

Utilization of Electronic Resources by the Faculty Members of Select Private Universities of NCR Region during the Covid 19 Pandemic: A Trend Analysis

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ABSTRACT

An impact of the "COVID-19" pandemic in India has disrupting the educational sector. The assessment of the study of online learning in higher education during the pandemic and what is awareness, perspective, and use of e-resources of the faculties member in research, teaching, and learning in the private state universities National Capital Region (NCR). It is the e-resources availed by the faculties in the libraries of the six universities specifically provided amid the pandemic "COVID-19" unfavorable situation in the year 2020-2021. The empirical data of 149 respective faculties was collected through an online survey from six reputed universities in the Delhi NCR region. The university administration and faculty members have immediately focused on online learning remotely instead of face-to-face classes, but online teaching could not complete without the library electronic resources. Therefore, this study highlights determine the academic libraries playing a significant role in providing support to faculty members in the midst of COVID-19 through ICT technology to support research, online teaching, and e-learning. Learning from the library of private universities will help develop such a more collaborative and emerging teaching/learning experience. The recommendation & results of this study are about electronic resources being effectively beneficial to all the six private universities in the Delhi NCR. We have to build strategies to be aware of the needs of the faculty members, the problems they are facing during this lockdown period, and the value of electronic resources that had been prioritized for teaching/learning and research evaluation are also discussed.

INDEX TERMS– Electronic Resources, Academic Libraries, COVID-19, Library Services, Online Learning, Private University.

1. INTRODUCTION

The emergency of the COVID-19 pandemic has impacted higher education institutes all around the world. The Indian Government has introduced mandatory measures for complete lockdown with various declarations under Disaster Management Act and even after this the lockdown was extended again and again in affected cities and then allowed reopening of colleges and universities with very few gatherings maintaining standard operating procedure (SOP). The information communication technologies revolution was accompanied by electronic resources of open opportunities for continuous

education and stakeholder, the role of academic libraries has shifted dramatically, especially university administration procuring electronic resources for their faculty requirement by the libraries.

In the current scenario with an outbreak of the COVID-19 epidemic crisis, the world's educational institutions were closed for most of the time, causing unprecedented disruption in education with all schools, colleges, universities closed indefinitely. The UNESCO monitoring 92% percent of students globally affected outbreak pandemic has taken its full hold in countries around the world. According to a research article nationwide closures have affected more than 65% of the teaching population of 193 countries. In addition, the GEM report (UNESCO, 2020), (Joint Educational, Science and Cultural Organization) has developed OECD and Peer Networks to provide resources on digital education policies in online and distance education with information on sustainability for all students in higher education, gender equality, and ensuring quality education.

Announcement of the Qingdao agenda (UNESCO, 2015), formulated a vision of an education system that has ICT technologies as a lever facilitator for change mechanisms for professional development. ICT in education plays an important role in enabling shaping the future of sustainable development, adequate resources to bridge the digital divide, and this process for quality and innovated education for all in the world. The proliferation of ERs is a core service of academic libraries to create adequate facilities for the learning environment (Bentil, Liew & Chawner, 2021).

The study analysis the utilizes and perspective of various electronic resources by the faculty member subscribed by these universities when the libraries for the same were closed against physical interaction due to Coronavirus disease (COVID-19) in 2020. The library procured the electronic resources from consortium-selected vendors to ensure their teaching and research run productively.

2. THE CONCEPT OF ELECTRONIC RESOURCES

This pandemic situation is unique and it spreaded so quickly that the lockdown was imposed until we tested the coronavirus. The only option left was to make online education rely on electronic resources, in which ICT proved to be the most powerful tool. Library provides electronic resources access on IP-based facilities within the campus, a virtual public network (VPN)/ remotely access, and mobile device. In this region, gulf state universities influence user's behavioral intention model and performance expectancy to construct for university libraries to use EIRs services (Alajmi, 2019).

The task of academic learning would not be possible without the usage of e-resources to balance the delivery of high-quality knowledge and enhance educational learning opportunities for faculties, students, and institutions across the world. The library collection of electronic resources includes e-journals, online databases, e-books, e-magazine, e-newspaper, electronic theses and dissertations (ETD) repositories, numeric and statistical databases, digital repository, academic web resources, and open educational resources (OER), etc.

3. LITERATURE REVIEW

Presented the result of a study on the majority of faculties are well known for different types of e-resources available e.g., online databases, e-book, e-journals, e-theses, ETD, e-newspapers, e-magazine, Library OPAC. Accordingly, the academic members are known of most electronic resources and online databases (e.g., ABI/INFORM (Proquest), EBSCO, Elsevier, Emerald, IEEE, ProwessIQ,

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Springer, Oxford, Scopus, Web of Science, etc.). The electronic resources are also utilized seriatim to update their knowledge, research paper and article, online course study, career development, collection of data and information, and retrieving the new information available on the electronic resources.

The early study was reviewed on the faculties awareness and use of e-resources (Hendal, 2020) examined the importance of use and awareness of digital resource offered by Kuwait university during an outbreak of COVID-19, measured the usage of primary databases for research writing, and most preferred resources of Scopus (47.5%) and Web of Science (40%) and they still have lack of full-text manuscripts of subscription. (Alajmi, 2019) investigated the use of EIRs in university libraries in Gulf states from a theoretical perspective (UTAUT), in the growth of ICT tools to take enhancement of the utility of EIRs in the view of faculties, and user behavior intentions on there should be increased. In this study (Lwoga and Sukums, 2018) faculty members from the University of Health Sciences (Tanzania) currently use e-resources for information literacy and will continue to use the resources for research in the future. Therefore, libraries must provide vital links with faculty, training programs, and information services for continued (information literacy) IL skills in academic and research activities use of electronic resources. (Ahmed, 2013) who studied subscribed e-resources in Bangladesh universities and found that there was satisfaction with e-resources subscribed by the universities, but the outcomes are that faculties are not satisfied with the electronic resources that were made available to them and lack of interest in the use of electronic resources. Another transformation of e-learning, (Favale et al., 2020) in the restrictions on the mobility of learning communities of Italians in Covid-19 led to the rise of remote working, e-learning, and online platforms for research on participation is very relevant and timely.

There was an opportunity to reactivate the library's role in COVID-19, where the academic center was shut down but the library continued to provide its services through electronic resources. (Mishra, Gupta, & Shree, 2020). According to the new education policy-2020 of the government of India, the use of information communication technology and online learning education as part of maintaining the equilibrium of offline classes and online learning (hybrid mode) in HEIs. In a more recent study, (Habiba & Ahmed, 2020) the library knowledge center has been pushed forward on digital transformation in books, journals and magazines have been replaced with e-books, e-journals, and e-magazines. Academicians are satisfied with the level of computer proficiency and ICT powerful tools, which significantly affects contentment with the subscription on university e-resources also. With the help of the library's digital technologies, research articles and information sources were not shut down even during the lockdown period, and library services running well (Chisita, 2020). Therefore, training programs and information services should be regulated by the libraries to continue faculty member's information literacy skills in academic and research activities for effectiveness of e-resources (Lwoga & Sukums, 2018)

Development of library surveys and focus groups (Harlow & Hill, 2020), access to high-use electronic resources for research and study purpose for online learners and researchers support online repositories and online services on library environment/library management system (LMS).

4. OBJECTIVES AND SIGNIFICANCE OF THE STUDY

The purpose of this study is to carry out following trends on the utilization of the electronic resources by the members of libraries of six (06) reputed private universities in Delhi NCR region during COVID-19 situations. These objectives are as follows:

- To determine the awareness of electronic resources amongst the faculty members available in the library.
- To identify which electronic resources are helpful to support faculty teaching and research purposes.
- To find out the faculty members utilizing the library subscribed electronic resources.
- To identify the satisfaction of remote access facilities amid the COVID-19.
- To identify the challenges by the faculty members.

5. DESIGN AND METHODOLOGY

The study drew participants from Six (6) universities viz. Amity University, Ashoka University, Bennett University (BU), BML University (BMU), O P Jindal University (OPJU), and Shiv Nadar University (SNU). During the Covid-19 situation, comparative analysis of electronic resources utilization and trend is being taken by these selected universities. Moreover, the study aims to the determinants of the utilization of electronic resource. Hence, the Google form questionnaires were sent to 250 faculty members & were conveniently selected for this research paper. However, we had received responses from 149 faculty members for this study, with a percentage ratio of only 60% respondents.

At all university libraries, there is an establishment of online databases and e-resources that teachers and students have been used to support research, online mode teaching, and online learning. Online/remotely service does not require the intervention of library staff. Libraries maintain the website with active and useful URL links to provide direct access to a credible and reliable resource of an online platform. These are services provides the broadly categorised into electronic resources, bibliographic content, digital literacy training, reference services, current awareness services and use of multiple digital initiatives developed by individual libraries (e.g., Institutional repository), etc.

SCOPE OF THE STUDY

The analysis was connected to the perception and use of electronic resources in (06) Six reputed private universities. An online survey with the help of a questionnaire was created using Google forms and social media platform WhatsApp (and also sent by e-mail) containing a link only among the faculty member official/personal e-mail IDs as coordinated with the faculties.

According to my knowledge, this is the first study in the perception of e-resources amid the COVID-19 situation of private universities in the NCR-Region.

6.1 Details of the reputed private university in Delhi NCR (India)

S. no.	University Name	Establish Year	Type of Institution	State
01	Amity University	2005	Private(self-financed)	Uttar Pradesh

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02	Ashoka University	2014	Private(self-financed)	Haryana
03	Bennett University (BU)	2016	Private(self-financed)	Uttar Pradesh
04	BML University (BMU)	2014	Private(self-financed)	Haryana
05	O P Jindal University (OPJU)	2009	Private(self-financed)	Haryana
06	Shiv Nadar University (SNU)	2011	Private(self-financed)	Uttar Pradesh

*Remark- The description of the universities and their libraries has been taken from the websites.

6.2 Measurement instrument

The online questionnaires were sent to approximately 250 faculty members representing all the six private universities in the NCR region. But, only 149 faculty members responded to the mentioned questionnaires for the present study, with a response rate of 60 % only.

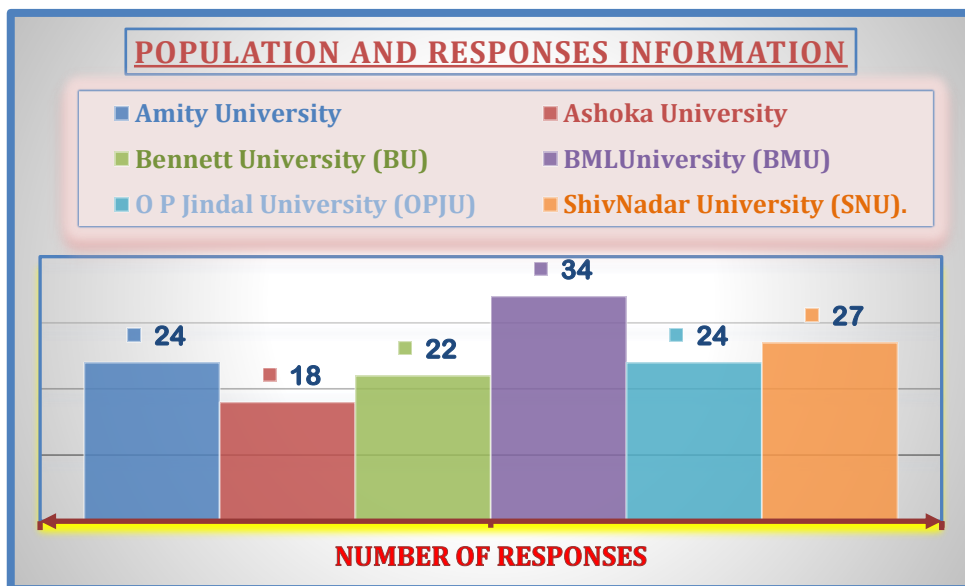


Figure 1: Target population and responses information

6.3 Results of the online survey according to gender

The finding according to data analysis emerged as the below:

Gender	Faculty Members	
	Frequency	Percentage
Male	102	68%
Female	47	32%

Table 1: Sociodemographic characteristics of responses

Out of 149 academicians who participated in the survey, around 102(68%) were male and the rest 47(32%) were female. This difference is also evident in the gender survey response. The distribution of faculties from this gender gap survey response is given in Table-1.

6.4 Results of the online survey according to the group of age

The finding according to data analysis emerged as the below:

Group of age	Faculty Members	
	Frequency	Percentage
26- 30	2	1%
31- 35	37	25%
36-40	50	34%
More than 40 years	60	40%

Table 2: Characteristics of responses by a group of age

According to table-2 which shows the majority of respondents from highest to the lowest percentage, 40% of respondents were in the group of age more than 40 years, 34% of respondents fall in the age group of 36-40 and 25% respondents were in the agegroup of 31-35 year and lowest approx. 1% of respondents belonged to the above age group 26-30.

6.5 Working experience

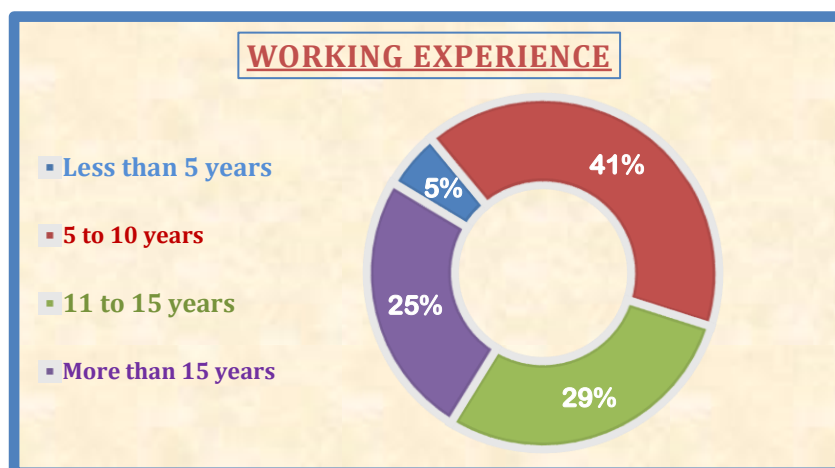


Figure 2: Characteristics of responses by the working group of age

Figure 2 shows that 41% of respondents are having professional experience of 5 to 10 years. The respondents are having 11 to 15 years of experience (29%) in all subject areas. This shows that the universities are having good academicians and intellectual faculty members. The faculty profile has outreach experience in the education field. The survey mainly includes faculties with more than 15 years' experience (25%) and less than 5 years' experience (5%). The respondents accepted that electronic resources are too much useable and supportive for online education during the lockdown as indicated on the attitude and perception of library services and activities in the survey.

6.6 Faculty's awareness of library subscribed electronic resources

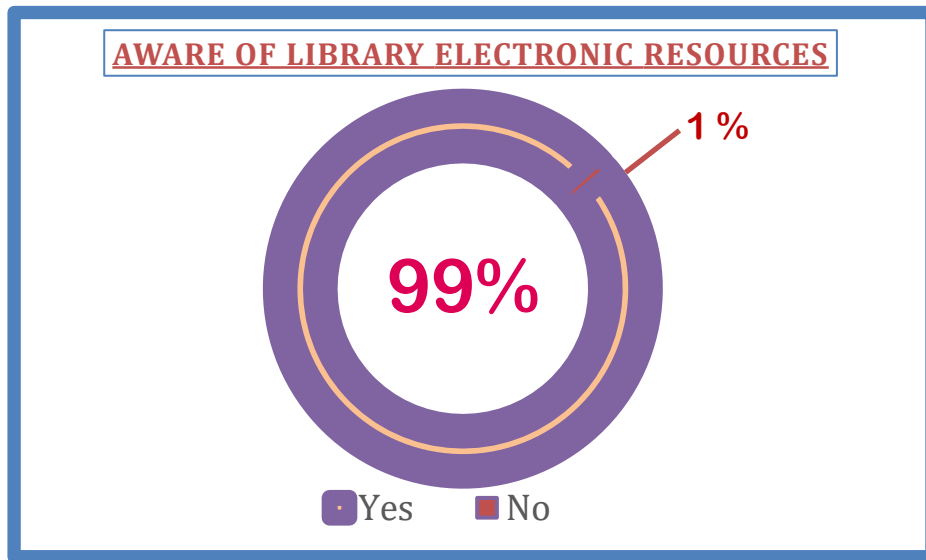


Figure 3: Awareness of library subscribed electronic resources

Figure 3 shows the full majority of awareness (99%) of electronic resources, while only 1% of faculty members are "unaware" of the electronic resources. Respondents were found to be fully cognizant of the features of e-resources, and services as depicted in the figure. So, it can be concluded that a majority of faculties are aware of the electronic resource which is subscribed by the libraries of the said universities during the pandemic covid-19.

Perception of access to electronic resource

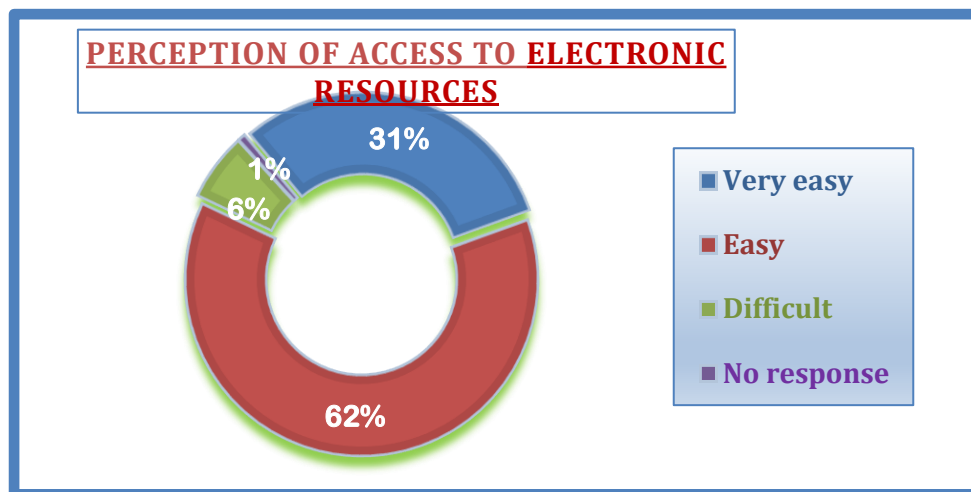


Figure 4: Perception of access to electronic resources

Figure 4 shows that 62% of respondents are familiar with and easy of accessing electronic resources by the patrons. The importance of reactive perception and attitude towards library resources and services is quite good and gratifying. As the survey of very easy (31%), and difficult (6%) areas indicate nearby similar results to the attitude of library access. Only 1% of faculty did not respond to this survey.

6.8 Purpose of using electronic resource amid Covid-19

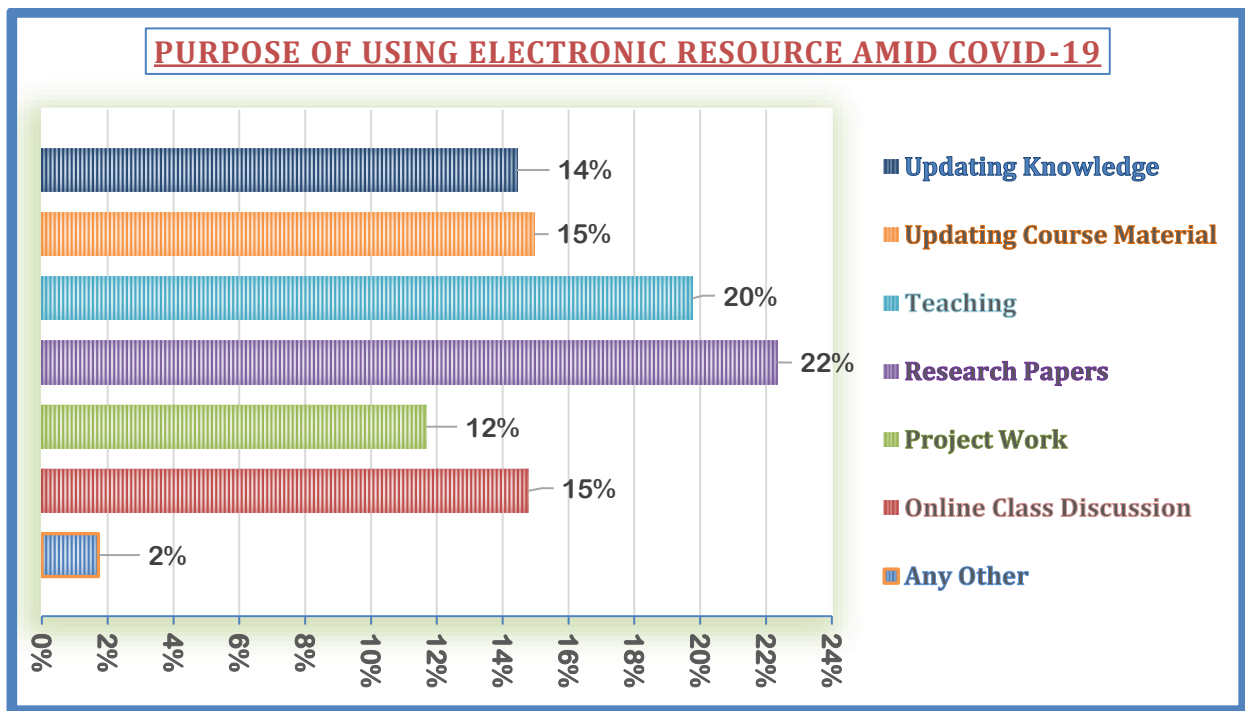


Figure 5: Purpose of using electronic resources amid Covid-19

The respondents (42%) attribute the same level of importance to teaching, and research paper, as shown in the survey finding in figure 5, indicated for the research papers and articles is the dominant objective (22%), then follow-up by the teaching purpose (20%). The faculty members are using the electronic resources for updating course material, and preparation study materials for online class discussion/ online learning are the same (15%), updating knowledge (14%), respondents using project work (12%), and only 2% faculty members using electronic resources for any other purpose. It can be concluded that the faculty members are using electronic resources for current developments in the subject field.

6.9 Faculty utilize various types of electronic resource

Faculty member at these six private universities were asked to evaluate electronic resources on a five point Likert rang scale from "**strongly agree**" to "**strongly disagree**". As shown in figure-6, the electronic resource itself specifies the needs of the faculties. Most faculty respondents also use e-journals and online databases. Out of 149 respondents, a good number of respondents prefer to use e-journals (99%), which is followed by a preference of accessing the online database (97%), 96% prefer to access e-books, 83% prefer to use open access journals/books. 70% of library OPAC users prefer collection development database in an electronic environment and academic video lectures whereas only 67% of respondents almost prefer to use e-magazine (62%), e-newspaper (61%), and ETD (57%). This survey has highlighted that only popular electronic resource and service are specially done by faculty member, the rest of the e-resources, e-books, online databases, open access journals/ books; i.e., e-newspaper, e-magazine, and ETD are comparatively less used. A significant respondent indicated their most frequently used resources from all universities electronic database only a few

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faculties show interest in using library catalogs (OPAC) for bibliographic information about the library collection database in electronic form.

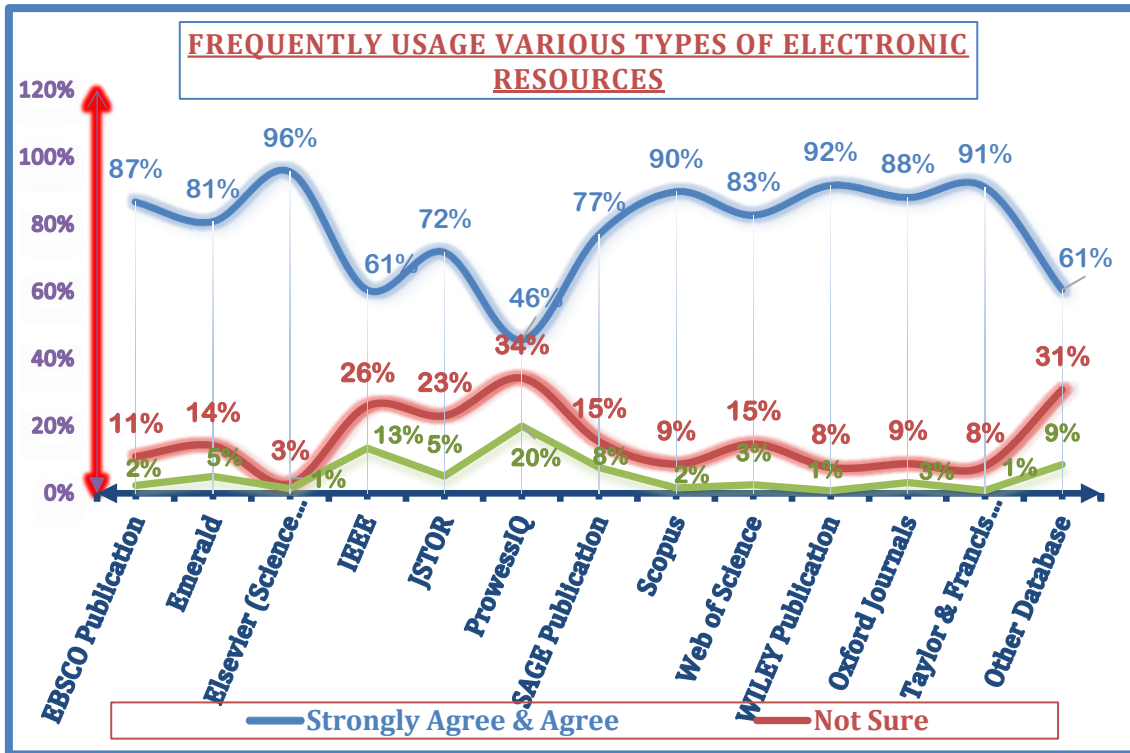


Figure-6: Faculty utilize various types of electronic resources

6.10.1 Frequently usage various types of academic electronic resources

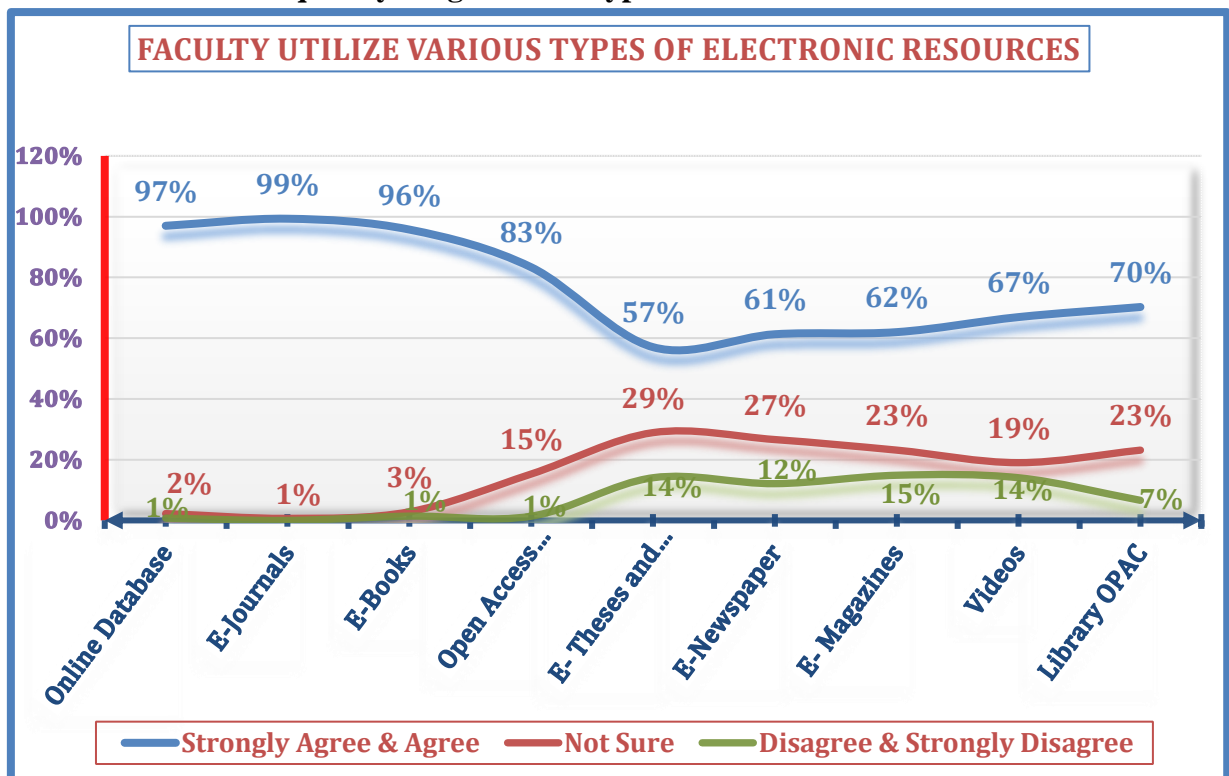


Figure-7: Frequently usage various types of academic electronic resources

As shown in figure 7, access to online databases had been fully justified to the law of library science 2nd and 4th, i.e. “Every reader should get his/her information” and “Save the time of the reader” especially in the time of COVID-19 by providing resources. All the private universities used resources for research and teaching purposes such as online databases, e-journals, bibliographic databases, etc. Even a few libraries were found to be having the richest e-resource collection.

As shown in figure 7, 149 of the respondents used Elsevier (Science Direct) (96%), used Wiley online journals (92%), used Taylor & Francis Journals (91%), to prefer Scopus bibliographic database (90%). Around 88% of faculties had shown their interest in Oxford databases. Also, faculties used the EBSCO database (87%) and web of science databases (83%) for management and applied sciences. Most of the faculties of humanities and social science used the Emerald database (81%), SAGE online (77%), the archive-based database used JSTOR (72%). For engineering and technology, the respondent used the IEEE database (61%) and other databases like ASME, ACSE, ACM-DL, ACS, Springer, Nature, IOP, RCS, etc., (61%). The next databases for management departments the respondent used Process IQ (CMIE) company database (46%).

For a comprehensive citation database regarding different academic scientific fields and other online databases subscribed by the library as their learning community recommended, the following were selected by various publishing industries. As a result, indicate a few of the faculty’s rating on a five Likert scale disagree and strongly disagree with publishers’ services and contents. The most useful bibliographic database according to the figure was Web of Science and Scopus which promotes research containing abstracts and citations for review journals of academic journal articles in the scientific, technologies, applied sciences, and humanities of universities. Faculty articles are published in the other journal database, but it cited in this bibliographic database.

6.11 Use of remote access services

In response to the COVID-19 crisis, the remote access facility or virtual private network (VPN) has been followed to increase the usage of electronic resource for teaching and online learning by didactic education. This service mainly provides study material that helps faculty members with online class discussion; for teaching; for project work; updated knowledge and the research paper shows the quality of their works and knowledge. Overall, the user's convenience has led to an increase in the satisfaction of library service figure 8. Especially in the COVID-19 situation patrons can access our subscribed electronic resources through this remote access facility.

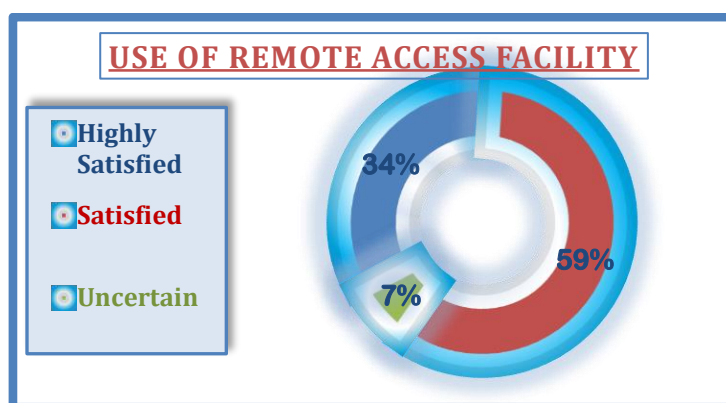


Figure 8: Use of remote access service

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Out of the survey with 149 academicians respondents, the level of satisfaction with remotely (59%) and highly satisfied (34%) with their levels, only 7% uncertain with remote access (VPN) service. We found that remote access has the highest percentage of outside campus access resources subscribed by the library. Patrons use digital libraries to connect with the best tools and course materials. We must establish and develop from our experience with high-tech electronic library resources that enhance online learning platforms via outreach to resources and services from outside the campus; they should be accessible during the epidemic. There is no doubt that remote access had served as an important communication tool among faculty and students to encourage the personal reconstruction of knowledge during the epidemic period.

6.12 Challenges to effectively utilize electronic resource

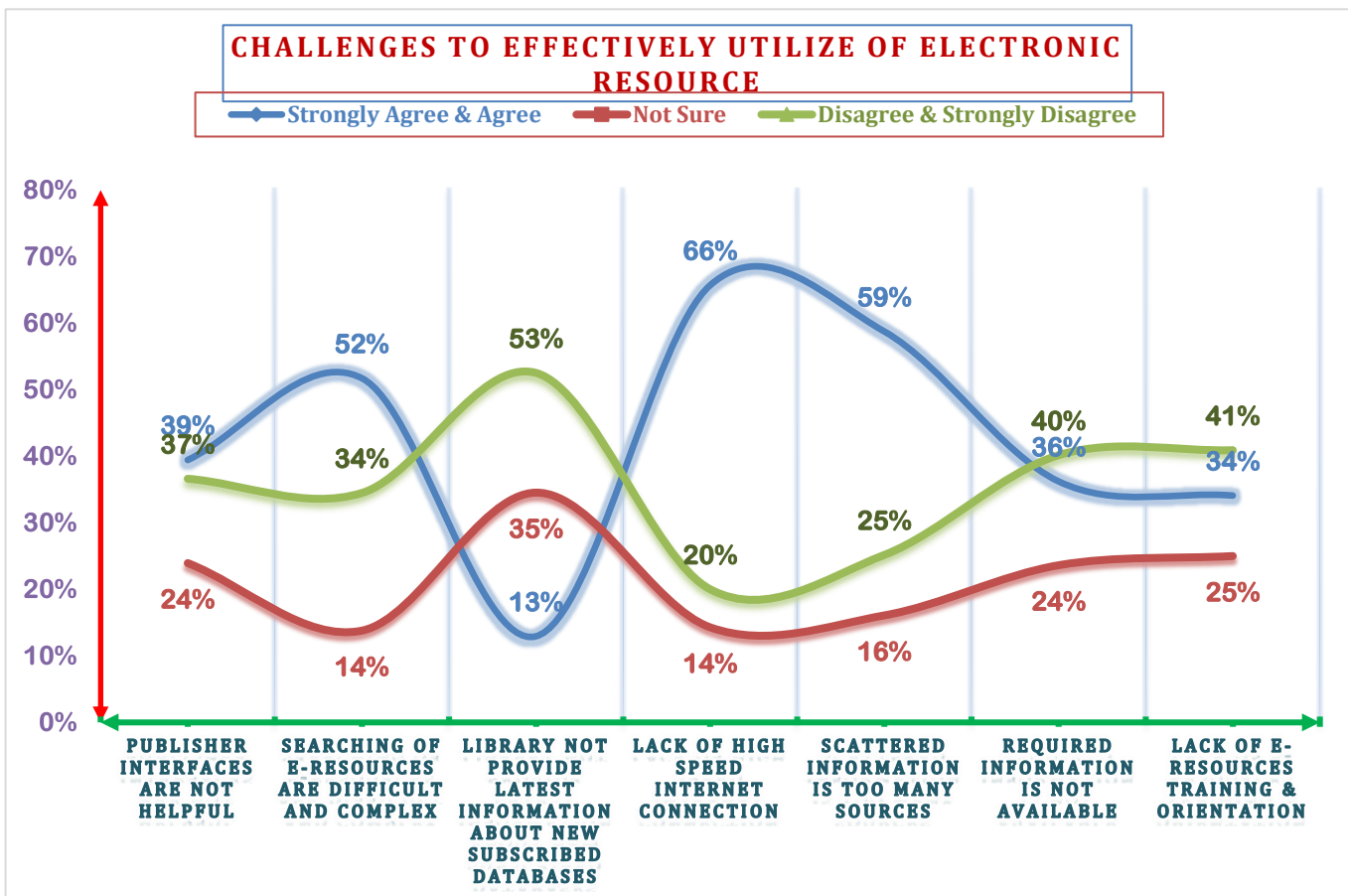


Figure 9: Challenges to effectively utilize electronic resources

The final dimensionally related “Usages challenges of electronic resources” while accessing e-resources and deliveries attempted of E-library services were taken as an alternative option at the time of COVID-19 lockdown. But there were some flaws in this, which respondents have a share on their survey. The survey found as shown in figure 9 reveals that strongly agree and agree (SA+A) scale of the faculty members respondents (66%) have lack of high-speed internet connection, 59% had scattered information from very large sources, and (52%) searching of e-resources are difficult and complex, and some respondent’s publisher interfaces are not helpful (39%) for the searching materials. On a scale of strongly disagree and disagree (SD+D), the faculty had expressed disagreement in not providing the latest information about the database subscribed by the library (53%), and 35 % of respondents are not sure about It. So now faculty perception towards attitude had changed about library

services and resources. These results indicate that there was disagreement about the (37%) publisher interfaces are not helpful, which means the overall publisher interface is similar to respondents not sure (24%). As the learners felt isolated in training and orientation disagreed (34%) and were not sure (25%).

6. UTILIZATION OF ELECTRONIC RESOURCES AMID COVID-19

In the second dimension of "use of electronic resources" outbreak of Covid -19, while the physical library spaces are closed for all respective users, but the universities library continues to remain operational in digital format which mainly includes digital databases, e-journals, e-book, e-newspapers/ magazines, digital repository, etc. In view of the uncertainty of physical availability due to the ongoing Covid-19 situation, it has become pertinent regarding the use of electronic resources for gaining knowledge. The faculties not only use the electronic resources to gain knowledge but also use the same for conducting online classes for respective students. In preparation for the academic year 2020-21, librarians have focused their efforts on online services and their support and cooperation for an overview of services and resources available to learning communities.

8. FINDINGS AND CONCLUSION

The challenges of electronic resources are similar to the other six private universities; as the required information is not constantly updated and scattered information is available in many of the sources, however, some other related challenges still need attention. Online resources can also enhance e-library services and their tools. The results showed that use of e-resources remained desirable in the midst of this COVID-19 pandemic situation.

Faculty members are well satisfied with the e-resources subscribed to by the university's library. Electronic resources have proven essential for research and teaching, and there has also been an increased demand for their members to subscribe to more quality e-journals and e-book titles. However, faculties most preferred electronic resources for an access research paper (e-journals, online databases, e-book, etc). These results also lead to user's eagerness to learn more about the use of such electronic resources. Meanwhile, the government must ensure the availability of educational tools and techniques, qualitative digital academic experience, and promote technology for students to bridge the disparities that originated in the education system before and after COVID-19. This is on a mandatory, indeed basis for unremitting learning ([Mishra, Gupta & Shree, 2020](#)).

According to the telephonic discussion with library colleagues, most of the libraries provided reference information and the latest information on library websites and their library WebOPAC during the COVID-19 pandemic. We found that electronic resources for faculty members in universities should make better access and usage of Web 2.0 technologies for the information discovery service, context management techniques, authenticated information, information storage, and content sharing. The summary was compiled logically by Google form itself as per the standard procedure and is presented herewith for everyone's perusal.

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The educated responded there is no doubt that e-library services are an important way to reach effective resources for faculties, researchers and students, throughout the pandemic period.

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