

PERCEIVED USEFULNESS AND EASE OF USE AS DETERMINANTS OF E-DATABASE UTILISATION BY UNDERGRADUATES OF PRIVATE UNIVERSITIES IN OSUN STATE, NIGERIA

Rashidat Taiwo Adeleke

University Library, Fountain University, Nigeria.
adeleker1980@gmail.com

Sirajudeen Femi Bakrin

University Library, Fountain University, Nigeria.
sf.bakrin@gmail.com

Abstract

This paper explores perceived usefulness and ease of use as a determinant of e-database utilisation by undergraduates of private universities in Osun State, Nigeria. It examines the influence of electronic databases as an advancement over the traditional print media and reiterates its relevance and essentiality in our world today, especially in the academic community, and how e-databases can be successfully used and accessed by undergraduate students. The study adopted the descriptive survey research design of correlational type. Finally, one of the recommendations of the study is that undergraduate students should be encouraged to make use of e-databases as they update their knowledge for academic purposes. The paper concludes on the fact that the benefits of e-database cannot be overemphasized and its perceived usefulness cannot be jettisoned as it deals with teaching, learning, research, and knowledge gathering.

Keywords: *Perceived Usefulness, Ease of use, E-Database utilisation, Undergraduates, Nigeria.*

Introduction

University students frequently encounter complex conditions that require them to exert significant effort in order to achieve a more comprehensive understanding of their courses or subjects, as well as broader knowledge acquisition. This becomes more problematic when they encounter a

scarcity of pertinent information sources. The provision of electronic information enables more efficient indexing and searching, hence streamlining the process of information retrieval for students (Mawere and Sai, 2018). Research is a significant aspect of higher education, necessitating the cultivation and integration of research abilities within academic institutions. This is crucial in order to foster the development of capable graduates who are actively committed to the continual acquisition of information, both for personal enrichment and professional advancement (Togia & Tsigilis, 2009).

In the present era, modern libraries and information centres have transitioned their information materials to a digital format, which is organized and stored within a comprehensive database. The proliferation of the internet and offline library databases has facilitated the widespread distribution of information on a worldwide scale, enabling individuals in remote locations to quickly access resources (Akpojotor, 2017). Electronic databases and e-resources have become essential instruments on a global scale for facilitating effective teaching, learning, and research. This has led to a shift away from the outdated traditional approach to teaching, in which the tutor is only relied upon as the primary source of reliable information. The prevailing pattern observed at universities, regardless of their level of development, involves the implementation of advanced electronic resources and databases. This enables users to effectively utilize and conveniently access electronic resources through

diverse channels. In recent years, there has been a significant increase in the creation and conversion of information resources into electronic formats compared to previous decades (Armstrong et al., 2001).

The perceived ease of use and perceived utility of the e-database will undeniably impact its adoption and utilisation. The term "perceived ease of use" holds significant importance within Davis' (1989) Technology Acceptance Model. The term "easy accessibility" pertains to the extent to which an individual perceives that utilizing a particular system requires minimal exertion. On the other hand, "perceived usefulness" relates to the extent to which an individual utilizes a given system to enhance their work performance. In order to enhance the acceptability and utilisation of electronic resources, it is imperative to gain insight into the decision-making processes employed by users when selecting and utilizing such resources. The assessment of perceived utility plays a crucial role in ascertaining students' inclination to utilize electronic databases. Conversely, the influence of information quality and system quality on behaviour and intention is entirely mediated by the perception of ease of use. Although there is a lack of available evidence regarding the perceived ease of use and usefulness of e-databases among students in Nigeria, universities have made persistent efforts to provide students and faculty with access to electronic information resources. This initiative aims to enhance the quality of education and research.

Statement of the problem

Electronic databases, also known as e-databases, are dynamic collections of digitized information. These databases contain various types of data, including bibliographic records, abstracts, full-text documents, directory entries, images, and statistics. They are organized in a standardized format to facilitate efficient searching and retrieval. E-databases are managed using specialized software called a database management system (DBMS) (Tanveer, 2012). The effectiveness of lecturers' instruction, scholarly pursuits, and engagement in community outreach within a university system may rely heavily on the calibre of the electronic database available for their utilisation. According to Tanveer (2012), the utilisation of electronic databases plays a crucial role in facilitating the teaching, research, and community service endeavors of lecturers and undergraduates within the Nigerian university system.

Nevertheless, it has been noted that private university undergraduates have a limited propensity for utilizing electronic databases. Based on empirical evidence, it may be posited that the limited utilisation of this service may be attributed to subpar internet connectivity, insufficient knowledge or awareness, and inadequate direction, among other factors. In addition, it is possible that consumers may not have optimal pleasure when utilizing e-databases, as they may encounter difficulties or find them to be less user-friendly. This assertion is based on elements that are linked to the perceived ease of use and perceived usefulness.

This study examines the relationship between reported ease of use, perceived usefulness, and the utilisation of e-databases among undergraduate students in private colleges.

The primary objective of this research is to investigate the perceived efficacy and convenience of the use of electronic databases, as well as to suggest potential strategies for enhancing the utilisation of e-databases among undergraduate students enrolled in private educational institutions located in Osun State. The objective of this study is to assess the perspectives of undergraduate students on the ease of use and usefulness of electronic databases and to determine if these perceptions can predict the utilisation of e-databases in private institutions located in Osun State.

Research Questions

- i. What are the purposes of using an E-database among undergraduate students of private universities in Osun?
- ii. Why do the undergraduate students of private universities in Osun state make use of e-database?
- iii. What are the challenges encountered while using e-database among undergraduate students of private universities in Osun state?
- iv. What is the perception of undergraduate students in private Universities in Osun state towards the usefulness and ease to use of e-databases?
- v. How often do the undergraduate students in a

private university in Osun state
utilize the e-database

Literature review

E-databases have gained significant popularity among many user groups, including undergraduates, researchers, library administration, and scholars when compared to printed materials (Karunarathna, 2014). According to Soyizwapi (2005), a common collection of interconnected data is utilized to facilitate an organization's operations and then made available to multiple individuals over remote online networks. Prior to the 1980s, online databases mostly concentrated on accessing bibliographic data from sources that had been documented prior to the incorporation of numeric information. Subsequently, these systems began to incorporate full-text information (Mohd, 2014). The basic objective of an online database is to get information that aligns, either fully or partially, with the user's query. Online databases currently provide access to a wide range of academic resources, including abstracts, citations, whole texts, statistical information, journals, periodicals, dictionaries, government papers, financial reports, as well as audio and video material. Sinh and Nhung (2012) assert that online databases are an integral component of the information resources offered by universities in numerous nations. These databases serve as valuable instruments for doing comprehensive research, offering a diverse array of reliable and scholarly literature sourced from reputable online database producers or publishers. According to Mohd (2014), databases exhibit variations in terms of their features, functionality, document

inclusion, and content coverage, and language, date of contents, searching capabilities, and interfaces.

The field of information retrieval comprises a comprehensive range of activities that pertain to the systematic arrangement, manipulation, and facilitation of access to recorded information in diverse forms and formats. In response to the demands of users, the field of information retrieval (IR) was developed to devise methods capable of extracting pertinent information from extensive datasets. The concept of utilizing machine-based systems for the storing and retrieval of information was brought to public attention by Vannevar Bush's essay in 1945 (Larson, 2010). Consequently, the initial information retrieval (IR) systems facilitated users' interaction with a data system that captures and categorizes pertinent information in many formats, including text, photos, and audio/video recordings, to cater to their specific requirements. The primary purpose of developing these systems was to facilitate the storage of vast quantities of data and enable efficient and expedient retrieval in response to user queries. The advent of the internet and World Wide Web (www) technologies has led to substantial alterations and progressions in the manner in which information is gathered, stored, retrieved, and disseminated (Mohd, 2014). Xie (2010) asserts that information retrieval (IR) systems facilitate remote access, enabling users to conduct real-time searches. These systems are sometimes referred to as online systems or online databases (Chu, 2009). Online databases enable

users to conduct searches and retrieve results with greater efficiency and effectiveness. They also ensure the reliability and authenticity of the resources accessed. Additionally, these databases exhibit interactivity and can be considered expert systems that offer information on specialized areas of knowledge. They possess their own controlled vocabulary and are archived for long-term retrieval. Furthermore, they regularly update their content and are capable of responding promptly to user search queries through remote terminals.

The Theoretical Framework focuses on the use of the Technology Acceptance Model (TAM). The Technology Acceptance Model (TAM) focuses on the acceptance and utilisation of new technology by consumers (Yamson, Appiah, & Tsegah, 2018). The model elucidates the factors that exert an influence on consumers' decision-making processes pertaining to the adoption of novel technologies, encompassing both the timing and manner of adoption. The Technology Acceptance Model (TAM) has undergone consistent examination and augmentation in scholarly research. There are two significant advancements in the field, namely TAM 2 (Venkatesh & Davis, 2000; Venkatesh, 2000) and the Unified Theory of Acceptance and Use of Technology (Venkatesh, 2000).

According to the assertions made by Akpojotor (2017), the diffusion of innovations theory proposed by Rogers emerges as the most suitable framework for examining the adoption of technology in the context of higher

education and educational environments. As stated by Rogers (2003), an innovation refers to a concept, action, or object that is perceived as new or original by a person or another entity involved in its adoption. The rate of acceptance of an invention is influenced by the perception of said invention by a member of a social system. The features of relative advantage, compatibility, complexity, and trialability are identified. Communication channels are the second component involved in the process of spread of invention. According to Rogers (2003), communication is a dynamic process wherein individuals engage in the creation and exchange of information with the aim of attaining shared comprehension through the utilisation of various routes connecting the sources. A source refers to an individual or entity that transmits or disseminates a message. The perceptions on the utilisation of technology are influenced by the individual's decision-making processes. The perceptions of postgraduate library and information science students determine the level of use of electronic information resources. Individuals who hold the belief that electronic resources are user-friendly are more inclined to make use of them, whereas those who regard them as burdensome or challenging to use are less likely to engage with them.

The study conducted by Bashorun, Isah, and Adisa (2011) examined the perceptions of postgraduate students towards electronic resources at the University of Ilorin. The utilisation of electronic

resources was discovered to be uncommon as a result of limited time availability mostly dedicated to teaching responsibilities. Additionally, a lack of comprehension regarding the electronic resources offered by the library, power interruptions, inefficient communication channels, a sluggish network, and inadequate searching capabilities contributed to this infrequency. According to Rahman, Jamaludin, and Mahmud (2011), the concept of intention to utilize a digital library pertains to the level of users' inclination to access digital resources for the purpose of studying or conducting research. The findings of their research also revealed that women who utilize novel information systems, such as digital libraries, demonstrate elevated levels of computer anxiety and diminished levels of effort expectancy compared to men. Furthermore, it has been observed that females exhibit a greater concern regarding the usability of information systems compared to their male counterparts.

In their study, Yusliza, Zikri, Mohd, Pasah, and Robert (2009) employed the Technology Acceptance Model to examine the utilisation of e-library services among students enrolled in a public institution in Malaysia. The study found that there was a substantial positive correlation between individual differences, namely computer self-efficacy and knowledge of the search domain, and the perceived ease of use of the e-library. Additionally, the perceived ease of use was shown to have a significant positive association with the perceived utility of the e-library. However, there was no significant

relationship between the perceived ease of use and the actual utilisation of the e-library. An additional element to consider is a comprehensive understanding of the search domain. Thong, Hong, and Tam (2004) assert that domain specialists exhibit superior search capabilities compared to novices, as supported by the findings of Marchionini, Dwiggins, Katz, and Lin (1993).

Previous research conducted by Thong, Hong, and Tam (2004) as well as Ramayah (2006) has demonstrated that possessing expertise in the search area is indeed associated with a significant and positive correlation with Perceived Ease of Use (PEOU) (Davis, 1989; Dholakia & Dholakia, 2004). The level of user-friendliness of a system positively correlates with its perceived usefulness, as supported by previous studies (Chau, 2001; Hong et al., 2002; Thong, Hong & Tam, 2004; Ramayah & Aafaqi, 2004). In the context of digital libraries, it is imperative for these repositories to include qualities of user-friendliness, encompassing both ease of comprehension and ease of navigation. In his seminal study, Davis (1989) put up the proposition that novel scales were developed and validated for two distinct variables, namely perceived usefulness and perceived ease of use. These factors were postulated to serve as crucial determinants of user approval. The utilisation of e-resources is influenced by the perceived ease of use and the individual's ability to navigate and interact with these digital resources.

The study conducted by Okiki and Akiru (2011) aimed to examine the

many factors that impact the utilisation of electronic information sources among postgraduate students. This research encompassed six universities located in the South West region of Nigeria. Based on the research findings, it appears that males tend to engage with the internet for recreational purposes, whereas females primarily utilize it for work-related activities. In their study, Ford, Miller, and Moss (2001) found that males tend to utilize electronic information resources due to their perception of simplicity, while females see these technologies as difficult, resulting in limited usage among females.

In a study conducted by Tyagi (2011), it was discovered that postgraduate students rely on electronic information sources that are predetermined by scientists, pharmacopeia associates, and scientific assistants. In a study conducted by Akerele and Afolabi (2011), the researchers examined the utilisation of serial publications by the academic faculty of the School of Arts and Social Sciences at Adeyemi College of Education in Ondo State, Nigeria. The findings revealed that a significant proportion of the participants employed the serial section primarily for research purposes, while a smaller number utilized it for leisure and to stay informed about current information. According to the studies conducted by Hammed and Osunrinade (2010), Bamidele, Omeluzor, and Amadi (2013), and Hampton-Reeves et al. (2009), students perceive textbooks and online search engines as the most valuable sources of information for their research endeavors. The utilisation of electronic databases in

industrialized nations exhibits variation across different countries. In a study conducted by Romanov and Aarnio (2006), it was found that a total of 837 students pursuing medical and dental degrees at the University of Helsinki in Finland utilized the MEDLINE database for the purpose of studying and conducting research.

In a study conducted by Anaraki and Babalhavaeji (2013), it was observed that students enrolled at Tehran University of Medical Science (TUMS), Iran University of Medical Science (IUMS), and Shahid Beheshti Medical University (SBMU) relied on general search engines as a means to fulfill their information requirements, particularly when they were not aware of the availability of the Integrated Digital Library (IDL) portal. In a study conducted by Anaraki and Babalhavaeji (2013) in Iraq, it was found that there was a decrease in student utilisation at universities compared to the expected levels. A study conducted by Shabani, Naderikharaji, and Abedi (2011) in Iran revealed that individuals pursuing technical and engineering disciplines, together with graduate students, exhibited the highest levels of engagement with electronic databases in terms of reading. Presently, there is a discernible inclination among developing nations to prioritize the utilisation of databases (Hadebe & Hoskins, 2010; Ingutia-Oyieke & Dick, 2010; Lwehabura, 2008; Makori, 2015; Mawindo & Hoskins, 2008). This phenomenon may be attributed to a rise in the level of interest among undergraduate students in utilizing technology.

In a study conducted by Okello-Obura and Magara (2008), it was shown that electronic resources offer numerous advantages to users. These benefits encompass broader access to a wider array of information and improved academic performance, which can be attributed to the availability of high-quality material. According to the findings of Bhat and Mudhol (2014), students exhibit a favorable disposition towards electronic databases, which proves advantageous for their academic pursuits. These students heavily rely on electronic databases to access crucial information and stay informed in their respective fields of study. In a survey conducted by Manhas (2008) among dental students in the Indian state of Punjab, it was found that the preferred order of utilisation for electronic resources was as follows: e-books, electronic databases, DVD/CDROMs, and other electronic resources. According to Dhanavandan (2012), postgraduate students in India demonstrated a comprehensive understanding of the available databases and effectively utilized them for various purposes such as study, communicating, accessing crucial information, and advancing their professional growth. However, the utilisation of open-access journals among Nigerian students is still below the anticipated level (Ivwhreghweta & Onoriode, 2012). Baro, Endouware, and Ubogu (2011) conducted a study at Delta State University in Nigeria, which revealed that a significant proportion of medical students exhibited a lack of awareness and utilisation of e-information resources. Additionally, a survey

conducted in Pakistan revealed that a significant majority of the students who participated in the research reported utilizing web search engines frequently or consistently in order to obtain the necessary information. This suggests that there is a significant prevalence of internet usage among students, notwithstanding the potential use of unverified sources or engagement in non-academic activities on the internet (Majid, Hayat, Patel, & Vijayaraghavan, 2012).

In a study conducted by Kinengyere (2007), an examination was conducted on a number of academic and research institutes in Uganda. The findings revealed that certain databases that were accessible had not been exploited in any capacity. The consumers exhibited a lack of awareness regarding the existence, accessibility, and content of those resources. A separate study conducted in Uganda shown that the utilisation of electronic health information resources was limited, and a noteworthy correlation was observed between usage and information literacy (Kinengyere, Kiyingi, & Baziraake, 2012). The findings in question were corroborated by Gakibayo, Ikoja-Odongo, and Okello-Obura (2013). According to Mawindo and Hoskins (2008), a limited number of electronic resources were utilized by the pupils in Malawi. Additionally, a research conducted in Dhaka revealed a noticeable surge in the inclination towards the utilisation of electronic journals among the users affiliated with DU (Islam, Alam, & Sultana, 2011).

According to the findings of Lee, Paik, and Joo (2012), the process of selecting information sources is influenced by a multitude of factors. According to a study conducted by Quigley, Peck, Rutter, and Williams (2002) at the University of Michigan, the scientific faculty members surveyed exhibited a preference for print journal resources, which were among the four most commonly chosen resources. According to Naqvi (2012), there was a significant utilisation of electronic resources among postgraduate students and research scholars. The significance of databases is highlighted by the growing knowledge of online databases among library users in Malaysia (Janaki & Mohamed, 2007). Nevertheless, research conducted in Baltimore revealed that undergraduate students primarily relied on internet sites, search engines, and online instruction modules like Blackboard or WebCT for their research, rather than utilizing research sources funded by the university (Van Scoyoc & Cason, 2006; Togia & Tsigilis, 2010). Subsequent studies have indicated a notable shift in students' perception of their knowledge and understanding of electronic databases, as evidenced by the work of Apenteng-Obese (2012). Omeluzor, Akibu, and Akinwoye (2016) identified four challenges pertaining to students' perceptions of information resources, namely inadequacy, lack of organization, time consumption, and the perceived superiority of internet resources. According to the findings of Odongo and Okello-Obura (2013), students perceive Internet searches as being more convenient compared to accessing subscribed e-resources. Conversely, Epic

(2001) found that a significant number of users tend to initially opt for a general Internet search engine like Google and conduct a keyword search, rather than utilizing library subscription e-resources.

According to Akinola et al. (2018), a significant proportion of postgraduate students extensively utilized electronic databases for research purposes, including literature search, knowledge generation, and knowledge updating, despite the relatively low level of patronage. According to Ngesa's (2018) study, a significant proportion of academic staff and students in Tanzanian Higher Education Institutions exhibit a preference for utilizing the Internet as their primary source of information, surpassing other available databases. In their study, Nwokedi et al. (2017) showed that the Elsevier database has a substantial amount of information, and a majority of educators acknowledged its regular utilisation.

Methodology

The study's methodology encompasses several key components, including the research design, study population, sample selection and sampling procedure, research equipment, and data analysis method. The present study employs a descriptive survey research design of a correlational nature, which entails the observation and description of a subject's behaviour without exerting any form of influence. The objective of this study is to establish the relationship between the dependent variable, which is the use of E-databases, and the independent

factors, namely perceived utility and perceived ease of use. The chosen design was deemed suitable due to its potential to facilitate the collection and analysis of data obtained from the population. The research population consists of all legitimate undergraduate students enrolled in three private universities located in Osun State, namely Redeemers' University (1,999), Fountain University (1,999), and Adeleke University (2,000), resulting in a total of 5,998 individuals. The

respondents for this study were selected based on a sample size of 375, computed using YaroYamene's formula for sample size. A survey was developed and distributed to participants through the utilisation of Google Forms, which were sent to specific platforms dedicated to users inside three privately chosen colleges. The data that was acquired was subsequently subjected to analysis utilizing both descriptive and inferential statistics.

Data Presentation and Analysis

Table 1: Demographic Information of Respondents

SN	Demographics		Frequency	Percentage
	Level of study			
		100	110	30.9%
		200	147	41.4%
		300	65	18.3%
		400	18	5.07%
		500	0	0%
		600	15	4.22%
	Faculty			
		Science	217	61.1%
		Social Science	65	18.3%
		Technology and Engineering	43	12.1%
		Education	30	8.45%

Source: Field Work, 2022

Table 1 shows that 110 (30.9%) of the respondents are in 100 level, 147 (41.4%) are in 200 level which has the highest number of respondents. 65 (18.3%) are in 300 level, 18 (5.07%) are in 400 level, 0 (null) in 500 level, and 15 (4.22%) in 600 level. The table also shows the respondents vary from faculty

to faculty in which Faculty of Science 217 (61.1%) has the highest number of respondents, Social Science with 65 (18 . 3 %) r e s p o n d e n t s , Technology/Engineering with 43 (12.1%) respondents, and Education with 30 (8.45%) responses have varying representation.

Table 2: Perceived Usefulness and Perceived Ease of Use of Respondents

Item	EL	QL	SL	N	SU	QU	EU
Using E-Database in my academics would enable me to accomplish tasks more quickly	171 48.1%	90 25.6%	43 12.2%	25 7.12	13 3.66%	10 2.81%	3 0.84%
Using E-Database in my academics would improve my academic performance	162 45.60%	80 22.5%	60 16.9%	25 7.04%	17 4.78%	8 2.25%	3 0.84%
Using E-Database in my academics would increase my academic output	153 43.0%	104 29.2%	43 12.1%	20 5.63%	20 5.63%	10 2.81%	5 1.40%
Using E-Database in my academics would enhance my effectiveness in my academic	161 45.30%	100 28.10%	23 6.47%	28 7.88%	15 4.22%	20 5.63%	8 2.25%
Using E-Database in my academics would make it easier to complete my assignment and other readings	178 50.1%	93 26.1%	33 9.29%	23 6.47%	10 2.81%	10 2.81%	8 2.25%
I would find E-database useful for my academics	184 51.8%	70 19.7%	45 12.6%	25 7.04%	18 5.07%	8 2.25%	5 1.40%
Perceived Ease of Use: Learning to use E-databases would be easy, for me	146 41.1%	88 24.7%	70 19.7%	23 6.47%	5 1.40%	20 5.63%	3 0.84%
I would find it easy to retrieve needed materials from E-databases.	153 43.0%	90 25.3%	58 16.3%	30 8.45%	18 5.07%	3 0.84%	3 0.84%
My interactions with E-database would Be clear and understandable	135 38.0%	103 29.0%	63 17.7%	13 3.66%	13 3.66%	5 1.40	23 6.47%
I would find E-databases flexible to interact with	126 35.4%	125 35.2%	35 9.85%	23 6.47%	23 6.47%	10 2.81%	13 3.66%
It would be easy to become skillful at navigating E-databases	140 39.4%	105 29.5%	55 15.4%	25 7.04%	20 5.63%	5 1.40%	5 1.40%
I would find E-databases easy to use	136 38.3%	123 34.6%	55 15.4%	20 5.63%	8 2.25%	5 1.40%	8 2.25%

Source: Field Work, 2022

Table 4.2 presents the respondents' perceptions regarding the utility and simplicity of use of the database. The presented table illustrates the perceived usefulness and ease of deployment of E-databases as reported by the respondents. The majority of respondents (48.1%) expressed a high likelihood of utilizing E-Databases in their academic pursuits, believing that doing so would enhance their ability to complete work more efficiently.

In contrast, a small proportion of respondents (0.84%) indicated an extremely low likelihood of utilizing E-Databases for academic purposes. The highest recorded number, 162 (45.6%), indicates a strong likelihood that individuals utilize E-Database in their academic pursuits, which is expected to enhance their academic performance. Conversely, the lowest response of 3 (0.84%) suggests an extremely low probability of such usage. Out of the total respondents, 153 individuals, accounting for 43.0% of the sample, expressed a high level of confidence in the potential of utilizing E-Database in their academic pursuits to enhance their academic productivity. Conversely, a mere 5 respondents, constituting 1.40% of the sample, expressed a strong scepticism towards the efficacy of E-Database in this regard.

The utilisation of E-Databases in academic settings has the potential to significantly improve the performance of students' academic pursuits. This assertion is supported by a survey conducted among respondents, where a considerable majority of 161 individuals (45.3%) expressed a high likelihood of utilizing E-Databases, while a small

minority of 8 individuals (2.25%) indicated an extremely low likelihood of doing so. Out of the total respondents, 178 individuals, accounting for 50.1% of the sample, expressed a high level of likelihood that the utilisation of E-Database in their academic pursuits would facilitate the completion of assignments and other required readings. Conversely, a mere 8 respondents, constituting 2.25% of the sample, expressed an extremely low level of likelihood in this regard.

Among the respondents, the biggest proportion, specifically 184 individuals (51.8%), expressed a positive perception of the usefulness of E-database for their academic pursuits. Conversely, a significantly smaller proportion, specifically 5 individuals (1.40%), reported an extremely unlikely likelihood of finding E-database useful for their academic needs. The respondents exhibit a high likelihood. The perceived ease of use of E-databases was reported as follows: 146 respondents (41.1%) found learning to use them to be easy, while only 3 respondents (0.84%) considered it to be extremely difficult. It is highly probable that I would encounter minimal difficulty in accessing the required resources from electronic databases, with a percentage of 153 (43.0%) indicating a strong likelihood. Conversely, the likelihood of encountering significant challenges in this regard is extremely low. Three, which is equivalent to 0.84% of the total.

The data reveals that a significant proportion of respondents, namely 135 individuals or 38.0% of the

whole sample, expressed a high level of likelihood of perceiving their interactions with the E-database as clear and intelligible. Conversely, a much smaller proportion of respondents, specifically 23 individuals or 6.47% of the total sample, expressed an extremely low level of likelihood of perceiving their interactions with the E-database as clear and understandable. The data indicates that a significant proportion of respondents, specifically 33.4%, expressed a high likelihood of finding E-databases to be flexible in terms of interaction. Conversely, a much smaller percentage, specifically 3.66%, indicated an extreme unlikelihood of perceiving E-

databases as flexible. Out of the total respondents, 140 individuals (39.4%) expressed a high likelihood of easily acquiring proficiency in traversing E-database, while just 5 individuals (1.40%) indicated an extremely low likelihood of achieving such proficiency. Out of the total number of respondents, 136 individuals, accounting for 38.3% of the sample, expressed a high likelihood of finding E-databases easy to use. Conversely, a small proportion of 8 respondents, equivalent to 2.25% of the sample, indicated an extreme unlikelihood of finding E-databases easy to use.

Table 3: Types of Databases Used

Items	Very readily Available	Readily Available	Occasionally	Not Available
JSTOR	90 25.3%	100 28.1%	98 27.6%	67 18.8%
MEDLINE	85 23.9%	110 30.9%	102 28.7%	58 16.3%
HINARI	90 25.3%	104 29.2%	88 24.7%	73 20.5%
AGORA	85 23.9%	102 28.7%	105 29.5%	63 17.7%
OARE	95 26.7%	109 30.7%	83 23.3%	68 19.1%
DOAJ	83 23.3%	108 30.4%	103 29.0%	61 17.1%
PUBMED	78 21.9%	131 36.9%	88 24.7%	58 16.3%
CINAHL	63 17.7%	127 35.7	95 26.7%	70 19.7%
ERIC	88 24.7%	108 30.4%	98 27.6%	61 17.1%
ARDI	88 24.7%	107 30.1%	105 29.5%	55 15.4%

Source: Field Work, 2022

The present study examines the predominant utilisation of electronic databases among undergraduate students attending private universities in Osun State. Table 3 presents data indicating that JSTOR is highly accessible, with 90 (25.3%) and 100 (28.1%) indicating a high level of availability. Medline is easily accessible, with 85 (23.9%) and 110 (30.9%) instances of availability. Hinari is highly accessible, with a prevalence of 90 (25.3%) and 104 (29.2%) respectively. In addition, there are several electronic databases that have been recommended for usage, namely Agora 85 (23.9%) which is very accessible and 102 (28.7%) which is readily accessible. Similarly, Oare 95 (26.7%) is highly accessible and 109 (30.7%) is readily accessible. Furthermore, Doaj 83 (23.3%) is highly accessible and 108 (30.4%) is readily accessible. According to the data from

Pubmed, 78 articles (21.9%) are classified as extremely readily available, while 131 articles (36.9%) are categorized as readily available. In the Cinahl database, 63 articles (17.7%) are classified as very readily available, while 127 articles (35.7%) are classified as readily available. Similarly, in the Eric database, 88 articles (24.7%) are categorized as very readily available, and 108 articles (30.4%) are classified as readily available. Lastly, in the Ardi database, 88 articles (24.7%) are considered very readily available, and 107 articles (30.1%) are classified as readily available. Based on the data presented in the aforementioned table, it becomes evident that the E-databases predominantly utilized by undergraduate students enrolled in private universities within Osun State are Oare, Jstor, and Hinari.

Table 4: Frequency of Databases Used

Items		Occasionall			
		Monthly	y	Never	
JSTOR	83 23.3%	100 28.1%	48 13.5	68 19.1%	56 15.7%
MEDLINE	95 26.7%	93 26.1%	45 12.6%	77 21.6%	45 12.6%
HINARI	93 25.3%	75 21.1%	38 10.7%	89 25.0%	60 16.9%
AGORA	98 23.9%	88 24.7%	28 7.88%	83 23.3%	58 16.3%
OARE	103 26.7%	88 24.7%	35 9.85%	78 21.9%	51 14.3%
DOAJ	80 22.5%	80 22.5%	47 13.2%	103 29.0%	45 12.6%
PUBMED	80 22.5%	110 30.9%	40 11.2%	85 23.9%	40 11.2%
CINAHL	78 17.7%	91 25.6%	43 12.1%	88 24.7%	55 15.4%
ERIC	75 24.7%	85 23.9%	63 17.7%	72 20.2%	60 16.9%
ARDI	80 22.5%	81 22.8	48 13.5%	93 26.1%	53 14.9%

Source: Field Work, 2022

This study aims to investigate the frequency of e-database usage among undergraduate students attending private universities in Osun State. Table 4 presents the frequency distribution of database usage for Jstor, indicating that 83 (23.3%) users access it on a daily basis, 100 (28.1%) on a weekly basis, 48 (13.5%) on a monthly basis, 68 (19.1%) occasionally, and 56 (15.7%) never. The utilisation of Medline varies among respondents, with 26.7% reporting daily usage, 26.1% reporting weekly usage, 12.6% reporting monthly usage, 21.6% reporting occasional usage, and 12.6% reporting no usage at all. The utilisation of Hinari is as follows: on a daily basis by 93 individuals (25.3%), on a weekly basis by 75 individuals (21.1%), on a monthly basis by 38 individuals (10.7%), occasionally by 89 individuals (25.0%), and never by 60 individuals (16.9%). However, it has been observed that Agora 98 is the most commonly utilized E-database on a daily basis, accounting for 23.9% of the respondents. Additionally, 24.7% of the participants reported using Agora 98 on a weekly basis, while 7.88% accessed it monthly. Furthermore, 23.3% of the respondents stated that they used Agora 98 occasionally, although 16.3% reported never using it. The usage frequency of Oare is as follows: 103 individuals (26.5%) reported using it on a daily basis, 88 individuals (24.7%) reported using it weekly, 35 individuals (9.85%) reported using it monthly, 78 individuals (21.9%) reported using it infrequently, and 51 individuals (14.3%) reported never using it. The utilisation of Pubmed among the participants in this study was as follows: on a daily basis, 80 individuals (22.5%) reported using it; on a weekly basis, 110

individuals (30.9%) reported using it; on a monthly basis, 40 individuals (11.2%) reported using it; infrequently, 85 individuals (29.0%) reported using it; and 40 individuals (11.2%) reported never using it. The utilisation of Cinahl is as follows: on a daily basis, it is used by 78 individuals, accounting for 17.7% of the sample; on a weekly basis, it is used by 91 individuals, representing 25.6% of the sample; on a monthly basis, it is used by 43 individuals, comprising 12.1% of the sample; occasionally, it is used by 88 individuals, making up 24.7% of the sample; and it is never used by 55 individuals, constituting 15.4% of the sample. The use of Eric is as follows: on a daily basis, it is utilized by 75 individuals, accounting for 24.7% of the total; 85 individuals, representing 23.9%, use it daily as well. On a monthly basis, 63 individuals, or 17.7%, utilize Eric. Additionally, 72 individuals, comprising 20.2%, use it occasionally. Lastly, 60 individuals, equivalent to 16.9%, never use Eric. The use of Ardi is as follows: on a daily basis, it is used by 80 individuals, accounting for 22.5% of the total; on a weekly basis, it is used by 81 individuals, representing 22.8% of the total; on a monthly basis, it is used by 48 individuals, constituting 13.5% of the total; occasionally, it is used by 93 individuals, making up 26.1% of the total; and it is never used by 53 individuals, comprising 14.9% of the whole. Based on the data presented in the table, it is evident that the E-databases most commonly utilized by undergraduate students attending private universities in Osun State are Oare, Agora, and Medline.

Table 5: Purpose of Using E-databases by Undergraduate Students of Private Universities in Osun State

Items	Strongly Agree	Agree	Disagree	Strongly Disagree
Current awareness/Update Knowledge	195 54.9%	147 41.4%	5 1.40%	8 2.25%
Keep me Informed/equipped on my field of study	187 52.6%	153 43.0%	15 4.22%	0 0%
For preparing sound reports or class assignments	175 49.2%	164 46.1%	13 3.66%	3 0.84%
For examination Preparations	172 48.4%	165 46.4%	13 3.66%	5 1.40%
For professional development and career advancement	203 57.1%	136 38.3%	8 2.25%	8 2.25%
To write projects works	218 61.4%	115 32.3%	14 3.94%	8 2.25%
For personal research and group discussions	190 53.5%	153 43.0%	8 2.25%	4 1.12%
Self-development	213 60%	126 35.4%	13 3.66%	3 0.84%

Source: Field Work, (2022)

Table 5 presents an overview of the objectives for utilizing electronic databases. The table presented illustrates the several applications for which E-databases are utilized by the participants. The majority of participants, specifically 195 individuals (54.9%) and 147 individuals (41.4%), expressed strong agreement and agreement, respectively, on their utilisation of electronic databases to stay informed and enhance their knowledge. A significant proportion of the respondents, specifically 187 individuals (52.6%) and 153 individuals (43.0%), expressed a strong agreement and agreement, respectively, on their utilisation of E-databases as a means to stay educated and equipped within their respective fields of study. In the survey, a majority of respondents, specifically 49.2% (n=175) and 46.1% (n=164), indicated strong agreement and agreement, respectively, with the use of E-databases to prepare comprehensive reports or complete class assignments. Similarly, a significant proportion of respondents, 48.4% (n=172) and 46.4% (n=165) expressed strong agreement and agreement, respectively, with utilizing E-databases for examination preparation. Furthermore, a considerable number of participants, 57.1% (n=203) and 38.3% (n=136), strongly agreed and agreed, respectively, with employing E-databases for professional development and career advancement. Moreover, a majority of respondents, 61.4% (n=218), strongly agreed that they utilize E-databases for writing project works, while 32.3% (n=115) agreed with this statement. In terms of personal research and group discussions, a significant number of participants, 53.5% (n=190) and 43.0% (n=153), expressed strong agreement and agreement, respectively, with the value of E-databases. Lastly, a majority of respondents, 60% (n=213) and 35.4% (n=126), strongly agreed and agreed, respectively, with the use of E-databases for self-development.

Table 6: Challenges of Using E-databases by Undergraduate Students of Private Universities in Osun State

Items	Strongly Agree	Agree	Disagree	Strongly Disagree
Lack of guidance from library staff	78 21.9%	127 35.7%	133 37.4	17 4.79%
Lack of time (busy schedule)	65 18.3%	190 53.5%	88 24.7%	12 3.38%
Lack of library use skills on my part as a users	65 18.3%	185 52.1%	85 23.9%	20 5.64%
Lack of awareness of E-database	83 23.3%	175 49.2%	80 22.5%	17 4.79%
Inadequate user education program.	90 25.3%	190 53.5%	68 19.1%	7 1.97%
There is usually an interrupted power supply	113 31.8%	160 45.0%	72 20.2%	10 2.82%

Source: Field Work, (2022)

Table 6 presents the limitations that were perceived by the respondents in utilizing the electronic database. Therefore, it can be inferred that the primary obstacle that most respondents regard as hindrances to the utilisation of E-databases is the absence of advice from library personnel. A total of 127 respondents, including 35.7% of the sample, agreed, while 78 respondents, accounting for 21.9% of the sample, strongly agreed. The primary reason cited for this agreement was a perceived lack of time. According to the survey results, a total of 65 respondents (18.3%) strongly agreed and 190 respondents (53.5%) agreed with the statement. It was observed that there is a lack of library usage skills on the part of the users. Additionally, 65 respondents (18.3%) strongly agreed and 185 respondents (52.1%) agreed with this observation. The consensus among scholars is that there is a notable absence of awareness regarding electronic databases. A total of 83

respondents, accounting for 23.3% of the sample, strongly agreed, while 175 respondents, representing 49.2% of the sample, agreed with the statement. Insufficient user education program A total of 90 respondents, accounting for 25.3% of the sample, expressed a strong agreement, while 190 respondents, representing 53.5% of the sample, expressed a strong disagreement. In terms of the presence of interrupted power supply, 113 respondents, comprising 31.8% of the sample, strongly agreed, while 160 respondents, accounting for 45.0% of the sample, agreed. The chart clearly indicates that one of the primary obstacles to the utilisation of E-databases is the lack of sufficient user education programs.

Discussion of findings

The primary objective of research question one was to investigate the underlying motivations behind the utilisation of

electronic databases among undergraduate students enrolled in private universities located in Osun state. The statistical analysis reveals that the utilisation of e-databases serves various purposes. Specifically, the findings indicate that a significant proportion of respondents, 195 (54.9%), utilize e-databases for the purpose of staying updated and maintaining current awareness. Additionally, a substantial number of participants, 218 (61.4%), reported using e-databases for professional development and career advancement. Moreover, a considerable proportion of individuals, 213 (60%), utilize e-databases for personal research and group discussion. Lastly, a noteworthy number of respondents, 203 (57.1%), reported using e-databases for examination preparation. These findings highlight the diverse range of purposes for which students employ e-databases. This discovery aligns with the research conducted by Adeleke and Nwalo (2017), which suggests that electronic resources have brought about a significant transformation in the domains of learning, teaching, and research within higher education. One notable aspect of this transformation is the increased utilisation of electronic databases by undergraduate students. The databases have been crucial in the present moment due to their enhancements. The significance of e-databases is increasing because to their enhanced timeliness and unrestricted accessibility, irrespective of geographical constraints. Electronic databases of this nature hold significant importance, as they provide valuable information and offer substantial time-saving benefits. Electronic databases and e-resources have emerged as essential tools on a global scale, serving to enhance the efficacy of teaching, learning,

and research. This development has led to a departure from the conventional educational paradigm, wherein the instructor was the sole authoritative source of information. According to the research conducted by Mawere and Sai in 2018, it was found that... This study provides support for the findings of Ekenna and Mabawonku (2013), Kenchakkanavar (2014), Habiba and Chowdhuy (2012), and Edem and Egbe (2016). These researchers have concluded that electronic resources play a crucial role in facilitating undergraduates' access to knowledge without any cost, hence addressing the issue of the digital divide. Furthermore, e-resources serve as a means to fulfill the diverse and specific educational objectives of individual students.

Research question two aimed to investigate the factors influencing the utilisation of electronic databases among undergraduate students attending private universities in Osun state. The results indicate that JSTOR, Oare, Eric, and Hinari are highly accessible, with response rates of 90 (25.3%), 100 (28.1%), 104 (29.2%), and 95 (26.7%) respectively. This suggests a clear observation that the most frequently utilized electronic databases among undergraduate students in private universities in Osun State are Oare, Eric, JSTOR, and Hinari. The discovery corroborated the assertion made by Kenchakkanavar (2014) that electronic resources present contemporary pupils with novel prospects that were not accessible to earlier cohorts. Electronic resources are highly helpful tools for conducting research, serving as a valuable addition to the print-based materials typically found in a traditional library setting.

Research question three aimed to investigate the issues faced by undergraduate students from private colleges in Osun State when utilizing e-databases. The study findings indicate that several challenges were identified by respondents when utilizing an electronic database. These challenges include insufficient guidance from library staff, users' lack of proficiency in library use skills, limited awareness of e-databases, inadequate user education programs, and disruptions in power supply. According to Spiranec and Zorica (2010), the concept of information literacy, which pertains to a user's education, has consistently posed a problem and is influenced by the prevailing information landscape. The chart clearly indicates that one of the primary obstacles impeding the utilisation of E-databases is the lack of sufficient user education programs.

Research question four was to investigate the attitude of undergraduate students in private universities in Osun state regarding the utility and user-friendliness of e-databases. The results indicate that participants perceive e-databases as useful and easy to use for their academic purposes. They believe that utilizing e-databases would enhance their efficiency in completing tasks, such as assignments and readings. However, a small proportion of participants (8, or 2.25%) expressed skepticism towards the ease of using e-databases for their academic needs. The biggest proportion of respondents, namely 184 individuals (51.8%), expressed a positive perception of the usefulness of E-databases for their academic pursuits. These individuals strongly believed that incorporating E-databases into their academic work would significantly facilitate the completion of assignments and other required readings.

Conversely, a significantly smaller proportion of respondents, specifically 8 individuals (2.25%), expressed a negative perception, indicating that they found it highly doubtful that using E-databases would aid them in completing their assignments and readings. Out of the total respondents, 184 individuals (51.8%) reported the highest level of satisfaction with the usefulness of E-database for their academic pursuits. This finding suggests that the perceived value of the e-database is closely associated with the strong likelihood that utilizing it in academic activities facilitates efficient task completion. Okiki and Akiru (2011) conducted a study on the perception of postgraduate students in the field of library and information science on the usefulness of electronic information resources. Their research findings indicate that the usage of any information resource is contingent upon its perceived usefulness to the user. Moreover, the user's disposition towards the utilisation of said resource plays a significant role in determining its adoption.

Research question five aimed to investigate the frequency of e-database utilisation among undergraduate students at a private university in Osun state. The findings revealed that Jstor was used on a weekly basis by 100 students (28.1%), Medline was used daily by 95 students (26.7%), Hinari was used daily by 93 students (25.3%). Additionally, Agora was indicated as another frequently used e-database, with 98 students (23.9%) using it daily, 88 students (24.7%) using it weekly, 28 students (7.88%) using it monthly, 83 students (23.3%) using it occasionally, and 58 students (16.3%) never using it. The usage of Oare on a daily basis is reported to be 103 times, accounting for 26.5% of the total usage. Based on the aforementioned

statistics, it is evident that the e-databases commonly utilized by undergraduate students in private universities in Osun State are Oare, Agora, and Medline. The present study corroborates the conclusions drawn by Mardhusudhan (2010), Mwantimwa et al. (2017), and Ternenge and Kashimana (2019) regarding the utilisation of electronic resources as supplementary materials in university libraries. Furthermore, it affirms that regular engagement with e-resources enhances various aspects such as communication, professional growth, pedagogy, and scholarly investigation, while also offering subject-specific and current information.

Conclusion and Recommendations

The findings of this study indicate that undergraduate students in private institutions in Osun State utilize electronic databases for various academic purposes, such as research work, assignments, examinations, and self-reading. This suggests that the incorporation of e-databases in their academic pursuits facilitates a more efficient and effective learning process. Several databases are commonly utilized at academic institutions, including JSTOR, MEDLINE, HINARI, AGRO, OARE, DOJA, and others. The study closes by highlighting the prevalence of utilizing the aforementioned electronic databases and underscores the importance of students utilizing these resources for various purposes such as staying updated on current information, conducting personal research, engaging in group discussions, preparing for examinations, and fostering professional

growth. Several problems were noted in the study, including insufficient user education programs, limited awareness of databases, poor advice from library employees, and a lack of information literacy skills among library users. Based on the data and conclusions derived from the study, the following recommendations are put forth:

1. undergraduate students should be encouraged to access e-database resources as it would enable them to achieve their tasks quickly, improve their academic performance and their output and enhance their effectiveness
2. Enlightenment, campaigns through workshops and seminars should be organized to explore undergraduate students for e-databases resources.
3. Library staff should guide students on the pros and cons of using e-database resources, as inadequate user education is of the challenges that inhibit the use of e-database.
4. The power supply should be readily available in the library to ensure easy access to e-database resources.
5. Undergraduate students should not hesitate to explore the several purposes of e- database resources have to offer such as for learning self-development, examination preparation etc.

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