Usage of E-Resources during Pandemic: A User Analysis among the Scholars of IIT Madras

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Abstract
The sudden outbreak of Covid-19 left us clueless, every sector had to find their alternative method to continue their work. Due to pandemic all the educational institutions were shut down. E-learning was introduced to the learners. Libraries all over the world had to adopt new methods to serve their users. Likewise, Central library of IITM also introduced new services one among it was to provide remote access facilities to all their scholars. A user study was conducted to analyze the efficiency, usage and impact of e-resources by the scholars during lock down period. Library introduced various online services to scholars for their research progress. This paper is an endeavor to understand the impact and usage of e-resources among the scholars of IIT Madras during pandemic.

Keywords: E-resources, Pandemic, Library services, Remote log-in

Introduction
The world was under the threat of a pandemic during the year of 2019 and India got affected during the early months of 2020. The day to day activities became still. Schools, colleges, universities, all government and private organization was shut down due to Covid-19. Scholars and researchers had to start online learning and remote access facilities was given to students of IIT Madras for their learning process. The central library of IIT Madras has configured INFED (INFLIBNET) Shibboleth and access was given to whole scholars and faculties. The library has fully automated collection, which could be accessible through the web OPAC.
Indian Access Management Federation (INFED) has adopted Shibboleth, a standard-based open source software, for authenticating authorized users from institutions and provide them seamless access to e-resources from anywhere, anytime. Shibboleth offers a mechanism for users to access multiple resources within a single federated sign-on framework. INFED allow users to access internal and external resources seamlessly using a single, institutionally controlled identity. eShodh Sindhu Consortia provides access to e-resources subscribed by IIT Madras.

Despite e-resources print materials are also important to gather information, pandemic has restricted scholars accessing the library. Therefore, the study is conducted to get an insight of impact of e-resources, its usage among the scholars of the institution during the lockdown period.

**E-Resources**

E-resources are resources in which information is stored electronically and which are accessible through electronic systems and networks. E-resources is a very broad term that includes a variety of different publishing models, including OPACs, CD-ROMs, online database, e-journals, e-books, internet resource, print-on-demand (POD), e-mail publishing, wireless publishing, electronic link and web publishing etc. In this context the term means electronic product that delivers collection of data be it in text, numerical, graphical, or time based, as a commercially available resource.

The e-resources are basically divided in two major types first one online e-resources with include e-journals, e-books, online databases, websites; other electronic resources including CD Rom and other portable computer databases.

**Library Services**

Central Library is one of the central support services of IIT Madras. The mission of the central library is to provide information services and access to bibliographic and full text digital and printed resources to support the scholarly and informational needs of the institute community.

Library is well equipped with modern facilities and resources in the form of CD-ROMs, On-line databases, audio video cassettes, books, e-journals, patents, e-standards, theses, reports, monographs etc.

220 seating capacity, Students Discussion Hall, Automatic Bindery and world-class facilities, services, multi format resources.

The newly joint students are given induction classes at the beginning of their semester, which includes; awareness about library materials, searching techniques in OPAC, awareness about online books and journals, their usages.

During pandemic the library have implemented various online facilities for students:

- Remote access login facility was introduced for all the student and faculty members
- Online reference services
- Telephonic and online query services
- Online renewal of books
- Provided no dues through online for graduating students
- Students away from the campus was allowed to return books through postal service

**Literature Review**

Zhou (2021) presented a paper on comparative analysis of measures undertaken by traditional academic libraries in China and Italy in response to pandemic restrictions on educational operations during the lockdown period. The study utilized a specially developed questionnaire, carried out through an online survey, as a means of collecting data from library users (students and teachers). The results show that Chinese libraries were more effective in overcoming quarantine restrictions than those in Italy. The respondents reported that they had positive experience learning remotely and would not mind if distance learning programs continue to function after the pandemic is over.

Sawant (2021) Indian libraries strived to stay connected with the users and provided remote services. Many libraries developed library/digital guides and e-content and responded to online reference queries. Discussed the problems faced by the libraries in providing their services.
Pooja and Manju (2020) conducted a content analysis study of websites on library services provided during Covid-19 pandemic. The study highlights the significant initiatives taken by the libraries which can be followed by others to meet the post lockdown needs. They used the method of investigation of the websites to find out the responses of the libraries of the premier technological institutes of India to Covid-19. They observed that libraries have anticipated their user need and evolved as a continuous learning factory.

Asif and Singh (2020) examined the recent technological advancements and preventive measures taken in order to enhance the knowledge of library professionals to promote library resources and services. The study provides an overview on preventive measures and current trends in libraries to play proactive role in the present and post pandemic situation.

Borah and Koch (2020) analyzed the role of e-resources in doing research during the pandemic times in Assam. The questionnaire method was used to collect primary data. It revealed that e-resources have been greatly facilitating the research work of the scholars. There is a rise in the use of e-resources among the researchers throughout this pandemic.

**Objectives**

The knowledge regarding the uses of e-resources and their effectiveness amidst of a pandemic is important for a library. This study is attempted from the following perspective.

1. To understand the effective usage of e-resources
2. To analysis the services of library during pandemic
3. To collect data on the usage statistics of remote access facilities

**Methodology**

The survey method contained specifically designed questionnaire, with questions regarding the services of library and usage by the students. The study was conducted among the research scholars, questionnaire was prepared and circulated through google form and manually. 104 responds were received and analyzed.
Limitation of the Study

Due to Covid-19 restrictions majority of the students are having online classes and they are not available in the campus. The data for the study was collected from students who reside inside the campus.

Findings and Analysis

Data analysis is a practice in which raw data is ordered and organized, so that useful information can be extracted from it.

The objectives of the study can be attained only by analyzing collected data using appropriate standard techniques. The purpose of the analysis is to build up a sort of intellectual model where the relationship involved are carefully brought out, so that some meaningful inferences can be conclusively be drawn.

The analysis and interpretation of data for the study is collected by means of questionnaire. The collected data is presented in forms of tables and necessary explanations have been provided along with each table. The questionnaires were forwarded among scholars.

Students were asked about the awareness of e resources, all of them were aware about the availability and usage of e-resources provided by the central library. Remote login was provided to all scholars. The below table shows the frequency of scholars. 12% of them log-in daily for accessing e-resources. 35% of them logged once in a week. Majority that is 44% scholars logged in once in a month for their research and reading of articles. 9% rarely used the library portal during pandemic. (Table 1)

Table 1: Frequency of remote access log-in

<table>
<thead>
<tr>
<th>Frequency of Log-in</th>
<th>Percentage of Scholars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>12</td>
</tr>
<tr>
<td>Weekly</td>
<td>35</td>
</tr>
<tr>
<td>Monthly</td>
<td>44</td>
</tr>
<tr>
<td>Rarely</td>
<td>9</td>
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</table>
The response on the purpose of using e-resources by the scholars is given below (Figure 1):

![E-resource usage](image)

Question regarding the usage of resources was put forward. From the chart it’s clear that almost 88 students used e-resources for their research during the pandemic, 50 used for writing articles related to their subject interest and 36 used it for study and 6 for other purpose.

E-journals was used by majority of students from library portal using remote login during the pandemic. 36% used e-books and 10% used e-databases during pandemic. Only 4% used patents during the pandemic (Figure 2)
Majority of students knew how to retrieve data online, they either studied by their own or received help from friends and consulted library for gathering data. They also used external helps in searching and retrieving information from e-resources.

Students used library the most for accessing e-resources and to study before the pandemic, while hostel is the second most widely used spot for accessing. Department and other location inside the campus takes third and fourth position respectively. 56% of the students are highly satisfied with subject coverage provided by the library and 36% is satisfied and 20% remain neutral. (Figure 3)
Library has provided remote access and answered queries during the lockdown. Queries regarding e-resources, remote log-in, no dues and other were repeatedly answered. Online no-dues were provide to the outgoing scholars. The chart below depicts the data. (Figure 4)

Students had query regarding remote log-in during pandemic, which was sorted out by librarian and library staffs. 39% had doubts regarding remote login, how to sign in search and retrieve data. 28% had queries regarding accessing e-resource which include the availabilities of articles in their concerned subject areas, how to download, read and save it for future and 31% regarding no dues. 2% had query related to other topics.
Conclusion

The study was conducted to analysis the usage of e-resources among the scholars during pandemic. Due to pandemic all the institutions were shut down and scholars had to accessing e resources. Library has provided remote login to all students which helped them to access resources without any hindrance even during the lockdown period. Majority of the students benefited and found library services helpful especially during pandemic. Researchers and scholars have used library services regularly during lockdown. ITM have configured highest number of resources by using INFED (INFLIBNET) Shibboleth. Online issue of no dues was introduced for the outgoing scholars, their queries regarding remote login, e-resources and other relevant matters were solved on time. The central library played an essential role in the e-learning process and helped all student and faculty community for their research and study using online facilities.

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