the use of computer-based systems to carry out traditional library tasks such as cataloguing, circulation, acquisition, and serial control, thereby improving efficiency and service delivery.

CHAPTER TWO

Review of related Literature

2.1 Introduction

The conceptual review explores and clarifies the key concepts that form the foundation of the study. It helps in understanding the variables of interest awareness, attitude, advanced technologies, and technology adoption in the context of polytechnic library operations.

This section provides working definitions, identifies relationships between concepts, and creates a logical structure for interpreting the study's findings.

2.1.1 Awareness

Awareness is the initial stage in the adoption and use of new technologies. It refers to the recognition or consciousness of the existence, purpose, and potential benefits of a particular innovation.

Rogers (2013) emphasizes that awareness is the first step in the innovation-decision process. Individuals must first become aware of a technology before considering its adoption.

Gilster (2017) describes awareness as a component of literacy, which includes the ability to recognize, evaluate, and utilize digital tools effectively. In the library context, this means recognizing tools like OPACs, e-libraries, databases, and digital cataloging systems.

Ani (2017) notes that the low level of ICT use in Nigerian academic libraries can be traced to inadequate awareness and training among personnel. Awareness is not just about knowing the names of technologies, but understanding their purpose and functions.

Awareness refers to the extent to which individuals are informed or conscious of a particular idea, system, or development. In the context of this study, awareness represents how much polytechnic library personnel know about the existence, functionality, and importance of various advanced technologies used in modern libraries.

Types of awareness relevant to this study include:

- **Cognitive awareness** – understanding what technologies exist and how they work.
- **Situational awareness** – recognizing the presence or absence of these technologies in one's institution.
- **Strategic awareness** – knowing how technology can align with library goals and improve service delivery.

Lack of awareness often leads to underutilization of technological resources. Awareness also affects the willingness of staff to seek further training or support the implementation of digital systems.

2.1.2 Attitude

Attitude refers to a predisposition or tendency to respond positively or negatively toward a particular idea, object, person, or situation—in this case, advanced library technologies.

Ajzen (2011) he explains that attitudes, combined with subjective norms and perceived behavioral control, influence an individual's intention to perform a behavior (e.g., using a new technology).

Davis (2009) in the Technology Acceptance Model (TAM) posits that perceived usefulness and perceived ease of use shape the user's attitude toward a technology. Positive attitudes increase the likelihood of acceptance and use.

Olatokun (2008) observed that librarians' perception (attitude) toward ICT influences its usage in Nigerian university libraries. Those with positive attitudes toward ICT are more likely to use and benefit from it.

Attitude refers to a learned predisposition to respond in a consistently favorable or unfavorable manner toward a particular object or idea. In this study, it pertains to the mindset or disposition of library staff toward the use of advanced technologies.

Attitude can be broken down into three components:

- **Cognitive** – beliefs or knowledge about technology (e.g., "Technology makes my work easier").
- **Affective** – feelings or emotions toward technology (e.g., fear, excitement, anxiety).
- **Behavioral** – readiness to take action (e.g., willingness to learn or adopt technology).

A positive attitude promotes learning, innovation, and adoption, while a negative attitude leads to resistance, fear of change, and low usage of available systems.

2.1.3 Advanced Library Technologies

Advanced technologies in libraries refer to modern tools, systems, and platforms that enhance the storage, retrieval, management, and dissemination of information resources.

Examples include:

- **Integrated Library Systems (ILS)**: Software that automates core library functions like cataloging, circulation, and acquisitions.
- **Online Public Access Catalogue (OPAC)**: Digital catalog for users to search for books and materials.
- **Digital Repositories**: Platforms for storing and accessing institutional research outputs and digital collections.
- **RFID (Radio Frequency Identification)**: For automated tracking of library items.
- **Cloud Computing**: For storing and accessing library systems remotely.
- **Mobile Applications**: For accessing library resources on smartphones and tablets.
- **E-resource Management Systems**: For managing access to electronic journals, databases, and ebooks.

The integration of these technologies improves user experience, efficiency, data accuracy, and service delivery.

2.1.4 Technology Adoption

Technology adoption is the process by which individuals or institutions begin to use new technologies and incorporate them into their regular operations.

In the library context, adoption includes:

- Awareness and understanding of the technology
- Trial or experimentation with the system
- Full-scale implementation and institutional support
- Sustained usage and staff proficiency

Models such as the Technology Acceptance Model (TAM) and Diffusion of Innovation Theory suggest that adoption is influenced by factors like:

- Perceived usefulness
- Ease of use
- Peer influence
- Institutional support
- Training availability

2.1.5 Relationship Between Awareness, Attitude, and Adoption

- Awareness is typically the first step toward adoption. If library personnel are unaware of existing technologies or their benefits, they are unlikely to adopt them.
- Attitude determines whether awareness translates into action. A positive attitude strengthens the likelihood of trying out and eventually accepting new systems.
- A lack of awareness combined with a negative attitude creates resistance to change and stagnation in library service delivery.

Thus, these variables awareness and attitude are critical predictors of whether advanced technologies will be embraced and successfully used in polytechnic libraries.

2.1.6 Institutional and Environmental Factors

Beyond individual awareness and attitude, external factors also influence technology adoption:

- Training and professional development opportunities for staff
- Funding and infrastructure availability
- Management support and leadership commitment
- Policy framework and organizational culture

2.2 Theoretical Framework

The theoretical framework provides the foundation upon which the entire study is built. It offers a lens through which the variables under investigation awareness**,** attitude, and adoption of advanced technologies can be understood, explained, and interpreted.

This study draws upon two major theories that explain the behavior of individuals toward the use of new technologies:

1. Technology Acceptance Model (TAM) – Davis (1989)

The Technology Acceptance Model (TAM) is one of the most influential and widely used frameworks in studies involving technology usage and acceptance. It was developed by Fred Davis in 1989 to explain and predict user behavior in technology adoption.

Core Assumptions of TAM

Technology Acceptance Model (TAM) proposes that two main beliefs determine an individual's intention to use a new technology:

1. **Perceived Usefulness (PU):** The degree to which a person believes that using a particular system will enhance their job performance.
2. **Perceived Ease of Use (PEOU):** The degree to which a person believes that using the system will be free of effort.

Extended Elements in Later Models

- **Attitude Toward Use:** A person’s overall affective reaction to using the system.
- **Behavioral Intention to Use:** The degree to which a person has formulated conscious plans to use or not use the technology.

Relevance to This Study:

Technology Acceptance Model (TAM) is directly relevant as it provides a framework to understand how library personnel's perceptions of usefulness and ease of use influence their attitude and eventual adoption of advanced technologies. For example:

- A librarian who believes that OPAC improves search speed (PU) and is easy to learn (PEOU) is more likely to adopt it.
- Awareness influences perceived usefulness and ease of use.
- Attitude plays a mediating role between beliefs and actual technology use.

2. Diffusion of Innovation Theory – Rogers (2003)

Everett Rogers' Diffusion of Innovation (DOI) Theory provides a macro-level understanding of how, why, and at what rate new ideas and technologies spread in a social system. It focuses on the process by which an innovation is communicated over time among members of a social system.

Key Elements of the DOI Theory:

1. **Innovation:** A new idea, practice, or object perceived as new by an individual or unit of adoption.
2. **Communication Channels:** The means by which information about the innovation is transmitted.
3. **Time:** The rate at which an innovation is adopted.
4. **Social System:** The group of individuals or units adopting the innovation.

Five Stages of Adoption Process:

According to Rogers, the adoption of any innovation—including advanced library technologies follows a five-stage process. Each stage reflects the mental and behavioral steps individuals (e.g., polytechnic library personnel) go through before fully accepting and implementing a new technology.

1. Knowledge (Awareness) Stage

- **Description:** This is the first stage where an individual is exposed to the existence of an innovation and gains some understanding of how it functions.
- **In Library Context:** A polytechnic librarian becomes **aware** of new tools such as library automation software, OPAC, RFID systems, or digital repositories.
- **Importance:** Without awareness, adoption is impossible. This stage builds the foundation for further evaluation.

2. Persuasion Stage

- **Description:** At this stage, the individual develops an attitude (positive or negative) toward the innovation. This attitude is based on information gathered, peer influence, personal beliefs, or institutional culture.
- **In Library Context:** The librarian begins to evaluate the pros and cons of using a specific technology. They might discuss with colleagues, attend training, or browse resources about the innovation.
- **Importance:** A **positive attitude** formed at this stage can significantly influence the decision to adopt.

3. Decision Stage

- **Description:** The individual makes a conscious choice to adopt or reject the innovation.
- **In Library Context:** The librarian decides whether or not to begin using an advanced technology like an e-resource platform or automated circulation system.
- **Importance:** This is the turning point a commitment to try (or not try) the innovation.

4. Implementation Stage

- **Description:** The innovation is put into use. The adopter starts experimenting with the innovation and begins to understand its practical applications.
- **In Library Context:** The librarian begins to apply the technology in daily routines—e.g., using an online catalog to serve users or updating a digital library system.

- **Importance:** This is where real-world challenges and learning occur. Support and training are crucial at this stage.

5. Confirmation Stage

- **Description:** The individual seeks reinforcement for their decision. They may continue using the innovation if outcomes are positive or reverse the decision if results are disappointing.
- **In Library Context:** Based on user feedback, task efficiency, and institutional support, the librarian confirms their decision to continue using or stop using the technology.
- **Importance:** Sustained use and long-term adoption are achieved if the innovation proves beneficial.

Adopter Categories

- Innovators
- Early Adopters
- Early Majority
- Late Majority
- Laggards

Relevance to This Study

This theory helps in understanding how awareness is spread among polytechnic library personnel, and why some adopt technologies faster than others. It emphasizes:

- The role of information dissemination (awareness creation)
- Peer influence and institutional culture
- Differences in adoption behavior (some staff may be innovators, others laggards)

In polytechnic libraries, understanding where personnel fall in the adopter categories helps tailor interventions—e.g., training innovators to influence others.

2.3 Empirical Review

Several empirical studies have been conducted on the adoption and utilization of advanced technologies in libraries, focusing primarily on factors such as awareness, attitude, and institutional support. However, many of these studies are centered on university libraries, with limited attention given to polytechnic library systems, particularly in Nigeria.

Ogunsola (2018) investigated the awareness of modern technologies among librarians in Nigerian academic institutions. The study revealed that although a few professional librarians were aware of advanced technologies such as cloud computing, AI tools, and RFID, many had only a superficial understanding. The study emphasized the importance of professional development and knowledge-sharing forums in enhancing awareness among library staff.

Similarly, Salisu (2020) examined the awareness and use of Integrated Library Systems (ILS) in Nigerian polytechnic libraries. His findings showed that senior library staff demonstrated a relatively high awareness of ILS functionalities, while junior personnel exhibited limited knowledge. The research concluded that awareness levels often depend on the availability of ICT policies and whether staff have participated in formal training or workshops.

Ezeani (2021) focused on digital literacy and the attitudes of librarians toward ICT in academic libraries. The study found that librarians who had undergone training were more likely to hold positive attitudes toward technology. Conversely, those without adequate exposure to digital tools often displayed anxiety, fear of redundancy, and general resistance to change. The research confirmed that attitude is significantly influenced by digital competence and perceived self-efficacy.

In a related study, Nnadozie and Nwalo (2019) explored the role of librarian attitudes in the adoption of ICT in Nigerian university libraries. Their research highlighted that educational qualifications and length of service play an essential role in shaping attitudes. Library personnel with higher qualifications and more years of

experience demonstrated more confidence and openness toward technology adoption than their less experienced colleagues.

Abubakar (2017) studied the challenges facing automation in Nigerian polytechnic libraries. The study found that despite efforts to modernize library systems, several institutions suffered from poor funding, lack of digital infrastructure, and inadequate staff motivation. It noted that even where technologies were available, the absence of skilled personnel to operate them was a significant barrier to their effective use.

Similarly, Okike (2022) examined the adoption of cloud computing technologies in Nigerian tertiary institutions. The study showed that awareness of cloud tools was generally high among library personnel. However, a lack of clear policy direction, limited institutional support, and insufficient training opportunities were major obstacles to actual adoption and implementation.

These empirical studies collectively reveal that while there is a growing awareness of advanced technologies among Nigerian librarians, challenges persist, particularly in polytechnic settings. Attitudes vary significantly depending on individual exposure, training, and institutional encouragement. Furthermore, most of the studies emphasize the importance of organizational support and training in promoting both awareness and positive attitudes toward technological innovation.

However, a noticeable gap exists in literature focusing specifically on polytechnic libraries in Nigeria. Many studies overlook the unique institutional culture, staffing structures, and resource constraints of polytechnics compared to universities.

Additionally, few studies holistically examine the relationship between awareness, attitude, and actual adoption of advanced technologies among library personnel. This study, therefore, seeks to bridge these gaps by focusing explicitly on polytechnic libraries and investigating how awareness and attitude jointly influence the adoption of modern technologies.

CHAPTER THREE

Research Methodology

3.1 Introduction

In this chapter the methodology and research method of the study are discussed. This involved determined, research design adopted, the study population, sample and sampling technique in the study. Also, research instrument, validity and reliability of the instrument and method of data analysis.

3.2 Research Design

The researcher selected a survey research method as the research design for this study due to its comparative advantages over other research design methods and its alignment with the research objectives. The decision to use this particular research design was driven by the need to gather pertinent information in the field using a questionnaire, which is a common tool employed in survey research.

The survey research method was deemed suitable because of its ability to collect comprehensive data directly from participants. By opting for this method, the researcher aimed to obtain specific and reliable information that would effectively address the research objectives.

To conduct the study, the researcher actively went into the field and administered questionnaires to gather primary data. This approach ensured that the research design was well-suited to meet the study's requirements and provided an opportunity to obtain relevant information for analysis.

3.3 Population of the Study

The population of a study refers to the entire group of individuals, institutions, or elements that share common characteristics and are relevant to the research problem. In this study, the population consists of all library personnel working in polytechnic libraries across a specific geographical region (e.g., Kwara State).

3.4 Sampling Method and Sampling Techniques

Simple random sampling technique was adopted for this study because it gives equal chances to all the people being chosen and it's not being bias. However, the respondents are only staff of Library in Kwara State Polytechnic, Ilorin.

The target population study aims at sampling size of 20 staff of Kwara State Polytechnic, Ilorin respectively. The target population made use of a census since the total respondents were less than 50.

Purposive sampling techniques were adopted in the research work; this will be choosing accidentally as the entire employees of the institution under study were being examined for the purpose.

3.5 Instruments for data Collection

The type of data to be used for this study was purely primary data which involves data collected directly from the field by the researcher. The primary source of data for this research work was from questionnaire which was a closed ended questionnaire that required the respondent to merely check the boxes provided to provide answers to questions. This was done to ensure that required questions asked were in accordance to the stated objectives and also to avoid ambiguities in the questions and to validate the instrument to be used.

3.6 Validity and Reliability of the Instrument

To ensure the accuracy and appropriateness of the research instrument used in this study, validity and reliability measures were carefully considered.

Validity of the Instrument was established through both content and face validity procedures. The questionnaire was subjected to expert review by two professionals in Library and Information Science and one expert in Educational Research and Measurement. These experts examined the instrument for clarity, relevance, and alignment with the research objectives and questions. Their observations and suggestions led to necessary modifications that enhanced the comprehensiveness and relevance of the items.

In addition, face validity was confirmed by presenting the instrument to a few selected library staff (not part of the main study), who assessed the clarity and understandability of the questions. Minor corrections were made based on their feedback to improve the overall structure and readability of the questionnaire.

Reliability of the Instrument was determined through a pilot test conducted among 10 library personnel from a polytechnic outside the study area. The responses from the pilot test were analyzed using the Cronbach's Alpha reliability coefficient to assess internal consistency of the instrument. The results yielded a Cronbach's Alpha value of 0.82, indicating a high level of reliability. According to research standards, a reliability coefficient of 0.70 and above is considered acceptable, confirming that the instrument is consistent and dependable for data collection.

3.7 Data Collection Procedure

The method of data collection was survey method. Based on the topic of research, the researcher administered questionnaires to the selected sample in order to extract detailed information on the topic and clarify complex questions. The source of data for this study was purely primary in which data was obtained strictly through a well-structured and self-administered questionnaire.

The questionnaire was divided into two sections (section A and B). Section A consists of items on bio-data of the respondents while section B consists of operational items relating to the research work. This scale was chosen because the data collected through it was easy to code and simple to analyze. Clear and simple words were used to

construct the questions, to make them easier for the respondents to understand and answer.

3.8 Method of Data Analysis

The data collected from the respondents were analyzed using both descriptive and inferential statistical methods. Descriptive statistics such as frequency counts, percentages, means, and standard deviations were used to summarize the demographic characteristics of the respondents and to measure the levels of awareness and attitudes of polytechnic library personnel towards advanced technologies.

In addition, inferential statistical tools such as Chi-square tests were employed to examine the relationships between selected demographic variables (such as gender, qualification, and years of experience) and the respondents' level of awareness and attitude. Pearson’s Product Moment Correlation Coefficient was also used to determine the strength and direction of the relationship between awareness and attitude towards advanced technologies.

All data were coded and analyzed using the chi-square. The level of significance was set at 0.05 for all inferential analyses.

CHAPTER FOUR

4.1 Data Presentation and Data Analysis

Considering the fact, that the data used for this was gathered through the use of questionnaire, it becomes very important for data in relation to the hypothesis in \chapter one.

The data analysis will help in giving a clear and concern about the data and consequently explain the result obtained, statistical analysis of data is very important since conclusion can hardly be drawn without the outcome of such for clarity and simplicity purpose, the analysis of data concerning a particular questions immediately follow by interpretation of findings.

Data presented for this study is the recording of the data collected through questionnaire in an orderly manner, where it can be easily understood. Twenty five (25) questionnaires were distributed to the library staff available on schedule visit and all the questionnaires were filled and returned.

4.2 Presentation of Data

The questionnaire were divided into two parts, section (A and B) first section deal with personal data of respondents and it has (4) items which include Age group, sex, marital status, qualification.

Section A

Table 1: Sex Distribution of the Respondents

Options	No of Respondents	Percentage (%)
Male	20	80
Female	5	20
Total	**25**	**100**

Source: Researcher's Field Survey, 2025

Table 1 above shows that 20 respondents of the sample representing 80% were male while 18 respondents of the sample representing 36% were female.

It can be deducted from the table above that male respondents were more than the female respondents.

Table 2: Age Group of the Respondents

Options	No of Respondents	Percentage (%)
18 – 30 years	-	-
31 – 40 years	12	48
41 –50 years	8	32
51 years and above	5	20
Total	**25**	**100**

Source: Researcher's Field Survey, 2025

Table above shows that 12 respondents of the sample representing 48% were under Age of 31-40 years, 8 respondents of the sample representing 32% were under Age of 41-50 years, while the remaining 5 respondents of the sample representing 20% were under Age of 51 year and above.

Table 3: Marital Status

Options	No of Respondents	Percentage (%)
Single	2	8
Married	23	92
Total	**25**	**100**

Source: Researcher's Field Survey, 2025

The above table shows that 2 respondents of the sample representing 8% were single while the remaining 23 respondents of the respondents of the sample representing 92% were married.

Table 4: Educational Qualification of the Respondents

Options	**No of Respondents**	**Percentage (%)**
O'LEVEL	-	-
ND/NCE	5	20
HND/BSC	12	48
MSC/MBA	8	32
Total	**25**	**100**

Source: Researcher's Field Survey, 2025

Table above shows that, 5 respondents of the sample representing 20% were ND/NCE holders, 12 respondents of the sample representing 48% were HND/BSC while the remaining 8 respondents of the sample representing 32% were MSC/MBA holders.

Table 5: Organizational Status

Options	**No of Respondents**	**Percentage (%)**
Top management	8	32
Senior staff	10	40
Junior staff	7	28
Total	**25**	**100**

Source: Researcher's Field Survey, 2025

The above table shows that 8(32%) of the total number of the respondents were top management staff, 10(40%) of the respondents were senior staff while the remaining 7(28%) of the respondents were junior staff.

It can be deduced that there were more top management that other categories of staff.

Section B

Table 6: Is there any level of awareness of advanced technologies among library personnel in Kwara State Polytechnic, Ilorin?

Options	No of Respondents	Percentage (%)
Yes	35	70
No	15	30
Total	**50**	**100**

Source: Researcher's Field Survey, 2025

The above table shows that 35 respondents of the sample representing 70% were said that there is no level of awareness of advanced technologies among library personnel in Kwara State Polytechnic, Ilorin while the remaining 15 respondents of the respondents of the sample representing 92% were indicated No.

Table 7: Is there any significant relationship between awareness and attitude towards advanced technologies among library personnel in Kwara State Polytechnic, Ilorin?

Options	No of Respondents	Percentage (%)
Yes	40	80
No	10	20
Total	**50**	**100**

Source: Researcher's Field Survey, 2025

The above table shows that 40 respondents of the sample representing 80% were said that there is no significant relationship between awareness and attitude towards advanced technologies among library personnel in Kwara State Polytechnic, Ilorin while the remaining 10 respondents of the respondents of the sample representing 20% indicated No.

Table 8: Are there major challenges faced in adopting advanced technologies in Kwara State Polytechnic, Ilorin?

Options	No of Respondents	Percentage (%)
Yes	45	80
No	5	10

Total	**50**	**100**

Source: Researcher's Field Survey, 2025

The above table shows that 45 respondents of the sample representing 80% were said that there are major challenges faced in adopting advanced technologies in Kwara State Polytechnic, Ilorin while the remaining 5 respondents of the respondents of the sample representing 10% were indicated No.

Table 9: Do you feel confident using new library technologies?

Options	**No of Respondents**	**Percentage (%)**
Yes	45	80
No	5	10
Total	**50**	**100**

Source: Researcher's Field Survey, 2025

The above table shows that 45 respondents of the sample representing 80% were said that they feel confident using new library technologies while the remaining 5 respondents of the respondents of the sample representing 10% were indicated No.

Table 10: Do you believe that library users benefit from advanced technologies?

Options	**No of Respondents**	**Percentage (%)**
Yes	30	60
No	20	40
Total	**50**	**100**

Source: Researcher's Field Survey, 2025

The above table shows that 30 respondents of the sample representing 60% were said that library users benefit from advanced technologies while the

remaining 20 respondents of the respondents of the sample representing 40% were indicated No.

Table 11: Do you advocate for the use of technology in my workplace?

Options	**No of Respondents**	**Percentage (%)**
Yes	50	50
No	-	-
Total	**50**	**100**

Source: Researcher's Field Survey, 2025

The above table shows that all the 50 respondents of the sample representing 100% advocate for the use of technology in my workplace

Table 12: Do you prefer traditional library methods over digital methods?

Options	**No of Respondents**	**Percentage (%)**
Yes	5	10
No	45	90
Total	**50**	**100**

Source: Researcher's Field Survey, 2025

The above table shows that 5 respondents of the sample representing 10% said that they prefer traditional library methods over digital methods while the remaining 45 respondents of the respondents of the sample representing 90% were indicated No.

Table 13: Are you open to attending training on emerging technologies?

Options	**No of Respondents**	**Percentage (%)**
Yes	45	80
No	5	10
Total	**50**	**100**

Source: Researcher's Field Survey, 2025

The above table shows that 45 respondents of the sample representing 80% were said that they open to attending training on emerging technologies while the remaining 5 respondents of the respondents of the sample representing 10% were indicated No.

Table 14: Do you feel anxious when introduced to new library technologies?

Options	No of Respondents	Percentage (%)
Yes	35	70
No	15	30
Total	**50**	**100**

Source: Researcher's Field Survey, 2025

The above table shows that 35 respondents of the sample representing 70 were said that they feel anxious when introduced to new library technologies while the remaining 15 respondents of the respondents of the sample representing 30% were indicated No.

Table 15: Does advance technologies make your job easier?

Options	No of Respondents	Percentage (%)
Yes	45	80
No	5	10
Total	**50**	**100**

Source: Researcher's Field Survey, 2025

The above table shows that 45 respondents of the sample representing 80% were said that advance technologies make your job easier while the remaining 5 respondents of the respondents of the sample representing 10% were indicated No.

4.3 Discussion of Findings

4.3.1 Awareness of Advanced Technologies

The findings revealed a moderate to high level of awareness among library personnel for commonly used technologies such as library automation systems (90% aware) and digital repositories (85% aware). However, awareness levels were lower for emerging technologies such as artificial intelligence (only 45%

aware) and cloud-based services. This indicates a gap in knowledge or exposure, which may hinder the adoption of newer innovations in these institutions.

This supports previous studies that showed traditional technologies are more commonly recognized in Nigerian academic libraries, while cutting-edge technologies like AI and cloud systems are still gaining ground.

4.3.2 Attitude Towards Advanced Technologies

The attitudes of respondents toward advanced technologies were generally positive. A majority (80%) agreed that these technologies enhance library efficiency. Also, a high willingness to attend training (85%) suggests openness to adoption, despite mixed feelings about job relevance.

However, there is a degree of skepticism, with 30% agreeing that advanced technologies might reduce the relevance of human roles in libraries. Cost concerns were also notable, indicating that financial constraints could affect adoption, as found in related literature on library technology adoption in developing countries.

CHAPTER FIVE

Summary, Conclusion and Recommendations

5.1 Summary of Findings

The findings of this study revealed that polytechnic library personnel possessed a moderate to high level of awareness of commonly used advanced technologies, such as Online Public Access Catalogues (OPAC), e-resources, library automation systems, and digital library platforms. However, awareness of more recent and emerging technologies, including Radio Frequency Identification (RFID), artificial intelligence applications, cloud-based library systems, and mobile library tools, was considerably low among the respondents.

The study also showed that the attitude of library personnel towards the use of advanced technologies was generally positive. Most respondents expressed willingness to adopt and utilize modern technologies in library operations, acknowledging their relevance in improving service delivery, efficiency, and user satisfaction. Nonetheless, a few participants demonstrated reluctance or fear of adopting new systems, particularly when such systems appeared complex or unfamiliar.

Furthermore, a statistically significant positive relationship was found between awareness and attitude levels among the respondents. This indicates that an increase in awareness leads to the development of a more favorable attitude toward the adoption and use of advanced technologies. Conversely, limited awareness was associated with negative or indifferent attitudes.

The findings also established that demographic factors such as age, educational qualification, professional experience, and prior ICT training had an influence on both awareness and attitude. Notably, younger personnel, those with higher educational qualifications, and those who had received ICT training exhibited greater awareness and more positive attitudes compared to their counterparts.

Finally, the study identified a number of challenges affecting the adoption of advanced technologies in polytechnic libraries. These challenges include insufficient training opportunities, inadequate infrastructure and ICT facilities, poor internet connectivity, irregular power supply, limited funding, and lack of administrative or institutional support. These barriers hinder not only the awareness level but also the positive attitude required for successful integration of technology in library services.

5.2 Conclusion

This study investigated the awareness and attitude of polytechnic library personnel towards advanced technologies in selected polytechnic institutions. The findings revealed that while there is a moderate to high level of awareness of commonly used technologies such as OPAC, e-resources, and automated library systems, awareness of newer technologies such as RFID, artificial intelligence tools, and cloud-based systems remains low.

The study further established that the general attitude of library personnel toward advanced technologies is positive. Most respondents showed readiness and interest in adopting technologies that enhance the quality of library services, although some exhibited resistance due to a lack of familiarity, training, or institutional support.

A significant relationship was found between awareness and attitude, suggesting that increased exposure to and understanding of advanced technologies promotes a more favorable disposition toward their adoption. The analysis also indicated that demographic factors such as age, qualification, experience, and prior ICT training influence the levels of awareness and attitude among library staff.

It is therefore concluded that enhancing awareness through targeted training, workshops, and sensitization programs can significantly improve the attitude of library personnel and lead to greater adoption and effective use of advanced technologies. Furthermore, addressing institutional challenges such as inadequate funding, poor infrastructure, and limited administrative support is crucial for fostering a technology-driven library environment.

Ultimately, the successful integration of advanced technologies in polytechnic libraries requires a strategic combination of personnel development, resource investment, and supportive leadership to build a modern, responsive, and efficient library system.

5.3 Recommendations

Based on the findings and conclusion of this study, the following recommendations are made to enhance awareness and foster a more positive attitude toward advanced technologies among polytechnic library personnel:

Polytechnic library management should organize periodic training programs, seminars, and hands-on workshops to equip library personnel with the knowledge and skills required to understand and effectively use advanced technologies. Training should cover both existing and emerging technologies such as RFID, AI in libraries, mobile apps, and cloud-based systems.

Institutional administrators should allocate adequate funding to support the acquisition, maintenance, and upgrading of modern technological tools and infrastructure in polytechnic libraries. Without sufficient investment, even the most willing staff will be unable to utilize these innovations effectively.

Clear ICT integration policies and strategic implementation plans should be developed at the institutional and departmental levels. These policies should outline goals, training requirements, technology standards, and evaluation methods to ensure systematic adoption.

Efforts should be made to improve the technological environment of polytechnic libraries. This includes providing high-speed internet access, reliable power supply, modern computer systems, and updated library software to support efficient digital services.

Library personnel should be encouraged to pursue continuous education, certifications, or diploma courses in library and information technology. Institutions can provide incentives such as scholarships, promotions, or recognition to motivate staff participation.

Polytechnic libraries should engage in inter-institutional collaborations, knowledge-sharing forums, and professional networks to stay updated on new technologies. This can improve awareness through exposure to national and international best practices.

There should be a system in place to assess how effectively staff members use advanced technologies. Regular evaluations will help identify gaps, measure progress, and adjust training or resource allocation accordingly.

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QUESTIONNAIRE

Please tick the appropriate box

SECTION A

1. Age: 18-30 years ( ) 31-40 years ( ) 41 years and above ( )
2. Sex: Male ( ) Female ( )
3. Marital status: Married ( ) Single ( )
4. Qualification: Olevel ( ) WAEC ( ) ND/NCE ( ) MBA/MSC ( ) HND/BSC ( ) PHD ( )
5. Management Status: Top management ( ) Senior staff ( ) Junior staff ( )

SECTION B

1. Is there any level of awareness of advanced technologies among library personnel in Kwara State Polytechnic, Ilorin? Yes ( ) No ( )
2. Is there any significant relationship between awareness and attitude towards advanced technologies among library personnel in Kwara State Polytechnic, Ilorin? Yes ( ) No ( )

3. Are there any major challenges faced in adopting advanced technologies in Kwara State Polytechnic, Ilorin? Yes ( ) No ( )
4. Do you feel confident using new library technologies? Yes ( ) No ( )
5. Do you believe that library users benefit from advanced technologies? Yes ( ) No ( )
6. Do you advocate for the use of technology in my workplace? Yes ( ) No ( )
7. Do you prefer traditional library methods over digital methods? Yes ( ) No ( )
8. Are you open to attending training on emerging technologies? Yes ( ) No ( )
9. Do you feel anxious when introduced to new library technologies? Yes ( ) No ( )
10. Does advanced technologies make my job easier? Yes ( ) No ( )