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Keshav Ramesh Dhuri Dr

*Sant Sohirobanath Ambiye Govt. College of Arts & Commerce, Pernem Goa (India),
dhuri.keshav@gmail.com*

Jovita Lobo Ms

St. Xavier's High School, Moira Bardez Goa (India), jovita0056@gmail.com

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Exploring the Boundless Influence of Electronic Resources on the Patrons of Medical and Engineering College Libraries

Dr. Keshav Ramesh Dhuri

Librarian,

Sant Sohrobanath Ambiyé Govt. College of Arts & Commerce, Pernem Goa (India)

ORCID: <https://orcid.org/0000-0002-2013-6090>

dhuri.keshav@gmail.com

Ms. Jovita Lobo

Librarian

St. Xavier's High School, Moira Bardez Goa (India)

ORCID: <https://orcid.org/0000-0001-8768-1475>

jovita0056@gmail.com

ABSTRACT

The present research study is a snapshot of the influence and use of e-resources by the patrons of Engineering and Medical Colleges in the state of Goa. Living in the digital era, e-resources are increasingly important to all aspects of education from learning to teaching. The study aims at exploring the boundless influence of e-resources on the patrons, the use and needs and also the availability of e-resources in the libraries of medical and engineering colleges in Goa. The data for the study is gathered from 960 users which comprised of students and faculty. The exploration discovered that the use of e-resources in these two fields are increasing. E-resources provide incredible benefits and have a boundless influence over the minds of the patrons. It is also ascertained that there are a number of areas of good practices and innovative utilization of e-Resources for teaching and learning. The study suggested that Librarians have to take information literacy programs for users at regular intervals to develop searching capabilities of the patrons. The study proved that majority of the patrons (89%) is aware of the various types of E-Resources available in their field. The study proved that 85% of the patrons are extremely satisfied using e-resources in engineering and medicine discipline.

KEYWORDS: Electronic resources, Medical Colleges, Engineering Colleges, Goa, India, E-books, E-Journals, E-Databases.

INTRODUCTION

We are presently living in the age of information technology that has phenomenally advanced the ways of functioning of the libraries, providing services to the patrons as well as the forms of library resources. From preservation and dissemination of print resources, libraries have now moved on to embracing electronic resources. Electronic information resources or e-resources form a very important part of the collection of the library. E-resources provide incredible benefits to the patrons of the library as they can have access to the library e-resources at anytime from any location which saves ample of their time and energy. They are easily searchable and accessible to many users at one time. E-resources also provide enormous advantages to the library by saving the physical storage space and reducing the workload of the library staff. E-resources are widely used as they provide the latest up-to-date information for the scientific research and development. In the recent period, e-resources are extensively used by Research and Development staff and other clientele of the libraries to carry out day-to-day qualitative research. Electronic resources facilitate e-learning and teaching aids to cater to the changing needs of users.

Electronic resources have created a boundless influence over the minds of the library patrons. In the medical and engineering fields of education, there has been an unprecedented growth in the information due to incessant research and development. The ICT has created an immense impact in the area of medical information resources management, data storage, access and retrieval facilities progressively. The usage of E-resources has extensively expanded due its the magnificent attributes. The patrons are more accessible to the increasing visual information and digital photographic technology has facilitated to obtain functional three-dimensional (3D) images which are very interesting and helpful to the users in their respective fields of study and research. The patrons need to be updated with the latest information to upgrade their knowledge in their respective field of study. The electronic resources in the digital world represent a large investment of user's effort, money and wisdom. The library patrons should perceive the latest search techniques for optimal utilization of available electronic information resources.

What are E-Resources?

Electronic resources, is also known as e- resources, or electronic serials / documents, which are scholarly or intellectual resources that can be accessed via electronic transmission and computer networks. E-Resources are documents published in e-form only for better use and accessibility. Different scholars opined that e-Resources very useful than the traditional resources in respect of accessibility. e-Publishing is equated as: Electronic Publishing = Electronic Technology + Computer Technology + Communication Technology + Publishing

Type of E-Resources

Digital technologies have made it possible to develop resources which are published more easily, economically, speedily and comfortable to use the stored intellect data using technologies worldwide. E-Resources spread valued information for used in learning, teaching and research; and helps in achieving overall development of the information society. The different types are eResources are e-books, e-Journals; databases, e-mail data, internet published material, web published resources and digital documents of any type includes all primary, secondary and tertiary sources. . Electronic information sources are becoming more and more important for the academic community. Advent of technologies has made the libraries to add new things and services from its digital collections to users more comfortably. The more prominent e-Resources are discussed in the table below based on role, types of e-Resources and utility in libraries:

Sr. No	Type of e-Resource	Description of e-Resources
1	e-Books	e-Books are available in many format like PDF and need kindle or e-book reader to access
2	e-Journals	e-Journals forms an essential part of any library's collection as it is best primary source of information to users..
3	e-Newspapers	Useful for current information and available online or web based editions of newspaper and available using internet.

4	Databases: Bibliographic	Sources issued by indexing and abstracting agencies and provide bibliographic information in the form of abstracts for published literature in all the fields giving bibliographic details.
5	Databases: Fulltext	Full text databases are organized collection of full papers / data on a particular subject or multidisciplinary subject areas, and information within databases can be searched and retrieved electronically using free text searching mechanisms.
6	Databases: Reference Resources	Dictionaries, directories, almanacs, and encyclopedias have reference values and are available online in e-form even over internet.
7	Data Banks or Statistical Databases	Databases that contain numerical data useful for research purpose on various subject fields.
8	Databases: Multimedia	Databases made up of using text, images, animation, pictures and many media together like Encarta Encyclopedia.
9	e-Thesis	Text or databases of theses submitted to universities available in e-form for use like, Shodhganga, University Microfilms, Proquest etc. These are Ph D Thesis and research Dissertation in e-forms
10	e-Patents	Patents are a primary source of information and a valuable tool for researcher. Patents filed in various countries are now available in e-form and accessible free over internet to all.
11	e-Standards	These are the documents available in e-form developed by the competent authorities for standardized design and dimensions of the products worldwide.
12	ElectronicClippings	Newspaper databases are available for decision making, forecasting in e-form and available free of charge basis.
13	e-Conference Papers (e-Prints)	Conference proceedings are available in e-form and available to users online or offline.

Incredible Benefits of e-Resources

Accessible at any time from any place – e-Resources can be accessed from any computers either on campus or off campus, 24*7. Access to global information either free or subscribed is also made available.

Easily searchable - User can search information by themselves and also possible to download complete full text articles using online resources

Speed - The information can be collected instantly over the net and many times articles/issues appear online before printed version is available

Interactive - Articles can be read, commented by readers, amended quickly and greater feedback through web. Researcher can contribute his findings instantly and establish monopoly in area.

Links - Hypertext format, exploited links to related articles, information on other web sites, URLs for individual articles and email alerts when latest issue loaded.

Added Value - Advantages received on the web to add value by using animation, virtual reality and interactive mathematical charts.

Inexpensive - Savings of finance in getting free resources, printing resources, resource sharing models are developed like consortium; the collection is sharable and hence cheap.

BACKGROUND OF RESEARCH STUDY

Libraries are functioning as an important and vital link in the higher education system. Possessing adequate resources in the form of print materials as well as electronic resources is crucial for uplifting the knowledge of the library patrons. Academic libraries in India are facing issues of budgets allocated for procurement of resources and exponential hike in prices of information resources. Libraries are facing issues of dynamic revolution and leading towards new generation libraries with the advent of ICT, e-Resources, internet resources, web tools, databases etc. Use of ICT in educational sectors is expanding to maximum extent and libraries act as a backbone to this system. Librarians have to modify the ways of providing services to support the changing environment in the information society. Acquiring adequate amount of E-

resources is the need of the hour as they provide countless benefits for the users as well as to the library.

LITERATURE REVIEW

Kumar & Anjaiah (2021), tried to explore the use of electronic information resources like E-Journals, E-Books, OPAC, E-Databases and Internet etc. by the faculty in their research paper titled "Use of Electronic Information Resources in Government Engineering College Libraries in Telangana State: A Study". It was revealed that majority of the users visit the library daily and e-journals were accessed the most to get desired and relevant information for their research as well as for teaching purpose. It was also learnt that low speed of internet is main difficulty in accessing electronic information resources.

Reddy & Shashikala (2021), conducted research study titled "E-resources Utilization Pattern among the Faculty of Kempegowda Institute of Medical Sciences, Bangalore: A Study". The study shows that the use of e-resources is very common among the faculty members of KIMS and especially the use of e-journals. Most of the faculty members are satisfied and somewhat satisfied with available E-resources and IT-based services offered by the library and information centre. It was suggested that the libraries should offer intensive information literacy training to the users of e-resources.

Onuoha et al (2020), aimed to study the availability and utilization of e-resources in university libraries for effective research output by undergraduates of Social Studies in south-east, Nigeria. From the study it was found that students use e-library resources but not to the maximum because they lack ICT skills and face difficulties while using them. The researchers suggested that strategies for enhancing the utilization of e-resources is necessary to adopt in order to reduce the problems students encounter in using e-resources for their academic research and ultimately, lead to effective research output.

Odewole (2019), in her research study "Awareness and Utilization of Electronic Information Resources by Undergraduate Students in Osun State University" found that e-books, e-serials, e-databases, e-magazines, e-journals, CD ROM, e-mails, e-project and dissertations are the major electronic information resources available to the students. Majority of the students were aware about the availability of e-resources and they mostly access it weekly. Slow internet

connectivity, inadequate computer facility, epileptic power supply and poor infrastructural facilities are the major challenges that students encountered while using electronic information resources.

Arvind (2017), in his research study titled "Use of Electronic Resources in Engineering College Libraries: User Study" attempted to study the usage of electronic resources among the students of engineering colleges in Dindigul district. The study discovered that majority of the respondents report the privacy problem is the prime problem in using electronic resources. Workshop and classes for the effective use of e-resources was needed to use the e-resources effectively.

Umar (2015), in his research study assessed the use of e-Resources by LIS students, who are the future librarians. A very good study reported by Umar. Researcher has used survey method and gathered the data and analyses the findings and suggested views to enhance e-Resource usage.

Egberongbe (2011), in her study titled "The Use and Impact of Electronic Resources at the University of Lagos" stated that Libraries are using technology to improve the management of scholarly information to strengthen and speed access to scholarly information not held locally. From the study it was revealed that that the uses of e-resources are very common among the Lecturers and research scholars of University of Lagos. It also showed that majority of teachers and research scholars are dependent on e-resources to get desired and relevant information.

Dhanavandan et al (2012), in his study of use of e-Resources in engineering colleges discuss the role of e-Resources in engineering and pointed out that electronic resource is one of the emerging environment in libraries and information communication in the competitive service. eResources usually consist of e-books, e-Journals, articles, newspaper, thesis, dissertation, databases and CD-ROMs, which are likely to be the alternative to the print media.

Shrestha (2008), in his research study on student's use of library resources pointed out the behavior of use of resources by students of higher education. Author has also indicated the 6 importance of resources both print and electronic in education sector. The resources are used for various purposes by the students of academic sector

Tenopir (2003), in his study entitled “Use and user of electronic library resources: an overview and analysis of recent research studies” analyzed the result of over two hundred studies on the usage of electronic resources in libraries published from 1995 to 2003. Results drawn from his study indicated that the electronic resources have been rapidly adopted in academic spheres, though the behavior varies according to the discipline.

OBJECTIVES

- ✓ To explore the influence of e-resources on the library patrons, its use and user satisfaction.
- ✓ To perceive the availability of print and e-resources in medical and engineering college libraries in Goa
- ✓ To learn about the awareness, purpose and frequency of use of resources by users.
- ✓ To ascertain the difficulties faced while accessing e-resources.
- ✓ To provide solutions for improving and enhancing the use of e-resources

SCOPE AND LIMITATIONS OF THE STUDY

This research study prevails among the user habits and information needs in engineering and medical colleges in Goa. It aims to understand the boundless influence of e-resources on the patrons of the libraries under the study. This study has considered only graduate courses (BE and MBBS) in engineering and medicine. The data for the research study was collected from five medical and seven engineering colleges from Goa. Diploma and certificate courses in engineering and medical science are excluded. Architecture colleges, Para medical courses are excluded.

RESEARCH METHODOLOGY

Keeping objectives of research in mind, survey method of descriptive research is selected and tool for data collection is based on questionnaire technique. A structured online questionnaire using Google Forms was prepared to collect data from the users of five medical and seven engineering colleges in Goa. The online Questionnaire was sent to the users of medical and

engineering both faculty and students. A total of 960 respondents have responded to the survey. The data collected has been analyzed and presented using frequency tables and percentages.

DATA ANALYSIS AND INTERPRETATION

Table No. 1: Type of E-Resources accessed

E-Resources	Response	Percentage
e-Books	364	38
e-Monographs	12	1
e-Thesis/	140	14
e-Proceedings	22	2
e-Journals	568	59
e-Reports	124	12
e-Trade literature	35	4
Patents/ Standards	46	5
Internet/web	922	96
Databases	114	12

It is ascertained from the data that majority (96%) of the users are very familiar to use internet and resources available over it. This follows the use of e-journals (59%) and e-books (38%). It seems users are more aware with internet, e-journals, and e-books. In addition to these users is using e-thesis (14%) and e-reports (12%), databases (12%) but use it very less due to non awareness of resources, only might be using while writing thesis or projects. Users are still not aware of use of proceedings (2%) and patents or standards (5%) available in e-form and these are very resourceful sources for these subjects.

Table No. 2: Awareness of E-Resources:

Awareness of E-Resources in Subject fields	Response	Percentage
Yes	852	89
No	108	11

It is noticed that most of the users (89%) in these subject areas are aware of the various types of e-Resources available. However the real awareness is up to internet and internal resources available. There is a need to develop awareness of qualitative resources available using subscribed resources along with the free.

Table No. 3: Assistance for Searching E-Resources:

Assistance for Searching e-Resources	Response	Percentage
Self searching	412	43
Searching with the help of Librarian	348	36
Searching with the help of Teacher	224	23
Searching with the help of colleagues/friend's guidance	168	17
Any other	40	4

The data mentions that majority i.e. 43% of the user's access and search e-resources by themselves using their own knowledge whereas 36% users are seeking help from the librarians. 23% users are directed by the professors or teachers to access the e- resources for the study/research purpose. 17% users are getting information about the resources from their friends and a few have opted for other source of assistance.

Table No. 4: Training/Awareness program is very essential to make the users aware about the e-resources and the searching techniques to access the e-resources effectively and efficiently.

Opinion	Response	Percentage
Strongly Agree	768	80
Agree	112	12
Neutral	0	0
Disagree	80	8
Strongly disagree	0	0

Table No. 4 indicates that majority i.e. 80% of the users have strongly agreed that training is necessary to make the users aware about the e-resources and the searching techniques to access the e-resources effectively and efficiently. Library patrons need to create awareness about various types of e-resources available and the searching techniques to use the e-resources productively for their study, reference or research purpose.

Table No. 5: Purpose of accessing E-Resources:

Purpose	Response	Percentage
Academic work	896	93
Publishing articles/books	68	7
Research Needs	348	36
Keeping up-to-date in the subject area	492	51
Getting current information	468	49
Finding relevant information in the	412	43
Study/assignments/seminar presentations	668	69

Table No. 5 depicts the users' purpose for accessing e-resources. Users have different motives for consulting e-resources. The response analyses indicated that greater number i.e. 93% of the users make use of e-resources for academic work only, 69% of the users utilize e-resources for study purpose, assignments and seminars, etc, however 51% of the users access e-resources to be up-to-date in subject areas. E-resources furnish the latest information and are accessible quickly from anywhere and at any time. Most of the users prefer e-resources as it provides a major advantage to the users to update their knowledge with the latest information at a least cost or for free.

Table No. 6: Level of satisfaction on Use of E-Resources

Level of satisfaction	Response	Percentage
Extremely satisfied	817	85
Satisfied	80	8
Neutral	50	6
Dissatisfied	13	1
Extremely dissatisfied	0	0

Table No. 6 indicates that majority i.e. 85% of the users are extremely satisfied using e-resources in engineering and medicine discipline. Only 1 % of the users are not satisfied with the e-resources available in the library.

Table No. 7: Type of E-Resources Preferred for Information Gathering:

Types of Resources Preferred	Response	Percentage
Databases	114	12
e-Journals	568	60
e-Archives	112	12
e-Manuscripts	12	1
Maps	189	19
e-Books	364	38
e-Magazines	346	36
e-Thesis	140	14
Web pages	922	96
e-Newspaper	205	21

e-Mail	854	89
e- Reports	124	13
Any Other	42	4

This question was asked to users with specific aim to get information regarding the type of resources or the nature of resources demanded by them as well as to ascertain which resources are known to them and which are not known to them. From table No. 7 it is observed that internet / web data (96%) is used heavily as users are more relied on free data and information available over the internet. E-mail service is mostly used most of the users (89%) for communication purpose. However there is a need to assess qualitative information embedded in e-journals and used by 60%, e-books used are 38%. Newspapers and maps are used 21% and 19% respectively. The qualitative resources like e-thesis (14%), e-reports (12%), and databases (12%) are less used by the users.

Table No. 8 User's Opinion on Features of e-Resources

Features of e-Resources	Poor	Fair	Good	V.Good	Excellent
Accessibility	32	71	365	330	162(6)
Easy to Use	35	102	369	298	156(7)
Availability	41	116	365	272	166(5)
Consistency	29	102	468	125	236(2)
Accuracy	12	54	122	395	377 (1)
Flexibility	21	84	85	562	208(3)
Usefulness	29	104	268	368	191(4)
Timeliness	32	40	396	330	162(6)

The analysis of users opinion on the features preferred for e-Resources indicates ranking preferences as accuracy stands at 1, followed by consistency at 2, and flexibility at 3. Usefulness, global availability, accessibility and timeliness, ease of use are ranked at 4, 5, 6 and 7 ranks.

Table No. 9: Problems Faced while Accessing the e-Resources:

Problem while Accessing the e-Resources	Response %	Ranking of choices
No proper training	54	3
No proper help is rendered by library staff	33	6
Heavy charges	0	8
No proper adequate physical condition	52	4
Lack of good online journals	45	5
Connectivity of internet is slow	68	1
Computers are outdated	59	2
Quality of online journals is not good	20	7

Table No. 9 indicates the difficulties faced by the users while accessing e-resources. Major problem faced by majority of the users is the slow connectivity of internet; this is due to low bandwidth and can be eliminated easily by increasing the bandwidth of internet. Outdated computers and infrastructure is the real problem. The technology is changing fast and the equipments become obsolete after few years. The infra need to be replaced at regular intervals. The users have difficulties due to lack of training to for using technology as well as access eResources. Hence there is a need to orient the users. Insufficient physical space is another issue users face. Another problem by the users is lack of good qualitative e-resources including ejournals. Library staff also needs to be oriented at regular intervals to face the user queries and attend them properly for using e-resources and computer networks. Quality of e-resources acquired is not qualitative. This may be due to infra and hence need to be updated.

SUGGESTIONS

Researchers would like to state few suggestions in order to improve the use of e- resources in professional colleges like medical and engineering.

- Librarians have to take more efforts to make availability of both print and e-resources in their field through libraries. There is need to develop awareness among users about the utility of e-resources in comparison with the print by orienting them
- There is a need to improve ICT infrastructure for effective management of resources in the medical and engineering libraries.
- Librarians have to take information literacy programs for users at regular intervals to develop searching capabilities of users
- Teaching faculty and Library staff together orient students to use maximum resources available in library as well as over the net on the subject areas.
- Librarians should identify users who do not use e-resources and understand the reason for not using or trying to use resources and efforts to be taken to provide special training to these users to enhance usage of e-resources.
- More digital resources need to be added in the library to provide access to users and promote library use. The rare collection need to be digitized with proper security and access measures.
- It is suggested that there is a need to develop library web page in consultation with computer staff and link different e-resources and library data to it with internet resource links.

CONCLUSION

The outcome of the present study highlights various aspects of user perception, awareness of e-resources, availability and use of e-resources, library services using e-resources and collection development policies and the boundless influence of e-resources on the minds of the users. This research study also assesses user needs, information seeking behavior including use of online resources, journals and social media. It is observed that the e-resources in the disciplines of engineering and medicine are plentiful but awareness of its availability is poor. Librarians need

to develop awareness of e-resources through organizing orientation and training programs and utilize both e-resources and print resources more. Librarian's main task in the information explosion era is to manage access to resources and provide efficient services to users using ICT and e-publications. The study proved that majority of the patrons (89%) is aware of the various types of E-Resources available in their field. The study also proved that 85% of the patrons are extremely satisfied using e-resources in engineering and medicine discipline.

This study is very useful to library professionals working in engineering and medical libraries as well as for other libraries also. The training programs for the users may enhance use of e-resource literacy among the users.

SCOPE FOR FURTHER RESEARCH

This study is mainly focused on the use of e-resources in medical and engineering professional education system. There is a need for undertaking such studies in detail for other areas like law, arts and science, commerce, architecture etc.

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