

# PROVISION OF DIGITAL REFERENCE MATERIALS AND ITS UTILIZATION FOR RESEARCH BY FINAL YEAR UNDERGRADUATES IN LIBRARY AND INFORMATION SCIENCE

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**Abstract:** The study examined the utilization of digital reference materials and its utilization for research by final year undergraduates in the Department of Library and Information Science at Ignatius Ajuru University of Education (IAUE), Port-Harcourt, Rivers State. The study employed a descriptive survey approach. The population consisted of 160 final year students, and a sample size of 114 students was selected using random sampling techniques. Data was collected through a self-structured questionnaire. Analysis of the data involved frequency count, and simple percentages. The results highlighted that LIS undergraduates highly value and frequently utilize digital reference materials, especially e-books, e-journals, and e-databases. These materials are primarily used for academic purposes, research support, and for cost reduction. The study indicated a positive perception regarding the impact of using digital reference materials on research activities, emphasizing easy access to resources, improved efficiency, digital literacy skill development, staying updated with the latest research, and exposure to diverse perspectives. Key challenges in the use of digital reference materials include limited internet access, inadequate digital skills, and time constraints. Based on the findings, the researchers recommended that internet access should be improved, enhance digital skills of students through training, incorporating digital research skill courses, and promoting collaborative learning.

**Keywords:** Digital reference materials, utilization for research, Undergraduates, Library and Information Science

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## 1.0 Introduction

University libraries are academic libraries that are located on the campus of a university. The Association of College and Research Libraries (ACRL) defines a university library as "a library that supports the research, teaching, and learning needs of a university community" (ACRL, 2021) which includes the university's students, faculty, and general staff. University libraries provide access to a wide range of resources, including books, journals, electronic databases, and other materials that are relevant to the university's curriculum and research interests. In addition, university libraries also offer highly qualified and experienced librarians who specialize in providing various services to users (George et al., 2022). University libraries are often the focal point of academic life on campus, and they serve as a gathering place for students and faculty who are seeking knowledge and resources to support their academic pursuits. Overall, university libraries play a critical role in the academic community by providing access to information, fostering intellectual curiosity, and supporting the research and educational goals of the university.

Prior to this time, library collections primarily consisted of printed materials, but with the advent of digital technology, digital resources have grown rapidly, with new ones appearing frequently (Ogunbodede & Oribhabor, 2022). With the world rapidly evolving toward digital media and information, most university libraries are progressively stocking digital resources including digital reference materials, allowing students and faculty to access and use current and relevant materials for teaching, learning, and research. University libraries have increasingly embraced digital reference materials as an essential part of their collections and services. Digital reference materials refer to online resources that are accessible remotely by users, such as e-books, e-

journals, databases, and other electronic resources. The International Federation of Library Associations and Institutions (IFLA) defines digital reference materials as information resources in digital format that are available online and provide wide access to a wide range of information on various topics (IFLA, 2016). They include online databases, e-books, e-journals, and other digital resources. They are online resources that can be accessed anywhere and at any time (Fialkoff, 2016). Digital reference materials provide quick and easy access to information that can be trusted and relied upon.

The provision of digital reference materials refers to the availability of digital resources that can be used for reference purposes by postgraduate students. The provision of digital reference materials by university libraries involves offering access to a variety of electronic resources, such as databases, e-books, and e-journals, to support the academic and research needs of students, faculty, and researchers (Aguilar, 2019; Bawden & Robinson, 2016). University libraries typically subscribe to a variety of databases, which contain articles and other scholarly materials that are not available through free search engines (Mann, 2018). These databases may cover a range of disciplines, including the sciences, social sciences, humanities, and professional fields. In addition, libraries may also provide access to e-books and e-journals, which can be read online or downloaded onto devices for offline use (Bawden & Robinson, 2016). In providing digital reference materials, university libraries play a critical role in supporting teaching, learning, and research. These resources allow students and faculty to access up-to-date, high-quality information that may be otherwise difficult to find (Mann, 2018). They also help researchers stay current in their fields, and enable them to conduct more comprehensive and thorough research (Aguilar, 2019). Overall, the provision of digital reference materials by university libraries is an essential component of modern higher education, enabling scholars to access the information they need to succeed in their academic and research pursuits.

The utilization of digital reference materials refers to the process of using electronic resources such as e-books, e-journals, databases, and other online materials by postgraduate students for research purposes. According to Knievel & Kellsey (2019), the utilization of digital reference materials has revolutionized research and learning, providing access to a vast array of information sources from anywhere with an internet connection. Digital reference materials, such as e-books, e-journals, and databases, offer postgraduate students access to current, high-quality information that can support their research work (Lwoga, 2016). These resources are typically available remotely through the university library's website and require login credentials. Digital reference materials have become increasingly popular due to their accessibility, convenience, and availability of up-to-date information. Because digital reference materials are available online, they can be accessed from anywhere and at any time, which makes them incredibly convenient for postgraduate students who need to conduct research. In addition, digital reference materials often provide more current, accurate, and relevant information (Oyewusi & Adegboye, 2019) than print materials, which can quickly become outdated. They often offer advanced search capabilities that allow users to quickly and efficiently find the information they need. It also provides a wide range of multimedia content, including images, videos, and audio recordings, which can enhance the learning experience and make complex information easier to understand. Overall, the utilization of digital reference materials has significantly improved the research output of postgraduate students due to access to a wide range of relevant and reliable information that supported their research process (Venkatesh et al., 2019).

The provision of digital reference materials in university libraries in Nigeria has gained significant importance in recent years, as more and more postgraduate students rely on electronic resources for their research. University libraries in Nigeria have recognized the need to incorporate digital reference materials into their collections to support the research and learning activities of postgraduate students. As a result, most university libraries in Nigeria made significant investments in acquiring and providing digital reference materials to ensure that students have access to the necessary digital reference materials. They have worked to establish partnerships with publishers, database providers, and other content providers to ensure that they have access to the latest academic resources. For instance, the University of Lagos and the Ahmadu Bello University have partnered with several publishers and database or content providers such as JSTOR, Springer Link, Science Direct, Wiley, ProQuest, EBSCOhost, and Oxford University Press to provide access to e-journals and e-books (University of Lagos, 2021; Ahmadu Bello University, 2021). In addition to these partnerships, Nigerian universities have also received support from international organizations such as the World Bank and the Association of African Universities to improve their information and communication technology infrastructure and to enhance access to digital reference materials (Tella & Adewoye, 2018).

However, despite of the apparent availability of digital reference materials in university libraries in Nigeria and their benefits to university education, the researchers observed that most undergraduates make little or no use of digital resources provided by the university libraries. Some possible reasons for the lack of usage could be due

to inadequate computers, inconsistent power supply, poor Internet connectivity, lack of digital skills, and poor user experience among others. Adegbore & Adeyemo (2017) opined that there was an increase in the provision of digital reference materials in university libraries in Nigeria, but there were still challenges in accessing these materials due to poor Internet connectivity, insufficient funding, and inadequate infrastructure. Ndubuisi & Udo (2013) also noted that the effective utilization of digital reference materials by postgraduate library users in Nigeria appears to be hampered by different factors including insufficient computers with Internet facilities, incessant power outages, slow Internet connectivity, and lack of ICT skills, inadequate ICT infrastructure and difficulty in finding relevant information as militating against the utilization of digital resources by postgraduate students. This study, therefore, examines the provision of digital reference materials and its utilization for research by final year undergraduates in the department of library and information science at the Ignatius Ajuru University of Education, Port-Harcourt, Rivers State.

## **2.0 Statement of the Problem**

The provision of digital reference materials in Nigerian university libraries, particularly in the postgraduate departments, has transformed the research landscape for students. Access to online databases, e-books, and journals has expanded information accessibility and enhanced research quality, previously constrained by physical library limitations. Undergraduate students now conduct more comprehensive and current research, boosting the quality of their academic output. Additionally, exposure to various digital tools and technologies through digital reference materials has improved their research skills. Despite these advantages, undergraduate students face challenges in effectively utilizing digital reference materials. Insufficient computer facilities, inconsistent power supply, limited Internet connectivity, subpar user experiences, inadequate infrastructure, and a lack of technical skills hinder optimal usage. Addressing these challenges necessitates adequate funding for university libraries in Nigeria. Investment in digital infrastructure and comprehensive training programs for students and staff to maximize the potential of digital reference materials is crucial. By doing so, the utilization of these resources will increase, significantly contributing to knowledge generation and national development. This study focuses on examining provision of digital reference materials and its utilization for research by final year undergraduates in the department of library and information science at the Ignatius Ajuru University of Education, Port-Harcourt, Rivers State.

## **3.0 Objectives of the Study**

The main objective of the study is to investigate the provision of digital reference materials and its utilization by final year LIS undergraduates at the IAUE, Port-Harcourt, Rivers State. The specific objectives are:

- To find out the types of digital reference materials used by LIS postgraduate students at the IAUE library
- To ascertain the purpose for using the digital reference materials
- To determine the impact of the use of digital reference materials on their academic activities
- To examine the challenges in the use of digital reference materials at the IAUE library

## **4.0 Research Questions**

The following questions will guide the study:

- What are the types of digital reference materials used by LIS postgraduate students at the IAUE library?
- What are the purpose for using the digital reference materials?
- What are the impact of the use of digital reference materials on their research activities?
- What are the challenges in the use of digital reference materials at the IAUE library?

## **5.0 Literature Review**

Adeyinka et al. (2018) examined the perception and usage pattern of e-book among LIS undergraduate students from selected five universities. Questionnaire was used to collect data from the respondents. Five research questions were developed and answered. The findings demonstrate that LIS undergraduate students still use e-books more compare to print books. The results also reveal that LIS undergraduate students have positive perception of e-book as it enhance learning effectiveness, assist to finish course content/outline; makes reading faster; easy to use and with clear graphical illustrations. The usage pattern of e-books among LIS undergraduate students is majorly for research purpose and the majority is highly satisfied with reading e-books. The major problem encountered by the students with e-books is the difficulties reading on the computers or internet,

followed by the cost of e-book reader.

Mubofu (2019) did a study on the awareness, accessibility and factors hindering the utilization of e-journals at the Institute of Finance Management. The study established that the level of awareness of e-journal is high among both students and academic staff. Moreover, the study findings revealed that access to e-journals is mainly through common search engines such as Google, Yahoo and Mamma. Furthermore, the results revealed that the factors hindering students in utilizing electronic journals include: slow internet speed, unreliable power supply, and inadequate computer skills, inadequate number of computers in the library and complexity of database interface.

Sawyer-George et al. (2022) examined the utilization of open access journals by Library and Information Science (LIS) undergraduate at Delta State University, Abraka. The findings revealed that the students had a high level of awareness and a high level of usage of open access journals. From the test of the hypothesis, the study discovered that there is a significant relationship between the level of awareness and the use of open access journals. Hence, the student's level of awareness positively influenced the use of open access journals.

Ajala & Adetimirin (2018) did a study on user education, adjustment factors and use of online databases by postgraduate students in Nigeria. The findings revealed varying degrees of usage, perceived enjoyment and objective usability of online databases among the respondents. The study established a significant relationship between user education and use of online databases; perceived enjoyment and use of online databases; and objective usability and use of online databases. User education, perceived enjoyment and objective usability therefore influenced the use of online databases by the postgraduate students of the four universities.

Abubakar et al. (2021) conducted a study on the adoption and utilization of electronic databases by postgraduate students in selected Universities in North-central, Nigeria. The study found that Internet facility, e-journals, e-books, science direct, AGORA, DOAJ and TEEAL are the major e-databases available and accessible in selected libraries. The e-databases used on daily basis are Internet, e-books and e-journal while EMERALD, HINARI, EBSCOHOST, OARE, JSTOR and TEEAL are mostly accessed on yearly basis. The study identified poor interregional networking and Internet connection, high cost of e-databases, epileptic power supply and insufficient fund to subscribe to them as major challenges with the use of adopted e-databases.

Tella et al. (2016) examined the used and perception of open access electronic thesis and dissertation by undergraduate students of the University of Ilorin, Nigeria. A total of 375 students drawn from 15 faculties that made up the university represent the sample for the study. The results revealed that the use of open access electronic thesis and dissertation is very low and most of the respondents demonstrate limited awareness of the availability of the thesis and dissertation for research which negatively its use. Some of the challenges identified with the use of ETDS include lack of awareness of software and hardware for using ETDs, difficulties of access to computer and internet where ETDs can be retrieved, printed and downloaded, discomfort reading text on a computer screen and inadequate skills in using search engine to browse for ETDs online.

The literature collectively underlined the benefits of digital reference materials, including enhanced access to information, convenience, and improved research skills. It also highlighted challenges such as infrastructure limitations, inadequate training, and technological barriers that hinder effective utilization. Recommendations primarily focused on improving access, user education, and addressing technological challenges to enhance the utilization of digital reference materials for research purposes.

## **6.0 Methodology**

The study employed a descriptive survey design. The population of the study comprised 160 final year LIS students with a sample size of 114 but 83 students responded by filling out the questionnaire. The 83 students who responded to the questionnaire represent approximately 51% of the total population of 160 final year LIS students. Face and content validity testing, conducted by specialists in measurement, evaluation, and library and information science, ensured the questionnaire's appropriateness for the study. The instrument's reliability was confirmed with a Cronbach's alpha of 0.81. Data analysis was performed using frequency counts, simple percentages, and Statistical Product and Service Solutions (SPSS) version 23. The study's findings are presented in the tables below:

## **7.0 Research Questions**

The findings of this study are presented in the following tables according to the research questions.

### **7.1 Research Question 1**

What are the types of digital reference materials used by LIS undergraduate students at the IAUE library?

**Table 1: Digital Reference Materials Used by LIS Undergraduate Students**

S/N	Digital Reference Materials	SA	A	D	SD	Mean
1.	E-books	37	34	12	-	3.3
2.	E-journals	36	33	86		3.1
3.	E-databases	19	48	6	10	2.9
4.	E-thesis	18	35	10	20	2.6
5.	Online encyclopedias	25	28	10	20	2.6
	<b>Grand Mean</b>					<b>2.9</b>

Table 1 shows the digital reference materials used by LIS final year undergraduates at the IAUE library. Table 1, therefore shows that items 1-5 all have mean values that are above the criterion mean (2.5). More so, the grand mean (2.9) is greater than the criterion mean (2.5), indicating that undergraduate students in LIS value and frequently use digital reference materials, particularly e-books, e-journals, and e-databases. The results imply a positive overall perception and usage of digital reference materials among LIS undergraduate students at IAUE. The library and academic institution can leverage this information to tailor their digital resource offerings, allocate resources effectively, and improve the accessibility and quality of digital reference materials to meet the preferences and needs of the students.

**7.2 Research Question 2**

What are the purpose for using the digital reference materials?

**Table 2: Purpose for Using Digital Reference Materials**

S/N	Purpose for Using Digital Reference Materials	SA	A	D	SD	Mean
1.	To gain easy and instant access to a vast array of academic information	36	35	8	4	3.2`
2.	For research and academic support	41	30	6	6	3.2
3.	To reduce costs associated with purchasing physical books, journals, and other printed materials	36	35	8	4	3.2
4.	Access to current information resources	38	33	6	6	3.2
5.	For personal self-development	36	12	17	18	2.7
	<b>Grand Mean</b>					<b>3.1</b>

Table 2 shows the purpose for using the digital reference materials. Table 2, therefore shows that items 1-5 all have mean values that are above the criterion mean (2.5). More so, the grand mean (3.1) is greater than the criterion mean (2.5), indicating that the respondents highly value digital reference materials for academic purposes, research support, and cost reduction. While personal self-development is also seen as important, it is rated slightly lower than the other academic and research-related purposes. Overall, the findings emphasize the significance of digital reference materials in supporting educational and scholarly endeavours.

**7.3 Research Question 3**

What are the impact of the use of digital reference materials on undergraduate research activities?

**Table 3: Impact of the Use of Digital Reference Materials**

S/N	Impact of the Use of Digital Reference Materials	SA	A	D	SD	Mean
1.	Digital reference materials provide easy access to a vast array of academic resources, including journals, articles, books, and databases	52	10	13	8	3.2
2.	Digital reference materials allow researchers to swiftly search, filter, and retrieve relevant information, saving valuable time and improving research efficiency	41	16	22	4	3.1
3.	Using digital reference materials helps undergraduates develop critical digital literacy skills	36	22	16	9	3.0
4.	Access to the latest research findings, updates, and publications in real-time, enabling me to stay current	34	31	10	8	3.0
5.	Digital reference materials enable undergraduates to access research from around the world, exposing them to diverse perspectives and methodologies	39	20	7	17	2.9

<b>Grand Mean</b>					<b>3.0</b>
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Table 3 shows impact of the use of digital reference materials on undergraduate research activities. Table 3, therefore shows that items 1-5 all have mean values that are above the criterion mean (2.5). More so, the grand mean (3.0) is greater than the criterion mean (2.5), indicating an overall positive perception of the impact of using digital reference materials on undergraduate research activities, particularly in terms of easy access to resources, improved efficiency, development of digital literacy skills, staying updated with the latest research, and exposure to diverse perspectives.

**7.4 Research Question 4**

What are the challenges in the use of digital reference materials at the IAUE library?

**Table 4: Challenges in the Use of Digital Reference Materials**

S/N	Challenges	SA	A	D	SD	Mean
1.	Limited internet access and infrastructure	37	34	12	-	3.3
2.	Insufficient digital skills and literacy	33	38	8	4	3.2
3.	Time constraint	41	30	6	6	3.2
4.	Electricity and power supply issues	20	28	17	18	2.6
5.	Inadequate ICT training and education	16	41	10	16	2.6
	<b>Grand Mean</b>					<b>2.9</b>

Table 4 shows the challenges in the use of digital reference materials at the IAUE library. Table 4, therefore shows that items 1-5 all have mean values that are above the criterion mean (2.5). More so, the grand mean (2.9) is greater than the criterion mean (2.5), suggesting that the most significant challenges are limited internet access and infrastructure, followed closely by insufficient digital skills and literacy, and time constraints. Addressing these challenges through improved internet accessibility, digital literacy programs, and effective time management strategies is crucial for enhancing the use of digital reference materials by undergraduates in Nigeria.

**8.0 Discussion of findings**

The study examined the provision of digital reference materials and its utilization by LIS undergraduates at the IAUE, Port-Harcourt, Rivers State. Research question one revealed that undergraduate students in LIS value and frequently use digital reference materials, particularly e-books, e-journals, and e-databases. This align with the study conducted by Adeyinka et al. (2018) who found that the majority of the LIS students valued digital reference materials, and frequently used them. From research question two, the study discovered that digital reference

materials are used for academic purposes, research support, and cost reduction. This finding is in agreement with that of Faustino & Kaur (2023) who found that the most common reasons for using digital reference materials were for academic purposes, research support, and cost reduction. Research question three revealed that an overall positive perception of the impact of using digital reference materials on undergraduate research activities, particularly in terms of easy access to resources, improved efficiency, development of digital literacy skills, staying updated with the latest research, and exposure to diverse perspectives. This conforms to that of Adeyinka et al. (2018) who also found that students had an overall positive perception of the impact of using digital reference materials on their research. The most common benefits mentioned by students were easy access to resources, improved efficiency, development of digital literacy skills, staying updated with the latest research, and exposure to diverse perspectives. Research question four revealed that the most significant challenges are limited internet access and infrastructure, followed closely by insufficient digital skills and literacy, and time constraints. This finding is in agreement with that of Mubofu (2019) who found that the most common challenges were slow internet speed, unreliable power supply, and inadequate computer skills, inadequate number of computers in the library.

**9.0 Conclusion and Recommendations**

The study examined the digital reference material utilization by final year undergraduate Library and Information Science (LIS) students at IAUE. The study demonstrates a strong appreciation and frequent utilization of digital reference materials, including e-books, e-journals, and e-databases, among undergraduate students in Library and Information Science (LIS) at IAUE. These digital resources are primarily used for academic pursuits, research support, and cost-effectiveness. The findings highlight a positive perception

regarding the impact of digital reference materials on undergraduate research activities, enhancing easy access to resources, efficiency, digital literacy skills, staying updated with the latest research, and exposure to diverse perspectives. However, the study also identifies notable challenges, predominantly limited internet access and infrastructure, followed closely by insufficient digital skills and literacy, and time constraints. Overcoming these challenges is imperative to optimize the benefits of digital reference materials fully. Improving internet access, enhancing digital skills, and addressing time constraints are key areas that educational institutions, including IAUE, should focus on to better support undergraduate students in utilizing digital reference materials effectively and maximizing their academic potential. Based on the results obtained from the study, the researchers recommended that the university library should improve internet access, enhance digital skills through training, fostering time management, conducting awareness sessions, diversifying digital resources, incorporating digital research skill courses, and promoting collaborative learning. These efforts aim to empower students, optimize resource usage, and improve academic performance.

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