# Use of E-Resources by the Users of Vishveshwarya Technical University Library: A Study

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**Abstract**

*In the changing environment, e-resources play's important role among students, research scholars and the faculty members of Universities. Vishveshwarya Technical University is one of the premier and largest university of in India. In this perspective the authors aimed to find awareness and use of e-resources among library users of the Vishveshwarya Technical University (VTU). The result 88.33% of respondents revealed the purposes of using e-resources, frequency of use, location of accessing e-journals, problems encountered in using e-resources and extent of user's satisfaction towards e-resources. On the basis of finding, some suggestions are included in this study to increase use of e-resources.*

**Key words:** E-resources, ICT services, User study, VTU-Consortium, Frequency of library use etc

## 1. INTRODUCTION

The twenty first century was shaped by sweeping changes in communication technologies. The emergence and use of information technology is the century's most significant development affecting scholarly communication. Today, libraries are shifting their role from the custodian of traditional information resources to the provider of service-oriented digital information resources[1]. The emergence of technological development in the context of computer, telecommunication, electronic, reprography and micrography have been changing the means of libraries. The familiarity and use of e-resources in the libraries for rapid development is necessary and important[2]. E-Resources 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. EMERALD, EBSCO & SCOPUS are some of the examples of online databases[3]. The aim of this study is to identify different type of e-resources and how e-resources are utilized by academic faculties, research scholars and students of the Vishveshwarya Technical University (VTU) of Karnataka in India. Further the study also examines, to know the use pattern, acceptance, perceived importance of e-resources.

## 2. REVIEW OF LITERATURE

Dadzie (2005) has investigated use of electronic resources by students and faculty of Ashesi University, Ghana. The study found that computer usage for information access was high because of the University's state-of-the art IT infrastructure. The study recommends, introduction of information competency across the curriculum and/or the introduction of a one-unit course to be taught at all levels and the provision of more PCs on campus[4].

Ron Houlihan (2005) examined the need to fashion academic libraries as desirable destinations for students in the face of the 24/7 availability of both library and non-library e-resources. IT is found that the critical importance of providing a comfortable and stimulating environment for students and the rewards for doing so are confirmed, with reference to various Canadian and US schools[5].

Rogers (2001) studied faculty and graduate student use of electronic journals, printed journals and electronic databases. The author found that 41 percent of the faculty respondents was 24-hour availability and easy access. Likewise 13 percent of faculty and 19 percent of graduate students, expressed that it would be easier and less time-consuming to find needed information. And 15 percent of faculty and 21 percent of graduate students have limited experience with the electronic format[6].

Haneefa K (2007) presented the results of an investigation in the study "Use of ICT Based Resources and Services in Special Libraries in Kerala, India. The author found the email service was used by the largest percentage of the users. WWW was being used by 60% per cent of the library users. A good no. of users was not satisfied with the application of ICT in the libraries and indicated 'inadequate ICT infrastructure' as their reason for dissatisfaction[7].

Prabakaran, K., (2013). Conducted a survey on use of e-resources among faculty members of engineering colleges in Duddalore district. It is found that faculty members can retrieve seemingly endless volumes of information in a short span of time with the help of new technologies. Purpose of using e-resources is the best use for research work. But author suggest that there should be necessary training facilities are to be provided to the users[8].

Kunwar and Ramesh., (2017) examined user's satisfaction with library resources and services. The authors suggested, IIT libraries should develop an intranet search facility and training of personnel is essential because effectiveness of the library depends on the performance of the staff. It is also suggested that the IIT Libraries should enhance other e-resources collection to fulfill the information needs of the users[9].

## 3. OBJECTIVES

1) To know the type of e-resources and services in VTU library

2) To study the purpose and frequency of use of e-resources and services in VTU library;
3) To assess the benefits of e-resources over conventional sources of information;
4) To determine the perceived impact of the resources on their academic efficiency;
5) To know the knowledge of from VTU-Consortium and its effectiveness for study and
6) To trace out the troubles of e-resources in using and suggestions to overcome.

## 4. SCOPE OF THE STUDY

The Vishveshwarya Technical University (VTU) in Karnataka State, India was established on 1 April 1998 by the Government of Karnataka as per VTU Act 1994, to improve the quality of technical education in the state. Apart from a few notable exceptions, VTU has complete authority in the state of Karnataka. It is a statutory requirement for colleges offering any program in engineering or technology in the state to be affiliated with the university. VTU is one of the largest universities in India with 208 colleges affiliated to it with an intake capacity of over 67100 undergraduate students, 12666 postgraduate students and around 1800 PhD candidates. The university encompasses various technical & management fields which offer a total of 30 undergraduate and 71 postgraduate courses[9].

## 5. METHODOLOGY

As a study is confined to VTU, a standard research tool has been proposed to find facts, figures and other much needed real based on the objectives of the study. The questionnaire method is found suitable for collecting the data. The structured questionnaire has been designed that it could be answer within a short time. This questionnaire was distributed amongst 120 users belonging to various disciplines. Out of which, 106 were received with the response rate of 88.33%. The data was analyzed statistically and presented in the form of table and charts[10].

## 6. RESULTS AND DISCUSSION

The data obtained through the questionnaires and provided an interpretation for fulfilling the research paper objectives.

### 6.1 Demographic characteristics of the study

The table-1 reveals that, among total of 106 respondents 44 (41.50%) are PG students, 42 (39.62%) research scholars and 20 (18.86%) faculty members.

***Table No-1: Type of Respondents***

| Respondents | No of Respondents | % |
|---|---|---|
| PG Students | 44 | 41.50 |
| Research Scholars | 42 | 39.62 |
| Teachers | 20 | 18.86 |
| Total | 106 | 100 |

### 6.2 Level of awareness of e-resources and services

Table- 2 indicates, 33.96% of respondents are aware but not using e-resources followed by aware and using 29.24%, aware but don't know how to use are 34.93% and 01.88% are unaware.

***Table No-2: Awareness and use of e-Resources and services***

| Awareness and use of e-resources | Faculty (%) | Research Scholars (%) | PG Students (%) | Total (%) |
|---|---|---|---|---|
| Aware & Using | 11 (10.37) | 11 (10.37) | 9 (08.49) | 31(29.24) |
| Aware but no using | 08 (07.54) | 12 (11.32) | 16 (15.09) | 36(33.96) |
| Aware but don't know how to use | 01 (0.94) | 19 (17.92) | 17 (16.03) | 37(34.90) |
| Unaware | - | - | 02 (01.88) | 02(01.88) |

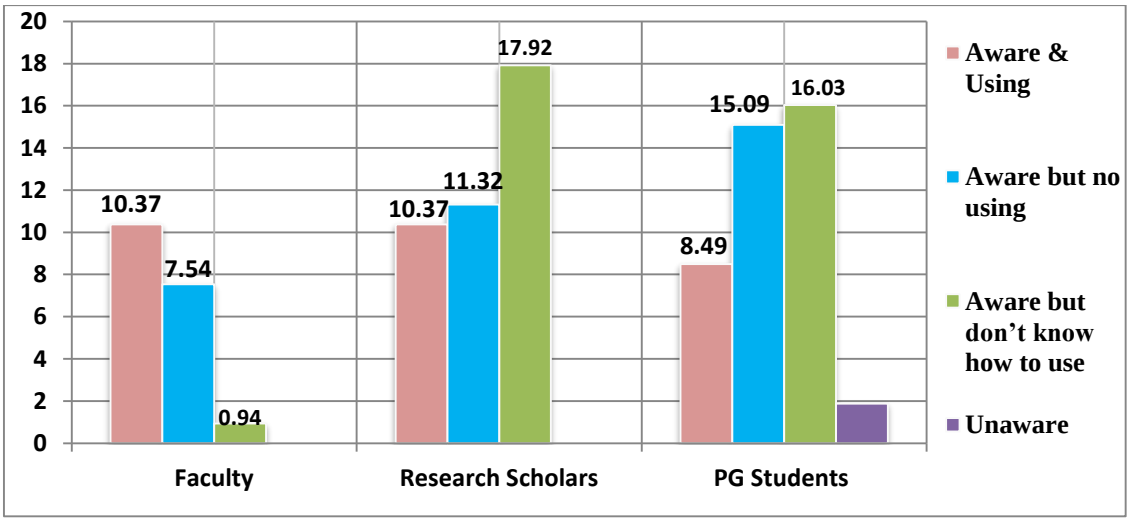


**Figure 1 Level of Awareness**

### 6.3 Preference media of information resources.

Table-3 shows, preference media of information resources by the respondents. The print (35.84%), electronic (37.73%) and both print & e-resources (50.94%) are the preferred media of information. Followed by Print (33.96%), electronic (14.15%) and both print and electronic (15.09%) are moderately preferred.

***Table No3-: Preference of media of information resources***

| Media preferences | Most Preferred | Preferred | Moderately preferred | Less preferred | Not preferred |
|---|---|---|---|---|---|
| Print | 17 (16.03) | 38 (35.84) | 36 (33.96) | 10 (9.43) | 5 (4.71) |
| Electronic | 30 (28.30) | 40 (37.73) | 15 (14.15) | 12 (11.32) | 9 (8.49) |
| Both print & electronic | 28 (26.41) | 54 (50.94) | 16 (15.09) | 5 (4.71) | 3 (2.83) |

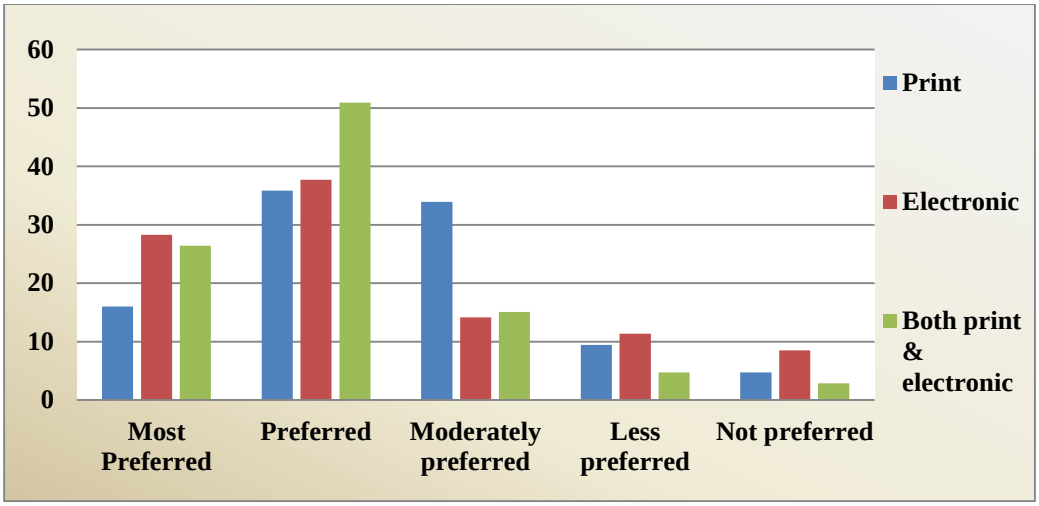


**Figure 2 Preference Media of Information Resources**

### 6.4 Adequacies of e-resources

The data in table-4 indicates the adequacy of e-resources. The majority of respondents opinioned, e-Journals (40.56%) and e-Thesis (28.30%) are the most preferred source of information. Followed by, e-Bibliographic databases (32.07%) moderately preferred, e-Technical reports (33.93%) less preferred and more than 31.13% responded e-books are not preferred.

***Table No-4: Adequacies of e- resources***

| Adequacy of E-resources | Most preferred (%) | Preferred (%) | Moderately preferred (%) | Less preferred (%) | Not preferred (%) |
|---|---|---|---|---|---|
| E- journal | 43 (40.56) | 17 (16.03) | 18 (16.98) | 15 (14.15) | 13 (12.26) |
| E-Thesis | 30 (28.30) | 24 (22.64) | 25 (23.58) | 20 (18.86) | 06 (5.66) |
| E- Technical reports | 12 (11.32) | 13 (12.26) | 15 (14.15) | 36 (33.93) | 30 (28.30) |
| E-books | 08 (7.54) | 15 (14.15) | 22 (20.75) | 28 (26.41) | 33 (31.13) |
| Bibliographic databases | 08 (7.54) | 20 (18.86) | 34 (32.07) | 17 (16.03) | 27 (25.47) |

### 6.5 Frequency of access e-resources

Table-5 indicates frequency of use of e-resources. Majority 44.33% of respondents use e-resources daily. Followed by 37.73% weekly, 14.15% fortnightly, 2.83% monthly and only one respondent use e-resources occasionally.

***Table No-5: Frequency of access e-resources***

| Frequency of use | No of Respondents | Percentage% |
|---|---|---|
| Daily | 47 | 44.33 |
| Weekly | 40 | 37.73 |
| Fortnightly | 15 | 14.15 |
| Monthly | 03 | 02.83 |
| Occasionally | 01 | 00.94 |
| | 106 | 100 |

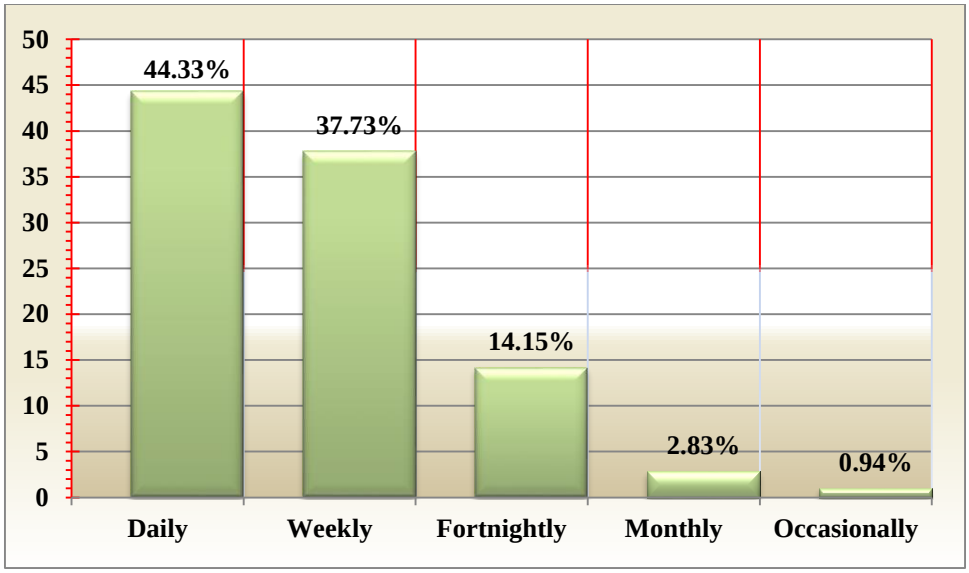


**Figure 3 Frequency of access of e-resources**

### 6.6 Frequency of use of Web–enabled information services

The VTU library, provide various type of web based information services to its users. The table-6 reveals that 39.62% and 34.90% of respondents use Current journals of holdings frequently and most frequently respectively. Towards the News paper clipping service and Gateway to access e-journals, majority 31.13% and each 34.07% of respondent respectively use most frequently and 41.50% respondents do not use OPACs service provided by the library[11].

***Table No-6: Frequency of use of Web–based information services***

| Web based Inf'n Services | Most Frequently (%) | Frequently (%) | Less Frequently (%) | Uncertain (%) | Do not use (%) |
|---|---|---|---|---|---|
| Current journals holdings | 37 (34.90) | 42 (39.62) | 8 (7.54) | 16 (15.09) | 3 (2.83) |
| News clipping Service | 33 (31.13) | 12 (11.32) | 24 (22.64) | 22 (20.75) | 3 (2.83) |
| Gateway to access e-journals | 34 (32.07) | 34 (32.07) | 01 (0.94) | 12 (11.32) | 3 (2.83) |
| FAQs | 26 (24.52) | 22 (20.75) | 19 (17.92) | 29 (27.35) | 10 (9.43) |
| OPAC | 16 (15.09) | 12 (11.42) | 09 (8.49) | 25 (23.58) | 44 (41.50) |
| Table of Content of journals | 12 ( 11.32) | 29 (27.35) | 18 (16.98) | 26 (24.52) | 21 (19.81) |

### 6.7 Frequency of use of full text e-resources

Users asked to rate the use of publishers and vendor e-journal databases and has been presented in table-7. Majority 26.41% of respondents use Emerald databases daily followed by 18.86% and 27.35% of respondents Springer Link database weekly and fortnightly respectively. Less i.e. 8.49% of respondents use Elsevier's Science Direct databases daily,

and the table also reveals that average 35% of respondents use all listed full text e-resources occasionally. It indicates that most of the respondents use e-resources occasionally.

***Table No-7: Frequency of using full text E-Resources***

| e-Resources | Daily | Weekly | Fortnightly | Monthly | Occasionally |
|---|---|---|---|---|---|
| Emerald | 28 (26.41) | 11 (10.37) | 16 (15.09) | 20 (18.86) | 31 (29.24) |
| SpringerLink | 20 (18.86) | 20 (18.86) | 29 (27.35) | 15 (14.15) | 22 (20.75) |
| Knimbus | 19 (17.92) | 17 (16.03) | 13 (12.26) | 20 (18.86) | 37 (34.90) |
| EBSCO | 15 (14.15) | 18 (16.98) | 13 (12.26) | 27 (25.47) | 33 (31.13) |
| ProQuest Science | 15 (14.15) | 11 (10.37) | 3 (2.83) | 53 (50.00) | 24 (22.64) |
| Taylor and francis | 13 (12.26) | 6 (5.66) | 22 (20.75) | 18 (16.98) | 47 (44.33) |
| IET Digital Library | 12 (11.32) | 24 (22.64) | 14 (13.20) | 26 (24.52) | 30 (28.30) |
| Elsevier's Science Direct | 9 (8.49) | 13 (12.26) | 19 (17.92) | 25 (23.58) | 40 (37.73) |

**6.8 Use of bibliographic databases**

The table-8 above reveals that the use of Bibliographic Databases, Majority 29.24% of respondents use MathSciNet databases daily, while 23.58% and 35. 84% of respondents use JCCC database weekly and fortnightly respectively. Less 5.66% of respondent use Web of Science daily and none of respondents use SciFinder and SCOPUS databases daily. More than 50% of respondents use Scopus and SciFinder databases occasionally.

***Table No-8: Use of Bibliographic Databases***

| e-Resources | Daily | Weekly | Fortnightly | Monthly | Occasionally |
|---|---|---|---|---|---|
| MathSciNet | 29.24 | 14.15 | 16.03 | 17.92 | 22.64 |
| INSPEC | 12.26 | 19.81 | 15.09 | 17.92 | 34.09 |
| JCCC | 9.43 | 23.58 | 35.84 | 13.2 | 17.92 |
| Web of Science | 5.66 | 10.37 | 21.69 | 25.47 | 36.79 |
| SciFinder | - | 16.03 | 12.26 | 21.69 | 50 |
| SCOPUS | - | 5.66 | 13.2 | 24.52 | 56.06 |

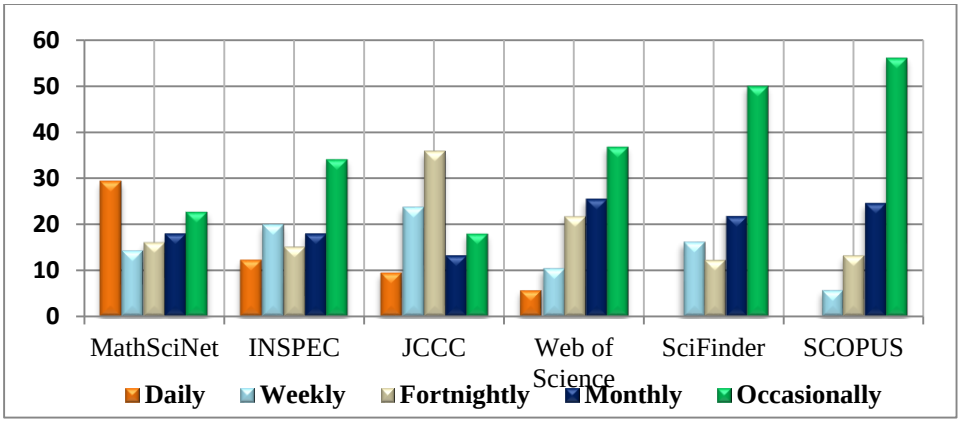


**Figure 7 Use of Bibliographic Databases**

### 6.9 Influences about "VTU-Consortium"?

This table-9 shows that the about VTU-Consortium. Majority, 32.07% of respondents came to know VTU-Consortium by library staff. Followed by internet 27.35%, and 18.86% by colleagues and each 6% of respondents came to know through email and other mode.

***Table No-9: Influence made to known about VTU-Consortium***

| Influences by | No of Respondents | Percentage |
|---|---|---|
| Library Staff | 34 | 32.07 |
| Internet | 29 | 27.35 |
| Colleagues | 20 | 18.86 |
| Journals | 9 | 08.49 |
| E-mail | 7 | 06.60 |
| Others | 7 | 06.60 |
| | 106 | 100 |

### 6.10 Purpose of using *"VTU-Consortium"*.

As the information increases manifold, respondents use e-resources for varied purposes. The main purpose of use of VTU-Consortium has categories accordingly and asked the respondents to select multiple options based on their preferences of interest[12]. It can be noted from the below table that almost 77.35% of respondents use e-Resources for research, followed by 68(15%) for publishing articles/books, 52(49.05%) for study, 39(36.79%) for finding relevant information in the area of specialization 30(28.30%) completion assignments and seminar presentations and least 28(26.41%) for keeping up to date with the subject.

***Table No-10: Purpose of using "VTU-Consortium"***

| Purposes | No of Respondents | Percentage % |
|---|---|---|
| Research purpose | 82 | 77.35 |
| Publishing articles/books | 68 | 64.15 |
| For Study | 52 | 49.05 |
| Finding information in area of | 39 | 36.79 |

| | | |
|---|---|---|
| specialization | | |
| Assignments/Seminar presentations | 30 | 28.30 |
| Up-to-date with subject | 28 | 26.41 |

**6.11 Extent of quality of study/research/teaching improved by e-information resources**

The below table-11 depicts, extent of benefits in improvement of study, research and teaching. Majority 52 (49.05%) of respondents agree that e-resources ensures the study research and teaching quality. Followed by this 38 (35.84%) respondents strongly agree, 7 (06.60) respondents uncertain, 5 (04.71%) strongly disagree and only four (03.71%) respondent expressed disagree.

***Table No-11: Quality of study/research/teaching improved by using e-resources***

| Level of use of e resources | No of Respondents | Percentage |
|---|---|---|
| Agree | 52 | (49.05) |
| Strongly Agree | 38 | (35.84) |
| Uncertain | 7 | (06.60) |
| Disagree | 4 | (03.77) |
| Strongly Disagree | 5 | (04.71) |
| Total | 106 | 100 |

**6.12 Extent of research papers increased by using e-resources**

Access of e-journals and other materials through library consortium, digital library, open access directory and subject gateways have made lot of contributions specifically in research and academic environment.[13] The below table-12 shows majority 55 (51.88%) respondents agreed that the use of e-resources helps them to increase their research papers more. Followed by this 35 (33.01%) of respondents strongly agree, 11 (10.37%) respondent uncertain and only five (04.71%) respondents strongly disagree that not only e-resources research paper but also print resources.

***Table-12 Extent of research papers increased by using e-resources***

| Level of extent | No of Respondents | Percentage |
|---|---|---|
| Agree | 55 | (51.88) |
| Strongly Agree | 35 | (33.01) |
| Uncertain | 11 | (10.37) |
| Strongly Disagree | 5 | (04.71) |
| | 106 | 100 |

**6.13 Obstacles in using "VTU-Consortium" e-resources**

In order to know the obstacles faced by the respondents, a question was posed, and the results are given in the table 13. Majority 23.58% of respondents that lack of knowledge to use is the major obstacle, followed by lack of sufficient internet nodes 19.81% and 5.66% of respondent responded lack of assistance by library staff.

***Table No-13: Obstacles in using "VTU- Consortium" e-resources***

| Problems | No of Respondents | Percentage |
|---|---|---|
| Lack of knowledge to use | 25 | 23.58 |
| Lack of sufficient internet nodes in university library | 21 | 19.81 |
| No accessibility VTU- Consortium at department | 11 | 10.37 |
| Slow internet bandwidth | 11 | 10.37 |
| Technical problems | 15 | 14.15 |
| Frequent power cut | 10 | 9.43 |
| Lack of relevant information sources | 7 | 6.60 |
| Lack of assistance by library staff | 6 | 5,66 |
| | 106 | 100 |

### 6.14 Opinion towards VTU-Consortium

Table-14 shows majority 50% of respondent expressed good opinion about VTU-Consortium followed by Excellent 33%. Least 7.54% of respondents expressed VTU-Consortium is very poor.

**Table-14 Opinion towards VTU-Consortium**

| Opinion | No of Respondents | Percentage |
|---|---|---|
| Good | 53 | 50.00 |
| Excellent | 35 | 33.01 |
| No opinion | 10 | 9.43 |
| Very Poor | 8 | 7.54 |
| | 106 | 100 |

## 7. FINDINGS

1. In the aspect of awareness and use of e-resources research scholar are the highest users of e-resources
2. It is found from the study that the e-resources are the preferred source of information and particularly e-journals are the most preferred type.
3. The study kept an objective to know the frequency of use of e-resources and it has found, highest number of respondents use e-resources daily.
4. Towards the use of web based information resources, highest number of users frequently uses "Gateway for access to e-journals". Similarly, the frequency of use of databases maximum users prefer and use full-text & Bibliographic resources daily.

5. It is found 'VTU-Consortium" is considered as the best resource and highest number of users strongly agreed e-resources improve study, research and teaching activities.
6. It is observed that lack of knowledge about e-resources and its access is the major obstacle.

## 8. SUGGESTIONS

There is a lot of improvement in online databases access, the people who are in engineering courses there should be an immediate access of the information and updated with the current knowledge. Today users are giving more importance to electronic version of documents. With the availability of more resources through the Internet with high-speed connectivity the demand for E-resources in their specific subject is increasing.

Accordingly, the libraries have to evolve more scientific methods to develop a standard collection of E-resources along with print documents assessing the requirements of the users community. Firstly, the VTU library needs to increase the number of e-resources and provide internet accessibility with more number of terminals to the users. So online databases access is one of the means which updates and educates the users of the library. Secondly, there is a need to design scientific search engines on the basis of individual disciplines and in this way the VTU library has to conduct formal training/orientation programmes to overcome the obstacles and effective utilization of e-resource[14].

## 9. CONCLUSION

Today the World Wide Web has emerged as most powerful medium for information publishing and access. A plethora of information sources for education and research are available on the web, including scholarly journals, technical reports, theses, courseware, concern pages, data sets, patents and discussion forms. It is evident from the present study that Vishveshwarya Technical University (VTU) library system plays an important role in exploring and communicating impact of e-Resources process. The study concludes that almost all users are aware of e-resources as it is user friendly and delivers informative literature with least expenses in reduced time as well. Study highlights that all types of e-resources are available through the website are rapidly used by their users. The availability of e-resources in the VTU Consortium are almost sufficient for the existing disciplines and will encourage students, research scholars & faculty members to excise more of these resources.

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