Use of Electronic Resources by the Students of Indian Institute of Information Technology (IIIT), Dharwad: A Study

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Abstract

Purpose: The objective of the study is to examine the utilization of electronic resources among IIIT Dharwad students. Participants were queried about their e-resource usage patterns, reasons for accessing electronic materials, challenges encountered during usage, and their perceptions of library amenities and services associated with electronic resources.

Design/Methodology/Approach: This is a descriptive study conducted in IIIT Dharwad, A total of 150 questionnaires were randomly administered among the students of IIIT library users. Out of 150 questionnaires, 124 questionnaires (82%) were received and are presented in tabular format.

Findings: The investigation reveals the users (students) are aware of



e-resources e-resources used for various purposes in academic achievements. The findings of the research demonstrate that students are cognizant of electronic resources and believe they are highly beneficial to their academic achievement. Remarkably, due to insufficient search abilities, students are discovered to be accessing free resources more frequently than paid ones. Research conducted by disciplines shows that students studying information technology, economics, and finance utilise e-resources more frequently than students studying marketing, operations, and human resource management. Students' usage of e-resources has been encouraged by faculty and training, which have become powerful motivators.

Research limitations/implications: The present study is limited to students studying IIIT in Dharwad, Karnataka (India).

Originality/value: The findings of this study will provide valuable insights for institutions, librarians, and publishers regarding the usage trends of e-resources among students. What sets this study apart is its analysis and presentation of students' responses concerning their patterns of utilizing e-resources.

Keywords : E- Resources, SPSS Package, Friedman test, Chi-square test, Indian institute of information technology, Dharwad.

1. Introduction

Today, with the digital aspects of content is being rapidly covering all the area of academic activity. The digital technology is everythingInformation and communication technology, or ICT, is used in all fields of study in our technological age. The implementation of IT has not only altered the library's physical spaces but also its services. In the twenty-first century, the document's conventional forms have experienced

significant modifications. Because they find using electronic resources to be convenient, library patrons are becoming more and more reliant on them. Books, journals, magazines, and newspapers have evolved into e-books, e-journals, e-magazines, and e-newspapers, while libraries have become digital and virtual libraries.

The printed resources are now being digitized, which has given rise in increases of the availability of books and journals in the electronic format. The convenience of mobility and the ability to combine several volumes into a single handheld device make electronic books beneficial. The ease of access to electronic resources has improved the global distribution of information. The electronic resources found in libraries are essential for providing patrons with quick and simple access to the information they need.

Electronic resources are the electronic representation of information summarised into various types such as e-books, digital libraries, E-journals, databases, E-magazine etc. With this blend of digital transformation libraries have become a hub for digital contents in which ever forms they are available. Using this digital content using many digital tools to access has enabled a user centric need of the libraries. According to AACR2 (2005) updates, an electronic resource is: "Material (data and/or program(s)) encoded for manipulation by a computerized device. This material may require the use of a peripheral directly connected to a computerized device (e.g.CD-ROM drive) of a connection to a computer network (e.g., the Internet)." IIIT, Dharwad is one such institution where it is holding many such e-content and good numbers of users are dependent on the e-resources for their learning.



2. Indian Institute of Information Technology In India

The Indian Institutes of Information Technology (IIITs) are a group of 25 centrally funded technical institutes across India. They are focused on information technology and are the top engineering colleges in India. The IIIT's were established in the early 1990s to meet the growing demand for skilled IT professionals in India. The institutes offer various undergraduate and postgraduate programs in computer science, electronic and communication engineering, and related fields. They also have strong research programs in artificial intelligence, machine learning, and data science.

The objectives of the Indian Institutes of Information Technology (IIITs) are to:

* Provide world-class education and research in the field of information technology.
* Produce highly skilled and competent IT professionals who can meet the needs of the industry and the nation.
* Promote innovation and entrepreneurship in the field of IT.
* Contribute to the social and economic development of the country.

The twenty-five IIITs established in India at Gwalior (1997 Madhya Pradesh), Prayagraj (1999 Uttar Pradesh), Jabalpur (2005 Madhya pradesh), Kanchepuram (2007 Tamil Nadu), Sricity (2013 Andhra Pradesh), Guwahati (2013 Assam), Gandhinagar (2013 Gujarat), Kota (2013 Rajasthan), Tiruchirappalli (2013 Tamil Nadu), Una (2014 Himachal Pradesh), Sonepat (2014 Haryana), Kalyani (2014 West Bengal),



Lucknow (2015 Uttar Pradesh), Dharwad (2015 Karnataka), Kurnool (2015 Andhra Pradesh), Kottayam (2015 Kerala), Imphal (2015 Manipur) , Nagpur (2016 Maharashtra), Pune (2016 Maharashtra), Ranchi (2016 Jharkhand), Surat (2017 Gujarat), Bhopal (2017Madhya Pradesh), Bhagalpur (2017 Bihar), Agartala (2018 Tripura), Raichur (2019 Karnataka) Five of them are established, funded and managed by the Ministry of Education (MOE). The other 20 are set up on the public-private partnership (PPP) model, funded by the central government, state governments and industry partners in the ratio 50:35:15.

2.1 Indian Institute of Information Technology, Dharwad, and Its Library

Indian Institute of information technology, Dharwad established in 2015. This institute has well known library named as Learning Resource Centre. The library has a collection of over 4000+ Volumes, 500+ Titles, and 150+ CD/DVD collections. It also subscribes to magazines and newspapers, subscribed to the database DELNET …operating from a 30,000 sq. ft. spacious, centrally located, air-conditioned building, built on most modern lines, equipped with ergonomically designed furniture & fittings, managed by a highly dedicated staff. The Indian Institute of Information Technology Dharwad Library is a user-focused library that aims to develop, organize, preserve, and deliver information for the IIIT Dharwad community. The library is fully automated and offers a variety of services, including :



* Automated Circulation System
* Online Public Access Catalogue (OPAC)
* Special collection over placement
* Magazines and Newspapers
* CD/DVD collections

It contributes significantly to the entire growth of its users, particularly students and staff members, by meeting their information demands.

3. Review of Literature

Vinod Kumar Singh (2013) conducted a study to determine the use of electronic resources and services by the users of IIM, Bangalore. The major findings of the study are i) (94.74%) respondents indicate that they do not visit library frequently because all the electronic resources of the library are accessible anywhere in the campus through WIFI/LAN. ii) (97.30%) respondents are aware of electronic resource services and facilities provided by the institution. iii) (94.54%) point out that they need a specialized orientation training programs to know all the resources and its coverage.

Neetika Sharma (2018) conducted a study to examine the use of E-resources by the faculty members and students of Swami Shraddhanand college, University of Delhi. Major findings of the study are 1) 47.78% of respondents of economics and geography stream want to access only



electronic resources where as 32.78% users of history stream prefer to read the printed resources. 19.44% respondents of political science stream want to use both electronic and printed resources. Most faculties i.e., (76.66%) use E- resources for their teaching and research work.

Tahir, Mahmood, and Shafique (2010) carried out a research at the University of the Punjab in Lahore, Pakistan, to look at how humanities academics used electronic information resources and facilities. Some of the study's key conclusions are: (i) Both print and electronic materials were favoured by 69% of participants. (ii) Of those surveyed, 55% stated that the use of electronic resources has reduced the amount of time they spend obtaining information, while 30% reported no change and 13% stated that it has grown. (iii) They said that since information is dispersed over too many sources (90%) and because of the information explosion (87%), they found it challenging to look for the information they needed on their own.

4. Scope of the study

The study is limited to Indian Institute of Information Technology Library, Dharwad and its users (students)

5. Objectives of the study

* To ascertain the availability of electronic resources in IIIT library, Dharwad.



* To identify the awareness level of electronic resources available in the libraries of IIIT.
* To identify the purpose of use the electronic resources by the Library Users.
* To find out problems encountered in the use of electronic resources by the IIIT library users.
* To ascertain the need for user orientation/training programmes in accessing e-resources.
* To identify the library facilities and services related to the use of electronic resources.

6. Methodology

A structured questionnaire was developed to gather information from students using e-resources at IIIT Dharwad library, aligning with the specified objectives. A survey was then conducted using this questionnaire, which included a range of questions related to the utilization of e-resources.

6.1 Data Analysis and Interpretation:

A total of 150 questionnaires were randomly administered among the students of IIIT library users. The out of 150 questionnaires, 124 questionnaires (82%) were received.

1. To ascertain the availability of electronic resources in IIIT library, Dharwad.



Table: 1 Classification of users based on frequency of usage

If yes, how frequently do you use e-resources ?								
Do you use e-resources	Daily	Twice in a week	Once a week	Fortnightly	Monthly	Rarely	Never	Total
No	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	11(100)	11(8.88)
Yes	35(100)	14(100)	13(100)	4(100)	19(100)	28(100)	0(0)	113(91.12)
Total	35(100)	14(100)	13(100)	4(100)	19(100)	28(100)	11(100)	124(100)

Table:1 presents the bivariate distribution of use of E-Resources and its frequency. From the table it out of 124 users 98(79.04%) are using the E-resources in that 35 are using daily, 14 are using twice a week, 13 are using once a week, 4 are using in fortnights, 19 are using monthly and 13 are using rarely. From the test of association, it is found significant and the test reveals that there is an association between use of E-resources and frequency of its use.

Table: 2

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	77.694a	6	.000

2. To identify the awareness level of electronic resources available in IIIT library.



Table: 3 Frequency distribution E-resources

Categories of E-resources	Always 5	Often 4	Sometimes 3	Rarely 2	Never 1
E-books	29(23%)	44 (35%)	30 (24%)	8(6%)	13 (10%)
E-journals	9 (7%)	16 (13%)	44 (35%)	32 (26%)	23 (19%)
E-theses and dissertations	6 (5%)	7 (6%)	44 (35%)	30 (24%)	37 (30%)
E-Databases	18(15%)	30(24%)	41 (33%)	20(16%)	15 (12%)
E-reports	16(13%)	28(23%)	47 (38%)	20 (6%)	13(10%)
E-newspapers	20(16%)	37(30%)	32 (26%)	17 (14%)	18 (15%)
E-magazines	11(9%)	32(26%)	35 (28%)	21 (17%)	22 (18%)
Library OPAC (Online Public Access Catalogue)	2(2%)	16 (13%)	41(33%)	26 (21%)	39 (31%)
Library Website	4(3%)	20 (16%)	34 (27%)	20 (16%)	46(37%)

Table:3 presents the level of awareness regarding E-resources in the users. From the test of Friedman, it is found the rank list of E-resources. It is observed from table:4 E-books has rank 1 and mean 3.55 that indicates, it has been used maximum comparing to other E-resources followed E-newspapers, E-databases, E-reports, e-magazines, E-journals, Library website, Library OPAC and E-theses and dissertations respectively. Friedman test is found significant at 5% level of significance and the test reveals that there is a significant difference in the response of users.

Friedman Test

Table:4 Frequency distribution of categories of electronic information resources

How often do you use the following categories of electronic information resources?	Mean	Mean Rank	Ranks
E-books	3.55	6.60	1
E-journals	2.65	4.42	6
E-theses and dissertations	2.31	3.64	9
E- Databases	3.13	5.72	3
E-reports	3.11	5.66	4
E- newspapers	3.19	5.75	2
E- magazines	2.96	5.31	5
Library OPAC (Online Public Access Catalogue)	2.32	3.85	8
Library Website	2.32	4.04	7

Table:5 Test Statistics

N	124
Chi-Square	213.193
Df	8
Asymp. Sig.	.000

a. Friedman Test

3.To identify the purpose of use the electronic resources by the library users



Table:6 Purpose of visiting library

Purpose respondents	No. of	Percentage
Issue/Return	62	26%
Reference	38	16%
Keeping up to date	14	6%
Research	23	10%
Use of E- Resources	19	8%
Study/Reading	55	23%
Internet Access	16	7%
Any other	10	4%

Figure 1: Purpose of visiting library

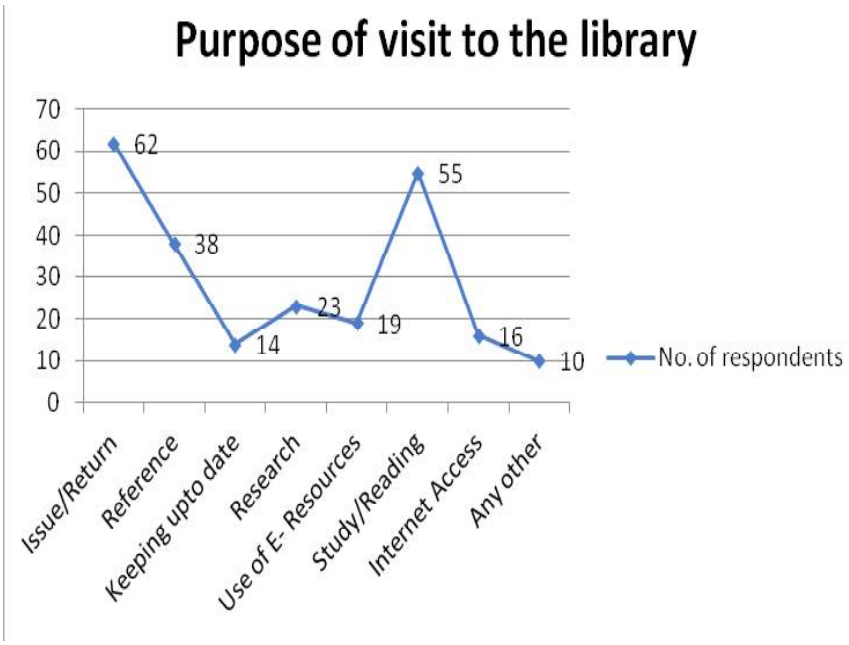


Table: 6 shows the frequency of visit of students to the library, 62(26%) students visit the library for issue and return of library materials, 38(16%) students for visit the library to refer library materials, 14(6%) respondents told they will visit the library to keep themselves up to date, 23(10%) respondents use the library for research purpose, 19 (8%) students are comfortable using E-resources in library, 55(23%) students visit the library for study purpose, 16 (7%) respondents mentioned they visit the library for internet access.

4.To find out problems encountered in the use of electronic resources by the library users.

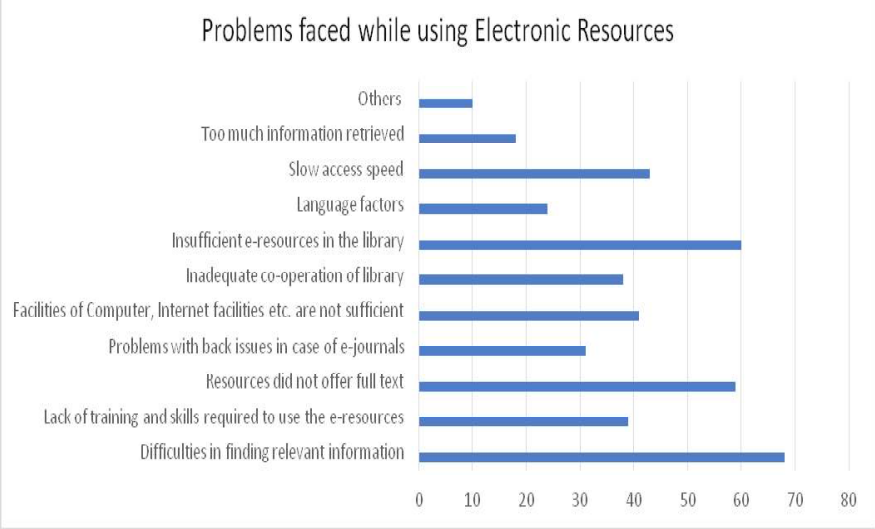
Table:7 Problems faced while using Electronic Resource

Problems	No of Respondents	Percentage
Difficulties in finding relevant information	68	16%
Lack of training and skills required to use the e-resources	39	9%
Resources did not offer full text	59	14%
Problems with back issues in case of e-journals	31	7%
Facilities of Computer, Internet facilities etc. are not sufficient	41	10%
Inadequate co-operation of library	38	9%
Insufficient e-resources in the library	60	14%
Language factors	24	6%
Slow access speed	43	10%
Too much information retrieved	18	4%
Others (Please Specify)	10	2%



Table:7 presents the frequency distribution of problems faced by users in IIIT Dharwad. From the table it is observed out of 124 users 68(16%) are facing the problem of Difficulties in finding relevant information followed 59(14%) are facing a problem Resources did not offer full text, Insufficient e-resources in the library, 41(10%) are facing Facilities of Computer, Internet facilities etc. are not sufficient and Slow access speed, 38(9%) are facing Inadequate co-operation of library and Lack of training and skills required to use the e-resources, 7% are facing problem in Problems with back issues in case of e-journals, 24(6%) are facing Language factors and 18(4%) are facing Too much information retrieved

Figure 2: Problems faced while using electronic resources



5. To ascertain the need for user orientation/training in rogrammes accessing e-resources.

Table:8 Bivariate distribution Department and opinion about training program.

	Do you feel library should arrange more training program for the optimum utilization of electronic resources and services?						
Name of the Department / Discipline	Agree	Cannot say	Disagree	Neither agree nor disagree	Strongly agree	Strongly disagree	Total
Computer Science and Engineering	32(59.25)	5(62.5)	1(33.33)	10(55.55)	27(71.05)	0(0)	75(60.48)
Data Science and Artificial Intelligence	8(14.81)	1(12.5)	1(33.33)	4(22.22)	2(5.26)	0(0)	6(12.90)
Electronics and Communication Engineering	14(25.92)	2(25)	1(33.33)	4(22.22)	9(23.68)	3(100)	33(26.61)
Total	54(100)	8(100)	3(100)	18(100)	38(100)	3(100)	124(100)

Table:8 presents the bivariate distribution of name of the department and users opinion regarding orientation/training programmes in accessing e-resources. From the table it is observed out of 124 users 75(60.68) are from computer science department followed 33(26.61%) are from Data Science and Artificial Intelligence and 16(12.90%) are from Electronics and Communication Engineering. It is observed the opinion 38 out of 124 are opined strongly agree for orientation/training programmes, 54 are opined agree, 8 said cannot say, 3 opined disagree 18 opined Neither agree nor disagree and 3 felt strongly disagree for orientation/training programmes in accessing e-resources. From the test of association, it is found non-

significant at 5% level of significance. The test reveals that there is no association between different streams and need of orientation/training programmes in accessing e-resources but out of 124 users 92 are expecting the orientation/training programmes in accessing e-resources.

Figure 3: To ascertain the need for user orientation/training programmes in accessing e-resources.

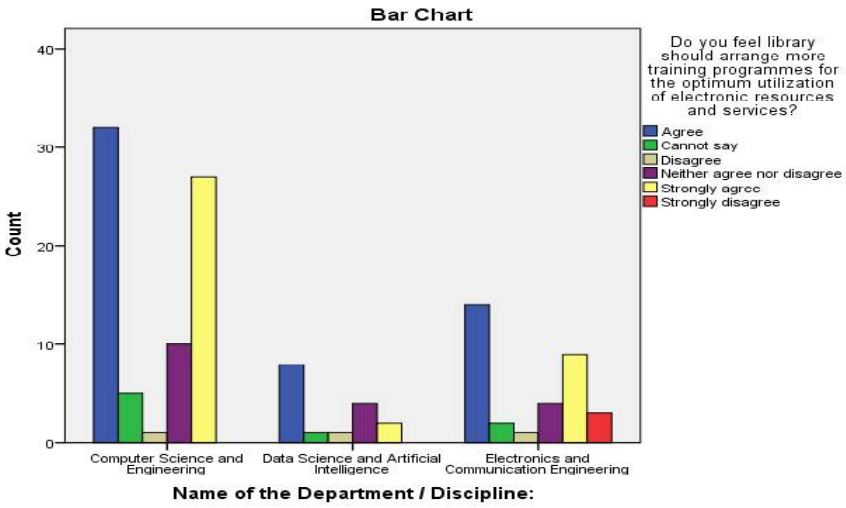


Table: 9

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.807a	10	.182

6. To identify the library facilities and services related to the use of electronic resources.

Table:10

Mention your satisfaction level regarding the following information and communication technology infrastructure available in the library.	Mean	Mean Rank	Rank
Computer terminals	1.93	3.30	1
Printers	1.78	3.01	3
Scanners	1.70	2.84	4
Photocopy	1.67	2.77	5
Bandwidth to access the resources	1.82	3.08	2

Table:10 presents the library facilities and services related to the use of electronic resources by the user. From the of Friedman test, it is found the rank list of facility in the institute. It is observed from Table:10 Computer terminals has rank 1 and mean 1.93 that indicates, users satisfied by this facility followed Bandwidth to access the resources, Printers, Scanners, and photocopy respectively. Friedman test is found significant at 5% level of significance and the test reveals that there is a significant difference in the response of users.

Table :11

Friedman Test

Test Statistics

N	124
Chi-Square	24.126
df	4
Asymp. Sig.	.000



Findings of the Study

1) Table:1 presents the bivariate distribution of use of E-Resources and its frequency. From Table: 2 the test of association, it is found significant and the test reveals that there is an association between use of E-resources and frequency of its use.

2) Table:3 presents the level of awareness regarding E-resources in the users. From the test of Friedman (table 4) it is found the rank list of E-resources. Friedman test is found significant at 5% level of significance and the test reveals that there is a significant difference in the response of users.

3) Table: 6 shows the frequency of visit of students to the library, maximum number of users visit the library for the purpose of issue and return of library materials

4) Table: 7 shows the frequency distribution of problems faced by users. 16% users are facing the problem of Difficulties in finding relevant information

5) Table:8 presents the bivariate distribution of name of the department and users opinion regarding orientation/training programmes in accessing e-resources. From the test of association, it is found non-significant at 5% level of significance. The test reveals that there is no association between different streams and need of orientation/training programmes in accessing e-resources but out of 124 users 92 are expecting the orientation/training programmes in accessing e-resources.



6) Table:10 presents the library facilities and services related to the use of electronic resources in the user. From the of Friedman test, it is found the rank list of facility in the institute and is found significant at 5% level of significance and the test reveals that there is a significant difference in the response of users.

Conclusion

The study reveals the knowledge of users of IIIT Dharwad regarding E-resources and facilities in the institute about E-resources and problems facing in the use of E-resources. This study concludes that around 79% of the users are using the E-resources and there is a high frequency of use in a regular interval and to know awareness and facilities it is tested the Friedmans K sample test, from the test it is found users are using E-resources maximum for E-Book and are highly satisfied with facility of computer terminals. Also, it is observed that users face problem in Difficulties in finding relevant information and finding full text information.



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