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Awareness, access and usage of E-Resources by students of the University of Bamenda

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Abstract

The proliferation of information technology has improved the way information is generated, stored and retrieved. This paper seeks to examine issues pertaining to awareness, access and usage of e-resources by students of The University of Bamenda. The study adopted the quantitative research method and the descriptive survey design. The study population consisted of students, with a sample of 377 respondents selected across the various faculties and schools that constitute The University of Bamenda. Samples were drawn using the simple random sampling technique and questionnaire was used as the main instrument for data collection. Data gathered during field survey was analyzed quantitatively. Findings of the study revealed that vast majority of students are not aware of the availability of electronic resources in the electronic resources subscribed for by the University but rather expressed their awareness of the broad base internet sources, implying that students are not well informed with regards to the e-library services available in the institution. The study equally revealed that access and usage of e-resources have significantly enhanced the academic outputs of students at all levels. Finally, the study recommended that The University of Bamenda should intensify trainings on the access as well as creating awareness among students on the availability of its e-resources.

Keywords: Access; Usage; E-Resources; Students; The University of Bamenda

1. Introduction

Higher education systems have grown exponentially in the last five decades to meet the demands of quality education for all (Dayakar 2018). The speedy advancement of Information Communication and Technology (ICT) has brought revolutionary changes in information handling and provides various choices to handle varied data sources, handily and effortlessly. As a result, e-resources became the foremost for modern library's reserves in satisfying students, teachers, and researchers' varied information needs with minimum time (Ansari, 2020). E-resources has created the need for library users to have a sound level of awareness of e-resources availability and the way they can be accessed. Most universities across the world are investing heavily in e-resources (Okiki, 2012; Kwadzo, 2015) to satisfy teaching, learning and research needs. Despite the heavy investment in e-resources in these universities, their practical use is not evident. Some studies demonstrate that the effective usage of e-resources depends solely on the awareness of their availability (Okiki, 2012; Rehman & Ramzy, 2004), and knowledge of how to access them (Asokan & Dhanavandan, 2014). Studies about students' awareness of e-resources have widely been conducted in various higher learning institutions across the world (Bhat & Mudhol, 2014; Chandra et al., 2014; Okiki, 2012). However, the literature shows that sometimes there is a mismatch between students' awareness and usage of the available e-resources. The use of e-resources by the students in higher learning institutions has been a major concern to academic library and information service centres for decades (Ruzegea and Msonde 2021).

Considerable efforts have been made over the past decades by most higher education institutions in ensuring that scholars in their respective capacities: teachers, students and research scholars are able to access the growing quantities

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of information resources preserved in digital format, with enormous dispositions put in place geared toward creating awareness. This is structured on setting up the required network infrastructure and providing necessary hardware, and software. In this regard, important initiatives that have been put in place include: International Network for the Availability of Scientific Publications (INASP), Programme for Enhancement of Research Information (PERI), African Journal Online (AJOL), and Journal Storage (JSTOR) schemes funded by commercial publishers such as Health InterNetwork Access to Research Initiative (HINARI), Access to Global Online Research on Agriculture (AGORA) and Open Access to Research in the Environment (OARE) (Alphonse, 2015; Msagati, 2014; Masinde et al., 2011). Aside the positive impact of digitization on information access, retrieval and application, challenges to accessing and using e-resources in supporting teaching, learning and research still remain unsettled. Scholars like Mammo & Ngulube (2015) opined that low bandwidth and unclear institutional policy constitute potential problems that are likely to hamper such information access and eventual use.

Okore, Asogwa and Eke (2009) define electronic information resources as any information resource that is accessed via the internet including CD-ROMs. They further enlisted specific types of electronic information resources as consisting of electronic books (e-books), electronic journals (e-journal), and indexes, collections of journal articles, reference works, digital collections and databases. According to Ekere and Nwoha (2016), electronic information resources include World Wide Web; WIFI; search engines; online indexes; video CDs VSAT based Internet connectivity; online Library catalogue; online databases; portals; E-journals and Ebooks. An electronic resource according to Kavithanjali, (2019) can be defined as a resource which require computer access or any electronic product that delivers a collection of data, be it text referring to full text bases, electronic journals, image collections, other multimedia products and numerical, graphical or time based, as a commercially available title that has been published with an aim to being marketed). These may be delivered on CD ROM, on tape, via internet and so on.

Concerning the massive literature on the definition and types of e-resources used, University e-library (e-resources) according to Kesavan (2009) was adopted for several reasons; in order to enable access to wide range of resources and, to facilitate new research; mechanize conservation, preservation and add value to the collection of the parent organization; offer consistent access and retrieval of online resources, give flexibility, provide enhanced capabilities for analysis and manipulation of information or data and to “save the time of the users”; support e-learning and online research; supplement traditional print resources, and integrate multimedia library resources on a common platform; to increase productivity, and provide better service to users; to make collections accessible to concurrent users; and to deliver a complete and complex round-the-clock set of aggregated information services irrespective of users’ location. To further expatiate, Ugwu and Onyegiri (2013) accurately presented examples of electronic resources which include but are not limited to web sites, online databases, e-journals, e-books, electronic integrating resources and physical carriers in all formats; whether free or fee-based required to support research in the subject covered, and may be audio, visual and/or text files.

Ekere, Omekwu and Nwoha (2016) pointed out some of the fundamental services provided at digital libraries which according to them include: online internet search services; e-mail services; online reference services (e-reference); online cataloguing and classification service; customer care services; management of online databases (e-database); subscription services; awareness and workshop services; audio and video communication services; news groups/dialogue databases; electronic document delivery services; interoperability services; technical training in ICT for staff and users; online inter-library among the diversified range of services. Digital library has become an integral part of academic research activities, considering the fact that it provides academic researchers with electronic access to a wide range of national and international scholarly journals. These journals span wide areas of natural/physical sciences, social sciences and humanities and address a long-standing need of the university community for access to scholarly publications facilitating effectiveness in research process and the development activities in the universities.

The usage of e-resources depends on the user's ability to access the maze of e-resources obtainable via devices (Watt and Ibegbulam 2005). Egberongbe, (2011) in his study stresses on the need to equip end-users with skills like info acquisition skills, info retrieval skills, and laptop skills, among others, to market e-resource usage. Worthy of note is the fact that when students are aware of and able to access the various e-resources, they make fair use of them for academic and research purposes. For scholars to use the resources, they should be skilled in information and communication technologies (ICTs) applications to gain independent use of various electronic information resources worldwide (Dayakar 2018). Consequently, this study seeks to explore students’ level of awareness, access and usage of e-resources in The University of Bamenda.

2. Literature Review

The awareness and usage of e-resources in higher learning institutions has recently gained significance due to its cost and meaningful content. A multiplicity of studies has been conducted to ascertain whether the subscribed e-resources are effectively being utilized in the quest of achieving valuable research output and innovations in higher learning institutions. Ruzegea and Msonde (2021) conducted a study that explored the level of e-resources among students. Findings of the analysis reveal 58% of undergraduate students and 100% of postgraduate students were aware of the availability of e-resources; such databases included Google scholar. However, Msonde argued that demonstrating practical experiences on frequency and use of the different electronic resources, undergraduate students were identified to have gained more acquaintance and skills compared to those at postgraduate level. The study recommended that university institutions through Quality Assurance unit should encourage students to use relevant and up-to-date e-sources in order to attain the best quality of research and academic output and increase University ranking and visibility in the world.

Ibrahim and Ahmed (2020) carried out a study on the negative impact of online resources on research writing from teachers and students perspective, at the King Khalid University drawing from 4th year students in the Department of English Language from the College of Science and Arts, Tanumah Branch. Their study was primarily aimed at investigating the negative impact of online resources on research writing from teachers' and students perspectives. Findings of the study depicted that online resources have adversely affected the process of research writing given that the quality and reliability of researches conducted online are somewhat questionable. Analysis of the study recommended that awareness should be created among students on the importance of library in their studies in general, and scientific research in particular.

Kavithanjali (2019) in a research paper elaborated on the importance, types, issues and challenges of e-resources. The basic and most recurrent types of resources according to this author include; e-books, e-journals, e-theses and dissertation, e-reference books, e-newspaper with examples cited. Kavithanjali further suggested that the issues and challenges facing e-resources despite its benefits; with regards to affordability, accessibility, usability and reliability included but not limited to patent infringement trouble, lack of skills by users and obstruction in technology. Analysis of this study concluded that e-resources have totally reduced the usage of paper material and are convenient to use, reachable at reasonable cost and can be accessed from anywhere and by many users concurrently.

Alzahrani (2019) in study on the use and impact of electronic resources at the King Abdulaziz University, Jeddah in Saudi Arabia investigated the various types of electronic resources used by students. Findings of the study revealed that diverse types of e-resources were popular in the King Abdulaziz University, with most of the students' dependent on the electronic materials to get relevant information. The study concluded that, the actual use of electronic resources has been challenged by inadequate infrastructure in meeting the requirements of users, hence limiting users access and usage of the different e-resources.

Siddiqui (2018) in analyzing the use of e-resources by the faculty members and students of Economics in University of Delhi examined the type of e-resources used and the problems faced by users while using e-resources in the domain of Economics. The study found that users in Economics are in need of e-resources but due to some challenges they are not able to fully utilize the e-resources available at their disposal. According to the author, some of the factors underlying the utilization of e-resources may be attributed to lack of skills to access e-resources engines, limited access to certain governmental resources; which in turn serves as a bulwark to users connoting a negative repercussion on access and use of e-resources.

Anyim (2018) in his article identified e-library resources in university e-libraries in Kogi State. His study succinctly argues the fact that in spite of the roles of electronic libraries, user of university e-library still face challenges with respect to access and retrieval of e-resources and services which grossly affect effective research activities, however, improvement and innovation for access, retrieval of e-resources and services if not prioritize may culminate into low research output and falling standard of the learning institution. Findings of that study indicated a multiplicity of e-resources which included: Online databases, online public access catalogue, e-journals, e-books, search engines, wireless network, worldwide web, CD-ROM, DVD-Rom, institutional repository among others. Analysis of the study concluded that university e-libraries are adopted to complement university conventional libraries aimed at providing students, faculty staff, academic researchers and members of university community with equal access to relevant information in digital formats without discrimination and at no cost to the patrons.

Sejane (2017) conducted a research on access to and use of electronic information resources in the academic libraries of the Lesotho Library Consortium. His research work investigates the access to and use of e-resources information in

academic libraries of LELICO. Findings of his analysis established that lack of guidelines and e-resources collection developments policies, inadequate searching skills, lack of up-to-date information IT infrastructure, slow internet bandwidth were major factors adversely affecting libraries experience in facilitating access to and use of e-sources in school library. Results of the study further revealed that main uses of e-resources in LELICO were basically for communication, to enhance teaching and learning activities; such as professional research, assignments and lecture requirements. The study concluded on the point that access to and use of electronic information resources in academic libraries is influenced by the extent at which e-resources were accessed, systems in place, effectiveness of the consortium, challenges facing libraries and strategies put in place by the institutions.

Materials and Methods

The scope of this study was delimited to the jurisdiction of The University of Bamenda campus in Bambili located in the Tubah subdivision Mezam, Northwest region of Cameroon. This geographical scope is important considering that Bambili is the seat of the institution. This study adopts the descriptive survey research design and the mixed strategy and targeted students across the various levels in all the faculties and schools that constitute the university: Faculty of Arts (FA), Faculty of Law and Political Science (FLPS), Faculty of Science (FS), Faculty of Education (FED), Faculty of Health Science (FHS), Faculty of Economics and Management Sciences (FEMS), Higher Institute of Transport and Logistics (HITL), National Polytechnic Higher Institute (NAPHI), Higher Institute of Commerce and Management (HICM), Higher Teachers Training College (HTTC), College of Technology and Higher Technical Teachers Training College (HTTTC).

The simple random sampling technique was adopted for the study. This technique gives an equally probability for respondents in the various institution to participate in providing relevant data for this study. The sample size of the study was comprised of 377 respondents selected in line with the Krecie and Morgan table for determining sample size. However, it is worth pointing out that only 330 respondents actively participated during the data collection phase of this study, as shown on table 1 below.

Table 1 Response Rate of questionnaire

Total number of questionnaire administered	377
Number of questionnaire filled/returned	330
Number of questionnaire not returned	47

Source: Compiled by Authors (2024)

Statistically,

- $R = \frac{\text{Total number of questionnaire administered}}{\text{Number of questionnaire filled/returned}}$

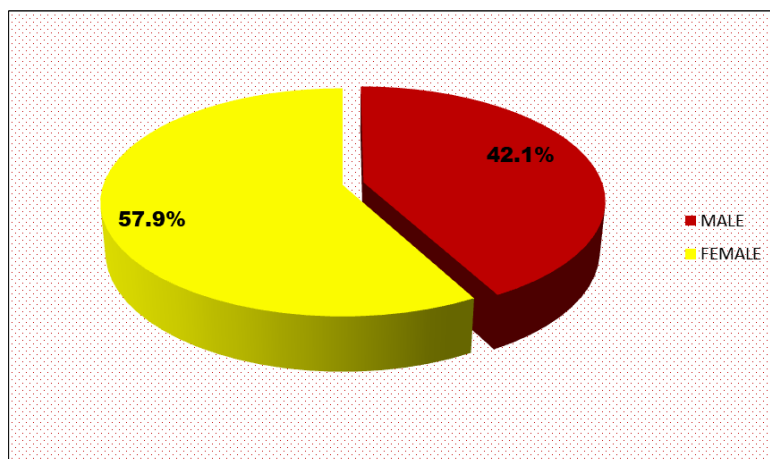
Number of questionnaire filled/returned, that is; $(330/370 \times 100)$

The response rate = 89.2%

Questionnaire was adopted as the primary instrument for data collection. This instrument was adopted considering the fact that it is used in collecting data from a large number of respondents who makes up the greater proportion of the university community. Data obtained from field survey was analyzed quantitatively using descriptive statistics, and regression, with the aid of multiple correspondence analysis was employed to test and verify hypothesis. The research made use of descriptive tools such as frequency distribution tables, bar charts, and pie charts to present data and draw conclusion on basis of the findings.

3. Results and discussion

Figure 1 below hosts the frequency distribution of respondents by gender. The figure depicts that 139 out of total sample respondents are males compared 191 females. This shows that more female students actively participated during the data collection phase compared to their male counterparts. This further implies that 42.1% are males and 57.9% are females.



Source: Field survey (2024)

Figure 1 Pie chart presentation of the respondents' gender

Table 2 Frequency distribution of Respondents by Age Range

	Frequency	Percent
Below 20years	19	5.8
21-30years	219	66.4
31-40years	79	23.9
41-50years	9	2.7
50years and above	4	1.2
Total	330	100.0

Source: Field survey (2024)

The findings presented above shows that majority of the respondents were between twenty-one and thirty years, those ranging between thirty-one and forty years were seventy-nine constituting 23.9%, meanwhile the least number of respondents were fifty years and above. An overall observation of the age group represented in this study shows the level of maturity of the targeted respondents, an indication that the respondents are versatile with the theme under investigation as well as conversant with the different elements of digitalization within the context of The University of Bamenda.

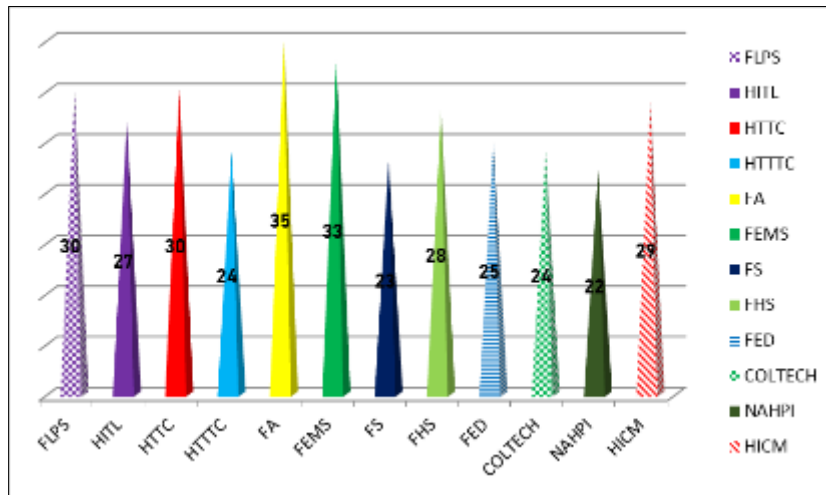
Table 3 Frequency distribution of respondents by academic qualification

Level of academic pursuit		
	Frequency	Percent
Diploma	54	16.4
BA/BSc	195	59.1
Masters	55	16.7
Doctorate	26	7.9
Total	330	100.0

Source: Field survey (2024)

Table 3 submits the frequency distribution of respondents by their level of academic qualification. It is evident from the above table that majority of the sampled respondents are aspirants of Bachelor's degree (BA, BSc), followed closely by those pursuing Master's degree and then those who are pursuing professional diplomas (such as BITECH, DIPET, DIPES, HND, HPD etc), with the least proportion represented by aspirants of Doctorate degree. On a broader scale, the

educational trend of education levels/qualifications of the respondents is a clear indication that the respondents were all knowledgeable and hence could better explain the phenomenon under investigation. This aspect also facilitated the process of administering the questionnaire.



Source: Field survey (2024)

Figure 2 Graphical presentation of the distribution of respondents by their faculty/school

From the above analysis presented on figure 2 above, it can be observed that the faculties of Arts (10.6%), Economics and Management Science (10.0%) constituted the highest number of respondents, followed closely by the faculty of Law and Political Science (9.1%), and Higher Teachers Training College (9.1%), Higher Institute of Commerce and Management (8.8%) Faculty of Health Science (8.5%), Higher Institute of Transport and Logistics (8.2%), Faculty of Education (7.6%), College of Technology and Higher Technical Teachers Training College (7.3%), respectively, Faculty of Science (7.0%) and National Polytechnic Higher Institute (6.3%).

Table 4 Distribution of respondents on ownership of digital tools

Do you own a personal Computer/Laptop/Android Phone?		
	Frequency	Percent
Yes	306	92.7
No	24	7.3
Total	330	100.0

Source: Field survey (2024)

The above table depicts that a greater proportion of the respondents had at least a digital gadget, such technological tools included; computers, laptop or android phone. All these are digital tools geared towards adapting the institution to the digitalized system. It should be recall here that all these digital tools display similar functions has far as gaining access to the different types of electronic resources across a wide variety of search engines is concerned.

Table 5 depicts that majority of the respondents access the internet for academic purpose at regular intervals, though 71 out of the 330 respondents pointed out that they only access internet at irregular intervals, suggesting that this set of respondents only made use of internet facilities only when need arises. For instance, accessing online materials in the guise of finding solutions to class assignment and/or for scientific writing endeavours (long essay, dissertation, thesis).

Table 5 Respondents' opinion on access to internet for academic purposes

How often do you access the internet for academic purposes?		
	Frequency	Percent
Very often	208	63.0
Sometimes	71	21.5
Rarely	31	9.4
Never	20	6.1
Total	330	100.0

Source: Field survey (2024)

Table 6 Respondents' opinion on the availability of e-resources

Are you aware of the availability of electronic resources in the University of Bamenda?		
	Frequency	Percent
Yes	142	43.0
No	188	57.0
Total	330	100.0

Source: Field survey (2024)

Table 6 shows that 330 students who participated in the study 142 constituting 43.0% of the total number of respondents expressed their awareness of the available e-resources in UBa, although 57% of the respondents proved otherwise. It is quite interesting and worth noting that the University has subscribed to a variety of electronic resources though, many students surprisingly are not aware of these developments. Example of such electronic resources include: Directory of Open Access Journals (DOAJ); Directory of Open Access Books (DOAJ); Directory of Open Access Repository (DOAR) and Journal Storage (JSTOR).

This finding is similar to that of the study published by Shuling (2007), who analyzed the use of electronic resources in Shaanxi University of Science and Technology. His finding depicted that nearly 80 percent of respondents knew little or nothing about the existence of electronic resources, and close to half the respondent population were able to make use of both printed and electronic resources; including print periodicals. The result of this analysis is equally opposed to the findings of the works conducted by Msonde and Ruzagea (2021), Ansari (2020). According to the analysis presented by these authors 58% of undergraduate student and 100% graduate students in the context of their research were aware of the availability of e-resources, however, their study further depicted that younger students were more acquainted with the use of the available e-resources compared to their senior counterparts. Nazir (2015) in his analysis further stresses that lack of awareness regarding the various types of e-resources and lack of library assistance are major obstacles orchestrating the low usage of e-resources in learning institutions.

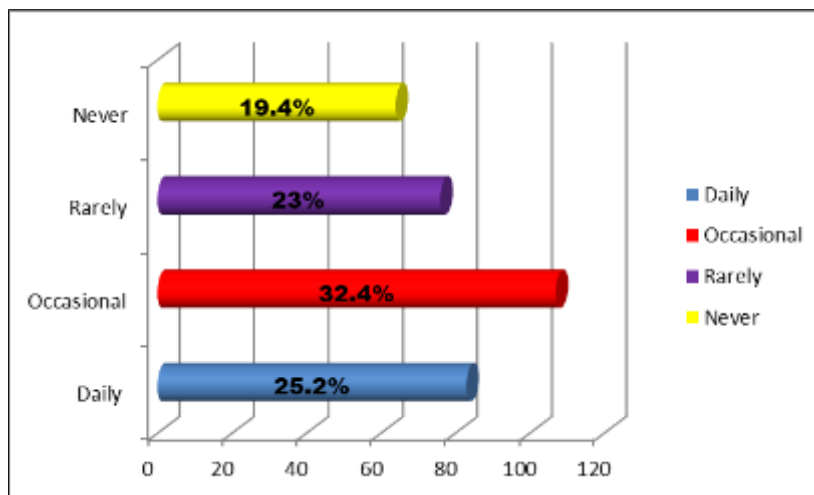
Table 7 Respondents' opinion on the various types of e-resources

E-resource	Yes	No
E-Journals	204 (61.8%)	126(38.2%)
E-reference books	145(43.9%)	185 (56.1%)
E-Theses/dissertations	117 (35.5%)	213 (64.5%)
CD-ROM	160 (48.5)	170 (51.5%)
Worldwide web	262 (79.4%)	68 (20.6%)
E-Database	182 (55.2%)	148 (44.8%)

Source: Field survey (2024)

The contingency table above hosts the frequency distribution of respondents’ opinion on the awareness of the various types of e-resources, on a broader perspective. It indicates that an overwhelming majority of the respondents representing 79.4% are most familiar with the worldwide web, closely followed by 61.8% who pointed out to e-journal, 55.2% representing e-database, 48.5% for CD ROM, e-reference book (43.9%) and surprisingly, the least proportion (35.5%) were aware of the availability of e-theses/dissertations.

On the other hand, when asked on the frequency of access and use of the various types of the e-resources 57.6% (representing 25.2% and 32.4%) indicated that they access and make proper use of these resources daily or at least sometimes. Unfortunately, 140 of the students, constituting 42.4% of the total number of respondents frantically pointed out that they rarely or have never accessed nor made use of either of the e-resources. This is controversial given that the university is that phase of education that cannot escape the wave of research and as such has intensively been affected by the new technological wave (figure 3 below).



Source: Designed by Authors (2024) using SPSS 23

Figure 3 Respondents’ opinions on frequency of access and use of e-resources

Table 8 Respondents appreciation of how e-resources have influence research and innovation in The University of Bamenda

Opinion Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
E-resources enhance research and improve the quality of the presentation of research findings	99 (30.0%)	146 (44.2%)	43 (13.0%)	39(11.8%)	3(.9%)
It facilitates the process of accessing up-to-date information and data on a diversity of research areas.	112 (33.9%)	175 (53.7%)	40(12.1%)	3 (.9%)	0 (0.0%)
With the availability of e-resources students are able to access research materials across a variety of search engines.	123 (37.3%)	162 (49.1%)	37 (11.2%)	6 (1.8%)	2 (.6%)
Obtaining materials/publishing using an electronic medium is faster and less costly.	88 (26.7%)	165 (26.7)	49 (14.8%)	25 (7.6%)	3 (.9%)
Unrestricted access to and use of e-resources gives room to research malpractices	114 (34.5%)	144 (43.6%)	11 (3.3%)	21 (6.4%)	40 (12.1%)
Unrestricted access to and use of e-resources gives room to research malpractices	114 (34.5%)	144 (43.6%)	11(3.3%)	21(6.4%)	40 (12.1%)
With the availability of e-resources students are able to apply for and obtain funds/grants for their research.	56 (17.0%)	110 (33.3%)	56 (17.0%)	80 (24.2%)	28 (8.5%)

Strongly Agree (SA), Agree (A), Neutral (N), Disagreed (D) Strongly Disagreed (SD) Source: Field survey (2024)

An overall observation of the statistical details presented on table 8 above which submits the opinions of respondents on whether or not E-resources enhance research skills, and improves the quality of the presentation of research findings. The analysis depicts that majority of the respondents are in agreement (30% for strongly agree and 44.2% for agree), 43 of them constituting 13% of the respondents stood on grounds of neutrality; they neither agreed nor disagreed the impact of e-resources on the quality of their presentation of research findings, however, 12.7% thinks otherwise.

Another observation depicts that a considerable number of the respondents constituting 86.9% were of the opinion that the availability of e-resources greatly facilitates the process of gaining access to up-to-date information in diverse areas. 20.8% of the respondents held contrary views, an indication that perhaps these resources have in some ways not explored every human endeavors or under exploration/exploitation of some areas.

Moreover, out of the 330 students sampled for this study 285 of them indicated that with the availability of numerous electronic resources students are able to access research materials across a variety of search engines. Here, it is interesting to point out that this finding showcases the level of exposure of the respondent to the scholarly world. 11.8% of the respondents were indifferent, however, a few of the respondent held opposing views.

Accordingly, a considerable proportion of the respondents equally affirmatively indicated the affordability of electronic resources. 75.7% (50% for agree and 25.7% for strongly agree) submitted that obtaining materials and/or publishing using an electronic medium is faster and less costly, an indication that e-resources are cost effective compare to the traditional media print documents. 14.8% of the respondents on the other hand neither agreed nor disagreed, however, a small proportion of the respondents still perceive access to e-resources to be costly and quite challenging.

In another dimension, 71.8% of the respondents purported that unrestricted access to and use of e-resources gives room to research malpractices as oppose to 18.5% of the respondents who expressed dissatisfactory views. Research or scientific malpractice generally include any of the following; plagiarism, collusion, fabrication or data falsification, ethical misconduct as well as any other practice that could result to unearned or undeserved credit which are unlawful and illegal activities practices, deemed punishable by law. Lastly, 53.3% of the respondents affirmed that with the availability of e-resources enable students to apply for and obtain funds/grants for their research, from donor institutions, funders and other institutions electronically, without necessarily displacing them from the destinations.

4. Conclusion

E-Resources have widely been used by scholars (students) at various levels of higher education. Recent studies show that scholars awareness of and access to these resources play significant roles in enhancing scholarly activities; by providing avenues for up-to-date data across wide variety of search engines while saving time and cost. Hence, the proliferation of information and communication technology into the educational process and utilization has remarkably benefited students in their scholarly endeavours. However, the study reveal that majority of students lack awareness on the availability of the online; as well as offline e-library resources in the University of Bamenda. This study suggests that The University of Bamenda should intensify trainings on the access as well as creating awareness among students on the availability of its e-resources, including the wide variety of services provided by the University's Central Library.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual respondents included in the study. The respondents were equally informed of the confidentiality of their responses. To ensure anonymity of responses, the data collection instrument did not require the disclosure of any personal information from the respondents.

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Appendix I

Krejcie & Morgan table for Sample Size Determination

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note.—*N* is population size. *S* is sample size.
Source: Krejcie & Morgan, 1970