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Investigating Awareness and Usage of Electronic Information Resources by the Engineering Students of NMIMS (Deemed to be University), Mumbai

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Abstract: *During Covid-19 restrictions, electronic information resources have become a prominent source in the library. Most of the university academic activities heavily depend on electronic resources because they are easy to share, refer and communicate to the audience. This study investigates the awareness and usage of electronic information resources subscribed to by the university library. The well-designed online questionnaire helps to collect data from Undergraduate, Postgraduate, and Integrated engineering programs. A total of 232 filled questionnaires were received for the study. The data analysis shows that 91.38 % of the respondents know that electronic resources are available in the library, and the internet speed (56.90 %) is a significant hindrance in using resources. The detailed analysis of this study was discussed, and suggestions were also given to improve the awareness and usage of electronic information resources.*

Keywords: ***Awareness of library resources; Use of library resources; Electronic information resources; Engineering library; NMIMS university***

Introduction

The transformation of the digital or digital shift has remarkable development in information communication and the publication sector. Today information is available in various digital forms; it may be an e-book, e-journal, e-report, e-thesis, e-database, and many more. Electronic information resources are accessible only on electronic devices like computers, laptops, or mobile. All these resources are communicated or accessed through a robust networking system. Bharath Kumar (2019) felt that many online service providers, like Amazon, Flipkart, Snapdeal, etc., are successful in their business because they fulfill user expectations. In the library and information science field also, professionals should provide library services based on user needs and requirements; then, only the institute's goals will be achieved.

On 1st October 2022, Shri. Narendra Modi, Prime Minister of India, inaugurated the 5G network services in India to boost economic activities and empowerment through high-speed internet (Doval, 2022). This service will also impact the utility of electronic information resources in academic libraries. The library users can quickly retrieve and download the required information from their devices and tremendously increase resource usage.

The Covid-19 pandemic has forced us to adopt new tools and techniques in every area. Many tools are also introduced in the library and information science center for easy and fast information communication. Mohan et al. (2021), in a study, expressed that in the Manipal Academy of Higher Education library, e-resources access is provided through a remote access tool, and Nagarkar (2020) elaborated in his study that many publishers provided access to various high-quality journals to pubic to bridge the digital divide.

NMIMS library also subscribes to various online databases to cater to the needs of library users. Now, the time has arrived to study how much students depend on electronic information resources. The analysis of library users' awareness, use, and obstacles is tricky because they include many aspects. In the present study, efforts are made to analyse awareness, usage, and obstacles encountered while accessing the electronic information resources by engineering students of NMIMS (deemed to be university), Mumbai campus.

Importance of electronic information resources

Electronic information resources (E-resources) are essential for the university's teaching, learning, and research work because they disseminate current and nascent information. These resources communicate information to the reader before publishing in a print format. Many e-resources encourage users to provide direct feedback on the author's work through their

website. Devi & Devi (2005) expressed in their study that e-resources offer a powerful search facility to perform effective literature searches. It also provides navigation directly from indexing databases to the full text of an article. Further, users can access related studies' article links in the databases.

Library professionals can generate the usage statistics of the e-resources to improve services in the library. The effective management of e-resources can achieve ever-changing user expectations in the library. Roy & Barooah (2019) expressed that e-resources are available 24 X 7 online and are easy to use.

NMIMS MPSTME

The Narsee Monjee Institute of Management Studies, Mumbai, is known as NMIMS established by the Shri Vile Parle Kelavani Mandal (SVKM). Mukesh Patel School of Technology Management and Engineering (MPSTME) is one of the schools of NMIMS for engineering programs. Today NMIMS emerged as one of the reputed universities offering multiple disciplines across multiple campuses. NMIMS is accredited by the National Assessment and Accreditation Council (NAAC) with a 3.59 CGPA and got a category 1 university status by the University of Grant Commission (UGC). Accreditation Board Engineering and Technology (ABET) accredits the MPSTME, and the All India Council for Technical Education (AICTE) approved various institute programs. The library has a vibrant collection of both print and non-print resources.

Purpose of the study

Being a multi-discipline university, it has various schools on eight campuses. To cater to the needs of faculty members and students and achieve defined goals, the university is spending vast amounts of money on library information resources. This study is designed to investigate the engineering students' awareness and usage of electronic information resources at NMIMS, Mumbai.

Literature review

The literature review is an essential component of the study; also it identifies the gaps in existing knowledge for future research. The present study focuses on the various elements of awareness and usage of electronic information resources at national and international levels. Soni et al. (2018) reveal that in the Jiwaji university survey, most research scholars use open-access resources, i.e., Shodhganga and DOAJ, compared to paid resources. Vanik & Gambit's (2022) study expresses that most respondents are satisfied with the e-resources, and searching

is a major barrier while accessing the resources; respondents have given equal importance to electronic and print resources.

Adenariwo's (2022) study found that the undergraduates of Fountain university, Nigeria are aware of and highly use electronic information resources; the author also opined that training is essential to enhance the usage of resources. Rehman & Ramzy's (2004) study revealed that the awareness of electronic information resources of health science faculties at Kuwait university is low. Time constraints, poor skills, and lack of awareness are the leading causes, and proper orientation may enhance awareness. Bellary & Surve's (2019) study expresses that electronic resources were used significantly for research and learning purposes; it is also found that hectic schedules in the institute prevent the faculty members' effective use of the resources.

Owolabi et al. (2016) study indicates that the usage of electronic information resources at the University of Ibadan by undergraduate students is low because of inadequate power supply, electronic resources, and facilities available in the library were identified as critical factors. However, in the same university, Dare & Kenneth's (2017) study shows that interrupted power supply, computer speed, lack of search techniques, and internet browsing are the main constraints for low usage of electronic information resources by postgraduate students. Osinulu's (2020) study also found that awareness of electronic information resources is low in the college of health sciences at Olabisi Onabanjo University, Nigeria. Inadequate computers, irregular power supply, and slow internet speed were major barriers to low use of the resources.

Nazir's (2015) study reveals that lack of awareness among users regarding available types of electronic information resources in the library and lack of library assistance cause the low usage of resources in the University of Kashmir library. But. Sharma's (2018) study indicates that awareness of electronic resources available at Swami Shraddhanand College is high, and finding relevant information is the main issue among the user community. The Sadlapur et al. (2022) study explores that the library professionals' live demonstration of library e-resources and the faculties' proper guidance will help library users to find the required information from the relevant information resources.

Objectives of the study

The main objective of the present study is to investigate the awareness and usage of electronic information resources by the engineering students of NMIMS, Mumbai. The other objectives designed for the study are as follows.

1. To know the purpose of the visit to the library.

2. To assess which type of electronic information resources are used frequently.
3. To discover the purpose of using electronic information resources.
4. To determine hindrances encountered while accessing the electronic information resources, and
5. To investigate awareness and use of electronic information resources available at the campus.

Methodology

Considering the above objectives, the study adopted a survey design. A structured questionnaire was prepared to collect data from the users on awareness and usage of electronic information resources at NMIMS by engineering students. Sufficient time was given to fill out the questionnaire. Data analysis was done with the help of Excel.

Scope and Limitations of the study

The scope of the study is limited to the awareness and use of electronic information resources by engineering students of NMIMS, Mumbai campus.

Data analysis and Interpretation

The study's finding is based on the data collected from the engineering students of NMIMS, Mumbai, through a structured questionnaire and Excel tables used for data analysis. The interpretation of data of the present study is as follows.

Frequency of visits to the library:

The famous British Author J. K. Rowling said, "*When in doubt, go to the library.*". The perfect statement for engineering students. Engineering is the study of finding solutions for technical problems. Students must be referred to various resources to find the appropriate solutions for the problem. The library is the only place where students can get a vast number of resources to find suitable solutions to problems. A question was asked to the students on the *Frequency of visits to the library*.

Table 1: Frequency of visits to the library

Sr. No.	Frequency of visits to the library	Respondents	Percentage
1.	Every day	100	43.11
2.	Weekly	081	34.91
3.	Monthly	020	08.62
4.	Occasionally	031	13.36
	Total	**232**	**100.00**

Table 1 presents the frequency of visiting the library. In the busy schedule of daily classes, practicals, and other co-curricular activities, students were using library resources to a great extent. The level of frequency of visits to the library in the institute is high among students as the majority of the users, i.e., 43.11%, indicated that they visit the library every day, followed by 34.91% of respondents who visit the library every week, 13.36% of respondents indicated they visit the library occasionally, and 8.62% of respondents visit the library every month. Hussain & Abalkhail's (2013) study also shows that many respondents visit the library daily.

Purpose of visit to the library:

As Norwegian writer Jon Bing said, "*To ask why we need libraries at all, when there is so much information available elsewhere, is about as sensible as asking if roadmaps are necessary now that there are so very many roads*." The library's primary purpose is to fulfill the never-ending needs of the users. The library offers various services to its users. The table-2 shows the purpose of the visit to the library.

Table 2: Purpose of visit to the library

Sr. No.	Purposes	Respondents	Percentage
1.	To access e-resources	075	32.33
2.	To prepare for an examination	200	86.21
3.	To complete classwork	179	77.16
4.	To update my knowledge	104	44.83
5.	To read Newspapers	039	16.81
6.	To borrow library resources	101	43.53
7.	To refer to print periodicals	034	14.66

Table 2 reveals that students visited the library for various purposes. In this regard, the majority of the respondents, i.e., 86.21%, visit the library for the preparation of an examination, followed by 77.16% of respondents who visit the library to complete classwork, 44.83% of respondents indicated they use the library to update their knowledge, 43.53% of respondents visit the library for borrow library resources, 32.33% of respondents use the library to access available e-resources, 16.81% of respondents visit the library to glance newspapers and 14.66% of respondents visit the library to refer print periodicals available in the library. The library plays a vital role in achieving students' goals. Based on data analysis, it can be observed that users are utilizing library services for various purposes. Arthur et al. (2013) study also indicates that preparation for an examination is the primary purpose of a visit to the library.

Access to Information:

As quoted by William Pollard, "*Information is a source of learning. But unless it is organized, processed, and available to the right people in a format for decision making, it is a burden, not a benefit."* The library is an organization where information is stored systematically and can be used for many purposes. Table 3 shows the sources of information where engineering students find their required information.

Table 3: Access to Information

Sr. No.	Information resources	Respondents	Percentage
1.	E-resources	129	55.60
2.	Print resources	121	52.16
3.	Internet search engines	136	58.62
4.	National digital library	050	21.55

At the NMIMS library, students can access information from various types of resources such as e-resources, print resources, internet search engines, and the national digital library. Table 3 presents where engineering students find their required information. In this regard, the majority of the respondents, i.e., 58.62%, prefer various internet search engines to find the required information, followed by 55.60% of respondents accessing E-resources available in the institute, 52.16% of respondents using print resources and 21.55% of respondents access National digital library to find their required information. Based on the data analysis, it is evident that e-resources are used higher percentage compared to print; it may be through search engines like google, bing, yahoo, ask, etc., along with subscribed databases.

Awareness of E-resources:

As T. Harv Eker said, "*The first element of change is awareness. You can't change something unless you know it exists*". Awareness is an ability of a human to realize or know that something exists. At the same time, e-resources play a crucial role in information dissemination. It is essential to analyse the awareness of e-resources available in the library among engineering students.

Table 4: Awareness of e-resources

Sr. No.	Awareness of e-resources	Respondents	Percentage
1.	Yes	212	91.38
2.	No	020	08.62
	Total	**232**	**100.00**

Table 4 shows the level of awareness of e-resources available at the institute. The data reveals that the level of awareness is high among students as the majority of the respondents, i.e., 91.38%, said they are aware of e-resources available in the library; it is fascinating to know that 8.62% of respondents need to be aware of e-resources available in the library. Awareness is very much essential to get good ROI on e-resources. To achieve 100% awareness among students, the library has sent email alerts to all students. The study by Jamuna & Dhanamjaya (2021) also shows that the awareness of available e-resources is high among library users.

Status of Computer Knowledge:

Computer literacy is highly recommended to retrieve the pinpointed information from the subscribed databases. It is required various search strategies and techniques. Table 5 shows knowledge about computer functions and how to use them.

Table 5: Computer Knowledge

Sr. No.	Status of computer knowledge	Respondents	Percentage
1.	Excellent	073	31.47
2.	Good	102	43.97
3.	Fair	039	16.81
4.	Satisfactory	018	07.75
	Total	**232**	**100.00**

Table 5 shows the computer literacy of engineering students. The majority of the respondents, i.e., 43.97% have Good knowledge of operating computers; this is followed by 31.47% having Excellent knowledge of computers, 16.81% of respondents having fair knowledge of computers, and 7.75% of respondents having satisfactory knowledge of computers. The above data shows that all respondents are familiar with the basic knowledge of computer functions. Padme & Dhande's (2014) study also indicates that most of the students know computer operations.

Frequency of Internet Access:

Institute has a strong Wi-Fi connection to provide unlimited internet access to all. The internet is essential for students to communicate information and access information resources. Table 6 shows the frequency of internet access of the respondents.

Table 6: Frequency of Internet Access

Sr. No.	Frequency	Respondents	Percentage
1.	Always	110	47.41
2.	Weekly	035	15.09
3.	Monthly	010	04.31
4.	As and when required	077	33.19
	Total	**232**	**100.00**

Table 6 shows the frequency of internet access by engineering students. It is noticeable from the data analysis that most of the respondents, i.e., 47.41%, consistently access the internet. This is followed by 33.19% of respondents accessing the internet as and when required, 15.09% of respondents accessing the internet every week, and 4.31% of respondents accessing the internet every month. The data analysis shows that a much higher percentage of respondents are accessing the Internet for information communication. Hossain & Rahman's (2017) study also expresses that the majority of the respondents access the Internet frequently.

Purpose of Internet Access:

The Internet is used for information generation and communication with others. Chirwa (2018) pointed out in the study that the internet is highly used to access online resources to replace expensive print information resources in academics. Table 7 shows the purpose of internet access by engineering students.

Table 7: Purpose of Internet Access

Sr. No.	Purpose of Internet	Respondents	Percentage
1.	To study	213	91.81
2.	To research	198	85.34
3.	To chat/email	125	53.88
4.	Entertainment	090	38.79

As table 7 data analysis indicates, the majority of the respondents, i.e., 91.81%, access the internet for study purposes, followed by 85.34% access the internet for research purposes, 53.88% of respondents access the internet for chat/email purposes, and significantly less number of respondents, i.e., 38.79% for entertainment purpose. The analysis found that the internet is rapidly used for educational purposes like study and research. Thus, in the survey conducted by Dogruer et al. (2011), the results are the same as the majority of the respondents accessing the internet as an educational tool.

Types of E-resources frequently used:

As Sarah Mass said, "*Libraries were full of ideas – perhaps the most dangerous and powerful of all weapons*." The library is the heart of any academic institute for collecting and disseminating information to the end user. Table 8 shows the types of e-resources used by engineering students.

Table 8: Types of E-resources frequently used

Sr. No.	E-resources	Respondents	Percentage
1	E-Journals databases	102	43.97
2	E-books databases	173	74.57
3	Research databases	136	58.62
4	Statistical databases	065	28.02
5	Legal databases	031	13.36
6	National digital library	063	27.16

Table 8 presents the various e-resources used by engineering students. The analysis shows that students were familiar with the available e-resources for multiple education purposes. Therefore, the majority of the respondents, i.e., 74.57%, prefer e-books databases, followed by 58.62% of respondents prefer research databases, 43.97% of respondents prefer e-journals databases, 28.02% of respondents prefer statistical databases, 27.16% of respondents prefer national digital library contents and 13.36% of respondents prefer legal databases. Based on the above data analysis, it can be noted that many engineering students are using full-text databases like e-journals, e-books, and research databases, compared to other databases like statistical, national digital library, and legal databases. Rahman & Khare's (2020) study demonstrates that bibliographic databases and e-books are the most frequently used electronic resources.

Purpose of using e-resources:

As R. David Lankes said, "*Bad libraries build collections, good libraries build services, great libraries build communities*." The library plays a crucial role in shaping society and the young generations of the nation. Table 9 presents the various purposes of using e-resources by the students.

Table 9: Purpose of using e-resources

Sr. No.	Purpose	Respondents	Percentage
1	Study purpose	210	90.52
2	To do research work	156	67.24
3	To submit class assignments	162	69.83
4	To update knowledge	089	38.36
5	To prepare for competitive exams	071	30.60

It is evident from Table 9 that most of the respondents, i.e., 90.52% use e-resources for study purposes, followed by 69.83% of respondents who use them to submit class assignments, 67.24% of respondents use them for their research work, 38.36% of respondents use them for to update their knowledge, and 30.36% of respondents use to prepare for competitive exams. The data analysis is encouraging because e-resources are a boon for engineering students to achieve their carrier goals. Thanuskodi's (2012) study shows that most respondents access e-resources for writing papers and studying their coursework.

Frequency of use of e-resources

As Jamie Ford says, "*The library is like a candy store where everything is free*." NMIMS library subscribes to many e-resources for students and faculty members and provides access. The study has framed a question to know the frequency of use of these e-resources.

Table 10: Frequency of use of e-resources

Sr. No.	Frequency	Respondents	Percentage
1	Regularly	090	38.79
2	Occasionally	127	54.74
3	Hardly	015	06.47
	Total	**232**	**100.00**

Table 10 presents the level of utilization of e-resources by engineering students. The data analysis is fascinating to know that the majority of the respondents, i.e., 54.74% indicated they are using e-resources occasionally, followed by 38.79 % of respondents using them regularly and only 6.47 % of respondents using them hardly. These findings also match with Dukper et al. (2018) study result, which shows that the level of utilization of e-resources is low among the student community.

Influence made to know about e-resources

As Patrick Ness said, "*Librarians are tour guides for all the knowledge*," it is very true because academic libraries invest vast amounts of money in collection development in various formats. To enhance awareness among users, the library should arrange several user-centric events. NMIMS library professionals are regularly arranging events on the marketing of library resources.

Table 11: Influence made to know about e-resources

Sr. No.	Variable	Respondents	Percentage
1	Library professionals	187	80.60
2	Faculties	125	53.88
3	Friends	123	53.02

Table 11 indicates that the majority of the respondents, i.e., 80.60%, are known by library professionals' orientations, followed by 53.88% of respondents known by faculty members' guidance and 53.02% of respondents known by friends. The above data indicate that library professionals play an active role in promoting library resources. However, the Hadagali et al. (2012) study reveals that the respondents are known by trial and error.

Advantages of using e-resources

As Taylor Swift said, "*Books train your mind to imagination to think big*," so it has become crucial for students and faculties to use e-resources to strengthen their knowledge. Table 12 presents the benefits of accessing e-resources.

Table 12: Advantages of using e-resources

Sr. No.	Advantages	Respondents	Percentage
1	More informative	129	55.60
2	Time-saving	144	62.07
3	Easy to use	145	62.50
4	Get current information	101	43.53
5	Less cost	139	59.91

Table 12 indicates that the majority of the respondents, i.e., 62.50%, agree that e-resources are easy to use, followed by 62.07% of respondents who agree that e-resources are time-saving, 59.91% of respondents felt that e-resources are less cost, 55.60% of respondents agree for e-resources are informative resources, and 43.53% of respondents agree that e-resources provide current information on their choice. The data analysis shows that e-resources are very important

for the student community. The study results of Chandrashakara et al. (2021) show that respondents are satisfied with the benefits of using e-resources.

Hindrances in using e-resources

The primary aim of the library is to cater to the user's needs. But some hindrances prevent the effective use of e-resources. Table 12 explores the main hindrances that affect the usage of e-resources.

Table 12: Hindrances in using e-resources

Sr. No.	Hindrances	Respondents	Percentage
1	Slow speed of the Internet	132	56.90
2	Lack of information literacy skills	045	19.40
3	Lack of training	095	40.95
4	Contents are not suitable for me	048	20.69
5	Time-consuming	065	28.02
6	Technical issues	110	47.41

Table 12 presents information on hindrances encountered while accessing the e-resources. It is found that 56.90% of respondents facing a slow level of internet speed, followed by 47.41% of respondents facing technical issues, 40.95% of respondents facing lack of training, 28.02% of respondents facing time-consuming in finding the correct information, 20.69% of respondents facing contents are not suitable and 19.40% of respondents facing lack of information literacy skills. If authorities find the proper solutions to hindrances, users will access e-resources uninterrupted.

Awareness and use of engineering online databases

As Henry Ward Beecher says, "*A library is not a luxury but one of the necessities of life*." To achieve institute goals and shape the students' carrier, the library subscribes to many e-resources. Table 13 shows the awareness and utility of engineering online databases.

Table 13: Awareness and use of engineering online databases

Sr. No.	Databases	Aware	Percentage	Use	Percentage
1	ASME	209	90.09	135	58.19
2	DELNET	210	90.52	134	63.81
3	Ebrary (E-Books)	195	84.05	178	76.72
4	Ebsco	210	90.52	132	62.86
5	IEEE	212	91.38	172	81.13
6	National Digital Library	202	87.07	161	79.70
7	NPTEL	199	85.78	148	74.37

8	Pearson (E-Books)	199	85.78	165	82.91
9	ProQuest	208	89.66	139	66.83
10	Science Direct	198	85.34	164	70.69
11	Springer	204	87.93	160	78.43

Table 13 indicates the students' awareness and utility of available e-resources. In this case 91.38% of respondents were aware that the library is subscribing IEEE (Institute of Electrical and Electronics Engineers) database and out of which 81.13% of respondents are using this database, 90.52% of respondents aware that the library is providing access to DELNET (Developing Library Network) and Ebsco databases out of which 63.81% of respondents using DELNET and 62.86% of respondents using Ebsco database, 89.66% of respondents aware that library is subscribe to ProQuest central out of which 66.83% of respondents using this database, 87.93% of respondents aware that library is subscribing Springer engineering collection out of that 78.43% of respondents using it, 87.07% of respondents aware that library is member of National digital library out of that 79.70% of respondents using it, 85.78% of respondents aware that library is providing access to NPTEL (National Programme on Technology Enhanced Learning) resources and Pearson e-books out of that 82.91% of respondents using Pearson eBooks whereas 74.37% of respondents using NPTEL, 85.34% of respondents aware that library is providing access to Science direct collection out of that 82.83% of respondents using it, and 84.05% of respondents are aware that library is subscribing to Ebrary eBooks database out of that 91.28% of respondents using it. The data analysis indicates that the majority of the databases are used in the library. Verma's (2016) study reveals that respondents are aware of and use the subscribed databases for various purposes.

The major finding of the study

1. The majority of the students (43.11%) visit the library on a daily basis.
2. It is found that preparation for an examination (86.21%) and completing classwork (77.16%) are the primary purposes for visiting the library.
3. The data analysis found that the majority of the respondents (58.62%) are using various search engines to get their required information and (55.60%) access e-resources.
4. The study found that most of the students (91.38%) are aware of e-resources available in the library.
5. Most of the respondents in the study, i.e., 74.57%, use eBooks databases.
6. It can be observed that the majority of the respondents, i.e., 90.52% use e-resources for the study purpose.

7. It is surprising to note that most of the respondents, i.e., 54.74%, occasionally access e-resources.
8. Respondents (80.60%) believe that library professionals are motivated to use e-resources.
9. Time-saving (62.07%) and easy-to-use (62.50%) are the main advantages of accessing e-resources.
10. The speed of the internet (56.90%) prevents the effective use of e-resources.

Recommendations

- Periodically, library/database orientation programs would be arranged for all library users. This will encourage awareness and utility of the available online resources and services.
- To attract non-users of e-resources, library professionals should convert them into potential users by taking necessary effective steps with the help of surveys, interviews, or observations.
- Library professionals should arrange brainstorming sessions with the vendor/publisher of the database to discuss with library users on various new features available in the resources.
- Most of the time, students are busy in attending class and other academic activities. The faculty members should motivate to use e-resources for shaping their carrier.
- The institute should provide better internet connectivity service and technical support in providing better access to e-resources to the user.

Future research

The present study is limited to only students of engineering programs at NMIMS University, Mumbai. Being a multi-site and multi-discipline university, it is very much essential to arrange such type of studies in all campuses and other disciplines also, like Law, Management, Science, Commerce, Pharma, etc.,

Conclusion

Any academic library's primary aim is to fulfill the goals of the parent organization, for this library should acquire relevant information resources and make them readily available for use. In this digital environment, academic libraries have radically changed the information environment. In university, researchers and teachers are the primary users who need to be pinpointed, exhaustive, and updated information. Library professionals can use e-resources to

provide information services in the library's digital communication medium. It is also noticed in the literature survey that some of the resources are free to use, and some are available with subscription prices. Hence, it is very much necessary that in any academic library, e-resources should be maintained more efficiently and effectively by experienced professionals to improve the advantages accruing from the e-resources, along with the traditional library collections like print periodicals, books, and newspapers.

References

1. Adenariwo, F. K. (2022). Awareness and usage of e-resources among undergraduates in fountain university, Osun state, Nigeria. *Library Philosophy and Practice,* 1-13.

2. Arthur, C. et al. (2013). The Use of Academic Libraries among Students in Tertiary Institutions in the Sunyani Municipality, Ghana. *Journal of Education and Practice, 4*(2), 117-126.

3. Bellary, R. N., & Surve, S. (2019). E-resources are boon for the teaching and research work of an academic institute: A survey on usage and awareness of e-resources by the NMIMS (deemed university) engineering faculties, Mumbai. *Library Philosophy and Practice,* 1-12.

4. Bharathkumar (2019). Digital Transformation: Need for the Transformation of Libraries into Digital Libraries. International Conference on Digital Technologies and Transformation in Academic Libraries.

5. Chandrashakara, J. et al. (2021). Use and Access of E-Resources among Students in the National Institute of Engineering College Library in Mysuru: A Study. *Library Philosophy and Practice,* 6123.

6. Chirwa, M., (2018). Access and use of the internet in teaching and learning at two selected teachers' colleges in Tanzania. *International Journal of Education and Development using Information and Communication Technology, 14*(2), 4-16.

7. Dare, S. A., & Kenneth Ivo, N. N. (2017). Availability, use, and constraints to use of electronic information resources by postgraduate students at the university of ibadan. *International Journal of Knowledge Content Development & Technology, 7*(4), 51-69.

8. Devi, T. S., & Devi, K. S., (2005). Management of E-Resources in the Modern Library Information System: An Outlook. *Planner 2005,* 360-364.

9. Dogruera, N., et al., (2011). The use of the internet for educational purposes. *Procedia - Social and Behavioral Sciences, 28,* 606-611.

10. Doval, P., (2022). India rings in new era, enters select 5g club. *Sunday times, XXXIII* (1), 1.

11. Dukper, K. B., et al. (2018). Awareness and Utilization of Electronic Library Resources by Students of Tamale Technical University, Ghana. *Library Philosophy and Practice (e-journal).* 2078.

12. Hadagali, et al., (2012). Use of Electronic Resources by Post-Graduate Students in Different Universities of Karnataka State. *International Journal of Information Dissemination and Technology, 2*(3), 189-195.

13. Hussain, A., & Abalkhail, A. M., (2013). Determinants of library use, collections, and services among the students of engineering: a case study of King Saud University. *Collection Building, 32*(3), 100-110.

14. Hossain, A., & Rahman, H., (2017). Comparative Study of Internet Usage Among University Students: A Study of the University of Dhaka, Bangladesh. *European Scientific Journal, 13*(34), 134-150.

15. Jamuna, K., & Dhanamjaya, M., (2021). A Study on Awareness and Ease of Using E-Resources with Special Reference to Bengaluru City University Affiliated Colleges. *Library Philosophy and Practice (e-journal), 6734*, 1-11.

16. Nagarkar, S., (2020). COVID-19: The role of a library during a pandemic. The bridge chronicle. https://www.thebridgechronicle.com/opinion/covid-19-role-library-during-pandemic-49537 (Retrieved on 15th October 2022).

17. Nazir, T. (2015). Use and Adequacy of E-Resources by the Research Scholars and Students of the University of Kashmir in Science & Social Science Faculties: A Case Study: Research Trends. *Brazilian Journal of Information Science, 9*(1), 1-16.

18. Osinulu, L. F., (2020). Awareness and Use of Electronic Information Resources by Students of College of Health Sciences in Olabisi Onabanjo University, Nigeria. *Journal of Information and Knowledge Management, 11*(3), 1-11.

19. Owolabi, S. et al. (2016). Utilization of Electronic Information Resources by Undergraduate Students of University of Ibadan Undergraduate Students sciences and Education. *Journal of Education and Practice, 7*(13), 30-36.

20. Padme, S. L., & Dhande, S., (2014). Assessment of Computer and Information Literacy among Students. *Journal of Advances in Library and Information Science, 3*(1), 61-66.

21. Rehman, S., & Ramzy, V., (2004). Awareness and use of electronic information resources at the health sciences center of Kuwait University. *Library Review, 53*(3), 150-156.

22. Rahman, M. R., & Khare, V. P., (2020). Utilization of Electronic Resources by the Library Users of Central Library of North Bengal University, Siliguri: A Case Study. *Library Philosophy and Practice (e-journal).* 2078.

23. Roy, A., & Barooah, P. K., (2019). Importance of E-resources In Providing Quality Library Services In Selected University Libraries of North Eastern Region of India. *IOSR Journal of Humanities and Social Science, 24*(10), 9-20.

24. Sadlapur et al., (2022). User Gratification with NMIMS (Deemed to be University) Prof Y.K. Bhushan Information and Knowledge Resource Centre Resources and Services, Mumbai, India: An Academic Students Perspectives, *PEARL - A Journal of Library and Information Science, 16*(2), 89-97.

25. Sharma, N., (2018). Use of E-Resources by the Faculty Members and Students: A Study of Swami Shraddhanand College, University of Delhi, Delhi. *Journal of Indian Library Association, 54*(3), 163-172.

26. Soni, N. K., et al. (2018). Awareness and usage of electronic resources among LIS scholars of Jiwaji university, Gwalior: A survey. *DESIDOC Journal of Library & Information Technology, 38*(1), 56-62.

27. Thanuskodi, S., (2012). Use of E-resources by the Students and Researchers of Faculty of Arts, Annamalai University. *International Journal of Library Science, 1*(1), 1-7.

28. Vanik, H., & Gamit, R. M., (2022). Awareness and Usage of Electronic Resources among Students of Arvindbhai Patel Institute of Environmental Design. ICKHI 2022, 11-12 April 2022, 268-275.

29. Verma, S., (2016). Use of Online Databases in Central Science Library, University of Delhi: A Survey. *DESIDOC Journal of Library & Information Technology, 36(*2), 104-107.