Utilization of Electronic Resources among Undergraduate Students of Abubakar Tatari Ali Polytechnic Bauchi State, Nigeria

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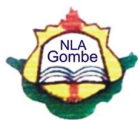**+2347035907848 abdullahidewa1@gmail.com.**

Abstract
In today's digital age, tertiary educational institutions worldwide consider the use of electronic resources as essential for achieving their mission and vision related to teaching, learning, and research. This study examined the use of e-resources by students enrolled in degree programs at ATA Polytechnic, Bauchi State, Nigeria to utilize the e-resource provided by the polytechnic library for academic accomplishment. The purpose of this study is to determine the state of e-resource utilization among undergraduate students at ATA Polytechnic Library Bauchi State, Nigeria, to examine the technological proficiency skills of undergraduate students at ATA Polytechnic Library Bauchi State, Nigeria, and to outline the barriers that hinder the successful usage of electronic information among undergraduate student at ATA Polytechnic Library Bauchi State, Nigeria. Therefore, the study adopted the Technology Acceptance Model (TAM) and utilized a quantitative research approach with a sample of 356 undergraduates selected from a total population of 356 undergraduates where selected using the Taro Yamane formula to determine the sample size. Findings revealed that the majority of the respondents agreed that they regularly use e-resources for reading, assignments, and research work. It also revealed that the students are proficient in internet navigation and using e-resource software. The findings revealed limited access to the internet and erratic power supply hinder the students' effective usage of e-resources. The study concluded that the students at ATA Polytechnic Library in Bauchi State are actively utilizing e-resources and possess a moderate to high level of technological proficiency. However, systemic barriers, particularly relating to internet access, power supply, infrastructure, and staff training, severely limit the effectiveness of e-resource use. Therefore, the study recommended that the university library management should put more effort in their strategies to upgrade staff and students' digital skills and also ensure the full automation of ATA Polytechnic Library.

Key Words: Electronic Resources, Undergraduate Students and Utilization

Introduction

In today's digital age, tertiary institutions worldwide view electronic resources as essential for fulfilling their missions in teaching, learning, and research. This shift has brought significant transformation to modern education. Present-day society heavily relies on the output of these institutions to address the socio-economic, cultural, political, and technological needs of the country. Therefore, these institutions such as universities, colleges, and polytechnics consider the utilization of electronic information resources as the key and crucial aspect of achieving this desired goal by providing skilled individuals or qualitative graduates that can manage the workforce and labour cycle. Now as undergraduate students pursue degree programs, access and utilization of e-resources become the most important aspect to the overall success of their academic journey and fulfillment. So, understanding the actual usage of e-resources is essential for optimizing educational success (Francis, 2024,

Panda, 2024, and Smith, 2019). This study aims to examine the use of e-resources by students enrolled in degree programs at ATA Polytechnic, Bauchi State, Nigeria utilizing the e-resource provided by the polytechnic library for academic accomplishment. The investigation seeks to examines utilization of e-resources among undergraduate students with a sold aim to improve educational practice and betterment of the society in general.

Now, utilization of e-resources is mostly for academic tasks such as the project writing, doing class assignments, writing term papers, and knowledge up-to-datedness etc. However, using e-resources for students' academic tasks may vary depending on factors including technology proficiency and institutional support (Teo, 2016). Understanding the use of e-resources and the factors involved is crucial for educators and policymakers to effectively incorporate e-resources into teaching and learning practices (Lai & Hong, 2015). Based on this noted that this study seeks to offer valuable insights on enhancing undergraduate student academic achievement and promoting the overall use of digital content in the educational learning landscape.
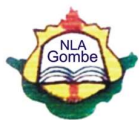
Problem Statement

In recent years, there has been an explosion of electronic resources in the tertiary education sector. These resources have helped students with project writing, class assignments, term papers, and staying updated with the latest scientific discoveries around the world. E-resources have emerged and revolutionized the entire educational system, thereby enriching information usage and making learning and information usage more attractive making it inevitable for future generations. However, despite the extent of these services being rendered in libraries and information centers, there is still a presumption that students do not access and make use of the library and its resources.

Before this research, so many previous studies in Nigeria and different parts of the world had descriptively talked about ERS exploitation by undergraduates. Some think that libraries do not provide the necessary services, others are of the notion that students' use of the electronic library resources is influenced by either their age, marital status, income level, religion, level of education, discipline variation, gender and internet access competence provided for in their various academic libraries (Olayinka, Bosede and Saheed, 2022). Undergraduate students who are supposed to be acquiring broad-based knowledge through the use of electronic resources in the library to enable them to engage in their basic learning process towards enhancing their studies at higher levels seem not to be involved in the use of this library services. Various reasons have been advanced for this seemingly low patronage of library services by students with regards to their use of library resources (Adekunjo, Tomomowo-Ayodele, Fatubiyele, 2020). It is to this end that this paper sets out to investigate the utilization of electronic library resources by undergraduate students of Abubakar Tatari Ali Polytechnic Bauchi, Bauchi State Nigeria.

Research Purpose

The purpose of the study is to assess the utilization of e-resources by students in degree programs of ATA Polytechnic Bauchi State, Nigeria. The specific research objective includes:

1.   To determine the state of e-resource utilization among undergraduate students at ATA Polytechnic Library Bauchi State, Nigeria.

2.   To assess the proficiency skills of undergraduate student in using technological tools at ATA Polytechnic Library Bauchi State, Nigeria.
3.   To outline the barriers that hinders the successful usage of electronic information among undergraduate student at ATA Polytechnic Library Bauchi State, Nigeria.

Research Questions

The specific research questions raised to guide the conduct study include:

1.   What is the state of e-resource utilization among undergraduate student at ATA Polytechnic Library Bauchi State, Nigeria?
2.   What are the proficiency skills of undergraduate student in using technological tools at ATA Polytechnic Library Bauchi State, Nigeria?
3.   What are the barriers that hinders the successful usage of electronic information among undergraduate student at ATA Polytechnic Library Bauchi State, Nigeria?
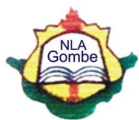
Literature Review

The research reviewed various available literatures in line with the purpose of the study on utilization of electronic-resources by students among undergraduates' programs of Abubakar Tatari Ali Polytechnic Bauchi State, Nigeria.

Utilization of E-Resources among Students

According to Felix, Dangani and Fari, (2019), today Internet is becoming very popular and students prefer e-resources for reading because it saves their time and money. E-resources are electronic books and journals and are sometimes called electronic resources. They stated that these online materials save students time and money as they are easily available on the internet. Most undergraduate students in Gombe state download these resources immediately from Internet or obtain it free of cost on different websites. Electronic resources are valuable tools for study, learning and research. It provide many advantages over traditional print-based resources: they contain current information because they are updated frequently, they offer advanced search capabilities, they offer flexibility in the storage of the results, and they enable access to information without the restrictions of time and location. Therefore, students now utilize this resources to learn how to find, select and use a wide variety of resources which develops there ICT skills and help them to be qualified individuals, engaged in the lifelong pursuit of knowledge for personal and professional growth (Rebilyn et al, 2020).

According to Yusuf, Ayeni, Aminu and Mahammuod, (2020), as with most other sources of information resources, e-resources present a variety of reimbursement to both the librarian and students. University libraries patrons in Nigeria now prefer to use electronic books because they can be used any time of the day, this feature also permits patrons them to acquire their information desires at any spot in time without being guarded by library opening hours. Students enjoy the e-resources because it presents itself as an ideal means of information for them especially distant learners.

Providing them with direct access to the resources they need without having to go to their university library. Ubogu, (2020) studied the user satisfaction on e-resources and services in Nigerian University Libraries. She concluded that library users make use of available electronic resources and services in their various university library which includes OPAC,

Internet, and are satisfied with online databases, CD-ROM databases, virtual/electronic reference service, CAS, SDI and scanning and printing facilities for their academic research and assignments and are satisfied with the services provided by the available e-resources.

Technological Proficiency Skills of Students

Researchers have emphasized the profound impact of technological proficiency on language learning and the overall educational experience of students. In the context of Vietnam, studies have shed light on the evolving role of technology in language education and its implications for university students (Saimon, Lavieza and Dana-Picard, (2023). Therefore, when it comes to using digital tools and applications effectively, students require a diverse range of technological skills. These skills include proficiency in computer usage, internet navigation, and productivity tools, understanding digital security and privacy, and adaptability to evolving technology. Acquiring these skills is essential for future employment opportunities and academic achievements (Huynh, 2024).

Aldemita, et al, (2024) stated that being technologically proficient involves possessing the necessary skills, mindset, and comfort level to fully leverage various technological tools. It entails having a solid understanding of various digital applications, knowing how to access and evaluate online information, and being adaptable to learning new technologies as they are developed. Haleem, Qadri and Suman, (2022) added that, we live in an increasingly complex digital world, where it is intended that students behave as active citizens. The need to develop knowledge and skills to make most of the digital revolution, for example, they must be able to fill out an online job application, use e-commerce to make purchases, or make bank transactions through an application. Haruna and Bappah (2022) in their study stated that a good number of students in Taraba State University are digitally competent that is they are able to use digital technologies in a critical, collaborative, and creative way.

Barriers that hinders the Usage of Electronic Information

Barriers that hinder the usage of electronic resources are the factors militating the smooth access and use of electronic information resources. According to Amidu, Jibril and Ayodele (2021), in their study as they examined EIRs utilization by postgraduate students of Nasarawa State University, Keffi, Nigeria through quantitative approach. The research found among others; that e-books, e-journals, Internet CD-ROM, etc. were provided in the University. While in terms of the challenges affecting the use of EIRs, the research established that lack of appropriate searching skills, irregular subscription of subject databases, poor ICT facilities as well as irregular and erratic power supply were the key threats to the use of EIRs.

In the same vein, Yusuf, Ayeni, Aminu and Mahammuod, (2020) reported that academic libraries face problems of "ever increasing population growth, inadequate library facilities, resources and insufficient funding." This means the deployment of print and electronic resources present serious challenges. Haruna and Bappah (2022) also identified that the factors that could hinder use of Electronic Information Resources in most Nigerian academic libraries include low level of computer culture, poor telecommunications infrastructure and general lack of awareness. Also fundamental to ICT project in libraries is the absence of or inadequate skilled librarians with experience to provide ICT services. Another challenge of electronic information resources use is the cost implication associated with access and use. Ubogu, (2020) reported that out of the ten (10) Nigerian institution surveyed, (8:80%) offered fee based Internet access while only (2:20%) was accessible free. This is another dimension

to academic library services, since most of the services offered with print services at the moment are provided free. While it can be argued that storage of printed materials and access do not attract fees because the initial cost of procurement is not passed or charged to the patrons, this cannot be said about e-library resources. Ankrah & Atuase (2018), also conducted a study at the University of Cape Coast, Ghana and found that e-resources were not fully used by postgraduate students because of inadequate publicity, insufficient training, limitations of access such as passwords and usernames, and other challenges such as poor internet connection, inadequate computers, as well as power outage and inadequate searching skills.

Theoretical Framework

This study adopts the Technology Acceptance Model (TAM) framework to justify EIR investments in polytechnic libraries, aiming to enhance school engagement, enrich student learning, and provide diverse insight perspectives to many study disciplines. The EIRs as a scholarly concept and utilization have a rich history primarily used in academic teaching and research. Davis (1986) conceptualized a model for users' computer-based technology insights in line with global best practices. The Theory of Acceptance and Use (TAM) focuses on two constructs: perceived usefulness (PU) and perceived ease of use (PEOU). It predicts how individuals adopt and use technological tools and information systems, enhancing academic performance. The diagram below demonstrates the TAM framework: -
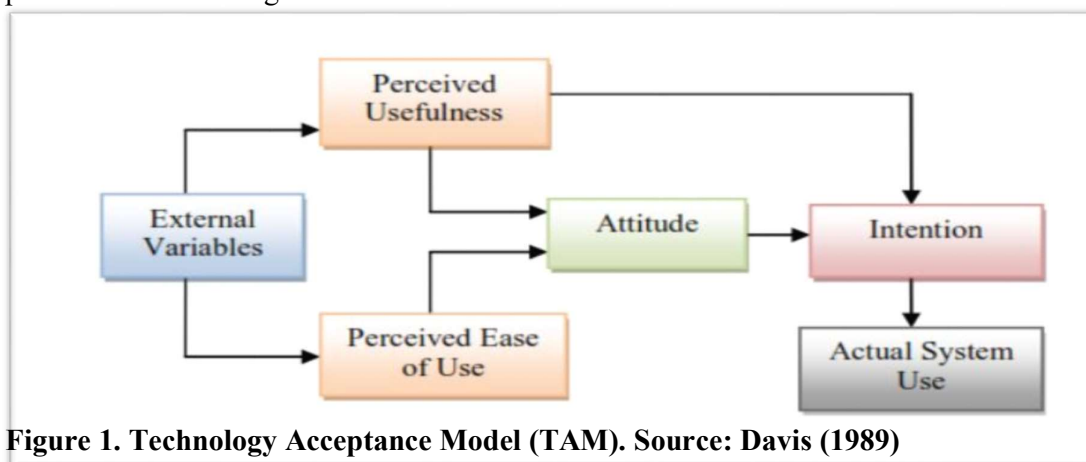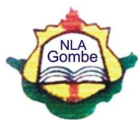

Figure 1. Technology Acceptance Model (TAM). Source: Davis (1989)

Therefore, this study considers to employ the two major constructs ''Perceived Usefulness (PU)'', 'Perceived Ease of Use (PEOU)'' to examine the utilization of e-resource among undergraduate student at ATA Polytechnic Library Bauchi State, Nigeria.

Perceived Ease of Use of Electronic Resources

Perceived ease of use (PEOU) is critical in determining how readily users adopt new technologies. Davis (1989) defines PEOU as the degree to which an individual believes that using a particular system will be free from effort. Studies have demonstrated that users' perceptions of ease of use significantly impact their attitudes toward technology adoption in academic settings. For instance, research by Alharbi and Drew (2020) highlights that PEOU directly influences students' intentions to use digital libraries and online academic databases.

Similarly, findings from Agbo et al. (2021) emphasize the importance of simplifying user interfaces in library systems to enhance student engagement with EIR.

Perceived Usefulness of Electronic Resources

Perceived usefulness (PU), as defined by Davis (1989), refers to the extent to which an individual believes that using a particular system will improve their performance. In the context of academic libraries, PU reflects how students view EIR as beneficial to their academic success. Several studies support the importance of PU in determining the acceptance and continued use of digital resources. A study by Oye et al. (2020) revealed that students' perceptions of the usefulness of digital resources directly affect their frequency of usage. Adekunle et al. (2021) also found that the more students perceive EIR as useful, the more they are inclined to adopt it as a critical tool for academic learning and research.

Perceived Ease of Technological Application towards Electronic Resources

In addition to PEOU, the ease with which students can apply technology to access and utilize EIR is fundamental to their overall experience. Technological barriers can hinder students from fully benefiting from available electronic resources. According to Okike and Asogwa (2021), institutions that provide adequate training on how to navigate digital platforms significantly improve the ease with which students can access these resources. The study further argues that reducing technological complexity is essential for fostering a positive attitude toward EIR among undergraduates.

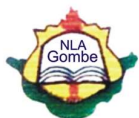## Perceived Usefulness Proficiency Skills of Electronic Resources

Proficiency in using electronic resources is closely linked to perceived usefulness. As students become more skilled in navigating EIR, their perception of the resource's usefulness increases. Abubakar et al. (2022) found that students with higher proficiency in digital literacy were more likely to recognize the advantages of EIR in academic tasks. This finding aligns with previous studies, such as that of Saidu and Umar (2020), which emphasize the role of digital competence in shaping perceptions of EIR usefulness. The development of digital skills is crucial for maximizing the benefits students derive from electronic resources in polytechnic libraries.

Perceived Usefulness of Institutional Support towards Electronic Resources

Institutional support plays a pivotal role in students' perceptions of EIR. Libraries that invest in training programs, provide technical support, and continuously update their electronic resources tend to have higher rates of EIR usage. According to recent findings by Mustapha et al. (2021), the availability of institutional resources and support mechanisms, such as workshops and tutorials, significantly impacts students' perceptions of the usefulness of electronic resources. Furthermore, Umana et al. (2023) argue that institutional efforts to promote the use of EIR contribute to the successful integration of these resources into students' academic routines.

Methodology

The study utilize a quantitative research approach to survey how undergraduate students at ATAP Polytechnic Library in Bauchi State, Nigeria, seek information and use electronic

resources for their academic tasks. The research will be conducted at Abubakar Tatari Ali Polytechnic (ATAP). ATAP established in 1988, it offers National Diploma and Higher National Diploma courses, as well as Affiliated Degree programs in collaboration with Abubakar Tafawa Balewa University, Bauchi, and Federal University Dutse, Jigawa State, Nigeria. These programs span various degree levels. The research method will be a survey, with a sample of 356 undergraduates selected from a total population using the Taro Yamane formula to determine the sample size. The questionnaire will be used to collect data. Mean and standard deviation will be calculated using descriptive and inferential statistics to analyze the study findings and presented in tables with frequencies.

Findings of the Study

Table 1: The State of e-resource Utilization among Undergraduate Students at ATA Polytechnic Library Bauchi State, Nigeria

Statement	SA	A	D	SD
I regularly use the electronic resources provided by the library for reading, assignments, and research work.	270 (77.1%)	75 (21.4%)	5 (1.4%)	0 (0.0%)
The e-resources at ATA Polytechnic Library are up to date and it is free on different websites	270 (77.1%)	65 (18.6%)	15 (4.3%)	0 (0.0%)
I am satisfied with the availability of electronic resources at the library because I use it any time of day at any location.	290 (82.9%)	50 (14.3%)	10 (2.9%)	0 (0.0%)

Source: Fieldwork, 2024

The above table shows the responses of respondents on the state of use of e-resources among undergraduate students at ATA Polytechnic Library Bauchi. On the regular use of e-resources for reading, assignment, and research work by students large majority (98.5%) of the respondents agree or strongly agree that they regularly use e-resources for reading, assignments, and research work, demonstrating active engagement with electronic resources at the library. Similarly, on the e-resources at ATA Polytechnic Library Up-to-Date and Free, most of the respondents (95.7%) agreed that the e-resources are up-to-date and available for free on various websites. This shows that the library provides relevant and freely accessible e-resources. On the same table, on the availability and satisfaction of the respondents on the e-resources at the library (97.2%) the respondents are satisfied with the availability and accessibility of e-resources, as they can use them at any time of day and from any location. This high satisfaction level indicates that the library has addressed the convenience and accessibility of its digital resources.

Table 2: The Technological Proficiency Skills of Undergraduate Students at ATA Polytechnic Library Bauchi State, Nigeria.

Questions	HP	MP	NP
How proficient are you in internet navigation and using electronic resources software at the library?	115 (32.9%)	230 (65.7%)	5 (1.4%)
How proficient are your skills in effectively using computers and various digital gadgets?	115 (32.9%)	230 (65.7%)	5 (1.4%)
How proficient is your ability to search, retrieve, evaluate, and creatively utilize information from e-resources?	130 (37.1%)	215 (61.4%)	5 (1.4%)

Source: Fieldwork, 2024

The table above displays the responses of respondents on the technological proficiency skills of undergraduate students at ATA Polytechnic Bauchi. The data indicates how proficient they are in using the Internet and Software for navigating e-resources software, a combined (98.6%) of students claim to be either moderately proficient or highly proficient in Internet navigation and using e-resource software. This reflects the general technological competence of the students. Likewise, on proficiency in using computers and digital gadgets, similar results were observed in digital device usage, with (98.6%) of respondents reporting moderate to high proficiency. Also, on their proficiency in information retrieval and utilization, a combined (98.6%) expressed that they are proficient in searching, retrieving, and utilizing information from e-resources creatively. This shows that most students possess sufficient technological skills to effectively use the e-resources at the library, although there is a need for improvement in increasing the number of highly proficient students.

The barriers that hinder the successful usage of electronic information among undergraduate students at ATA Polytechnic Library Bauchi State, Nigeria
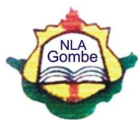
Statement	SA	A	D	SD
Limited access to the internet and erratic power supply hinders the usage of electronic resources effectively.	350 (100%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Inadequate infrastructure and insufficient training of library staff hinder the usage of e-resources.	350 (100%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Insufficient time allocated to use the library's e-resources and insufficient ICT skills affect students' usage of e-resources	350 (100%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

Source: Fieldwork, 2024

The table above presents the responses of respondents on the barriers that hinder the successful usage of electronic information resources among undergraduate students at ATA Polytechnic Library Bauchi State. On the statement that the Internet and power issues are a barrier, all respondents (100%) strongly agreed that limited access to the Internet and erratic power supply hinders their effective usage of e-resources. This highlights a critical infrastructural issue in the university library. Furthermore, on the statement that inadequate infrastructure and insufficient training of library staff, every student (100%) strongly agreed that insufficient infrastructure and inadequate staff training negatively affect the usage of e-resources. Lastly, in the response to the statement that time and ICT skills, all respondents (100%) strongly agreed that insufficient time for library use and a lack of ICT skills hinder students' effective use of e-resources. Therefore, the unanimous responses reveal significant infrastructural and logistical barriers that impede the full utilization of e-resources, despite high student motivation and proficiency.

Discussion of the Findings

Findings on the state of use of e-resources among undergraduate students at ATA Polytechnic Library Bauchi revealed that the majority of the respondents agree or agree that they regularly use e-resources for reading, assignments, and research work. This goes with Ubogu (2020) statement from her study that student makes use of e-resources facilities available in Nigeria University Libraries for their academic research and assignments and are satisfied with the services provided by the available e-resources. Similarly, the findings revealed that most of the respondents agreed that the e-resources are up-to-date and available for free on various websites.
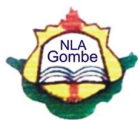
This can be seen as why Felix, Dangani, and Fari, (2019) stated that e-resources provide many as they contain current information because they are updated frequently, offer advanced search capabilities, offer flexibility in storage of data, and they enable access to information without restrictions of time and location. It also revealed that majority of the respondents are satisfied with the availability and accessibility of e-resources, as they can use them at any time of day and from any location. This approves Yusuf, Ayeni, Aminu and Mahammuod, (2020) statement that university library patrons prefer to use electronic books because they can be used any time of the day. The feature permits patrons to acquire their information desires at any spot in time without being guarded by library opening hours.

The findings revealed the response of respondents on the technological proficiency skills of undergraduate students at ATA Polytechnic Bauchi. The data indicates the students are proficient in internet navigation and using e-resource software. This reflects the general technological competence of the students as stated by Huynh, (2024) that having these skills is essential for future employment opportunities and academic achievements. Likewise, it revealed proficiency in using computers and digital gadgets majority of the respondents are proficient. This approves Aldemita, et al, (2024) statement that being technologically proficient involves possessing the necessary skills, mindset, and comfort level to fully leverage various technological tools. Also, it showed that the majority of the respondents are proficient in searching, retrieving, and utilizing information from e-resources creatively.

This shows that Haruna and Bappah (2022) are right when they state that digitally competent students can use digital technologies in a critical, collaborative, and creative way. The findings revealed the response of respondents on the barriers that hinder the successful usage of electronic information resources among undergraduate students at ATA Polytechnic Library Bauchi State. It showed that all respondents agreed that limited access to the internet and erratic power supply hinders their effective usage of e-resources. This is in line with the challenges outlined by Ankrah & Atuase (2018) that poor internet connection, inadequate computers, as well as power outages, and inadequate searching skills are challenges that hinder the use of EIRs. Furthermore, it revealed that all the respondents agreed that insufficient infrastructure and inadequate staff training negatively affect the usage of e-resources. These were challenges identified by Haruna and Bappah (2022) in their studies that the factors that could hinder the use of Electronic Information Resources in most Nigerian academic libraries include a low level of computer culture, poor telecommunications infrastructures, etc. Lastly, it showed that all the respondents agreed that insufficient time for library use and a lack of ICT skills hinder students' effective use of e-resources.

Conclusions

The students at ATA Polytechnic Library in Bauchi State are actively utilizing e-resources for their various academic resources such as assignments and research projects, they also possess a moderate to high level of technological proficiency skills. However, systemic barriers, particularly relating to internet access, power supply, infrastructure, and staff training, severely limit the effectiveness of e-resource use. Therefore, addressing these barriers will greatly enhance the overall usage and satisfaction of e-resources at the institution.
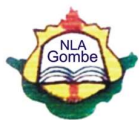
Recommendations

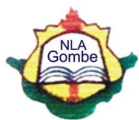Based on the findings of this study the research recommends that:

i. Regular workshops and ICT training seminars should be put in place for the library staff of ATA Polytechnic Bauchi State.
ii. An information and communication course should be included in students' curriculum which helps in increasing students' digital and ICT skills.
iii. The university library management should put more effort into ensuring the full automation of the ATA Polytechnic Library.

References

Abubakar, A. I., Mohammed, M. A., & Yusuf, A. M. (2022). Digital literacy skills and their impact on the use of electronic resources among university students. International Journal of Library and Information Science, 14(3), 2941. https://doi.org/10.5897/IJLIS2022.1030

Adekunjo, A.A., Tomomowo,-Ayodele, S.O. & Fatubiyele, J.M. (2020): Demographic Characteristics and Accessibility as Determinants of Use of Library Resources by Students In Two Federal Colleges Of Agriculture In Ibadan, Oyo State, Nigeria. Proceedings of the 25th iSTEAMS Trans-Atlantic Multidisciplinary Virtual Conference, Laboratoire Jean Kuntzmann, Universite Laboratoire Jean Kuntzmann, Universite Grenoble, Alpes, France June – July. Pp 33-46 www.isteams.net/France2020.

Adekunle, A. J., Bakare, A. O., & Ayodele, A. F. (2021). Factors influencing the adoption of electronic information resources in Nigerian polytechnics. *Journal of Educational Technology & Society*, 24(4), 5670. https://doi.org/10.2307/202144TA0012

Agbo, F. M., Nwachukwu, C. A., & Ogbu, F. C. (2021). The role of ease of use in the adoption of eresources by students in Nigerian tertiary institutions. *Information Development*, 37(2), 211226. https://doi.org/10.1177/0266666920959476

Aldemita, A.J.A., Capusi, M.D., Martinez, J.S., Mendez, Y.D. and Zotomayor, J.J.P. (2024) Technological skills and readiness of the students on the utilization of digital application June 2023. *International Journal of Science and Research Archive*, Vol. 11(2). Pp. 1226–1232 https://doi.org/10.30574/ijsra.2024.11.2.0541

Alharbi, S., & Drew, S. (2020). Impact of perceived ease of use and usefulness on eresource acceptance among Saudi students. *Journal of Information Science*, 46(3), 453463. https://doi.org/10.1177/0165551519865284

Ally, M. (2008). Foundations of educational theory for online learning. *Journal of Educational Technology,* 41, (2), 195 - 215.

Amidu, G., Jibril, D.U. & Ayodele, R.O. (2021). Electronic resources utilization as a correlate of research output of postgraduate students in Nasarawa State University, Keffi, Nigeria. *University of Ibadan Journal of Library and Information Science,* 4(1), 67-86.

Ankrah, E. & Atuase, D. (2018). The use of electronic resources by postgraduate students of the University of Cape Coast, Library Philosophy and Practice (e-journal). https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=4675&context=libphilprac

Felix, U.M., Dangani, B.U. & Fari, S.A. (2019). Utilization of Electronic Information Resources by Undergraduate Students In University Libraries In Gombe State, Nigeria. Retrieved from https://www.researchgate.net/publication/331522293

Francis, Femy. (2024). Usage of e-resources in academic libraries. *Journal of Online Engineering Education*. 14. 13 - 26.

Haleem, A., Javaid, M., Qadri, M. A., & Suman, R. (2022). Understanding the role of digital technologies in education: review. *Sustainable Operations and Computers*, 3. Pp. 275-285. https://doi.org/10.1016/j.susoc.2022.05.004

Haruna, A.M. and Bappah, M.A. (2022). Challenges of Access and Use of Electronic Information Resources among Students of Higher Institutions in Taraba State, Nigeria. *Covenant Journal of Library & Information Sciences (CJLIS).* Vol. 5(1). Pp. 1-14. e-ISSN: 2682-5309.

Huynh, M.T. (2024), Developing And Enhancing Technological Proficiency For University Students: Opportunities And Challenges. *Educational Administration: Theory And Practice*, Vol. 30(4), Pp. 806-812. https://doi:10.53555/kuey.v30i4.1570

Mustapha, B. T., Salisu, U. G., & Ibrahim, D. H. (2021). Institutional support for the use of electronic resources in Nigerian academic libraries. *Library Management*, 42(5), 372387. https://doi.org/10.1108/LM0120210009

Okike, C. & Asogwa, B. E. (2021). Technological applications and their influence on electronic resource usage in academic libraries. *Library Hi Tech*, 39(1), 145162. https://doi.org/10.1108/LHT0720200175

Olayinka, M., Bosede, M. and Saheed, H. (2022). Demographic Factors and Electronic Resources/Services Use: Evidence from Adeleke University. *Journal of Balkan Libraries Union*. Pp. 46-57. https://dergipark.org.tr/tr/pub/jblu/2148-007X

Oye, C. A., Emeka, C. J., & Agbo, A. M. (2020). Investigating the factors affecting eresource usage among students in Nigerian polytechnics. *Information Technology and Libraries*, 39(2), 8097. https://doi.org/10.6017/ital.v39i2.11655

Panda, S. (2024). Why studying e-resources usage statistics is essential in academic libraries? *From a Librarian's Viewpoint* (Editorial).   https://10.6084/m9.figshare.26491648.

Rebilyn, G.R., Charles S.P.T., Ferginia, P.G., Gania, C.K., Solomon, A.O., Heidie, O.C. and Richard, G.D. (2020). A Study on the Utilization of E-Resources among College Students. *International Journal of Knowledge Engineering,* Vol. 6(1). Pp. 24-30. https://doi:10.18178/ijke.2020.6.1.127

Roman, R.G., Charles S. P. Trobada, F. P. Gaton, Catherine K. G., Solomon A. O., Heidie O. C., and Richard G. D. (2020). A study on the utilization of e-resources among college

students. *International Journal of Knowledge Engineering,* 6, (1), 24 -28. https://doi:10.18178/ijke.2020.6.1.127.

Saidu, S. A., & Umar, H. M. (2020). Digital competence and the utilization of electronic resources in academic institutions. *Journal of Information Literacy*, 14(2), 1832. https://doi.org/10.11645/14.2.2695

Saimon, M., Lavicza, Z., & Dana-Picard, T. (2023). Enhancing the 4Cs among college students of a communication skills course in Tanzania through a project-based learning model. *Education and Information Technologies*, 28(6), Pp. 6269-6285.

Teo, T. (2016). A meta-analysis of the influence of electronic resources utilization on academic performance. *Computers & Education*, 95, 204- 212.

Ubogu, J. (2020). Utilization of E-Resources by Students in Nigerian University Libraries. *Library Philosophy and Practice (E-Journal),* 3806. Pp. 1-17. . https://digitalcommons.unl.edu/libphilprac/3806

Umana, K. T., Nwoko, B. C., & Udoh, J. A. (2023). The influence of institutional support on electronic resource usage in Nigerian polytechnic libraries. *African Journal of Library, Archives & Information Science*, 33(1), 94108. https://doi.org/10.1052/AJLAIS202305

Yusuf, T.I.; Ayeni, F.A.; Aminu, M.T. and Mahammuod, S.O., (2020). Challenges of the Use of Electronic and Print Resources by Students in Selected Tertiary Institutions in Kwara State. *Library Philosophy and Practice (e-journal)*. 4517. https://digitalcommons.unl.edu/libphilprac/4517