



Exploring the Usage of E-resources among Research Scholars in Higher Educational Institution

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ABSTRACT

Users and library managers have access to a variety of search possibilities through the e-resources. The library can save its patrons time and space by utilizing electronic resources. The center of scholarly endeavors is the campus library. Nowadays, the majority of the library's resources are accessible online as databases, e-books, e-journals, and other electronic formats. Finding out which e-resources were used, how they were used, and why they were used was the aim of the study. Furthermore, the study seeks to provide light on the challenges experienced by research academics in utilizing electronic resources, as well as their perspectives on the attributes of electronic resources and their utility. The research included a structured questionnaire and purposive sampling methodology. The purpose of the study was to determine whether e-resources were used and how they were used in facilities because the majority of research scholars do not know how to use them. Furthermore, many are unaware that remote access facilities are available and can be used for their research.

Key words: E-resources, Remote access, Search Engine, Research scholars, Bhaikaka Library, Sardar Patel University.

1. Introduction

Over the past few years, several techniques and related standards have been developed that allow documents to be created and distributed electronically. In the electronic age, ICT (information and communication technology) is used in every branch and sub-branch of the ocean of knowledge the source of electronic information is "A very wide range and has the property of constant advancement considering the demands of the coming future. Which has so far evolved from electronic periodicals to CD-ROMs and mailing lists to databases. And the surprising thing is that the fracture in use responsible for each of these developments is mostly common, and sometimes if there is a slight change. If done, it is done by computer".

"The center of academic efforts that is the university library(Madhusudhan, 2010).According to Dr.S.R.Ranganathan, in his fifth law, the library is a growing organism. The library is not a storehouse of books; it is a knowledge center." Every reader visits the library to look for a solution to a problem. The user community should have its requirements met by the library. Nowadays, the majority of the library's resources are accessible online as databases, e-books, e-journals, and other electronic formats. Libraries actively acquire, arrange, digitize, and distribute electronic versions of books, journals, newspapers, theses, and dissertations. This report delves into the strategic utilization of electronic resources provided by the university library, focusing on how research scholars at Sardar Patel University engage with and leverage these digital tools(Madhusudhan, 2010).The study sought to examine how electronic resources are employed, including the methods and motivations behind their use. It also aimed to illuminate the challenges faced by researchers in leveraging these resources and to capture their perspectives on the attributes and efficacy of electronic resources(A. K. Sharma et al., n.d.).

2. Review of Literature

❖ **Dr. Bharat Dhiman (2021):** Researcher studies on “The Practice of Media Education and Media Research”. This study normally based on five different Asian country’s media. Media education, media research methodology, and the value of cooperative projects of research this points given are the focus of this paper. Identified the various kind of problems regarding the media research practice and slow development of this field like an absence of facilities and resources, lack of funding for the research programs well as the general unawareness of the purpose of communication research are all contributing factors to the dearth of properly qualified researchers in the field etc. and Also, many suggestions and things to be taken into consideration have been mentioned in order to conduct proper and effective research in this field. (Dhiman, 2021).

❖ **S. Sumathy (2020):** Researcher “Study on the use and impact of e-resources by the research scholars and students of Madurai Kamaraj University.” The primary data used in this research study was gathered using a questionnaire. For collecting data, the researcher adopted a straight forward random sampling technique. The researcher used coefficient variation and chi-square tests for data analysis. Researchers concluded that e-resources have a radical impact on the changing modes of the higher education environment. Researchers suggested that the university library should increase web-based services for library activities. University libraries should improve the Wi-Fi campus for users (Sumathy, 2020).

❖ **Ansari, Mohd Shoaib (2020):** Research study on “Use and Awareness of E-Resources among Research Scholars of Literature Subjects in Banaras Hindu University”. The study was based on primary data. Data were collected through a structured questionnaire. Researchers concluded that libraries should improve their facilities and services for users. The researcher suggested making a helpline desk to solve e-resource-related issues and conduct awareness programs for newly admitted students (Ansari, 2020).

❖ **Neetika Sharma, (2019):** Research study on “Use of E-Resources By The Faculty Members And Students: A Study of Swami Shraddhanand College, University of Delhi”. This research paper carried out information about how e-resources are useful for higher education for research students and faculty members. The researcher took five departments of social sciences for the study. The study was based on primary data. The data were collected through a structured questionnaire. Frequency distribution and percentage were used for data analysis. The researcher concluded that the use of e-resources is an important factor in advancing education more quickly and effectively. To obtain any kind of data and communication linked to scholarly material, users must use various kinds of e-sources similar to a website or electronic device. The faculty at Delhi University has made a substantial contribution to the quality and wealth of information in this research. Additionally, it has been effectively stated by them that libraries should make more of an effort to plan ahead and take into account these resources through lectures, workshops, orientation programs, and other activities that maximize user awareness programs (N. Sharma, 2019).

❖ **Tawfeeq, Nazir (2015):** The study on “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” This research study is based on primary data. For this investigation, 200 samples were collected by the researcher. The researcher discovered that faculty members in the social and scientific sciences needed knowledge and support from librarians and resource staff in the libraries. According to the study, library administrators ought to distribute pamphlets, hold awareness and orientation events, and provide a list of subscribers' e-resources (Nazir, 2015).

❖ **Dr. K.G. Sudhier, Seethalekshmi, K P, (2011):** Researcher study on “Use of E-resources by the Students and Researchers of Faculty of Arts, University of Kerala” The researcher covers six departments of the arts faculty. The researcher used a stratified random sampling method for data collection. The researcher concluded internet-based resource were the most prevalent electronic resources among those studied and researchers and also found that the Kerala University of Arts department does not provide enough facilities for the utilizing online resources (Sudhier & Seethalekshmi, 2011).

❖ **Margam Madhusudhan, (2010):** Researcher studies on “Use of electronic resources by research scholars at Kurukshetra University”. The researcher used a stratified accidental random sampling method for data collection. An astounding 80% of 60 Ph.D. and M.Phil researchers from a variety of topic at Kurukshetra University responded to a survey. The results emphasized how important it is to have computer systems available and high-speed internet in order to maximize the utilization of e-resources. Along with that, librarians need to promote that what is the benefits and vital role of electronic resources provide in aiding academics advance their research work (Madhusudhan, 2010).

3. Objectives of study

- To study the frequency of using e-resources, purpose of using e-resources and place of accessing e-resources by research scholars of Sardar Patel University.
- To ascertain the mode of learning digital assets skill, use of search engine and search techniques use by research scholars of Sardar Patel University
- To know the problem faced while accessing the e-resources in Bhaikaka library by research scholars of Sardar Patel University.
- To identified challenges faced by researchers while using e-resources in Bhaikaka library of Sardar Patel University.

4. Statement of the problem

Many researchers have attempted to measure the impact and use of e-resources through research studies. At this time, India is unaware of many programs meant to target seeking the frequency with which academics use e-resource (Madhusudan, 2010). In considering all of the factors which previously stated, the current study is based on how research fellows of Sardar Patel University access e-resources for their study, research, and other purposes and how many research fellows access e-resources from University Library system (Bhaikaka Library) of Sardar Patel University for their research.

5. Scope

The study was limited to the full-time Ph.D. research scholars of Sardar Patel University, Vallabh Vidyanagar at Anand, Gujarat, India.

6. Methodology

The study adopted a purposive sampling method and used a structured questionnaire. Likert scales and multiple-choice questions are used for preparing the questionnaire. The sample was drawn from the population of full-time Ph.D. research scholars at Sardar Patel University. The structured questionnaire was circulated among 200 full-time PhD research scholars from different departments of Sardar Patel University. The responses received from the research scholars are presented in the form of tables and figures and analyzed by using an analytical tool like the mean percentage and standard deviation of calculation based on the responses received through 132 questionnaires (Madhusudhan, 2010). The data is analyzed and interpreted in the following sections.

7. Analysis of data and Interpretation:

Table No.1 Gender and age wise response

Category	Gender		Age		
	Male	Female	Below 30	30-40	41-50
Respondents	61	71	110	18	4
Percentage	46.2%	53.8%	83.2%	13.6%	3%
Total	132		132		

Table no. 1 presents the distribution of participants by gender. In this research, 61 (46.2%) respondents belong to the category of male, whereas 71 (53.8%) respondents belong to the category of female. As most of the respondents belong to the female gender category, this category of female has been taken into consideration in this study.

It is inferred from the above table that 110 (83.2%) Respondents are in the following age is 30 year, 18 (13.6%) respondents be a part of the age group between 30 and 40 years, and 4 (3%) respondents belong to the age group between 41 and 50 years. Hence, a large percentage of responders fall within the under-30 age group.

Table No.2 Frequency of using e-resources

Frequency	Respondents	Percentage
Daily	76	57.60
2-3 times in week	34	25.80
once in a week	12	9.1
once in a month	5	3.80
Never	5	3.80
Total	132	100.00

Table no. 2 presents the frequency of utilizing electronic resources by respondents. In this study, 76 (57.60%) research scholars daily use e-resources. Those who are using e-resources 2-3 times a week are 34 (25.80%). once in a week are 12(9.1%) and once in a month are very less 5(3.80%) only. It shows very well that at least half of all these people use e-resources.

Table No.3 how do you gather the information about e-resources

Sources	Respondents	Percentage
By searching from internet	112	84.8
Faculty members	75	56.8
Through communication with friends/ colleagues	68	51.5
Through data base searching	62	47.0
By recommendations from subject experts	58	43.9
Library orientation program / workshop	47	35.6
From the reference given by librarian	47	35.6
Other	7	5.34

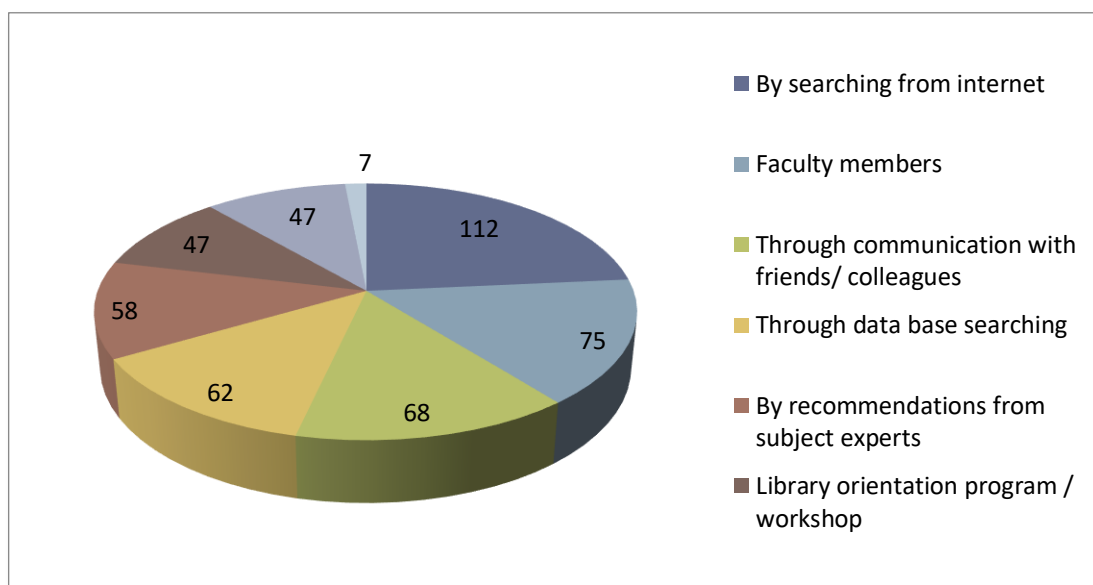


Figure no.:1 Source of information concerning e-resources

Table no.3 and Figure no.1 presents the source of information concerning e-resources provided by respondents. In this study, 47 (35.60%) research scholars are using sources of information concerning references given by librarians. 75 (56.80%) research scholars are using information sources provided by faculty members. Whereas 112 (84.80%) research scholars are using information sources such as searching the Internet. Through database searching and recommendations from subject experts, respectively, 62 (47%) and 58 (43.9%) Whereas 68 (51.50%) research scholars are using information sources through communication with friends and colleagues, very few research scholars use library orientation programs and workshops for information. Hence, most of the researchers use the Internet.

Table No.4 Method of searching e- resources

Method	Most Frequently	Frequently	Occasionally	Rarely	Never	Total	Mean	Std. Dev.
Using search engines	81	34	12	4	1	132	1.56	0.84
Open knowledge portal	39	48	28	7	10	132	2.25	1.16
Through publisher	33	37	31	24	7	132	2.51	1.20
Using links from bibliographic databases	31	52	35	8	6	132	2.29	1.03
University Library website	23	29	36	29	15	132	2.88	1.26

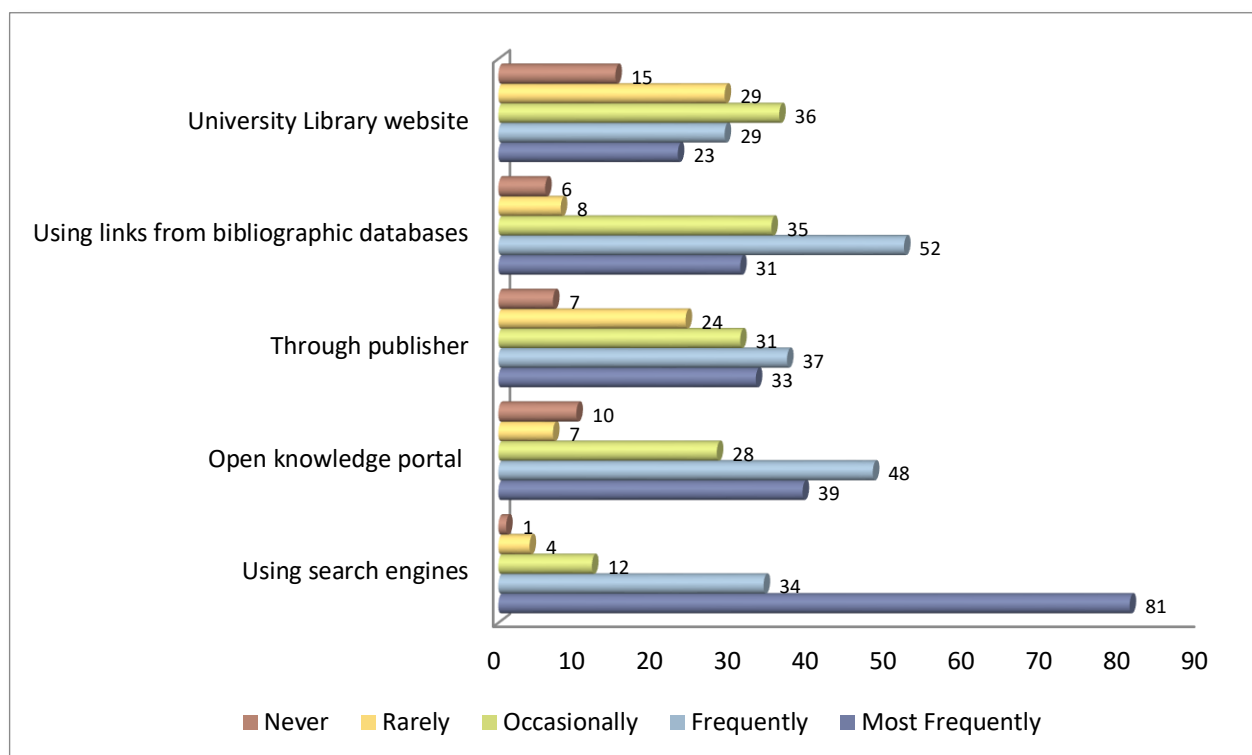


Figure no.:2 Method of searching e- resources

Table no.4 and Figure no.2 presents a method of searching the e-resources of respondents. Various methods of searching e-resources, like in this study, are calculated by mean and standard deviation. The highest average searching e-resources method of the university library website, their mean value is 2.88, and the standard deviation is 1.26. The lowest average value of searching the e-resources method by using a search engine is 1.56.

Table No.5 Use of Search Strategies

Strategies	Most Frequently	Frequently	Occasionally	Rarely	Never	Total	Mean	Std. Dev
Title	90	31	7	2	2	132	1.45	0.79
Title of the article	78	35	14	3	2	132	1.61	0.88
Subject	60	55	13	2	2	132	1.72	0.82
Keyword	60	41	18	7	6	132	1.92	1.10
DOI/URL	58	31	21	15	7	132	2.11	1.23
Author/Researcher	49	37	34	11	1	132	2.08	1.01
Title of the journal	45	42	33	7	5	132	2.13	1.06
Abstract	41	30	27	25	9	132	2.48	1.29
Phrase search	30	30	26	27	19	132	2.81	1.37
Year/date	29	34	37	25	7	132	2.60	1.17
Publisher	28	30	38	29	7	132	2.67	1.18

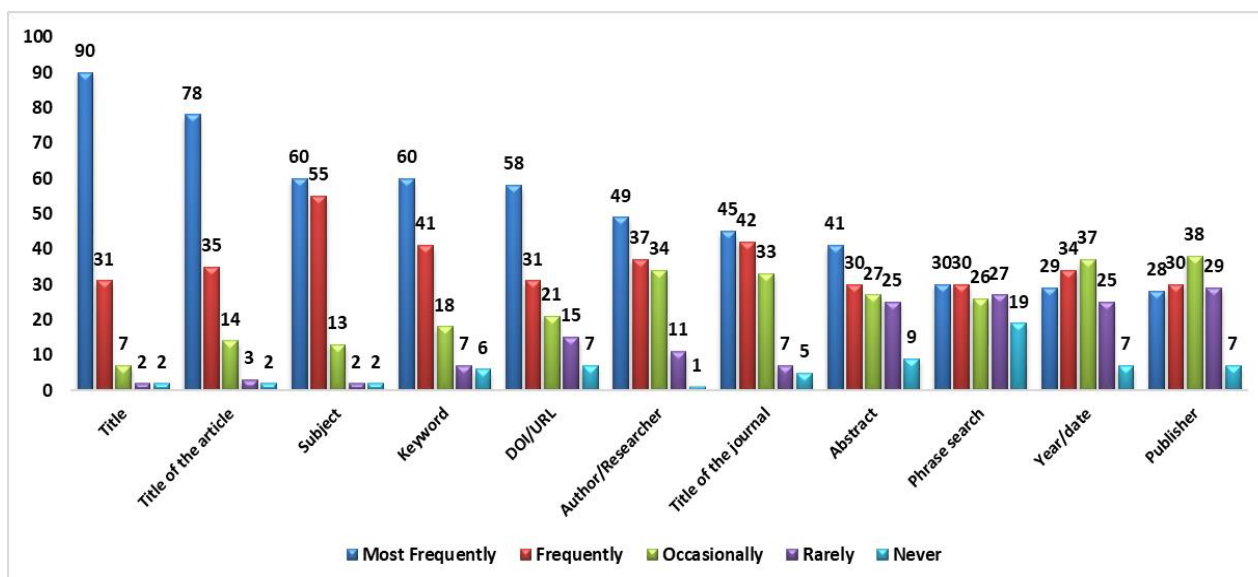


Figure no.:3 Use of Search Strategies

Table no.5 and Figure no.3 presents the use of search strategies by respondents. Respondents most frequently use title-based searching. The mean of title-based searching is 1.45, and their standard deviation is 0.79. Respondents rarely use publishers to search for their work. The mean of publisher base searching is 2.67, and their standard deviation is 1.18. The mean of phrase searching is 2.81, and their standard deviation is 1.37.

Table No.6 Purpose of using e-resources

Purpose	1	2	3	4	5
Reading articles related to your research	68	26	4	10	24
Writing research paper	67	23	12	12	18
General information	38	33	23	20	18
Seminar/conference	34	37	24	19	18
Scientific news	31	38	36	16	11
Statistical information	29	36	30	19	18

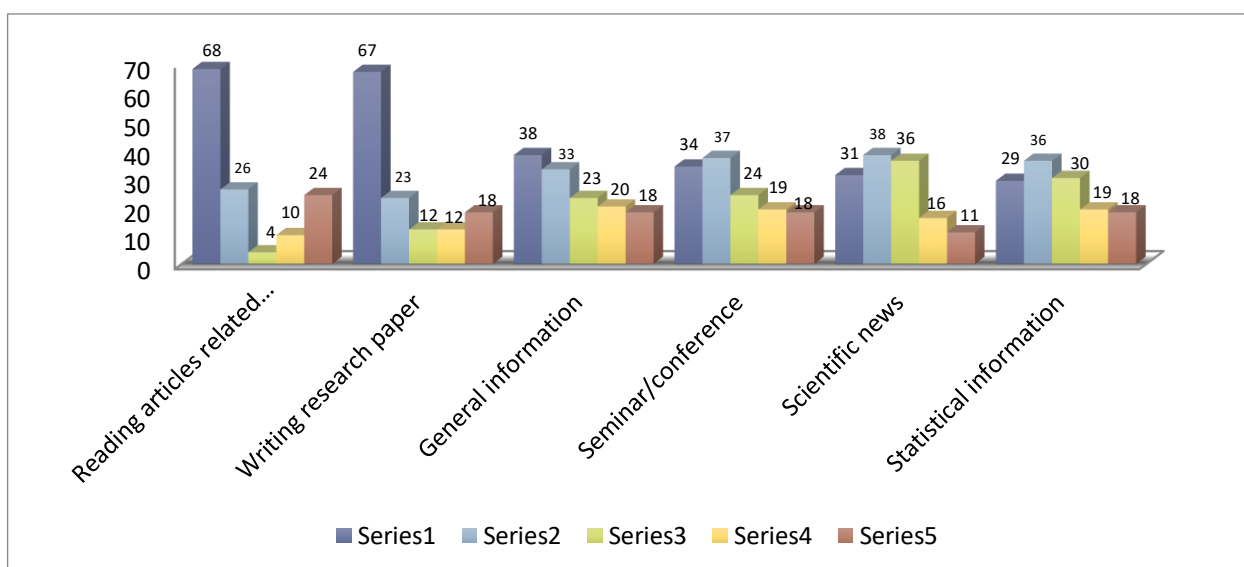


Figure no.:4 Purpose of using e-resources

Table no.6 and Figure no.4 presents the purpose of respondents' use of e-resources. From the analysis, it is clear that most (68) of the respondents give preference to reading articles related to their work over using e-resources. Scientific news is the second most preferred method of using e-resources.

Table No.7 Types of using e-resources for research work

E-resources	Most Frequ ently	Frequ ently	Occ asio nall y	Rar ely	Nev er	Total	Mean	Std. Dev.
E-articles	83	30	13	3	3	132	1.58	0.92
E-journals	71	34	17	7	3	132	1.77	1.01
Open access resources	64	36	19	6	7	132	1.91	1.13
E-books	51	42	24	10	5	132	2.06	1.1
Open education resources	51	39	22	10	10	132	2.16	1.23
E-theses	50	44	21	12	5	132	2.08	1.11
E-research reports	47	42	23	11	9	132	2.19	1.2
E-newspaper	37	31	30	22	12	132	2.55	1.3
E-reference sources	36	40	34	15	7	132	2.37	1.15
E-periodicals	32	33	38	17	12	132	2.58	1.24
E-conference proceedings	30	38	35	20	9	132	2.55	1.19
E-bibliographic databases	27	34	47	16	8	132	2.58	1.12
E-archives	26	43	28	19	16	132	2.67	1.28
E-dissertations	25	38	36	21	12	132	2.67	1.21

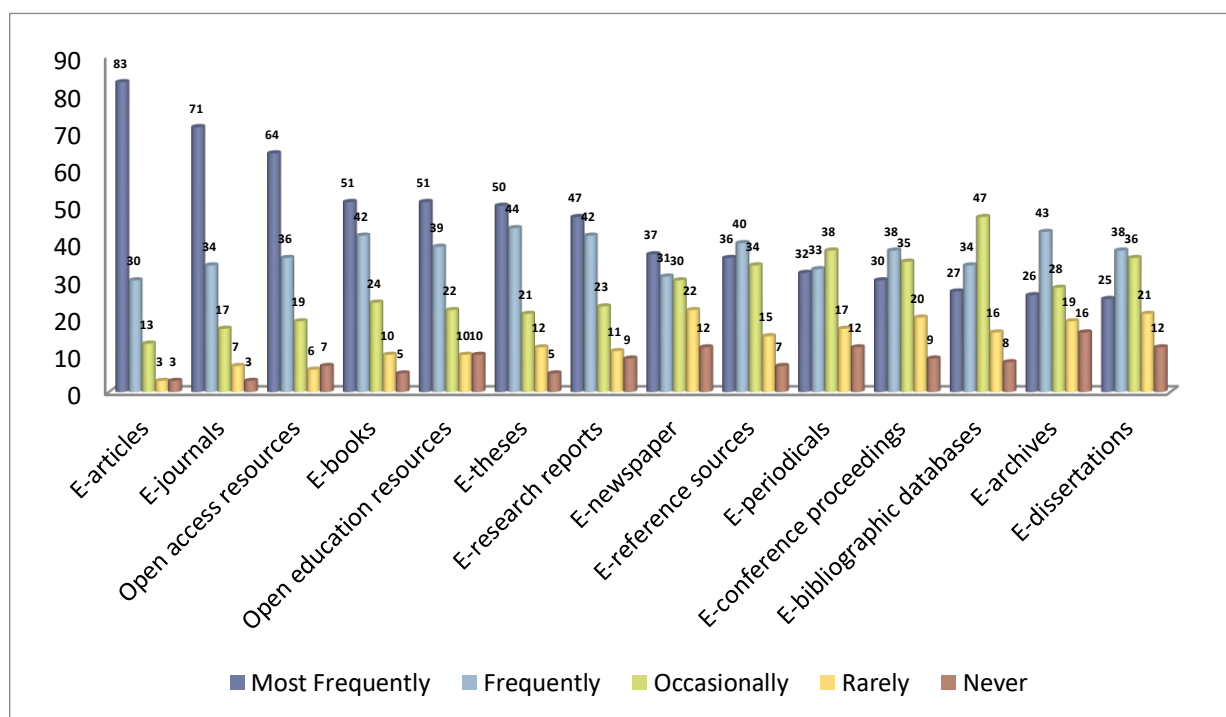
**Figure no.:5 Types of using e-resources for research work**

Table no.7 and Figure no.5 presents the types of respondents using electronic resources. The most frequently used types of e-resources are e-articles and e-journals. The mean of the E-article is 1.58, and their standard deviation is 0.92. The mean of E-journals is 1.77, and their standard deviation is 1.01. E-archives are the least used type of E-resource. E-newspapers are rarely used by respondents.

Table No.8 Use of Databases or online platforms of Bhaikaka Library

Data bases/e-resources	Respondents	Percentage
Web of science	89	67.4
e-Journals - @Springer	55	41.7
e-Books - @SpringerX	37	28
OPAC/Web OPAC	32	24.2
Taylor and Francis	31	23.6
J-Gate Plus	25	18.9
Oxford university press	21	15.9
American Institute of physics	20	15.2

e-Books-Library and Information Science (IGLibrary, De Gruyter)	19	14.4
e-Books – Rajkamal Prakashan (Hindi)	19	14.4
Other	19	14.4
ProQuest	18	13.6
e-Books - PEARSON (MBA)	17	12.9
Economic & Political Weekly	14	10.6
American Physical Society	13	9.8
DELNET	12	9.1
MathSciNet	8	6.1
ISID database (Institute for studies in industrial development)	3	2.3

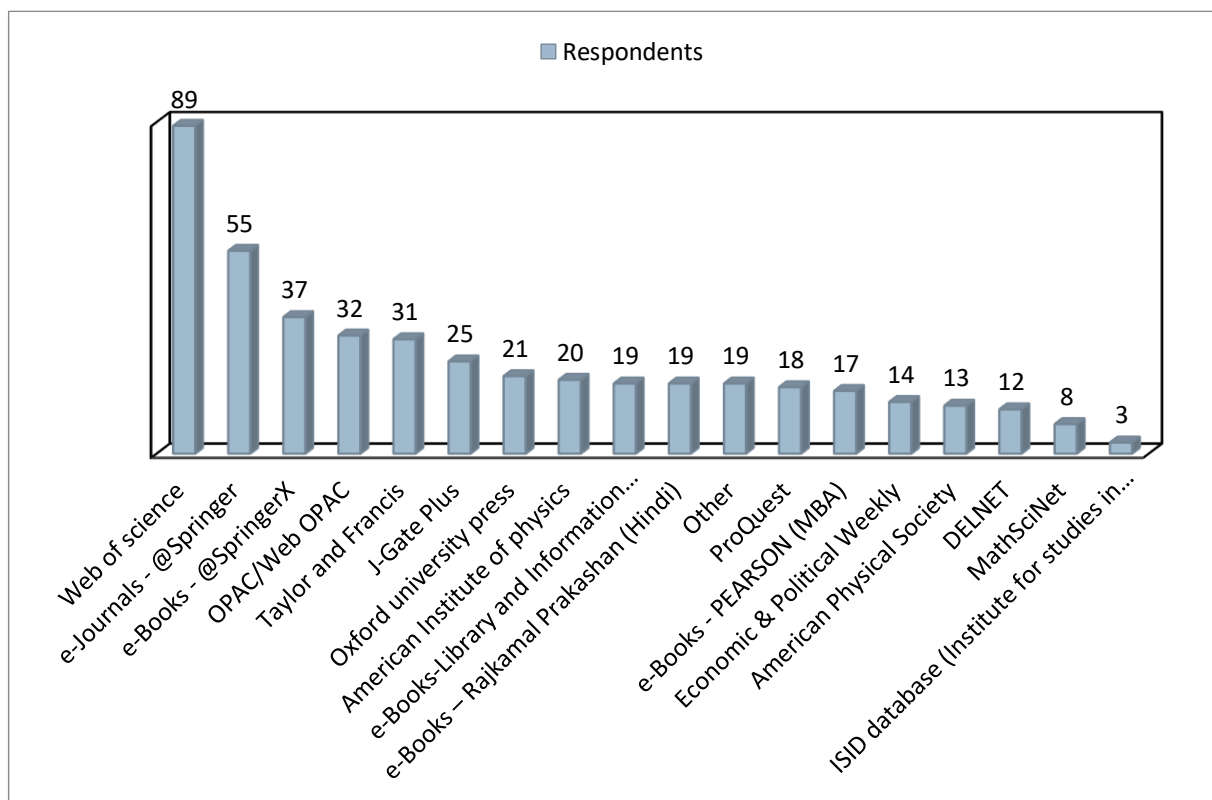


Figure no.:6 Use of Databases or online platforms of Bhaikaka Library

Table no.8 and Figure no.6 presents the use of databases or online platforms by respondents. The majority of the respondents use the Web of Science (67.4%) and e-journal (@Springer) (41.7%) for the database. Very few respondents use ISID and MathSciNet databases; their percentages are 2.3 and 6.1, respectively.

Table No.9 Method use to learn e-resource skills

Learning Skill	Respondents	Percentage
Friends/Colleagues	103	78
Library Staff	37	28
Library Bulletin	34	25.8
College's Library Website	34	25.8
Library training program	24	18.2

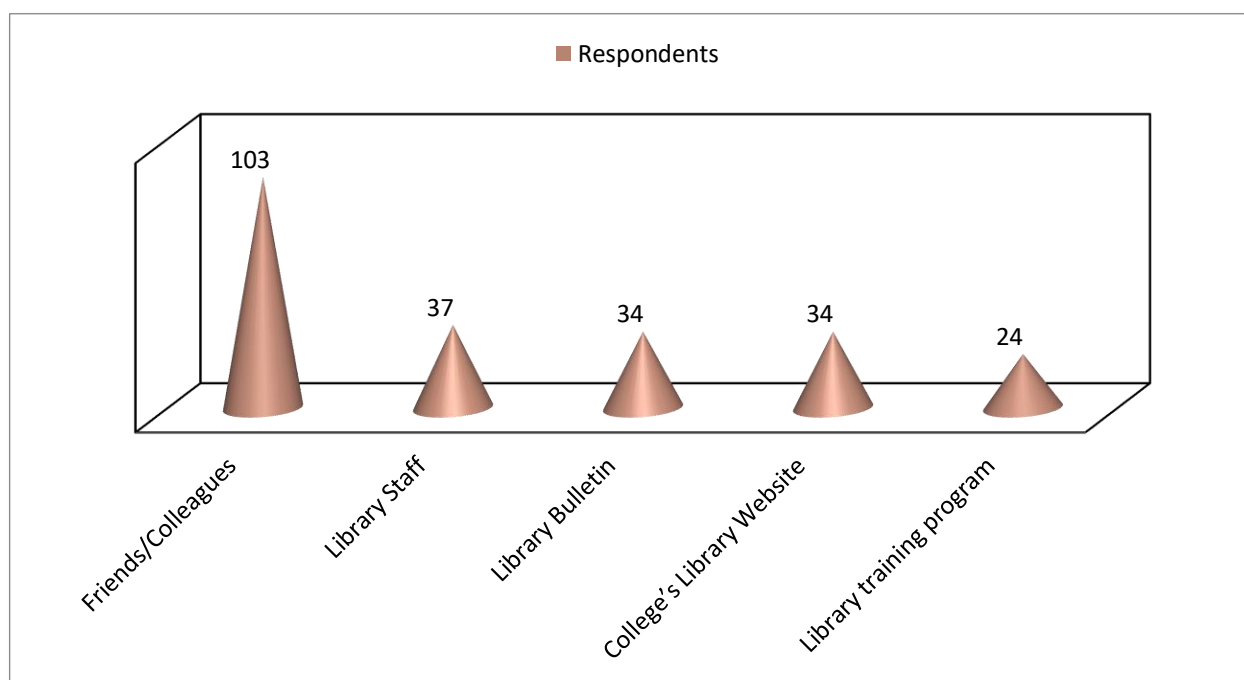


Figure no.:7 Method use to learn e-resource skills

Table no.9 and Figure no.7 presents the method used to learn e-resource skills by respondents. It is evident from the table and chart that most respondents learned to use e-resources from friends and colleagues. 103 (78% of respondents) gained knowledge how to use electronic resources with the assistance of colleagues and friends. Very few respondents learn to use e-resources through the library training program 24 (18.20%).

Table No.10 Using search engine to access information

Search engine use for find information	Respondents	Percentage
Google	127	96.2
Wikipedia	56	42.4
Firefox	23	17.4
Yahoo	19	14.2
Alta Vista	7	5.3
Ask me	6	4.5
Others	6	4.7
Infoseek	3	2.3
MSN	2	1.5

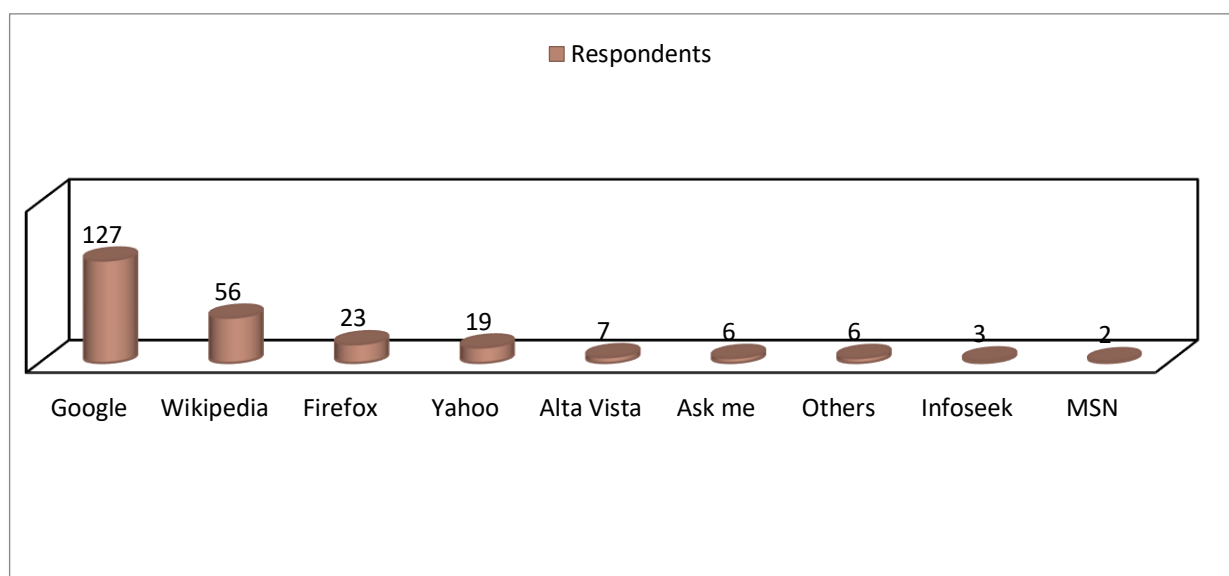


Figure no.:8 using search engine to access information

Table no.10 and Figure no.8 presents the use of search engines to find information by respondents. It is inferred from the above table and chart that 127 (96.2%) of the respondents use the Google search engine for searching for information on the internet, and it has the first rank; 56 (42.4%) of the respondents use Wikipedia, which has the second rank. Very few respondents use Infoseek and MSN; their percentages are 2.30 and 1.50, respectively.

Table No.11 Challenges face while using Bhaikaka Library's e-resources

Challenges	Strongly agree	Agree	Natural	Dis-agree	Strongly disagree	Total	Mean	Std. Dev.
Subscription based access	57	34	25	10	6	132	2.05	1.15
Internet issue	34	31	41	16	10	132	2.52	1.21
Slow download speed	33	44	27	16	12	132	2.47	1.24
Information scattered in too many sources	30	43	33	17	9	132	2.48	1.17
Diverse format of e-resources	29	37	37	23	6	132	2.55	1.14
Limited access to computers	28	50	28	15	11	132	2.48	1.18
Copyright issue	28	40	38	21	5	132	2.51	1.1
Quality or Authenticity issue	28	39	34	25	6	132	2.56	1.15
Limited working hours	28	33	35	23	13	132	2.7	1.25
Problem to access back issue	26	42	36	20	8	132	2.56	1.14
Discomfort in online reading	26	36	35	24	11	132	2.68	1.21
Can be lost/Volatile access	24	37	37	21	13	132	2.71	1.22
Lack of IT Knowledge	22	27	43	23	17	132	2.89	1.24
Difficulty in searching	15	37	42	25	13	132	2.88	1.14

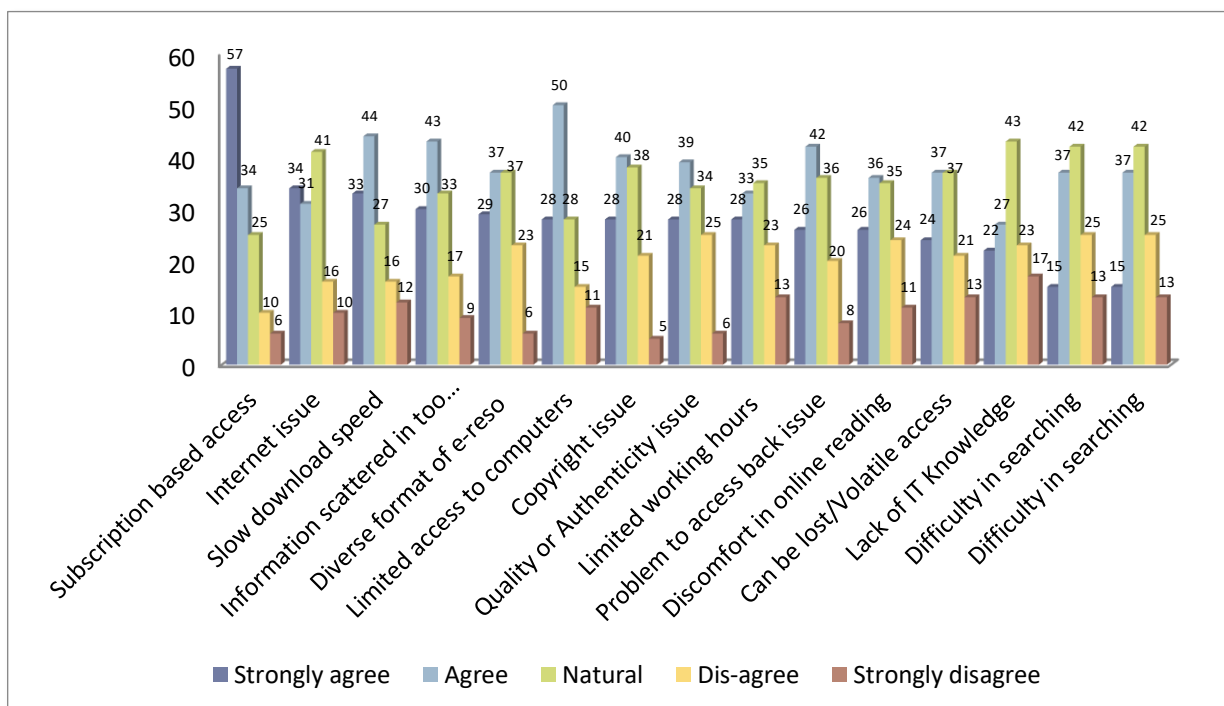


Figure no.:9 Challenges face while using Bhaikaka library's e-resources

Table no.11 and Figure no.9 presents the challenges faced while using Bhaikaka library's e-resources by respondents. The figure reflects that subscription access is challenging while using e-resources, as agreed by a maximum number of respondents. Internet issues, limited access to computers, slow download speeds,

information scattered from too many sources and some other problems of using e-resources were agreed upon by most of the respondents. Most of the respondents remain neutral in terms of lack of IT knowledge, difficulty in searching, and internet challenges faced while using e-resources.

8. Findings of the study

Major findings of the study are:

- 57.60% research scholars of Sardar Patel University daily using e-resources.
- 84.80% of research scholars of Sardar Patel University are most often using the source of gathering information from searching the internet.
- 68% of research scholars most often accesses title-based searching strategies for their research work.
- 96.2% responses about the Google search engine are the preferred choice when it comes to locating information.
- 54% Research scholars unaware of the availability and use of remote access facilities in Bhaikaka library for their research work.
- 45.5% research scholars of Sardar Patel University utilize e-resource search methods such as the university library website.
- 51.13% of research scholars' purpose behind using e-resources is to read articles and write research papers.
- Research scholars nearly 55.04% are use types of e-resources like e-articles, e-journals, and open-access resources.
- The majority of the research scholars use Bhaikaka Library facilities such as databases, like the Web of Science there are 67.4% and an e-journal (@Springer) for their research work approx 41.7%.
- There are 78% research scholars mostly use the method of learning e-resource skills from their friends and colleagues.
- The findings reveal that 43.18% subscription access, 25.75% Internet issues, and 21.21% limited access to computers are challenges for research scholars according to their experiences while accessing e-resources of Bhaikaka Library.

9. Recommendations

On the basis of observations and findings of the study, the recommendations are as follows:

- The Sardar Patel University needs to arrange hands-on training programs to instruct on the use of e-resources available in Bhaikaka library.
- Bhaikaka library should arrange workshops and seminars frequently to raise knowledge and encourage the usage of remote access resources.
- Brochures should be provided in colleges of Sardar Patel University so that students and research scholars are informed about how to use remote access facilities.
- Carefully examining the results of the research, Sardar Patel University needs to develop a high-speed Wi-Fi campus. So that the people using e-resources can get sufficient internet in the campus according to their convenience.
- From time to time, the Bhaikaka library ought to purchase e-resources and upgrade its subscriber access capabilities.
- On a regular basis of time the Bhaikaka library should organize certain programs to make users aware of the resources, facilities, and e-resources available to them.
- In case of any kind of problem related to e-resources, there should be a help section in the Bhaikaka library keeping its solution.
- The results of the study and their suggestions indicate that the Bhaikaka library of Sardar Patel University should upgrade its resources while also considering the needs of its faculty and research scholars in order to support and partially enable future research.

10. Conclusion

The fast growth of ICT, mainly the Internet and electronic resources, has changed scholarly information's traditional research communication methods. E-resources have become an important part of human life in the 21st century for their study and knowledge. In the present scenario, the Internet stands as the ultimate medium for storing and retrieving information. The use of e-resources by the Sardar Patel University research scholar, Vallabh Vidyanagar, shows that average research scholars use e-resources daily, and some research scholars are not familiar with using e-resources. The study showed that e-resources had a significant impact on users of Sardar Patel University in their research work. Most respondents are unaware of remote access facilities and have not used e-resources, which are relevant for research. So the library can take the initiative to organize orientation programs and user awareness programs in all university departments. When looking for e-resources, search engines are predominantly favored for link discovery, as younger generations increasingly gravitate towards online resources. They frequently opt for electronic over printed materials for

diverse informational tasks, maintaining an appreciation for print media yet exhibiting a pronounced preference for electronic formats across numerous information categories.

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