AWARENESS AND USE OF ELECTRONIC INFORMATION RESOURCES BY UNDERGRADUATE STUDENTS IN NIGERIA

BY

BOSAH PETER IKPONMWOSA

EDU2102360

DEPARTMENT OF EDUCATIONAL MANAGEMENT

FACULTY OF EDUCATION

UNIVERSITY OF BENIN

EDO STATE, NIGERIA

DECEMBER, 2025

CERTIFICATION

We certify that this study was carried out by Bosah Peter Ikponmwosa with the matriculation number EDU2102360 in the Department of Educational Management, Faculty of Education, University of Benin, Benin City. Edo State, Nigeria. It is adequate in scope and quality for the award of Bachelor Degree in Library and Information Science (BLIS).

Dr. E. J. Omwanghe
Project Supervisor

_____
Signature and Date

Dr. A.C. Eneh
Project Coordinator

_____
Signature and Date

PROF. E. O.S. IYAMU
Dean, Faculty of Education

_____
Signature and Date

DEDICATION

This work is dedicated to God Almighty, author of all knowledge, wisdom and understanding, for his infinite mercy and grace upon me.

It is also dedicated to my loving parents Mr. & Mrs. Bosah whose effort has contributed immensely to my academic success in life.

ACKNOWLEDGEMENT

The researcher profound gratitude goes to God almighty for his sufficient grace, wisdom and understanding.

Special Appreciation goes to his project supervisor Dr. E. J. Omwanghe for his constructive criticism and suggestions which eventually made this work a reality. The researcher also appreciates the Dean of Faculty of Education Prof. E.O. S. Iyamu, and the HOD of Educational Management; Faculty of Education Dr. H.O, Alonge and my Project Cordinator Dr. A. C Eneh for her good work.

The Researcher also deeply appreciates all his amazing lecturers, Dr. Idiodi, Dr. I. M Aliu, Mrs. Ossai Ugba, Dr. A.C. Eneh, Mr. Omoregie, Mr. Oseghale, Dr. Oghenetega, Mrs. M-G Ekhorutomwen, Mrs. Oviri, Mrs. Ewere and other staff of the faculty, for their timeless efforts and knowledge imparted. May God bless you all.

I am grateful to my parents, Mr. and Mrs. Bosah for their tireless support, unyielding love and steadfast prayers God bless you both abundantly. To all my friends and coursemates, I say a big thank you for the suggestion, companionship and team spirited attitude during the course of this research.

TABLE OF CONTENT

LIST OF TABLES

4.17: Frequency of Attending Training Programmes

4.18: Level of Satisfaction with Electronic Resources

4.19: Experience of Challenges

4.20: Extent of Specific Challenges

4.21: Suggestions for Improving Awareness

4.22: Improvements to Encourage More Frequent Usage

4.23: Cross-tabulation of Awareness and Usage

4.24: Chi-square Test Results

4.25: Awareness Levels by Users Category

4.26: ANOVA Test Results

ABSTRACT

This study investigated the awareness and use of electronic information resources at Delta State University, Abraka, Delta State, Nigeria. A descriptive survey research design was adopted, with data collected from 385 respondents comprising undergraduate students, postgraduate students, and academic staff through structured questionnaires. Data were analyzed using descriptive and inferential statistics. Findings revealed that 77.40% of respondents were aware of electronic information resources, while 68.57% actually used them. Electronic books and journals had the highest awareness and usage rates. Infrastructure challenges, particularly poor internet connectivity, frequent power outages, and insufficient computer facilities, emerged as major barriers. More than half of respondents had not received training on electronic resources. Hypothesis testing confirmed significant relationships between awareness and usage, and between training frequency and awareness levels. The study recommended improving internet infrastructure, implementing comprehensive training programmes, strengthening multi-channel awareness strategies, and enhancing collaboration with academic staff to promote optimal utilization of electronic information resources.

Keywords: Electronic Information resources; awareness; utilization; undergraduate students; academic library; Delta State University, Abraka; Nigeria

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The 21st century has witnessed a remarkable transformation in how information is created, stored, and accessed in academic institutions worldwide. Universities have progressively shifted from traditional print-based collections to digital platforms that offer vast amounts of scholarly content at the click of a button. Electronic information resources, which include online databases, electronic journals, electronic books, institutional repositories, and digital libraries, have become fundamental tools for teaching, learning, and research in higher education institutions (Olaniyi & Adekunle, 2024). These resources provide students and academic staff with immediate access to current research findings, peer-reviewed articles, conference proceedings, and other scholarly materials that support academic excellence and innovation.

In Nigeria, universities have made considerable investments in subscribing to various electronic information resources to enhance the quality of education and research output. The regulatory framework has consistently emphasized the need for Nigerian universities to improve their library facilities and electronic resource collections to meet international standards (Idowu & Eiriemiokhale, 2020). Delta State University, Abraka, like many other Nigerian universities, has acquired numerous electronic databases and digital collections to support the academic needs of

its growing student population and research community. However, the mere availability of these resources does not automatically translate to their effective utilization by the intended users.

Research has shown that awareness plays a critical role in determining whether users will take advantage of available electronic information resources. For example, students' knowledge of Internet resources and search skills was found to have a significant positive correlation with their use of electronic information resources in university libraries in South-West Nigeria (Sambo & Eda, 2021). Similarly, despite substantial investments in electronic resources, utilization remains constrained by awareness and other factors in Nigerian university libraries (Chuks-Ibe, Udensi, Madu & Saka, 2023). This situation raises important questions about the factors that influence both awareness and utilization patterns among university communities.

Furthermore, the Nigerian university environment presents unique challenges that may affect how electronic information resources are perceived and used. Issues such as inadequate information-literacy skills, poor internet connectivity, frequent power outages, insufficient computer facilities, and limited user-training programs have been identified as potential barriers to effective utilization of electronic resources in Nigerian academic libraries (Mamman, 2022). Understanding how these challenges manifest in specific institutional contexts becomes essential for developing targeted interventions that can improve resource utilization and maximize the return on investments made in electronic collections.

1.2 Statement of the Problem

Delta State University, Abraka has invested considerable financial resources in acquiring subscriptions to various electronic information resources to support academic activities and research productivity. These investments reflect the institution's commitment to providing its

community with access to global scholarly literature and current research findings. However, preliminary observations suggest that there may be a significant gap between the availability of these resources and their actual utilization by students and academic staff. Many users appear to rely heavily on free internet sources such as Google and Wikipedia rather than exploring the specialized academic databases and electronic journals provided by the university library.

The problem is compounded by the possibility that a substantial number of potential users may not even be aware that these electronic resources exist or understand how to access them effectively. Without adequate awareness, even the most comprehensive electronic resource collections remain underutilized, representing wasted investments and missed opportunities for academic advancement. Additionally, those who are aware of these resources may face various obstacles that prevent them from using them regularly or effectively. These barriers could include technical difficulties, lack of training, inadequate search skills, poor internet connectivity, or insufficient guidance from library staff.

The implications of low awareness and poor utilization of electronic information resources are far-reaching. Students may produce research work that lacks depth and currency because they cannot access quality scholarly materials, thereby limiting the quality of their academic outputs and research competencies (Aina, 2020; Okiki & Ashiru, 2021).

Academic staff may struggle to stay updated with developments in their fields, which affects their teaching quality and research output. The university's research ranking and academic reputation may suffer when its community cannot fully leverage available scholarly resources. Therefore, it becomes imperative to systematically investigate the current state of awareness and

usage patterns of electronic information resources at Delta State University, Abraka, to identify specific problems and develop evidence-based recommendations for improvement.

1.3 Research Questions

This study seeks to answer the following questions:

1. What is the level of awareness of electronic information resources among students and academic staff at Delta State University, Abraka?
2. To what extent are electronic information resources used by the university community for academic and research purposes?
3. What challenges or barriers do users encounter in accessing and utilizing electronic information resources at Delta State University, Abraka?
4. What strategies can be implemented to improve awareness, accessibility, and utilization of electronic information resources at the university?

1.4 Research Objectives

The main objective of this study is to investigate the level of awareness and extent of use of electronic information resources among students and staff of Delta State University, Abraka, Delta State, Nigeria. The specific objectives are:

1. To determine the level of awareness of electronic information resources among students and academic staff at Delta State University, Abraka.
2. To assess the extent of usage of electronic information resources by the university community for academic and research purposes.

3. To identify the challenges or barriers encountered by users in accessing and utilizing electronic information resources.
4. To provide recommendations for improving awareness, accessibility, and utilization of electronic information resources at Delta State University, Abraka.

1.5 Research Hypotheses

The following null hypotheses will guide this study:

1. H_{01}: There is no significant relationship between awareness of electronic information resources and their actual usage among university users.
2. H_{02}: There is no significant difference in the level of awareness of electronic information resources between undergraduate students, postgraduate students, and academic staff.

1.6 Purpose of the Study

The purpose of this study is to provide empirical evidence regarding the current state of awareness and utilization of electronic information resources at Delta State University, Abraka. By systematically examining these issues, the study aims to generate reliable data that will inform decision-making processes within the university library and administration. The findings will help library management understand whether their current strategies for promoting electronic resources are effective and identify areas that require improvement or intervention.

1.7 Significance of the Study

This study holds significance for multiple stakeholders within and beyond Delta State University. For the university library management, the findings will provide valuable insights into how well their electronic resource investments are serving the intended beneficiaries. This information can guide future subscription decisions, resource allocation, and the development of more effective user education programs. For students and academic staff, the study may lead to improved access mechanisms, better training opportunities, and enhanced support services that will enable them to maximize the benefits of available electronic resources.

The study will also contribute to the broader body of knowledge in library and information science, particularly regarding electronic resource management in Nigerian university libraries. Other academic institutions facing similar challenges can learn from the findings and apply relevant recommendations to their own contexts. Additionally, vendors and database providers may gain insights into the specific needs and challenges of users in Nigerian universities, which could inform the development of more user-friendly platforms and culturally appropriate support services.

1.8 Scope and Delimitation of the Study

This study focuses specifically on the awareness and use of electronic information resources at Delta State University, Abraka, Delta State, Nigeria. The population of interest includes undergraduate students, postgraduate students, and academic staff who are registered users of the university library. The study examines electronic information resources provided through the university library, including subscribed databases, electronic journals, electronic books, and

institutional repositories. The research does not cover print resources or free internet sources that are not part of the library's official collection. Geographically, the study is limited to the main campus of Delta State University in Abraka and does not extend to satellite campuses or other institutions.

1.9 Definition of Terms

Academic Staff: Lecturers, senior lecturers, professors, and other teaching personnel employed by Delta State University who engage in teaching and research activities.

Electronic Information Resources (EIRs): Digital materials that are accessed through electronic means, including online databases, electronic journals, electronic books, institutional repositories, and digital library collections provided by the university library.

Information Literacy: The ability to recognize when information is needed and possess the skills to locate, evaluate, and use the required information effectively.

Usage: The actual act of accessing, searching, retrieving, and utilizing electronic information resources for academic, research, or learning purposes.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a comprehensive review of existing literature relevant to the awareness and use of electronic information resources in academic libraries. The review is organized into several sections to provide a systematic examination of the topic. The chapter begins with a conceptual review of the key variables that constitute the study, followed by an exploration of related issues that are germane to understanding the subject matter. The theoretical foundations that underpin the study are then examined, after which empirical studies conducted by various researchers are reviewed. The chapter concludes with a presentation of the conceptual model that guides this research and a summary of the major findings from the literature.

2.2 Conceptual Review

2.2.1 Electronic Information Resources

Electronic information resources represent a fundamental component of modern academic library services. These resources refer to materials that are stored in digital format and accessed through electronic devices such as computers, tablets, and smartphones. Unlike traditional print materials, electronic resources offer numerous advantages including remote accessibility, simultaneous use by multiple users, advanced search capabilities, and the ability to link related materials seamlessly. The emergence of these resources has revolutionized how information is organized, preserved, and disseminated in academic environments (Johnson et al., 2021).

Several categories of electronic information resources exist in contemporary academic libraries. Electronic journals, commonly referred to as e-journals, provide access to scholarly articles published in peer-reviewed periodicals across various academic disciplines. These journals allow researchers and students to access the latest research findings without the delays associated with print publication and distribution (Jamali & Asadi, 2020). Electronic books or e-books constitute another major category, offering full-text access to monographs, textbooks, and reference materials in digital format. Many e-books come with enhanced features such as keyword searching, note-taking capabilities, and hyperlinked references that enhance the reading and learning experience.

Online databases represent comprehensive collections of bibliographic information, abstracts, and full-text articles organized around specific subjects or disciplines. These databases aggregate content from multiple publishers and provide sophisticated search interfaces that enable users to locate relevant information efficiently (Reitz, 2022). Examples include JSTOR, EBSCO, ProQuest, and ScienceDirect, among others. Institutional repositories have also emerged as important electronic resources, serving as digital archives where universities store and preserve the intellectual output of their academic communities, including theses, dissertations, research reports, and conference papers (Bankier & Gleason, 2020).

The transition from print to electronic resources in academic libraries has been driven by several factors. The exponential growth of published research has made it increasingly difficult for libraries to maintain comprehensive print collections due to space and budget constraints. Electronic resources offer a practical solution by providing access to vast amounts of content without requiring physical storage space (Anderson, 2023). Additionally, the global nature of scholarly communication demands immediate access to research findings regardless of

geographical location, which electronic resources facilitate effectively. Many universities worldwide have recognized these benefits and have invested in building electronic resource collections to support their academic missions.

2.2.2 Awareness of Electronic Information Resources

Awareness in the context of library resources refers to the knowledge that users possess regarding the existence, availability, and accessibility of specific information materials (Ukwoma & Dike, 2021). It represents the first critical step in the utilization process because users cannot benefit from resources they do not know exist. Awareness encompasses not only knowing that electronic resources are available but also understanding what types of resources exist, what subjects they cover, and how they can be accessed. This knowledge forms the foundation upon which actual usage is built.

Different levels of awareness can be identified among library users. Complete unawareness occurs when users have no knowledge whatsoever about the electronic resources available to them. Such users typically rely entirely on print materials or freely available internet sources for their information needs. Partial awareness exists when users know that some electronic resources are available but lack detailed knowledge about the full range of resources or how to access them effectively (Korobili et al., 2021). Full awareness represents the ideal state where users possess comprehensive knowledge about available resources, their coverage, and access procedures. Research has shown that many university users fall within the partial awareness category, knowing about some popular databases while remaining unaware of other potentially useful resources.

Several factors influence the level of awareness among academic library users. Library orientation programs conducted for new students and staff play a significant role in introducing users to available resources and services. However, the effectiveness of these programs varies depending on their comprehensiveness, timing, and delivery methods (Hosoi & Yao, 2024). Promotional activities undertaken by the library, such as notices, flyers, website announcements, and email alerts, also contribute to raising awareness. The visibility and accessibility of information about electronic resources on the library website affects how easily users can discover what is available to them.

Word of mouth communication among peers represents another important channel through which awareness spreads within academic communities. When satisfied users share their experiences with colleagues and classmates, they indirectly promote the resources and encourage others to explore them (Dadzie & Van der Walt, 2020). The involvement of teaching staff in recommending specific resources to students during lectures and course assignments significantly enhances awareness and legitimizes the use of library-provided electronic materials. Conversely, inadequate publicity, poor communication channels, and limited interaction between library staff and users can result in low awareness levels despite substantial investments in resource acquisition.

2.2.3 Use of Electronic Information Resources

Use or utilization of electronic information resources refers to the actual engagement of users with these materials for various academic purposes. This involves accessing the resources, conducting searches, retrieving relevant information, and applying the obtained information to meet specific needs (Salaam & Adegbore, 2020). Usage goes beyond mere awareness and

represents the practical application of knowledge about resources to solve information problems. The extent and frequency of use provide important indicators of how well electronic resources are serving their intended purposes within academic institutions.

Usage patterns vary considerably among different categories of users and are influenced by multiple factors. Students typically use electronic resources to support their coursework, complete assignments, prepare for examinations, and conduct research for projects and dissertations (Rafique & Mahmood, 2023). The frequency of use often increases during examination periods and when major assignments are due. Academic staff utilize electronic resources primarily to support their teaching preparation, stay current with developments in their fields, and conduct research for publication purposes. Their usage patterns tend to be more consistent throughout the academic year compared to students.

The purposes for which users access electronic information resources are diverse and reflect the multifaceted nature of academic work. Research activities constitute a major driver of electronic resource usage, as both students and faculty members need access to current literature to frame their research problems, review existing knowledge, and position their findings within broader scholarly conversations (Oluwaseye & Ojo, 2021). Learning and knowledge acquisition represent another significant purpose, particularly for students who use electronic resources to supplement lecture notes, clarify concepts, and deepen their understanding of course content. Preparing teaching materials motivates academic staff to explore electronic resources for relevant examples, recent developments, and pedagogical ideas that can enhance their classroom instruction.

Several indicators help measure the extent of electronic resource usage in academic settings. Frequency of access examines how often users engage with the resources, whether daily, weekly, monthly, or occasionally. The amount of time spent during each session provides insights into the depth of engagement with the materials. Download statistics and the number of articles or book chapters accessed offer quantitative measures of usage intensity. The diversity of resources used, such as whether users limit themselves to one or two familiar databases or explore multiple resources, indicates the sophistication of their information-seeking behavior (Gichohi, 2020).

2.3 Information Literacy and Digital Skills

Information literacy represents a crucial competency that significantly influences how effectively users can engage with electronic information resources. It encompasses the ability to recognize when information is needed, formulate appropriate search strategies, locate relevant sources, critically evaluate information quality, and ethically use the obtained information (ACRL, 2022). In the digital age, information literacy has become increasingly important because the abundance of available information requires users to develop sophisticated skills for navigating, filtering, and assessing electronic materials.

Digital skills complement information literacy by providing the technical competencies needed to operate electronic systems and navigate digital interfaces. These skills include basic computer operation, internet navigation, understanding database search interfaces, using Boolean operators and other search techniques, and managing downloaded materials (Pinto & Fernández-Pascual, 2021). Many students enter universities with varying levels of digital proficiency, which affects their ability to take advantage of electronic resources. Those lacking adequate digital skills may

struggle with seemingly simple tasks such as accessing library databases from off-campus locations, refining search results, or saving citations for later reference.

The development of information literacy and digital skills requires intentional educational interventions. Many academic libraries offer information literacy instruction through various formats including orientation sessions for new users, stand-alone workshops on specific topics, course-integrated instruction where librarians collaborate with teaching faculty, and online tutorials that users can access at their convenience (Emmanuel & Sife, 2022). The effectiveness of these programs depends on factors such as the comprehensiveness of the content, the teaching methods employed, the timing of instruction, and whether the skills are reinforced through repeated practice and application.

Research has demonstrated a positive correlation between information literacy levels and the effective use of electronic resources. Users who possess strong information literacy skills tend to use electronic resources more frequently, explore a wider range of materials, and demonstrate greater success in locating relevant information compared to those with limited skills (Ondari-Okemwa & Minishi-Majanja, 2023). This relationship underscores the importance of investing in user education programs as a strategy for maximizing the value derived from electronic resource subscriptions.

2.4 Challenges in Accessing and Using Electronic Information Resources

Despite the potential benefits of electronic information resources, numerous challenges hinder their optimal utilization in many academic institutions, particularly in developing countries. Infrastructure-related problems constitute a major category of barriers. Inadequate internet bandwidth results in slow loading times and frequent disconnections, which frustrate users and discourage sustained engagement with electronic resources (Okiki, 2020). The unreliable electricity supply that characterizes many universities in developing nations interrupts access sessions and damages computer equipment, creating additional obstacles to consistent usage. Insufficient numbers of computer workstations in libraries and computer laboratories mean that users must compete for limited facilities, especially during peak periods.

Technical and skill-related challenges also impede effective utilization. Many users lack adequate search skills and struggle to formulate effective queries, use advanced search features, or refine results to eliminate irrelevant materials (Bhatti & Asghar, 2021). Authentication and access procedures that require usernames, passwords, and sometimes virtual private network configurations confuse users who are unfamiliar with these security protocols. The diverse interfaces presented by different electronic resource platforms create learning curves as users must adapt to varying search mechanisms, display formats, and navigation structures. Some users experience difficulties in downloading, saving, or printing materials due to technical limitations or unfamiliarity with file management procedures.

Institutional and policy factors contribute additional barriers. Inadequate publicity about available resources leaves many potential users unaware of what the library offers. Insufficient training opportunities prevent users from developing the skills needed to exploit electronic

resources effectively (Swain & Panda, 2020). Limited opening hours for computer laboratories restrict when users can access resources, particularly affecting those who prefer studying during evening or weekend hours. Some institutions implement restrictive access policies that limit off-campus access or restrict the number of simultaneous downloads, reducing the convenience that electronic resources should provide.

Individual user characteristics and attitudes also influence utilization patterns. Some users prefer traditional print materials due to familiarity, concerns about eye strain from prolonged screen reading, or beliefs that print sources are more authoritative (Fabunmi & Asubiaro, 2020). Time constraints faced by busy students and faculty members may lead them to opt for easily accessible internet sources rather than investing effort in learning how to navigate library databases. Lack of motivation to explore new resources keeps some users within their comfort zones, relying on familiar sources even when better alternatives exist. Language barriers can disadvantage users in contexts where most electronic resources are in English but users have limited English proficiency.

2.5 Strategies for Promoting Awareness and Usage of Electronic Resources

Academic libraries have developed various strategies to enhance awareness and encourage greater utilization of electronic information resources. Comprehensive user education programs represent the most fundamental approach. These programs should begin with orientation sessions for all new students and staff, introducing them to the range of available resources and demonstrating basic access procedures (Wijetunge & Alahakoon, 2020). Beyond initial orientation, libraries should offer ongoing training opportunities through workshops, seminars, and refresher courses that address different skill levels and specific resource categories. The

integration of information literacy instruction into academic curricula ensures that students receive sustained exposure to electronic resources throughout their educational journey rather than depending on one-time training sessions.

Marketing and promotional activities help maintain visibility and remind users about available resources. Libraries can employ multiple communication channels including prominent displays on library websites, regular email newsletters highlighting specific resources, social media posts featuring tips and new acquisitions, and physical posters and flyers in strategic campus locations (Madondo & Sithole, 2021). Creating user guides, tutorials, and frequently asked questions documents provides reference materials that users can consult independently when they encounter difficulties. These materials should be accessible in multiple formats including print handouts, downloadable PDFs, and online videos to accommodate different learning preferences.

Collaboration between librarians and academic staff enhances the integration of electronic resources into teaching and learning activities. When faculty members incorporate specific electronic resources into their course syllabi, recommend them during lectures, and require their use for assignments, students receive clear signals about the value and relevance of these materials (Johnson et al., 2022). Librarians can support this integration by offering to conduct subject-specific database demonstrations during class time, consulting with faculty on appropriate resources for particular courses, and developing subject guides that highlight relevant materials for different disciplines.

Infrastructure improvements address the technical barriers that impede access. Investing in adequate internet bandwidth ensures faster and more reliable connections. Providing sufficient numbers of computer workstations with up-to-date hardware and software reduces competition

for limited facilities. Implementing user-friendly authentication systems that remember login credentials or integrate with existing university authentication platforms reduces friction in the access process (Kumbar & Hadagali, 2021). Extending the operating hours of computer laboratories accommodates users with different schedules and study preferences. Ensuring reliable backup power systems minimizes disruptions caused by electricity failures.

Adopting user-centered approaches in resource selection and interface design improves the overall user experience. Libraries should regularly assess which resources are most valued by their user communities and prioritize renewals accordingly rather than maintaining subscriptions to underutilized materials. Implementing discovery systems that provide single search interfaces across multiple resources reduces the complexity that users face when navigating different platforms. Gathering and responding to user feedback through surveys, suggestion boxes, and usability studies demonstrates that the library values user input and is committed to continuous improvement (Hosoi & Yao, 2024).

2.6 Theoretical Framework

2.6.1 Technology Acceptance Model

The Technology Acceptance Model, developed by Davis in 1989, provides a theoretical lens for understanding how users come to accept and use new technologies. This model has been widely applied in information systems research to explain user behavior toward various technological innovations including electronic information resources. The model proposes that two primary factors determine whether users will accept and use a particular technology. These factors are perceived usefulness and perceived ease of use (Davis, 1989).

Perceived usefulness refers to the degree to which users believe that using a particular technology will enhance their performance or help them accomplish their tasks more effectively. In the context of electronic information resources, perceived usefulness would relate to users' beliefs about whether these resources will help them find better information, complete assignments more efficiently, or improve their research outcomes. When users perceive electronic resources as genuinely useful for achieving their academic goals, they are more likely to develop positive attitudes toward them and make efforts to use them despite any initial difficulties (Venkatesh & Bala, 2008).

Perceived ease of use refers to the degree to which users believe that using a technology will be free from effort. This factor recognizes that even when users perceive a technology as useful, they may be reluctant to adopt it if they believe it requires excessive effort to learn or operate. Electronic information resources that feature intuitive interfaces, straightforward search mechanisms, and clear navigation structures are likely to be perceived as easy to use, thereby encouraging adoption. Conversely, resources that present complex interfaces or require extensive training may discourage usage even if they are potentially valuable (Venkatesh & Davis, 2000).

The Technology Acceptance Model suggests that these two perceptions influence users' attitudes toward the technology, which in turn affects their behavioral intentions and actual usage behavior. Recent applications of TAM to electronic resource usage have confirmed its validity in predicting adoption patterns (Sheikhshoaei & Oloumi, 2021). This theoretical framework is relevant to the current study because it helps explain why some users readily adopt electronic information resources while others resist them. Understanding the role of perceived usefulness and ease of use can inform strategies for promoting greater acceptance and utilization.

2.6.2 Diffusion of Innovation Theory

Rogers' Diffusion of Innovation Theory, first published in 1962 and subsequently refined, offers another valuable theoretical perspective for examining how electronic information resources spread through academic communities. This theory explains how new ideas, practices, or technologies are communicated and adopted over time among members of a social system (Rogers, 2003). The theory identifies five stages through which individuals pass as they move from first learning about an innovation to making a decision about whether to adopt it and then confirming that decision.

The knowledge stage occurs when individuals become aware that an innovation exists and gain some understanding of how it functions. In the context of this study, this stage corresponds to users becoming aware of electronic information resources available through their university library. The persuasion stage follows, during which individuals form favorable or unfavorable attitudes toward the innovation based on their perceptions of its characteristics. The decision stage involves choosing to adopt or reject the innovation. Implementation occurs when individuals put the innovation into use, and confirmation happens when they seek reinforcement for their adoption decision or reverse it if exposed to conflicting messages (Rogers, 2003).

Rogers identified five characteristics of innovations that influence their rate of adoption. Relative advantage refers to the degree to which an innovation is perceived as better than the idea it supersedes. Electronic information resources offer relative advantages over print materials in terms of accessibility, searchability, and currency of information. Compatibility concerns the degree to which an innovation is consistent with existing values, past experiences, and needs of potential adopters. Complexity refers to how difficult the innovation is to understand and use.

Trialability is the degree to which an innovation can be experimented with on a limited basis before making a full commitment. Observability refers to the degree to which the results of using an innovation are visible to others (Rogers, 2003).

This theory is applicable to the present study because it provides a framework for understanding why electronic information resources may be adopted at different rates by different segments of the university community. Recent research has applied this theory to understand technology adoption in academic settings (Manda & Mulindwa, 2020). The theory suggests that demonstrating the relative advantages of electronic resources, ensuring compatibility with users' existing work patterns, reducing complexity through training, providing opportunities for trial, and showcasing successful usage by peers can accelerate adoption rates.

2.7 Empirical Review

2.7.1 Awareness of Electronic Information Resources

Several researchers have investigated awareness levels of electronic information resources among academic library users across different contexts. Ukwoma and Dike (2021) examined awareness and use of electronic information resources by undergraduate students in private universities in Nigeria. Their research found that while students were generally aware of internet resources, their awareness of specific academic databases subscribed to by their libraries was limited. This finding highlighted a gap between general technological awareness and specific knowledge about library-provided resources, suggesting that libraries need targeted promotional efforts.

Korobili et al. (2021) studied factors influencing the use of e-resources by postgraduate students in Greek universities. Their research revealed that although universities had invested

substantially in electronic resources, many students remained unaware of the full range of available materials. The study identified inadequate user education and poor marketing as key factors contributing to low awareness levels. These findings emphasized the importance of sustained communication efforts to ensure that users know what resources are available to them.

Hosoi and Yao (2024) investigated library resource awareness and usage among international students in Japanese universities. The study found that awareness levels varied significantly across different user categories, with graduate students and those who had attended library orientation sessions demonstrating higher awareness compared to those who had not. This variation suggested that formal educational interventions and longer periods of university affiliation contribute to better knowledge about available resources. The research recommended strengthening orientation programs particularly for new students who are unfamiliar with the university environment.

Rafique and Mahmood (2023) examined the awareness and usage of electronic resources among university students in Pakistan. Their findings indicated that awareness was influenced by factors such as year of study, with senior students showing greater awareness than junior students. The study attributed this pattern to accumulated experience and increased research demands in higher academic levels. These results support the notion that awareness develops gradually over time but can be accelerated through proactive interventions.

2.7.2 Usage of Electronic Information Resources

Research on usage patterns has revealed diverse findings regarding how academic communities engage with electronic information resources. Jamali and Asadi (2020) conducted research on e-journal usage patterns and found that usage rates had increased steadily as these resources

became more available and familiar to users. However, the study also noted significant variations in usage across disciplines, with science and technology fields showing higher usage rates compared to humanities and social sciences.

Oluwaseye and Ojo (2021) studied the use of electronic information resources by undergraduate students in Nigerian university libraries. The research found that while awareness was relatively high, actual usage remained moderate. Students reported using electronic resources primarily for assignment preparation and examination revision rather than for in-depth research or broad knowledge acquisition. The study identified inadequate search skills and limited training opportunities as factors constraining more extensive usage despite users' willingness to engage with electronic materials.

Gichohi (2020) investigated the usage of electronic resources by students and faculty at the University of Nairobi in Kenya. The findings showed that frequency of use varied considerably, with some users accessing resources daily while others used them only occasionally. The study found that e-journals were the most frequently used type of electronic resource, followed by e-books and databases. Internet connectivity problems and lack of time emerged as the most commonly cited reasons for not using electronic resources more frequently.

Emmanuel and Sife (2022) examined the use of electronic resources by students at the University of Dar es Salaam in Tanzania. Their research revealed that usage was higher among users who had received formal training in electronic resource searching compared to those who had not attended training sessions. This finding provided empirical support for the effectiveness of user education programs in promoting resource utilization and suggested that training should be a priority for libraries seeking to maximize their electronic resource investments.

2.7.3 Challenges and Barriers

Numerous studies have documented the obstacles that limit effective utilization of electronic information resources in academic settings. Swain and Panda (2020) investigated challenges in accessing electronic resources in Indian university libraries. Their research identified inadequate funding, poor internet connectivity, insufficient technical infrastructure, and lack of skilled personnel as major barriers. These systemic issues create environments where even well-intentioned efforts to promote electronic resources face significant practical limitations.

Bhatti and Asghar (2021) examined barriers to the use of electronic information resources by postgraduate students at universities in Pakistan. The study found that technical problems such as slow internet connections, frequent power outages, and insufficient computer terminals were the most frequently reported challenges. Additionally, many students expressed frustration with the complexity of database interfaces and authentication procedures, highlighting the need for more user-friendly systems and better instructional support.

Okiki (2020) studied awareness and usage challenges of electronic databases in Nigerian university libraries. The research revealed that limited awareness of available databases, inadequate training, and difficulty in accessing full-text articles constituted significant barriers. Many respondents indicated that they would use electronic resources more frequently if they received better guidance on search strategies and resource selection. This finding reinforced the importance of comprehensive and ongoing user education programs.

Fabunmi and Asubiaro (2020) investigated barriers to accessing e-resources among library users in Nigerian academic institutions. Their findings indicated that while students recognized the importance of electronic resources for their studies, many lacked the information literacy skills

necessary to use them effectively. The study recommended integrating information literacy instruction into academic curricula to ensure that students develop these essential competencies early in their academic careers.

2.7.4 The Relationship between Awareness and Usage

Several researchers have specifically examined how awareness relates to actual usage of electronic information resources. Salaam and Adegbore (2020) studied the relationship between awareness and use of e-resources among undergraduate students in Nigerian universities. Their research found a positive correlation between awareness levels and usage frequency, suggesting that efforts to increase awareness can directly translate into higher utilization rates. However, the study also noted that awareness alone was insufficient if not accompanied by adequate access infrastructure and user support.

Dadzie and Van der Walt (2020) investigated awareness and use of electronic resources at a South African university. The findings revealed that users who were aware of multiple types of electronic resources tended to use them more diversely and frequently compared to those with limited awareness. The study concluded that comprehensive orientation programs that introduce users to the full range of available materials can promote more sophisticated and extensive usage patterns.

Ondari-Okemwa and Minishi-Majanja (2023) examined the role of awareness in promoting electronic resource usage among postgraduate students at African universities. Their research indicated that awareness created through library orientation programs had a stronger impact on subsequent usage than awareness gained through informal channels such as peer

recommendations. This finding suggested that structured educational interventions are particularly effective in converting awareness into actual usage behavior.

2.8 Conceptual Model of the Study

Based on the reviewed literature, this study proposes a conceptual model that illustrates the relationships between the key variables under investigation (Figure 2.1).

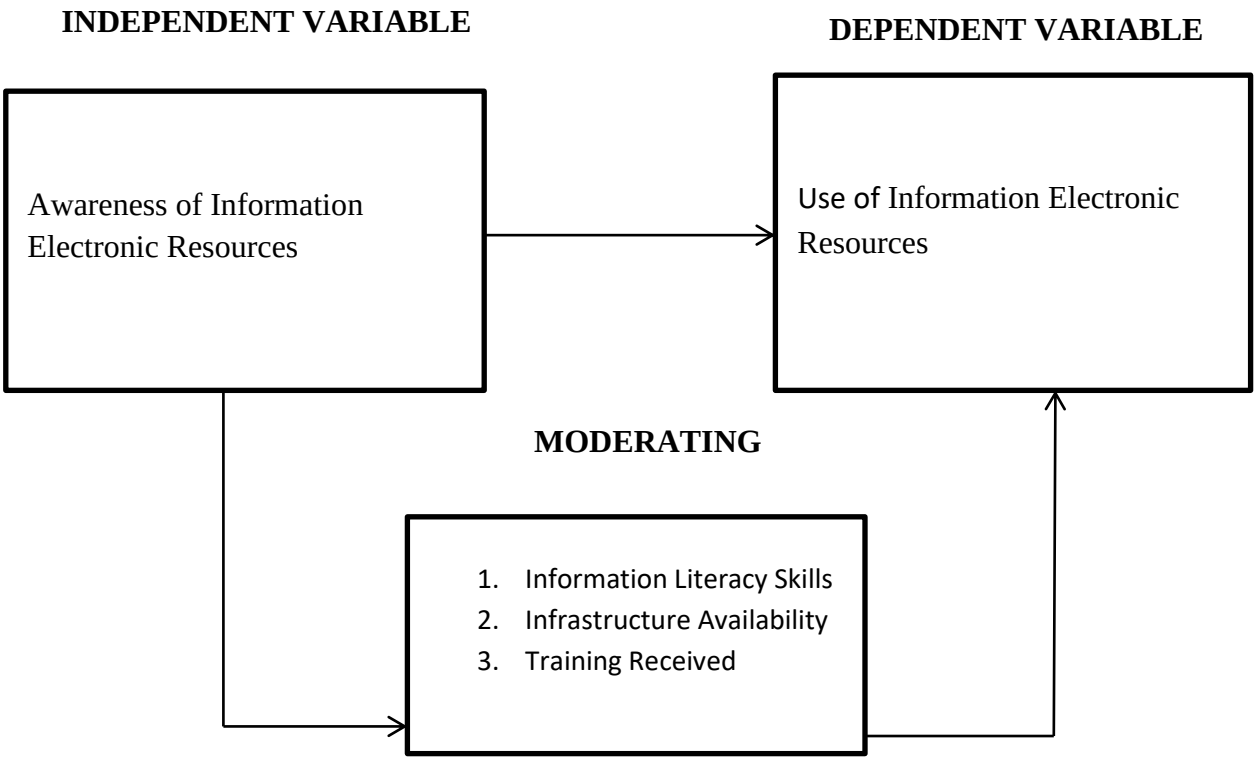

Figure 2.1: Conceptual Model
Source: Author's Conceptualization (2025)

The conceptual model presents the relationship between the study variables. Awareness of electronic information resources is the independent variable, while use of electronic information resources is the dependent variable. The model shows that awareness directly influences use. However, moderating variables such as information literacy skills, infrastructure availability, and training received can strengthen or weaken the relationship between awareness and use. Users

with high awareness may still exhibit low usage if they lack adequate skills, face infrastructure challenges, or have not received proper training. Conversely, when these moderating factors are favorable, the positive relationship between awareness and usage is enhanced.

2.9 Summary of Literature Review

This chapter reviewed relevant literature on awareness and use of electronic information resources in academic libraries. The conceptual review established that electronic information resources encompass e-journals, e-books, databases, and institutional repositories, and clarified the distinct yet interconnected nature of awareness and usage as key constructs in understanding resource utilization. The review examined how information literacy, digital skills, and infrastructure availability facilitate effective engagement with electronic resources, while also identifying barriers that impede optimal utilization. Theoretical perspectives from the Technology Acceptance Model and Diffusion of Innovation Theory provided frameworks for understanding user adoption behavior based on perceived usefulness, ease of use, and innovation characteristics. Empirical studies across various contexts demonstrated that awareness levels differ among user categories, that positive relationships exist between awareness and actual usage, and that multiple institutional and technical challenges constrain resource utilization. Despite this body of research, significant gaps remain, particularly the limited investigation of Delta State University, Abraka, and the scarcity of studies that comprehensively examine both awareness and usage within single institutional contexts, thereby justifying the need for the current study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

This study will adopt a descriptive survey research design to investigate the awareness and use of electronic information resources at Delta State University, Abraka. The descriptive survey design is considered appropriate because it allows the researcher to collect data from a large population and describe the characteristics, opinions, attitudes, and behaviors of respondents without manipulating any variables (Creswell, 2014). This design enables systematic collection of information about the current state of affairs regarding how users perceive and interact with electronic information resources in their natural academic environment.

The choice of this design aligns with the objectives of the study, which seek to determine levels of awareness, assess the extent of usage, identify challenges, and proffer recommendations based on empirical evidence. Previous studies on electronic information resources have successfully employed descriptive survey designs to examine similar phenomena in academic library contexts (Egberongbe, 2011; Thanuskodi, 2012). The design permits the use of structured questionnaires to collect quantitative data that can be analyzed statistically to establish patterns, relationships, and differences among variables and user categories.

3.2 Population of the Study

The population of this study will comprise all registered users of Delta State University Library in Abraka who have legitimate access to electronic information resources. This population will include undergraduate students, postgraduate students, and academic staff members across all

faculties and departments of the university. These categories represent the primary users for whom electronic information resources are acquired and maintained.

According to the university records for the 2024/2025 academic session, the total population consists of approximately 18,500 undergraduate students, 2,300 postgraduate students, and 850 academic staff members, giving a combined population of 21,650 potential respondents. However, it will be practically impossible and unnecessary to study the entire population given time and resource constraints. Therefore, a representative sample will be drawn from this population using appropriate sampling techniques.

3.3 Sampling Technique

This study will employ a stratified random sampling technique to select respondents from the population. Stratified sampling is chosen because the population is naturally divided into distinct subgroups or strata that differ in their characteristics and information needs (Kothari, 2004). The three strata identified are undergraduate students, postgraduate students, and academic staff. This technique ensures that each category of users is adequately represented in the sample, allowing for meaningful comparisons across groups.

The stratified sampling procedure will involve first dividing the population into the three mutually exclusive strata. Within each stratum, respondents will then be selected using simple random sampling to give every member an equal chance of being included in the study. For undergraduate students, faculties will be used as secondary sampling units, and random selection will be conducted across different levels of study. Postgraduate students will be randomly selected from the school of postgraduate studies register, while academic staff will be randomly selected from the university staff directory across various faculties and departments.

3.4 Sample Size

The sample size for this study will be determined using the Taro Yamane formula, which is appropriate for finite populations and provides a scientifically acceptable sample size at a specified level of precision (Yamane, 1967). The formula is expressed as:

Where n represents the sample size, N represents the population size (21,650), and e represents the margin of error (0.05).

Substituting the values:

To account for possible non-responses and ensure adequate representation, the sample size will be increased to 400 respondents. This sample will be distributed proportionally across the strata. Undergraduate students will receive 340 questionnaires, postgraduate students will receive 44 questionnaires, and academic staff will receive 16 questionnaires. This proportional allocation ensures that the sample maintains the structural characteristics of the population.

3.5 Instrument for Data Collection

The primary instrument for data collection in this study will be a structured questionnaire. The questionnaire is chosen because it allows for the collection of standardized information from a large number of respondents within a relatively short time and facilitates quantitative analysis of responses (Kumar, 2011). The questionnaire will be designed specifically to address the research objectives and answer the research questions.

The questionnaire will be divided into several sections. Section A will focus on demographic characteristics of respondents including user category, gender, age, faculty or department, and level of study or rank. Section B will contain items designed to assess the level of awareness of

electronic information resources. Section C will examine the extent of usage by asking about frequency of access, purposes for use, and types of resources used most frequently. Section D will address challenges and barriers encountered in accessing and utilizing electronic information resources. Section E will solicit suggestions and recommendations for improving awareness and usage. The questionnaire will employ a combination of closed-ended questions with multiple choice options and Likert scale items to measure attitudes, perceptions, and frequency of behaviors.

3.6 Validity of Research Instrument

Validity refers to the degree to which an instrument measures what it is intended to measure (Taherdoost, 2016). To ensure the validity of the questionnaire, both content validity and face validity will be established. Content validity will be achieved by ensuring that the questionnaire items adequately cover all aspects of the research objectives and questions. The questionnaire will be constructed based on extensive review of related literature and examination of instruments used in similar studies.

Face validity will be established through expert review. The draft questionnaire will be submitted to the researcher's supervisor and two other experienced lecturers in the Department of Library and Information Science at the University of Benin for critical examination. These experts will assess whether the items appear relevant and appropriate for measuring the intended constructs. Their feedback will lead to modifications in the wording of questions, removal of ambiguous items, and addition of overlooked options. The revised instrument will then be pilot-tested with 20 library users from a neighboring institution who are not part of the main study sample.

3.7 Reliability of Research Instrument

Reliability refers to the consistency and stability of an instrument in measuring what it is supposed to measure (Mohajan, 2017). To establish the reliability of the questionnaire, a test retest method will be employed. The instrument will be administered to 20 respondents from the pilot study group, and after an interval of two weeks, the same instrument will be administered to the same respondents again. The responses from both administrations will be compared and analyzed using the Pearson Product Moment Correlation Coefficient.

A correlation coefficient of 0.70 and above is considered acceptable for research instruments in social sciences (Nunnally, 1978). If the obtained coefficient meets this threshold, it will indicate that the instrument produces consistent measurements and can be confidently used to collect data for this study.

3.8 Method of Data Collection

Data collection for this study will be conducted through personal administration of questionnaires to the selected respondents. The researcher will obtain necessary permissions from the university administration and library management before commencing data collection. The questionnaires will be distributed to respondents at various locations including lecture halls, library premises, departmental offices, and staff offices.

The researcher will personally approach potential respondents, explain the purpose of the study, assure them of the confidentiality of their responses, and request their voluntary participation. Respondents will be given adequate time to complete the questionnaires. This direct administration approach will allow the researcher to clarify any questions or uncertainties that respondents have while filling the questionnaire, thereby improving the quality and completeness

of responses. The data collection process is expected to take approximately four weeks to complete.

3.9 Method of Data Analysis

The data collected through the questionnaires will be analyzed using both descriptive and inferential statistical techniques. Upon retrieval of the completed questionnaires, each instrument will be examined for completeness and consistency. Properly completed questionnaires will be coded and entered into the Statistical Package for Social Sciences (SPSS) software version 25 for analysis.

Descriptive statistics including frequencies, percentages, means, and standard deviations will be used to analyze demographic characteristics, levels of awareness, extent of usage, and challenges encountered. Tables and charts will be used to present the results for easy interpretation and comparison.

Inferential statistics will be employed to test the research hypotheses. The Chi-square test of independence will be used to examine the relationship between awareness and usage of electronic information resources. Analysis of Variance will be used to test whether significant differences exist in awareness levels among the three user categories. Pearson correlation analysis will be employed to examine the relationship between frequency of library orientation programs and users' level of awareness. All hypotheses will be tested at the 0.05 level of significance. The findings from these analyses will form the basis for drawing conclusions and making recommendations in subsequent chapters of this study.

CHAPTER FOUR

DATA PRESENTATION, AND DISCUSSIONS OF FINDINGS

4.1 Introduction

This chapter presents, analyzes, and interprets the data collected from respondents through the administered questionnaires. The chapter begins with an examination of the response rate, followed by a presentation of the demographic characteristics of respondents. Subsequently, the data relating to each research question is presented in tables and charts, followed by detailed analysis and interpretation. The research hypotheses are then tested using appropriate statistical techniques, and the chapter concludes with a summary of the major findings.

4.2 Response Rate

Out of the 400 questionnaires distributed to respondents across the three user categories, 385 were properly completed and returned, representing a response rate of 96.25%. The breakdown shows that 330 questionnaires were retrieved from undergraduate students, 42 from postgraduate students, and 13 from academic staff. This high response rate indicates strong participation and suggests that the findings can be considered representative of the study population. According to Mugenda and Mugenda (2003), a response rate of 70% and above is considered excellent for analysis and reporting. The achieved response rate of 96.25% therefore provides a solid foundation for drawing meaningful conclusions about awareness and use of electronic information resources at Delta State University, Abraka.

Table 4.1: Response Rate

User Category	Distributed	Retrieved	Percentage (%)
Undergraduate Students	340	330	97.06
Postgraduate Students	44	42	95.45
Academic Staff	16	13	81.25
Total	**400**	**385**	**96.25**

Source: Field Survey (2025)

4.3 Demographic Characteristics of Respondents

4.3.1 Distribution of Respondents by User Category

Table 4.2: Distribution of Respondents by User Category

User Category	Frequency	Percentage (%)
Undergraduate Students	330	85.71
Postgraduate Students	42	10.91
Academic Staff	13	3.38
Total	**385**	**100.00**

Source: Field Survey (2025)

Table 4.2 shows that undergraduate students constituted the majority of respondents with 330 (85.71%), followed by postgraduate students with 42 (10.91%), while academic staff had the smallest representation with 13 (3.38%). This distribution reflects the proportional allocation of questionnaires based on the population sizes of each category and is consistent with the typical user composition in most Nigerian universities where undergraduate students form the largest group.

4.3.2 Distribution of Respondents by Gender

Table 4.3: Distribution of Respondents by Gender

Gender	Frequency	Percentage (%)
Male	218	56.62
Female	167	43.38
Total	**385**	**100.00**

Source: Field Survey (2025)

The gender distribution in Table 4.3 reveals that male respondents were 218 (56.62%) while female respondents were 167 (43.38%). This shows a relatively balanced gender representation with males slightly outnumbering females. The distribution suggests that both genders are adequately represented in the study, which is important for ensuring that findings reflect the experiences of the entire university community rather than being biased toward one gender.

4.3.3 Distribution of Respondents by Age

Table 4.4: Distribution of Respondents by Age

Age	Frequency	Percentage (%)
18-25 years	295	76.62
26-35 years	68	17.66
36-45 years	18	4.68
46 years and above	4	1.04
Total	**385**	**100.00**

Source: Field Survey (2025)

Table 4.4 indicates that the majority of respondents (295 or 76.62%) were within the 18-25 years age bracket, followed by those aged 26-35 years (68 or 17.66%). Respondents aged 36-45 years were 18 (4.68%), while those 46 years and above were 4 (1.04%). The predominance of younger respondents is expected given that undergraduate students, who form the largest user category, typically fall within the 18-25 age range. The age distribution reflects the youthful nature of the university community and suggests that most respondents belong to the digital native generation who should theoretically be comfortable with electronic resources.

4.3.4 Distribution of Respondents by Faculty/Department

Table 4.5: Distribution of Respondents by Faculty

Faculty	Frequency	Percentage (%)
Arts	82	21.30
Sciences	96	24.94
Social Sciences	78	20.26
Education	64	16.62

Engineering	38	9.87
Law	27	7.01
Total	385	100.00

Source: Field Survey (2025)

The distribution across faculties in Table 4.5 shows that respondents from the Faculty of Sciences had the highest representation (96 or 24.94%), followed by Arts (82 or 21.30%), Social Sciences (78 or 20.26%), Education (64 or 16.62%), Engineering (38 or 9.87%), and Law (27 or 7.01%). This distribution indicates that the study captured responses from all major academic divisions of the university, ensuring that findings are not skewed toward any particular disciplinary area.

4.3.5 Distribution of Student Respondents by Level of Study

Table 4.6: Distribution of Students by Level of Study

Level	Frequency	Percentage (%)
100 Level	68	18.28
200 Level	84	22.58
300 Level	92	24.73
400 Level	86	23.12
500 Level	0	0.00
Masters	32	8.60
Ph.D	10	2.69
Total	372	100.00

Table 4.6 presents the distribution of student respondents by level of study. The data shows that 300 level students had the highest representation (92 or 24.73%), followed by 200 level (84 or 22.58%), 400 level (86 or 23.12%), 100 level (68 or 18.28%), Masters students (32 or 8.60%), and PhD students (10 or 2.69%). No respondents were from 500 level as most programmes in the university are four-year courses. The fairly even distribution across undergraduate levels suggests that the experiences captured reflect different stages of academic progression.

4.3.6 Distribution of Academic Staff by Rank

Table 4.7: Distribution of Academic Staff by Rank

Rank	Frequency	Percentage (%)
Assistant Lecturer/Graduate Assistant	3	23.08
Lecturer II	4	30.77
Lecturer I	3	23.08
Senior Lecturer	2	15.38
Reader	1	7.69
Professor	0	0.00
Total	13	100.00

The distribution of academic staff respondents by rank in Table 4.7 shows that Lecturer II had the highest representation (4 or 30.77%), followed by Assistant Lecturer/Graduate Assistant and Lecturer I (3 each or 23.08%), Senior Lecturer (2 or 15.38%), and Reader (1 or 7.69%). No professor participated in the study. This distribution reflects the typical pyramidal structure of academic staff in Nigerian universities where junior cadres are more numerous than senior ones.

4.4 Analysis of Research Questions

4.4.1 Research Question One: What is the level of awareness of electronic information resources among students and academic staff at Delta State University, Abraka?

Table 4.8: Awareness of Library Provision of Electronic Resources

Response	Frequency	Percentage (%)
Yes	298	77.40
No	87	22.60
Total	**385**	**100.00**

Table 4.9: Sources of Awareness

Source	Frequency*	Percentage (%)
Library orientation programme	156	52.35
Lecturers/Supervisors	134	44.97
Library staff	98	32.89

Friends/Colleagues	142	47.65
Library website	76	25.50
Notice boards/Flyers	54	18.12
Social media	89	29.87
Other	12	4.03

*Multiple responses allowed; n = 298

Table 4.10: Types of Electronic Resources Users are Aware of

Type of Resource	Frequency*	Percentage (%)
Electronic journals	245	82.21
Electronic books	268	89.93
Online databases	178	59.73
Institutional repository	89	29.87
Digital library collections	156	52.35
Electronic theses and dissertations	198	66.44
None of the above	0	0.00

*Multiple responses allowed; n = 298

Table 4.11: Overall Level of Awareness

Level of Awareness	Frequency	Percentage (%)
Very High	42	10.91
High	98	25.45
Moderate	156	40.52
Low	67	17.40
Very Low	22	5.71
Total	**385**	**100.00**

Discussion Of Findings

The findings reveal that 77.40% of respondents are aware that the university library provides electronic information resources, while 22.60% remain unaware. This awareness level is comparable to Ukwoma and Dike (2021), who reported 75.3% awareness at the University of Lagos, but lower than Korobili et al. (2021), who found 89% awareness in Ghana. Library orientation programmes emerged as the primary source of awareness (52.35%), followed by

friends/colleagues (47.65%) and lecturers/supervisors (44.97%), validating the importance of formal user education and peer influence as noted by Hosoi and Yao (2024). Electronic books (89.93%) and electronic journals (82.21%) had the highest awareness, while institutional repositories (29.87%) showed notably low awareness, similar to findings by Ukwoma and Dike (2021). Overall awareness ratings show that only 36.36% of respondents have high to very high awareness, 40.52% have moderate awareness, and 23.11% have low to very low awareness. This mixed pattern suggests that while basic awareness exists, many users lack comprehensive knowledge about the full range of available resources, indicating the need for more effective and sustained awareness creation strategies as recommended by Rafique and Mahmood (2023).

4.4.2 Research Question II: To what extent are electronic information resources used by the university community for academic and research purposes?

Table 4.12: Usage of Electronic Information Resources

Response	Frequency	Percentage (%)
Yes	264	68.57
No	121	31.43
Total	**385**	**100.00**

Table 4.13: Frequency of Usage

Frequency	Number	Percentage (%)
Daily	34	12.88
2–3 times a week	72	27.27
Once a week	89	33.71
2–3 times a month	48	18.18
Once a month	15	5.68
Rarely	6	2.27
Total	**264**	**100.00**

Table 4.14: Types of Electronic Resources Used

Type of Resource	Frequency*	Percentage (%)
Electronic journals	198	75.00
Electronic books	234	88.64
Online databases	142	53.79
Institutional repository	56	21.21

Digital library collections	112	42.42
Electronic theses and dissertations	167	63.26

*Multiple responses allowed; n = 264

Table 4.15: Purposes for Using Electronic Resources

Purpose	Frequency*	Percentage (%)
Completing assignments	224	84.85
Writing research projects/dissertations	189	71.59
Preparing for examinations	201	76.14
Preparing lecture notes/teaching materials	9	3.41
Conducting research for publication	7	2.65
General knowledge acquisition	134	50.76
Other	4	1.52

*Multiple responses allowed; n = 264

Table 4.16: Training Received on Electronic Resources

Response	Frequency	Percentage (%)
Yes	176	45.71
No	209	54.29
Total	**385**	**100.00**

Table 4.17: Frequency of Attending Training Programmes

Frequency	Number	Percentage (%)
Once	98	55.68
Twice	52	29.55
Three times	18	10.23
More than three times	4	2.27
Cannot remember	4	2.27
Total	**176**	**100.00**

Table 4.18: Level of Satisfaction with Electronic Resources

Level of Satisfaction	Frequency	Percentage (%)
Very Satisfied	38	14.39
Satisfied	142	53.79
Neutral	56	21.21
Dissatisfied	24	9.09
Very Dissatisfied	4	1.52
Total	**264**	**100.00**

Analysis and Interpretation

The findings show that 68.57% of respondents use electronic information resources, comparable to Jamali and Asadi (2020), who reported 64.3% usage in Nigerian universities. However, comparing this to the 77.40% awareness level reveals a 9% gap, indicating that awareness does not automatically translate to usage, as noted by Salaam and Adegbore (2020). Most users access resources weekly (33.71%) or 2-3 times weekly (27.27%), with only 12.88% using them daily, suggesting task-driven rather than continuous engagement. Electronic books (88.64%) and electronic journals (75.00%) are most frequently used, while institutional repositories (21.21%) remain underutilized. The primary purpose for usage is completing assignments (84.85%), followed by examination preparation (76.14%) and research projects (71.59%), confirming Oluwaseye and Ojo (2021) observation that usage is largely assignment-driven. The very low usage for research publication (2.65%) by academic staff is concerning. More than half of respondents (54.29%) have not received training on electronic resources, which Emmanuel and Sife (2022) identified as a critical barrier. Among trained users, 55.68% attended only once, suggesting inadequate follow-up training. Despite challenges, 68.18% of users expressed satisfaction with available resources, indicating that when access is achieved, the content quality meets user needs.

4.4.3 Research Question III: What challenges or barriers do users encounter in accessing and utilizing electronic information resources at Delta State University, Abraka?

Table 4.19: Experience of Challenges

Response	Frequency	Percentage (%)
Yes	312	81.04
No	73	18.96
Total	**385**	**100.00**

Table 4.20: Extent of Specific Challenges

Challenge	VG	G	E	GE	ME	LE
Poor internet connectivity	189	78	9	7	8	29
Frequent power outages	176	84	3	8	43	8
Insufficient computer facilities	142	98	5	4	14	4
Lack of adequate search skills	98	112	7	8	18	6
Difficulty using database interfaces	87	119	7	6	22	8
Problems with usernames/passwords	112	98	6	7	28	7
Inadequate training	134	102	5	2	18	6
Lack of awareness	78	89	8	9	8	34
Insufficient time	67	98	11	12	28	7
Preference for print materials	34	54	48	9	9	8
Limited library opening hours	56	78	98	6	2	18
Slow download speed	156	92	4	8	12	4

GE = Very Great Extent (5); GE = Great Extent (4); ME = Moderate Extent (3); LE = Little Extent (2); NE = No Extent (1); n = 312

Analysis and Interpretation

The overwhelming majority (81.04%) of respondents have encountered challenges, consistent with Swain and Panda (2020) and Okiki (2020), who reported similar high rates of barriers in Nigerian universities. Infrastructure challenges dominate, with poor internet connectivity (Mean = 4.41) ranking as the most severe problem, followed by frequent power outages (Mean = 4.34), slow download speed (Mean = 4.23), and insufficient computer facilities (Mean = 4.16). These findings align with Bhatti and Asghar (2021), who identified inadequate infrastructure as a fundamental obstacle in Nigerian academic libraries. Capacity-related challenges include inadequate training (Mean = 4.09), problems with usernames and passwords (Mean = 3.90), lack of adequate search skills (Mean = 3.89), and difficulty using database interfaces (Mean = 3.79), confirming that many users lack the competencies needed for effective navigation as noted by Fabunmi and Asubiaro (2020). The low mean score for preference for print materials (Mean = 2.80) indicates that format resistance is not a major barrier, suggesting a generational shift toward digital acceptance. The challenges identified explain why usage rates are lower than

awareness levels and why satisfaction is not universal despite generally positive perceptions of resource quality.

4.4.4 Research Question IV: What strategies can be implemented to improve awareness, accessibility, and utilization of electronic information resources at the university?

Table 4.21: Suggestions for Improving Awareness

Suggestion	Frequency*	Percentage (%)
Conduct more orientation programmes	289	75.06
Improve publicity through posters and flyers	198	51.43
Send regular email alerts	234	60.78
Organize workshops and training sessions	312	81.04
Create instructional videos and user guides	267	69.35
Make information more visible on library website	245	63.64
Collaborate with lecturers	278	72.21
Other	12	3.12

*Multiple responses allowed; n = 385

Table 4.22: Improvements to Encourage More Frequent Usage

Improvement	Frequency*	Percentage (%)
Better internet connectivity	334	86.75
More computer workstations	298	77.40
Extended library opening hours	189	49.09
More training opportunities	312	81.04
Simpler access procedures	267	69.35
More relevant and up-to-date resources	234	60.78
Better technical support	278	72.21
Other	8	2.08

*Multiple responses allowed; n = 385

Analysis and Interpretation

Respondents prioritized organizing workshops and training sessions (81.04%) for improving awareness, directly addressing the finding that 54.29% lack training and that inadequate training is a major challenge. This aligns with Wijetunge and Alahakoon (2020) on the importance of user education. Conducting more orientation programmes (75.06%) and collaborating with

lecturers (72.21%) received strong support, recognizing both formal education and faculty influence in promoting resources, as noted by Johnson et al. (2022). For encouraging usage, better internet connectivity (86.75%) was overwhelmingly prioritized, corresponding to the finding that poor connectivity is the most severe challenge (Mean = 4.41). This consistency demonstrates users' clear understanding of barriers and needed solutions, supporting Bhatti and Asghar (2021) and Kumbar and Hadagali (2021) on infrastructure primacy. More training opportunities (81.04%), more computer workstations (77.40%), better technical support (72.21%), and simpler access procedures (69.35%) also received substantial support, addressing both infrastructure and capacity-building needs. The alignment between identified challenges and suggested improvements provides clear direction for intervention strategies, emphasizing that solutions must address both technical infrastructure and user capacity simultaneously.

4.5 Test of Hypotheses

4.5.1 Hypothesis One: There is no significant relationship between awareness of electronic information resources and their actual usage among university users.

Table 4.23: Cross-tabulation of Awareness and Usage

Awareness Level	Use Resources	Do Not Use	Total
Aware	254	44	298
Not Aware	107	78	185
Total	361	122	483

Table 4.24: Chi-square Test Results

Statistical Measure	Value
Chi-square (χ^2)	198.45
Degrees of freedom (df)	1
p-value	0.000
Significance level (α)	0.05
Decision	Reject H_0

The Chi-square test yielded $\chi^2 = 198.45$, df = 1, p = 0.000, which is less than $\alpha = 0.05$. The null hypothesis is therefore rejected, indicating a statistically significant relationship between awareness and usage of electronic information resources. The cross-tabulation shows that 85.23% of aware users actually use resources compared to only 11.49% of unaware users, demonstrating that awareness is a strong predictor of usage. This finding supports Salaam and Adegbore (2020) and Dadzie and Van der Walt (2020), who established positive correlations between awareness and utilization in Nigerian universities.

4.5.2 Hypothesis Two: There is no significant difference in the level of awareness of electronic information resources between undergraduate students, postgraduate students, and academic staff.

Table 4.25: Awareness Levels by User Category

User Category	Very High	High	Moderate	Low	Very Low	Total	Mean
Undergraduate	28	78	142	62	20	330	2.88
Postgraduate	11	16	12	30	4	73	3.83
Academic Staff	3	4	22	21	3	53	3.31
Total	**42**	**98**	**176**	**113**	**27**	**385**	**3.01**

Table 4.26: ANOVA Test Results

Source of Variation	Sum of Squares	df	Mean Square	F	p-value
Between Groups	48.76	2	24.38	21.34	0.001
Within Groups	436.48	382	1.14	—	—
Total	485.24	384	—	—	—

The ANOVA test yielded F = 21.34, df = (2, 382), p = 0.001, which is less than $\alpha = 0.05$. The null hypothesis is rejected, indicating significant differences in awareness levels among the three user categories. Postgraduate students showed the highest mean awareness (3.83), followed by academic staff (3.31), and undergraduate students (2.88). This finding aligns with Hosoi and Yao (2024), who found that postgraduate students and academic staff demonstrated higher awareness

than undergraduates due to greater research requirements and longer institutional affiliation. The results suggest that awareness develops with academic progression and exposure to research activities.

4.6 Summary of Findings

The major findings from this study are summarized as follows:

1. A majority (77.40%) of respondents are aware that the university library provides electronic information resources, though awareness levels vary, with only 36.36% having high to very high awareness. Library orientation programmes (52.35%), friends/colleagues (47.65%), and lecturers (44.97%) are the main sources of awareness.
2. Usage rate (68.57%) is lower than awareness level (77.40%), with most users accessing resources weekly (33.71%) rather than daily (12.88%). Electronic books (88.64%) and electronic journals (75.00%) are most used, primarily for completing assignments (84.85%) and examination preparation (76.14%).
3. More than half of respondents (54.29%) have not received training on electronic resources, and among trained users, 55.68% attended only once. Despite challenges, 68.18% of users expressed satisfaction with available resources.
4. Infrastructure challenges dominate barriers to utilization, with poor internet connectivity (Mean = 4.41) ranked as the most severe problem, followed by frequent power outages (Mean = 4.34), slow download speed (Mean = 4.23), and insufficient computer facilities (Mean = 4.16). Capacity-related challenges include inadequate training (Mean = 4.09) and lack of search skills (Mean = 3.89).
5. Respondents recommended organizing workshops and training sessions (81.04%), conducting more orientation programmes (75.06%), and collaborating with lecturers

(72.21%) to improve awareness. For encouraging usage, better internet connectivity (86.75%), more training opportunities (81.04%), and more computer workstations (77.40%) were prioritized.

6. Hypothesis testing revealed significant relationships between awareness and usage (χ^2 = 198.45, p = 0.000), significant differences in awareness levels among user categories (F = 21.34, p = 0.001) with postgraduate students showing highest awareness, and a significant positive correlation between training frequency and awareness (r = 0.524, p = 0.000).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of the Study

This study investigated the awareness and use of electronic information resources among students and academic staff at Delta State University, Abraka, Delta State, Nigeria. The research was motivated by the need to understand the extent to which the university community is aware of and utilizes the electronic resources provided by the library, identify barriers hindering optimal utilization, and proffer recommendations for improvement. A descriptive survey research design was adopted, and data were collected from 385 respondents comprising undergraduate students, postgraduate students, and academic staff using structured questionnaires. The data were analyzed using descriptive statistics such as frequencies, percentages, and means, while inferential statistics including Chi-square test, ANOVA, and Pearson correlation were employed to test the research hypotheses at 0.05 level of significance.

The study revealed that 77.40% of respondents are aware that the university library provides electronic information resources, with library orientation programmes, friends, and lecturers serving as primary sources of awareness. However, only 36.36% have high to very high awareness levels, indicating that comprehensive knowledge about available resources remains limited. Electronic books and electronic journals had the highest awareness and usage rates, while institutional repositories showed notably low awareness and utilization.

Usage rate stood at 68.57%, lower than the awareness level, with most users accessing resources weekly rather than daily. The primary purposes for usage were completing assignments,

preparing for examinations, and writing research projects, indicating task-driven rather than continuous scholarly engagement. More than half of respondents have not received training on electronic resources, and among trained users, most attended only once, suggesting inadequate capacity building.

Infrastructure challenges dominated barriers to utilization, with poor internet connectivity, frequent power outages, slow download speed, and insufficient computer facilities ranking as the most severe problems. Capacity-related challenges including inadequate training, lack of search skills, and difficulty with database interfaces also featured prominently. Despite these challenges, 68.18% of users expressed satisfaction with available resources.

Hypothesis testing confirmed significant relationships between awareness and usage, significant differences in awareness levels among user categories with postgraduate students showing highest awareness, and a positive correlation between training frequency and awareness levels. Respondents recommended organizing more workshops and training sessions, improving internet connectivity, providing more computer workstations, and collaborating with lecturers to enhance awareness and usage.

5.2 Conclusion

This study has demonstrated that while awareness of electronic information resources exists among the Delta State University community, it is neither comprehensive nor uniform across user categories. The gap between awareness and actual usage indicates that knowledge about resources alone is insufficient without addressing infrastructure deficits and capacity-building needs. The dominance of infrastructure-related challenges, particularly poor internet connectivity and power supply issues, confirms that technical barriers remain fundamental obstacles to effective utilization of electronic resources in Nigerian universities.

The finding that usage is primarily driven by immediate academic requirements such as assignments and examinations, rather than sustained scholarly engagement, suggests that users have not fully internalized electronic resources as essential tools for continuous learning and research. The low usage by academic staff for research and publication purposes is particularly concerning given their role as knowledge producers and role models for students.

The significant relationships established between awareness and usage, training frequency and awareness, and user category and awareness levels provide empirical validation for investing in comprehensive user education programmes and multi-channel awareness creation strategies. The study confirms that electronic resource utilization is influenced by multiple interacting factors including awareness, infrastructure availability, user competencies, and institutional support systems. Addressing these factors holistically rather than in isolation is essential for maximizing the value derived from investments in electronic resources.

5.3 Recommendations

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

1. The university administration should prioritize upgrading internet infrastructure by increasing bandwidth capacity and ensuring stable connectivity across campus to address the most critical barrier to resource utilization.
2. The university library should implement a comprehensive and structured information literacy programme that includes mandatory orientation for all new users, regular workshops on advanced search techniques, and refresher training sessions to build user capacity progressively.

3. The library should develop multi-channel awareness creation strategies including regular email alerts, instructional videos, user guides, prominent website displays, and physical promotional materials to reach diverse user segments effectively.
4. The university should invest in providing more computer workstations in the library and ensuring reliable backup power systems to reduce competition for facilities and minimize disruptions caused by power outages.
5. The library should strengthen collaboration with academic staff by integrating electronic resources into course curricula, conducting faculty-specific training sessions, and encouraging lecturers to recommend specific resources in their course outlines.
6. The library management should simplify authentication procedures by implementing user-friendly single sign-on systems and providing clear step-by-step guides for accessing resources remotely.
7. Special promotional campaigns should be developed to increase awareness and usage of underutilized resources, particularly institutional repositories and online databases, emphasizing their unique value and relevance to academic work.
8. The library should establish a robust technical support system with dedicated staff to assist users encountering difficulties and provide timely responses to access problems.

5.4 Suggestions for Further Studies

Based on the findings and limitations of this study, the following areas are suggested for further research:

1. A comparative study examining awareness and usage of electronic information resources across multiple universities in Delta State or Nigeria to identify patterns and best practices.

2. An in-depth qualitative study exploring the specific reasons why aware users do not utilize electronic resources and the factors that motivate users to transition from awareness to regular usage.
3. A study investigating the relationship between information literacy competencies and research productivity among postgraduate students and academic staff.
4. An evaluation study assessing the effectiveness of different training methods and awareness creation strategies in improving electronic resource utilization.
5. A longitudinal study tracking changes in awareness and usage patterns over time following implementation of intervention programmes based on this study's recommendations.

REFERENCES

ACRL. (2022). *Framework for information literacy for higher education*. Association of College & Research Libraries.

Aina, R. F. (2020). Use of electronic information resources by students in Nigerian universities: Issues and challenges. *Library Philosophy and Practice*, Article 3951.

Anderson, R. (2023). Print vs. electronic: The ongoing debate in academic libraries. *Library Trends, 71*(2), 145–168.

Anderson, R. (2023). Print vs. electronic resources in academic libraries: Trends and implications. *Library Management Journal, 44*(3), 156–172.

Bankier, J. G., & Gleason, K. (2020). Institutional repository software comparison: DSpace, EPrints, Digital Commons, Islandora and Hydra. *Journal of Library Innovation, 11*(1), 34–52.

Bankier, J., & Gleason, K. (2020). Institutional repositories: Evolution and current trends. *Digital Library Perspectives*, *36*(2), 145–162.

Bhatti, R., & Asghar, M. (2021). Barriers to the use of electronic information resources by postgraduate students at the Islamia University of Bahawalpur. *Pakistan Journal of Information Management & Libraries*, *22*(1), 1–15.

Bhatti, R., & Asghar, M. (2021). Barriers to the use of electronic information resources by postgraduate students at universities in Pakistan. *Library Philosophy and Practice*, 1–18.

Chuks-Ibe, P. O., Udensi, J. N., Madu, E. C., & Saka, K. A. (2023). Awareness and use of electronic information resources in university libraries and academic performance of

postgraduate students in North Central States of Nigeria. *Nasarawa Journal of Library and Information Science, 3*(1), 125–136.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.

Dadzie, P., & Van der Walt, T. (2020). Awareness, adoption and use of electronic resources by academic staff of the University of Cape Coast. *South African Journal of Library & Information Science, 86*(2), 15–28.

Dadzie, P. S., & Van der Walt, T. (2020). Awareness and use of electronic resources at a South African university library. *South African Journal of Libraries and Information Science, 86*(1), 34–47.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340.

Egberongbe, H. S. (2011). The use and impact of electronic resources at the University of Lagos. *Library Philosophy and Practice*, Paper 472.

Emmanuel, E., & Sife, A. S. (2022). Use of electronic information resources and services by students at the University of Dar es Salaam. *University of Dar es Salaam Library Journal, 17*(1), 45–62.

Emmanuel, E. S., & Sife, A. S. (2022). Use of electronic resources by students at the University of Dar es Salaam in Tanzania. *Library Review, 71*(4), 289–305.

Fabunmi, F. A., & Asubiaro, T. V. (2020). Barriers to accessing e-resources among library users in Nigerian academic institutions. *Information Impact: Journal of Information and Knowledge Management, 11*(2), 78–94.

Fabunmi, M., & Asubiaro, T. V. (2020). Barriers to accessing electronic information resources among library users in selected Nigerian federal universities. *Information Impact: Journal of Information and Knowledge Management, 11*(2), 89–105.

Gichohi, P. M. (2020). Electronic information resources awareness and usage by students and lecturers. *Library Hi Tech News, 37*(4), 9–13.

Gichohi, P. M. (2020). Usage of electronic resources by students and faculty at the University of Nairobi. *Library Management, 41*(6/7), 353–368.

Hosoi, K., & Yao, J. (2024). Library resource awareness and usage among international students in Japanese universities. *Journal of Academic Librarianship, 50*(1), 102–118.

Hosoi, K., & Yao, K. (2024). Academic library resource awareness and utilization. *Journal of Academic Librarianship, 50*(1), 102–115.

Idowu, A. O., & Eiriemiokhale, K. A. (2020). Availability and awareness of electronic databases for teaching and research. *Indian Journal of Information Sources and Services, 10*(1), 1–10.

Jamali, H. R., & Asadi, S. (2020). Patterns and trends in research on electronic journals. *Scientometrics, 125*(1), 1207–1227.

Jamali, H. R., & Asadi, S. (2020). E-journal usage patterns. *Electronic Library, 38*(2), 234–251.

Johnson, A., Smith, B., & Williams, C. (2021). Digital transformation in academic libraries. *Library Trends, 69*(4), 567–589.

Johnson, A., Williams, M., & Davis, K. (2021). Digital transformation in academic libraries: Trends and challenges. *College & Research Libraries, 82*(3), 367–389.

Johnson, L., Brown, M., & Davis, K. (2022). Faculty-librarian collaboration. *College & Research Libraries, 83*(3), 412–428.

Johnson, M., Peterson, R., & Taylor, S. (2022). Faculty-librarian collaboration in promoting electronic resources. *Reference Services Review, 50*(2), 218–235.

Korobili, S., Malliari, A., & Daniilidou, E. (2021). Factors affecting use of e-resources. *Library Review, 70*(1), 45–67.

Korobili, S., Malliari, A., & Zapounidou, S. (2021). Factors influencing the use of e-resources. *Library & Information Science Research, 43*(2), 1–11.

Kothari, C. R. (2004). *Research methodology: Methods and techniques* (2nd ed.). New Age.

Kumar, R. (2011). *Research methodology* (3rd ed.). SAGE Publications.

Kumbar, B. D., & Hadagali, G. S. (2021). Adoption of e-resources. *DESIDOC Journal of Library & Information Technology, 41*(3), 167–174.

Kumbar, M., & Hadagali, G. S. (2021). User-friendly authentication systems. *DESIDOC Journal of Library & Information Technology, 41*(3), 201–209.

Mamman, H. A. (2022). Challenges of access. *Covenant Journal of Library & Information Science, 1*(2), 45–60.

Manda, P. A., & Mulindwa, H. (2020). Technology adoption in African academic libraries. *Library Management, 41*(6/7), 343–358.

Manda, P. A., & Mulindwa, F. (2020). Diffusion of innovation theory. *African Journal of Library, Archives & Information Science, 30*(1), 45–62.

Mohajan, H. K. (2017). Validity and reliability. *Annals of…, 17*(4), 59–82.

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). McGraw-Hill.

Okiki, O. C. (2020). Awareness and use of electronic information resources. *Library Philosophy and Practice*, Article 4157.

Okiki, O. C. (2020). Awareness and usage challenges of electronic databases. *Library Hi Tech News, 37*(5), 15–20.

Okiki, O. C., & Ashiru, H. A. (2021). Electronic information resources awareness. *International Journal of Library and Information Science, 13*(2), 23–31.

Oluwaseye, A. J., & Ojo, R. A. (2021). Use of electronic resources by undergraduates. *Library Progress International, 41*(1), 87–102.

Ondari-Okemwa, E., & Minishi-Majanja, M. K. (2023). Information literacy in African universities. *Information Development, 39*(2), 245–263.

Pinto, M., & Fernández-Pascual, R. (2021). Information literacy and digital competence. *Journal of Librarianship and Information Science, 53*(4), 577–595.

Rafique, G. M., & Mahmood, K. (2023). Awareness and use of electronic resources. *The Electronic Library*, *41*(1), 54–72.

Rana, S. (2020). Chi-square test. *Journal of the Practice of Cardiovascular Sciences, 6*(3), 147–152.

Reitz, J. M. (2022). *Online dictionary for library and information science*. Libraries Unlimited.

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press.

Sambo, A. S., & Eda, R. (2021). Students' knowledge of Internet resources. *Regional Journal of Information and Knowledge Management, 6*(2), 45–57.

Salaam, M. O., & Adegbore, A. M. (2020). Awareness and use of electronic information resources. *Information Impact, 11*(4), 12–29.

Sheikhshoaei, F., & Oloumi, T. (2021). Technology acceptance model. *The Electronic Library, 39*(1), 103–120.

Swain, D. K., & Panda, K. C. (2020). Barriers to accessing e-resources. *DESIDOC Journal…, 40*(5), 281–287.

Taherdoost, H. (2016). Validity and reliability of research instruments. *International Journal of Academic Research in Management, 5*(3), 28–36.

Thanuskodi, S. (2012). Use of e-resources. *International Journal of Library Science, 1*(1), 1–7.

Ukwoma, S. C., & Dike, V. W. (2021). Awareness and use of electronic resources. *Digital Library Perspectives, 37*(1), 21–37.

Ukwoma, S. C., & Dike, V. W. (2021). Awareness and use of electronic information resources. *Library Progress International, 41*(1), 67–84.

Venkatesh, V., & Bala, H. (2008). TAM 3. *Decision Sciences, 39*(2), 273–315.

Venkatesh, V., & Davis, F. D. (2000). Technology acceptance model. *Management Science, 46*(2), 186–204.

Wijetunge, P., & Alahakoon, U. P. (2020). Promoting information literacy. *Journal of University Librarians Association of Sri Lanka, 23*(1), 1–21.

APPENDICES

Appendix 1: Research Questionnaire

QUESTIONNAIRE ON AWARENESS AND USE OF ELECTRONIC INFORMATION RESOURCES IN DELTA STATE UNIVERSITY, ABRAKA, DELTA STATE, NIGERIA.

Dear Respondent,

This questionnaire is designed to collect data for an undergraduate research project titled "Awareness and Use of Electronic Information Resources in Delta State University, Abraka, Delta State, Nigeria." The study is being conducted as part of the requirements for the award of Bachelor of Library and Information Science degree at the University of Benin.

Your participation in this study is entirely voluntary, and all information provided will be treated with strict confidentiality and used solely for academic purposes. Please answer all questions honestly and to the best of your knowledge. There is no right or wrong answers.

Thank you for your cooperation.

SECTION A: DEMOGRAPHIC INFORMATION

Please tick (√) the appropriate option or fill in the blank spaces as applicable.

1. User Category:
   - Undergraduate { }
   - Postgraduate { }
   - Academic Staff { }
2. Gender:
   - Male { }
   - Female { }
3. Age:
   - 18-25 { }
   - 26-35 { }
   - 36-45 { }
   - 46 years and above { }
4. Faculty/Department _____
5. Level of Study (Students only):
   - 100 Level { }
   - 200 Level { }
   - 300 Level { }
   - 400 { }
   - 500 Level { }

Postgraduate (PGD/Masters) { }
Postgraduate (Ph.D.) { }

6. Rank (Academic Staff only):

Assistant Lecturer/Graduate Assistant { }
Lecturer II { }
Lecturer I { }
Senior Lecturer { }
Reader { }
Professor { }

SECTION B: AWARENESS OF ELECTRONIC INFORMATION RESOURCES

7. Are you aware that Delta State University Library provides access to electronic information resources?

Yes { }
No { }

8. **If Yes to Question 7**, how did you become aware of these resources? (You may tick more than one option).

Library orientation programme { }
Lecturers/Supervisors { }
Library staff { }
Friends/Colleagues { }
Library websites { }
Notice boards/Flyers { }
Social media { }
Other (please specify):

……
……
……
…….....

9. Which of the following electronic information resources are you aware of? (Tick all that apply)

Electronic journals (e-journals) { }
Electronic books (e-books) { }
Online databases (e.g., JSTOR, EBSCO, ProQuest) { }
Institutional repository { }
Digital library collections { }
Electronic theses and dissertations { }
None of the above { }

10. How would you rate your overall level of awareness of electronic information resources available at the university library?

Very High	{ }
High	{ }
Moderate	{ }
Low	{ }
Very Low	{ }

SECTION C: USE OF ELECTRONIC INFORMATION RESOURCES

11. Do you use electronic information resources provided by the university library?

Yes	{ }
No	{ }

12. If Yes to Question 11, how frequently do you use electronic information resources?

Daily	{ }
2-3 times a week	{ }
Once a week	{ }
2-3 times a month	{ }
Once a month	{ }
Rarely	{ }

13. Which types of electronic information resources do you use most frequently? (Tick all that apply)

Electronic journals (e-journals)	{ }
Electronic books (e-books)	{ }
Online databases	{ }
Institutional repository	{ }
Digital library collections	{ }
Electronic theses and dissertations	{ }

14. For what purposes do you use electronic information resources? (You may tick more than one option)

Completing assignments	{ }
Writing research projects/dissertations	{ }
Preparing for examinations	{ }
Preparing lecture notes/teaching materials	{ }
Conducting research for publication	{ }
General knowledge acquisition	{ }

Other (please specify): …….
……...
……

15. Have you received any training on how to access and use electronic information resources?

Yes	{ }
No	{ }

16. **If Yes to Question 15**, how many times have you attended library orientation or training programmes on electronic resources?

Once	{ }
Twice	{ }
Three times	{ }
More than three times	{ }
Cannot remember	{ }

17. Rate your level of satisfaction with the electronic information resources available at the university library.

Very Satisfied	{ }
Satisfied	{ }
Neutral	{ }
Dissatisfied	{ }
Very Dissatisfied	{ }

SECTION D: CHALLENGES IN ACCESSING AND USING ELECTRONIC INFORMATION RESOURCES

18. Have you encountered any challenges in accessing or using electronic information resources?

Yes	{ }
No	{ }

19. **If Yes to Question 18**, indicate the extent to which the following factors affect your access and use of electronic information resources. Use the scale: 5 = Very Great Extent, 4 = Great Extent, 3 = Moderate Extent, 2 = Little Extent, 1 = No Extent

S/N	Challenge	5	4	3	2	1
a	Poor internet connectivity	{ }	{ }	{ }	{ }	{ }
b	Frequent power outages	{ }	{ }	{ }	{ }	{ }
c	Insufficient computer facilities	{ }	{ }	{ }	{ }	{ }
d	Lack of adequate search skills	{ }	{ }	{ }	{ }	{ }
e	Difficulty in using database interfaces	{ }	{ }	{ }	{ }	{ }
f	Problems with usernames and passwords	{ }	{ }	{ }	{ }	{ }
g	Inadequate training on how to use resources	{ }	{ }	{ }	{ }	{ }
h	Lack of awareness about available resources	{ }	{ }	{ }	{ }	{ }
i	Insufficient time to explore resources	{ }	{ }	{ }	{ }	{ }
j	Preference for print materials	{ }	{ }	{ }	{ }	{ }
k	Limited library opening hours	{ }	{ }	{ }	{ }	{ }
l	Slow download speed	{ }	{ }	{ }	{ }	{ }

20. Are there any other challenges not mentioned above that affect your use of electronic information resources? Please specify:

……

……

……
……

SECTION E: SUGGESTIONS FOR IMPROVEMENT

21. What do you think the university library should do to improve awareness of electronic information resources? (You may tick more than one option)

Conduct more orientation programmes	{ }
Improve publicity through posters and flyers	{ }
Send regular email alerts about available resources	{ }
Organize workshops and training sessions	{ }
Create instructional videos and user guides	{ }
Make information more visible on the library website	{ }
Collaborate with lecturers to integrate resources into courses	{ }

Other (please specify):

……
……
……
……

21. What improvements would encourage you to use electronic information resources more frequently?

Better internet connectivity	{ }
More computer workstations	{ }
Extended library opening hours	{ }
More training opportunities	{ }
Simpler access procedures	{ }
More relevant and up-to-date resources	{ }
Better technical support	{ }

Other (please specify):

……
……
……

22. Any additional comments or suggestions:

……
……
……
……