

COVID-19 Lockdown Impact on University Libraries in India and Their Response

M Masoom Raza, Abdul Moid, and Keshwar Jahan

Aligarh Muslim University,
India

Email: masoomr@yahoo.com

Received Date: 30 August 2022
Accepted Date: 21 September 2022
Published Date: 1 November 2022

Abstract Universities, other educational institutions, and libraries are closed due to the COVID-19 pandemic. Libraries face difficulties due to COVID-19 outbreaks but ensure continuity of the teaching and learning process. This research aimed to investigate the effects on university libraries and their responses to the COVID-19 lockdown in India. The researchers have collected data using a structured closed and open-ended online questionnaire and collected data has been interpreted and depicted in figures. The study discussed: awareness of COVID-19, library status, communication channels, target users, resource availability and shareability, and how libraries fulfil user requirements and challenges. Overall, the study tried to find out the availability and accessibility of library services and contents during COVID-19 lockdown. The current study will be the basis for reconsidering education budgets, particularly for ICT infrastructure in India's central and state provinces.

Keywords: COVID-19, university library, online learning, fake news and library management

1 Introduction

Coronavirus (COVID-19) is a disease that spreads primarily through saliva or nasal discharge while an affected person is coughing or sneezing (*WHO*, 2021). The COVID-19 outbreak leads to an unprecedented situation not only for the primary and secondary educational institutions but also for the higher educational institutions, universities, and colleges. Despite the complete lockdown of cities and universities and colleges across the countries, most academic institutions tried hard to facilitate uninterrupted teaching and learning activities through various online learning platforms. It is also observed that COVID-19 made realisation the benefits of online learning on which many institutions were already working on (Poole, 2000; Rafique et al., 2021). According to UNESCO, as of March 22, 2021, around 163,921,494 learners globally are affected due to the closure of institutions (*UNESCO*, 2021). In

the COVID-19 crisis, it has been crucial to adopt remote platforms like online learning, and ensuring continuity in the learning process. However, developing countries like India - with vast digital divide and inequality in socio-economic backgrounds in students - have created more gap. This needs to be addressed through quick attention with good teachers along with advance tools for the students to engage in the learning process. (O.P. Jindal Global University, 2020).

In a bid to curtail the virus outbreak, the schools, colleges including state and central universities of India and their library premises have been completely closed in the mid-march of 2020. To prevent gatherings, institutions have suspended classes and closed hostel kitchen and libraries. While the countries are under strict lockdowns, like other countries, India has also taken various steps to combat hindered learning process from primary to higher level of education. Central as well as state ministries responded promptly to facilitate equal access to resources during the pandemic situation. Like Ministry of Education (formally known as Ministry of Human and Resource Development) has taken several initiatives such as PM e-Vidya, Pragyata Guidelines, Manodarpan for Psycho-social support, E-Content, Alternative Academic Calendar, etc., to ensure learning continuity during the COVID-19 pandemic (Ministry of Education, 2020) Before the COVID-19 crisis, number of digital initiatives for education already taken by the government, which helps the learning community especially at the period of COVID-19 lockdown. Some of the major initiatives are- (a) SWAYAM: the indigenous MOOCs portal, (b) SWAYAM-Prabha: channel for broadcasting free high-quality educational contents round the clock, (c) The National Digital Library: with more than 72 lakh digital books (National Convention on Digital Initiatives for Higher Education, 2017), (d) Shodhganga: a reservoir of Indian theses(Shodhganga, 2021).

Libraries across the countries are facing hardship in serving users due to restrictions from minimum to complete shutdown. Meanwhile, governments are taking various approaches like some ordered full closures of all types of institutions, some partially open with precautionary measures and other decisions left up to themselves (IFLA: COVID-19, 2020). There are four types of universities in India in terms of their administrative control. They are classified as Central, State, Deemed and Private universities. As of 2020, there are 967 Universities in the country ("University Grants Commission," 2020) The majority of Universities have a well-equipped library system as a core part of the institution (Indian University Libraries, n.d.) However, due to the abrupt lockdown of institutions prompted by COVID-19, learners were restricted of physical access to library collections and services. The situation forced users and libraries to adopt communication technologies in order to stay connected (Dadhe & Dubey, 2020).

2 Literature Review

The literature on the topic is not adequate particularly in the context of Indian universities. However, researchers tried to retrieve and consult various publisher databases, news clips, guidelines issued by national and international institutions, personal and organisational blogs to conduct the study.

Ali & Gatiti (2020) stated that mainly there is a three-dimension role of a librarian or information specialist during any pandemic: to disseminate information and promote health awareness regarding the disease; to assist researcher and team, and faculty members by keeping them aware of recent developments; to ensure continuity in providing services to the regular users of the library. Therefore, during the COVID-19 pandemic, librarians were engaged to develop a more robust and more user-ease

interface library system. And to achieve such goals, libraries must have cutting-edge infrastructure, technology, and skilled personnel (Asif & K. Singh, 2020).

During the early phases of the pandemic outbreak, most academic libraries in the District of Columbia and several states stated that their physical library facility was closed to users (Tolppanen, 2021) While various organisations, cities, companies are closing their door due to the COVID-19 outbreak, at the same time, libraries are planning to serve their special to general users. The libraries at Massachusetts College of Pharmacy and Health Sciences University are dedicated to assisting their patrons by ensuring the continuity of the teaching and learning process by offering services such as Online reference (chat, email, text), Online research appointments, Online databases and resources, and Inter-library Loan (*Library Services*, n.d.)

The students of various university do not come to university campuses due to spike COVID-19 cases; the Chinese University of Hong Kong library extended its services for the students, such as automatic extension of loan period, automatic-renewal, waived overdue fines and to support library rolled out a new service "Zoom-with-a-Librarian" which connect library and users to enquire regarding services like access to library e-resources, library collections and tools bibliographic management tools (Ma, 2020) As far as Indian libraries are concerned, the usage of online contents like video, e-resources, or other remotely accessible content has been drastically increased due to the restrictions of library visit. But the learning is a continuous process for all classes as the libraries are committed to providing services through every possible mode.

Due to the COVID-19 pandemic, all industries, including academic institutions and their libraries, have been compelled to shut, creating several opportunities and requiring digital transformation (Rafiq et al., 2021) The utilisation of online contents increased substantially with the emergence of COVID-19. News website Business Insider reported that the National Digital Library of India (NDLI) has reached out to the students, teachers, lifelong learners with 35 million content during the COVID-19 pandemic, which helps study from home (*NDLI Reaches out to Students amid Lockdown | Business Insider India*, n.d.).Plenty of research works have been done in the select context worldwide. However, a few types of research have been carried out in Indian scenario. No work has been done on the select sample population.

Objectives:

- To find out the role of the library in the COVID-19 pandemic lockdown
- To identify the services provided by the library
- To obtain technical advancement and adaptation of the libraries
- To identify the challenges faced by the library
- To examine the library resources and cooperation
- To obtain suggestions from the librarians

3 Methodology

Both quantitative and qualitative approach based on a survey method was used for this study. Due to the COVID-19 outbreak across the countries, an online questionnaire has been used to collect data from the central libraries of the institutions. Of the top 100 Indian universities as ranked by the National Institutional Ranking Framework (NIRF), 85, i.e., 85 per cent of questionnaires, were sent to the central libraries of the institutions through email. After a set period, researchers got five, i.e. about six percent

responses from the responded libraries. While email is the quickest and most cost-effective way to send a survey, the use of anti-spam software and unwanted emails reduced survey response rate compared to postal and telephone surveys (Couper et al., 2007; Petrovčić et al., 2016; Saleh & Bista, 2017; Vance, 2011; Veen et al., 2015).

After sending multiple reminders to the respondent libraries, researchers received only a few responses. It is supposed that COVID-19 lockdown also leads to a lower response rate as some libraries have closed their functions. The gathered data were retrieved in Excel format. In addition, MS Excel was used to interpret and represent data in graphs. The National Institutional Ranking Framework is a methodology to rank higher education institutions in India adopted by the Ministry of Education under the Government of India (*MHRD, National Institute Ranking Framework (NIRF)*, n.d.).

4 Scope and Limitations

The study was limited to the academic libraries of India. Moreover, the researchers choose only those institutions ranked by the NIRF, where only a hundred institutions are listed. The study will help show how top universities of India are handling their library services during the COVID-19 pandemic. It also examines technology-based services that are appropriate for users and libraries in pandemic and usual times. It also shows how to manage the various challenges faced by libraries, especially in pandemic situations.

	Library	Link
1	K.K. Handiqui Library, Gauhati University	https://www.gauhati.ac.in/academic/library/kk-handiqui-library
2	Gujarat University Library	https://gulibrary.com/
3	Maulana Azad Library, Aligarh Muslim University	https://www.amu.ac.in/libraries/maulana-azad-library
4	Visva Bharati Central Library	http://visva-bharati-library.in/
5	Goa University Library	http://library.unigoa.ac.in/

5 Data Interpretation and Analysis

In terms of administration, there are three categories of libraries: government (which manage and funded by the government solely); government-aided (which is operated by private management but receives government aid); and private or self-financed (which refers to an agency that is managed as well as aided by itself). **Figure 1** shows that 80 percent of the libraries are government among the respondent libraries while the remaining 20 percent of libraries are government-aided.

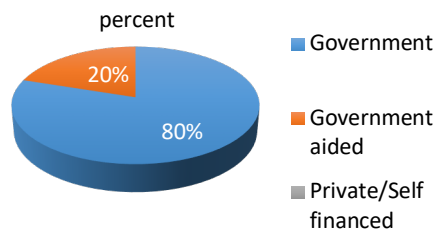


Figure 1: Type of libraries

Being aware of coronavirus is the need of the hour as it hit and halt the world through its deadly spread across the countries. On the other hand, Libraries are knowledge providers; hence, libraries must raise consciousness about COVID-19 among their patrons and the general public through various channels.

Indian libraries use one or more languages out of hundreds of indigenous and national and international languages such as English, Hindi, Urdu, Bengali, Gujrati etc. **Figure 2** indicates that 56 percent of libraries use English, 22 percent use Hindi, and 22 percent use other languages to interact with users as their language medium.

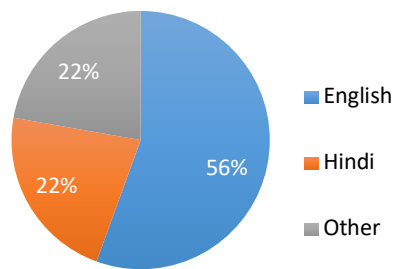


Figure 2: Information language

Figure 3 depicts the status of libraries whether a library is open, which denotes that all services are being provided along with reading halls are open for the users, partially open means some services continue, but the physical visit is restricted for the users, while closed denotes the complete closure of libraries for users as well as for staff. Of all the libraries, 80 percent of libraries are partially open, while the remaining 20 percent of the libraries are completely closed. Unfortunately, there is not a single library that is open.

COVID-19 Lockdown Impact on university libraries in India and their response

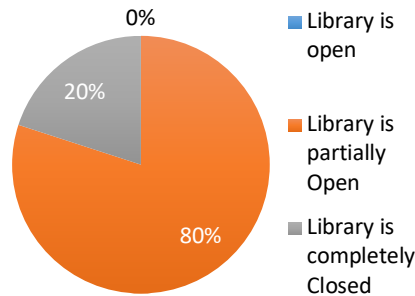


Figure 3: Status of libraries

Among the many communication channels by which libraries communicate with their customers. According to the replies, 29 percent of libraries use email alerts, 24 percent use chatting apps, 23 percent use library/institution websites or portals, 18 percent use social media, and the remaining 6 percent use other contact channels to reach out to their customers (Figure 4).

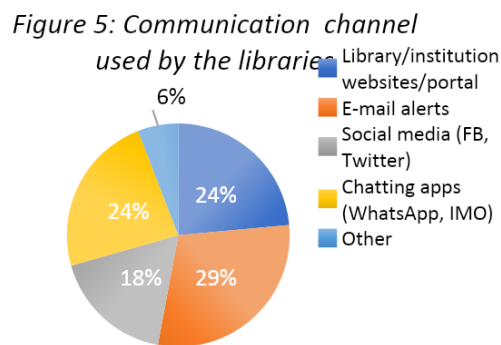


Figure 4: Communication channels used by libraries

Amid the COVID-19 pandemic lockdown, libraries may serve their users selectively. Being academic libraries, it has limited target users to serve them. Figure 5 of the study shows that libraries mainly serve teachers (28 percent) and research scholar (28 percent), followed by general users (17 percent), staff (16 percent) and other users (11 percent).

Figure 6: Users served during COVID-19

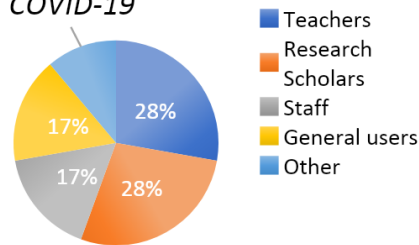


Figure 5: Users served during Covid-19

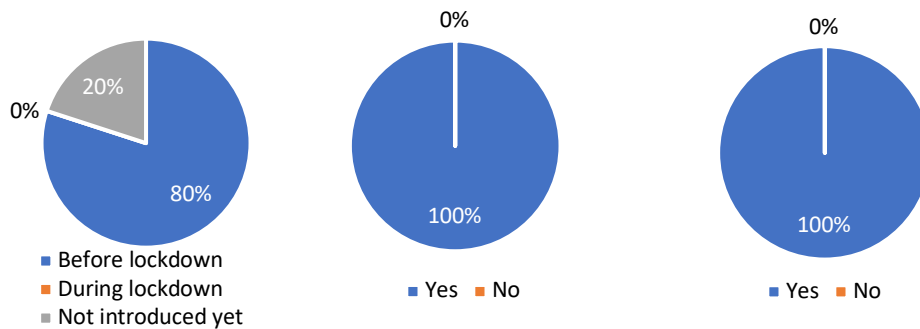


Figure 6: Development of portal

Figure 7: Digital content

Figure 8: Remote access

Figure 6 demonstrates that 80 percent of the libraries developed a portal before the COVID-19 lockdown, while 20 percent have not introduced it yet. Meanwhile, all the libraries facilitate digital contents to their users (**Figure 7**). Moreover, all the libraries provide access to materials digitally inside the campus as well as outside the campus through remote access (**Figure 8**).

Two types of library resource are generally available: hardcopy and softcopy. The soft form of the document is used mainly when the library visit is restricted during the pandemic. The overall response **Figure 8.1** reveals that all libraries have e-books (5 percent), scholarly online journals (25 percent) and E-Thesis & Dissertations (25 percent) respectively, followed by various academic open-access resources of MHRD, UGC, CEC (20 percent), and Other resources (5 percent).

COVID-19 Lockdown Impact on university libraries in India and their response

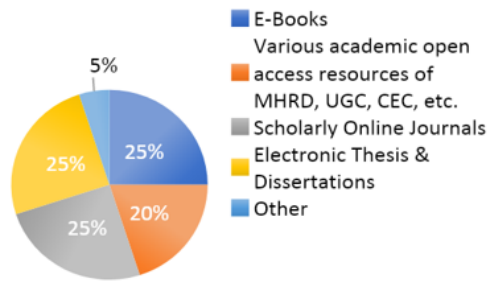


Figure 8.1: Resource types

Figure 9 demonstrates various formats of resources. The study sought to find out the type of resource formats that are made available to its user. As seen in the figure shows that the undertaken respondent libraries provide materials in pdf/word/excel (46 percent) format, followed by the resources in the video (36 percent) and audio (18 percent) format.

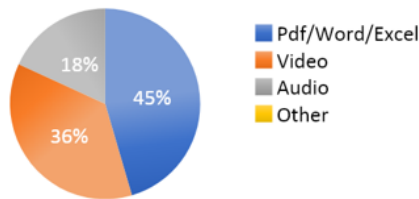


Figure 9: format of resources

Library services are made accessible for remote access, with certain restrictions on the resources that are made available to users. **Figure 10** indicates that subscription-based resources are being used by 40 percent of libraries, followed by open (20 percent), limited (20 percent), and authorised (20 percent) resources.

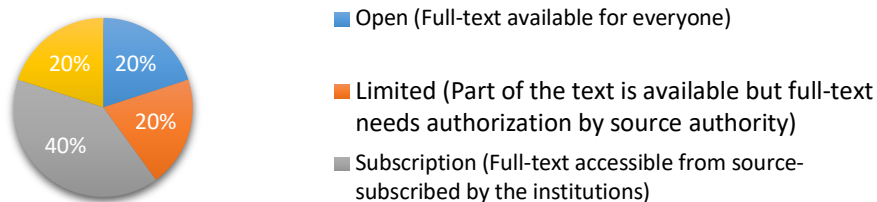


Figure 10: Restriction status

One of the most important aspects of library collaboration is resource sharing. **Figure 11** shows that 29 percent of libraries share staff through online mode and other services, led by 28 percent that shares online interlibrary loan of materials, and 14 percent that do not share any resources.

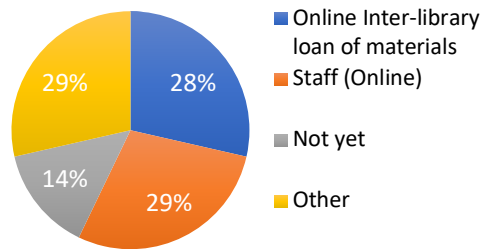


Figure 11: Resource Sharing during COVID-19

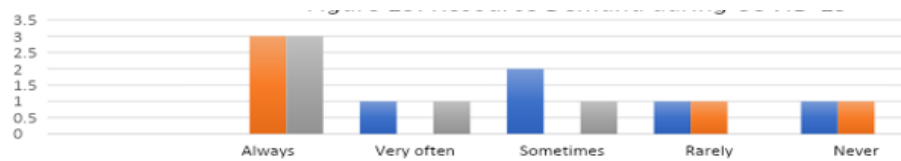


Figure 12: Resource demands during Covid-19

The demand for resources observed by the libraries is shown in Figure 12. Demand for online programmes and curriculum-based materials are the major resources that are always demanded by the users, while information related to COVID-19 are demanded sometimes.

Figure 13 illustrates the purpose of the developing virtual library is to continue research and development works (24 percent), followed by 19 percent to create a bridge between users and information gateways, and 14 percent respondent to keep users updated/connected; to encourage and support life-long learners (14 percent); to develop global connectivity (14 percent), while 10 percent to reduce digital divide, and to other purposes by 5 percent.

COVID-19 Lockdown Impact on university libraries in India and their response

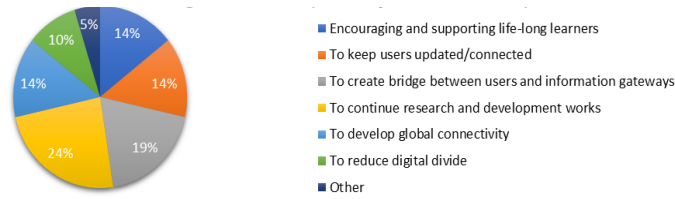


Figure 13: Purpose of virtual library

The aim of any user-oriented organisation or institution is to meet the needs of its users. **Figure 14** reveals that 42 respondent libraries meet their users' needs by managing remote working, offering links to various sources on the library website (41 percent), and providing other (17 percent) support.

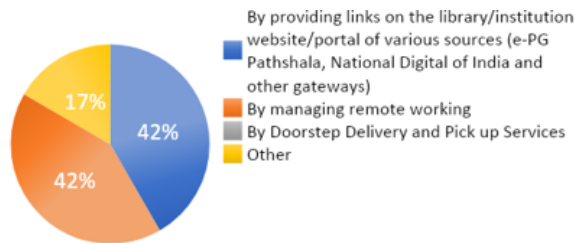


Figure 14: User requirements

Figure 15 shows that libraries monitor fake news by a specific social media handle (38 percent), other platforms (13 percent). Similarly, 12 percent issues guidelines and 12 percent set up special staff for this task to encounter fake news at time of COVID-19 pandemic. Although 25 percent have no system set up to detect and validate fake news.

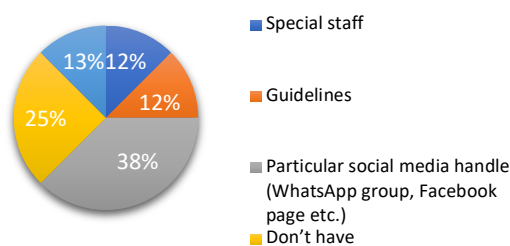


Figure 15: Fake news control

As it is not only a local education institution but also around the world, the COVID 19 pandemic is an ongoing problem—figure 16 depicted challenges faced by the libraries to serve its patron. Hence, libraries are facing problem majorly by the digital divide (30 percent) and internet speed (30 percent), followed by copyright issue (20 percent) and shortage of trained staff (20 percent) to encounter multiple challenges.

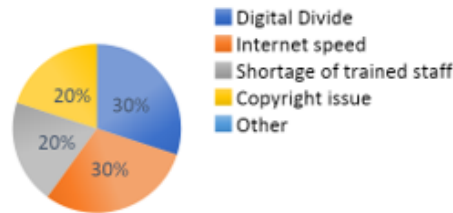


Figure 16: Challenges

6 Discussion and Conclusion

6.1 Type and status of library

In terms of sponsorship, there are three types of libraries. Of the five libraries are wholly-owned and regulated by the government, while the rest are privately managed but receive government funding. It is worth noting that eighty percent of the libraries are only partially accessible, implying that the libraries are physically inaccessible but provide online access to the public. And the remaining libraries are completely closed, but few services are being provided from home via the internet. Hence, it is revealed that libraries may be physically closed, their responsibilities and activities in delivering services cannot be stopped under any circumstances.

6.2 Awareness of COVID-19 and library users

Most of the libraries are providing awareness regarding COVID-19. One of the libraries does not provide any information related to awareness of COVID-19, and a library expects to provide it later. Hence, Libraries are closed, but the libraries spread awareness regularly about the prevention of COVID-19 to their users.

During a pandemic, it is challenging to physically serve the users and fulfil their requirements. The study revealed that libraries provide services to users like teachers, research scholars, staff, and general users, and some libraries also extend services to the common citizens as well. Hence, we can summarise that during the pandemic, university libraries mainly serve their core users- teachers and research scholars, staff and general users, and other users.

6.3 Communication Channel and Language

Libraries have struggled to provide services to needy users amid the COVID-19 pandemic. Apart from providing primary services, libraries, as community service providers, raise awareness about how to deal with coronavirus, the current status of the virus in India and other countries, and the extent to which literature is generated in the specific field. As a result of the study, most libraries provide coronavirus updates via email notifications, accompanied by library websites or portals and direct chatting applications apps such as WhatsApp, IMO, etc. Furthermore, libraries share information regarding the virus with the help of social media sites such as Facebook and Twitter, while one of the libraries shares via organising webinars.

As far as languages are concerned, all the libraries provide information in English due to its international scope, while two provide in Hindi. Similarly, one of the libraries provides in Gujarati and another in the Bengali language and English.

6.4 Library Portal and Contents

It was also found that most libraries had built dedicated portals prior to the COVID-19 lockdown. However, other libraries had not yet adopted them but planned to do so in the future.

As we all know, digital contents are users' lifeline, mainly when they cannot physically visit a library. According to the findings, all libraries make digital content for their patrons. Furthermore, all the libraries have made their content remotely available, which allows users to view materials from outside the campus round the clock.

6.5 Remote Services

Amid the COVID-19 pandemic, most libraries support remote services for homework completion and organising writing competitions. At the same time, one-third of libraries organise virtual exhibitions, online storytelling, poetry slams, including online discussions & debates. Libraries are committed to serving their users by providing discussed services because they cannot physically access the library.

6.6 Resources: Accessibility and Shareability

Most of the libraries provide e-books, scholarly online journals, electronic thesis and dissertations, as well as numerous academic open access services of the Ministry of Human Resource Development (currently known as Ministry of Education), university grants commission (UGC), Consortium for Educational Communication (CEC), and other government bodies. On the other hand, the libraries provide access to the trial-based resources of various publishers through the library website or portal.

Most library's' resources are subscription-based. While the resources of the remaining libraries are open (Full-text available for everyone); limited to access

Limited (Part of the text is available but full-text needs authorisation by source authority); and authorised (Full-text access requires authorisation by source authority and separate login to the source).

When the libraries are facing difficulties in providing adequate services and fulfilling all requirements of the patrons to reach user needs, libraries are adopting resource sharing, which facilitates libraries to work through cooperation. Library resource sharing mainly enables Inter-library loan Service, Cooperative Acquisition, Centralized /Co-operative Cataloguing, Co-operative Storage Programme, etc. As a result, the study found that the participating libraries used various services, including inter-library lending, personnel, EZproxy services, and perhaps mobile services.

The primary relationship between a user and a library is the resource demand. According to the findings of the study, majority of the library users are sometimes asked for information about COVID-19 and stated by the libraries that most library users always seek curriculum-based content, followed by those who want to organise online programmes orientation, workshops, webinars, conferences, and so on.

6.7 Purpose of Virtual Library

While physical visits are suspended due to the severe spread of coronavirus, most libraries are virtually open to assure the continuation of the research and development process and provide a bridge between users and information gateways. It is worth noting that most rating or ranking agencies assess an institution based on its research output, that is why libraries prioritise consistency in offering services to the research community majorly. According to the respondent libraries, the goal of a virtual library is to assist life-long learners by satisfying personal and professional needs and encourage patrons to be inspired and connected to libraries and their services through virtual interactions. Moreover, libraries adopted virtual libraries to connect internationally with other libraries and enhance cooperation in resources and services. Because of the COVID-19 lockdown, certain libraries have been virtually open in order to provide curriculum-based electronic content in support of exams.

6.8 Fake News Controlling

Fake news, also known as misinformation or disinformation, is content used to deceive people rather than facts, which may have serious consequences. Especially in a pandemic, the potential for creating and disseminating false news is exceptionally high. During the COVID-19 lockdown, libraries used various methods to combat disinformation and false news. It is revealed that most libraries attempted to combat fake news through social media platforms such as WhatsApp and Facebook by issuing guidelines, establishing special staff, and creating videos on verifying any information.

6.9 Challenges

The COVID-19 pandemic has caught everyone off guard. Every kind of institution has faced the same fate of challenges. Similarly, libraries also faced challenges in ensuring continuity to provide services to the patrons. The study identified that most libraries confronted the challenges of internet speed and digital divide, which relates to the difference between populations and areas that have access to new information and communications technologies and those that do not or have limited access. Furthermore, libraries are confronted with copyright issues and shortage of trained staff.

6.10 User Requirements

In general, libraries are practice-based institutions serving general users or a specific community. The primary aim of a library is to meet the demands of its users. During the coronavirus pandemic, libraries faced more problems than usual. However, libraries of undertaken institutions met user requirements by providing links to various sources such as e-PG Pathshala, National Digital Library of India, and other gateways on the library/institution website/portal; and by managing working remotely. Furthermore, some libraries organise online PhD final viva and mobile library access to reach out physically to their users as an extension service to meet users' needs.

6.11 Suggestions from the libraries

Universities, libraries, and other academic institutions are shut down during a lockdown due to the threat of a coronavirus. However, learning activities must continue and make the most of the time available during the COVID-19 lockdown for users and staff to improve their personal and professional lives. One of the libraries suggested to users and staff to visit Shodganga: a digital repository of Indian Electronic Theses and Dissertations; eShodhsindhu: Consortium for Higher Education Electronics; and Swayam-an Indian Massive open online course (MOOC) platform; National Digital Library of India (NDLI)- a virtual repository of learning resources and other MOOCs and open source gateways.

Similarly, Gujarat university library expressed that it organised maximum Awareness webinar /workshop/Orientation Program, Online Exhibitions, Motivational Lecture Series, etc in unlock-1 and unlock-2 of COVID-19 lockdown. So, it is suggested to the library professionals to give their maximum contribution for the user, by the user, of the user.

While the COVID-19 outbreak leads to an unbearable situation globally, libraries are trying to facilitate its patron at every possibility. Due to an abrupt outbreak, India's libraries face challenges facilitating remote access due to poor infrastructure, particularly in remote areas. In India, the biggest technological challenge is the digital divide. However, the pandemic forced libraries to adopt technologies to communicate with users. At the same time, the government of India is developing and promoting

learning and teaching platforms; however, it must accelerate along with providing better internet infrastructure in every corner of the country.

Hence, the primary user target of libraries is majorly research scholars and teachers. To be connected, libraries facilitate remote access to digital content, particularly pdf/word/excel format through dedicated portals or websites that have already been developed before lockdown, where most of the library contents are subscription-based. The purpose of the virtual platform is to continue research and development activities. However, all the requirements and needs of the users are fulfilled by libraries through managing remote work. Amid the COVID-19 outbreak, libraries are combating fake news through social media sites. During the pandemic, libraries face issues of internet speed and the gap between those who can benefit from the digital age and those who cannot.

Under these hard times, not just libraries but whole education sectors are in dying need of good financial investments from the governments (Chakraborty & Jana, 2021). Seeing the current scenario, libraries also need sound ICT infrastructure across the countries. However, academic libraries become more competent and confident in resource management and digitalization as users perceive information in digital format, encouraging contactless services (Kumar Tunga, 2021).

7 Recommendations for further research

There are few available studies on the response of libraries under lockdown and no significant research regarding Indian universities have published. However, there are a large number of global studies that examine the response of libraries during lockdowns. Therefore, this study seeks to assess the reaction of Indian university libraries vis-à-vis worldwide libraries. The study has not covered all the aspects due to certain limitations. The researchers feel that the following notable researches which could have yielded significant results during pandemic like situations.

- In exploring services availability during coronavirus in libraries, research might be comparative, for example, state-wise, nature-wise, and country-wise institution libraries.
- The current paper mainly focused on the ICT-based services; however, facilities, i.e., collection development and management and staff skills, are missing.
- Moreover, this current study covers only a few universities which might choose more population at the national and international level
- Based on the current context, library users might be part of the study.

References:

- Ali, M. Y., & Gatiti, P. (2020). The COVID-19 (Coronavirus) pandemic: reflections on the roles of librarians and information professionals. *Health Information & Libraries Journal*, 37(2), 158–162. <https://doi.org/10.1111/hir.12307>
- Asif, M., & K. Singh, K. (2020). Trends, opportunities and scope of libraries during Covid-19 pandemic. *IP Indian Journal of Library Science and Information Technology*, 5(1), 24–27. <https://doi.org/10.18231/j.ijlsit.2020.005>
- Chakraborty, S., & Jana, S. (2021). Challenges and opportunities of academic libraries in India because of COVID-19. *Annals of Library and Information Studies*, 68, 110–118.
- Couper, M. P., Kapteyn, A., Schonlau, M., & Winter, J. (2007). Noncoverage and nonresponse in an Internet survey. *Social Science Research*, 36(1), 131–148. <https://doi.org/10.1016/J.SSRESEARCH.2005.10.002>
- Dadhe, P., & Dubey, M. (2020). Library Services Provided During COVID-19 Pandemic: Content Analysis of Websites of Premier Technological Institutions of India. *Library Philosophy and Practice (e-Journal)*.
- IFLA: COVID-19. (2020). <https://www.ifla.org/covid-19-and-libraries>
- Indian University Libraries. (n.d.). Retrieved March 25, 2021, from <https://www.4icu.org/libraries/in/>
- Kumar Tunga, S. (2021). Reengineering of Libraries in Covid-19 Pandemic Scenario: Issues, Challenges and Opportunities. *International Journal of Library and Information Studies*, 11(1), 65–71. <http://www.ijlis.org>
- Library Services. (n.d.). MCPHS University. Retrieved March 30, 2021, from <https://mcpchs.libguides.com/librarycovid19>
- Ma, L. F. H. (2020). Academic Library Services during COVID-19: The Experience of CUHK Library. *International Information & Library Review*, 52(4), 321–324. <https://doi.org/10.1080/10572317.2020.1834251>
- MHRD, National Institute Ranking Framework (NIRF). (n.d.). Retrieved May 5, 2021, from <https://www.nirfindia.org/Home>
- Ministry of Education. (2020). <https://pib.gov.in/PressReleasePage.aspx?PRID=1676495>
- National convention on digital initiatives for higher education. (2017). [https://www.ugc.ac.in/pdfnews/9208605_Brochure-\(National-Convention-on-Digital-Initiatives-for-Higher-Education\).pdf](https://www.ugc.ac.in/pdfnews/9208605_Brochure-(National-Convention-on-Digital-Initiatives-for-Higher-Education).pdf)
- NDLI reaches out to students amid lockdown | *Business Insider India*. (n.d.). Retrieved March 30, 2021, from <https://www.businessinsider.in/india/news/ndli-reaches-out-to-students-amid-lockdown/articleshow/75602478.cms>
- O.P. Jindal Global University. (2020). <http://jgu.edu.in/blog/2020/06/29/impact-of-covid-19-on-higher-education-challenges-opportunities/>
- Petrovčič, A., Petrič, G., & Lozar Manfreda, K. (2016). The effect of email invitation elements on response rate in a web survey within an online community. *Computers in Human Behavior*, 56, 320–329. <https://doi.org/10.1016/J.CHB.2015.11.025>
- Poole, D. M. (2000). Student participation in a discussion-oriented online course: A case study. *Journal of Research on Computing in Education*, 33(2), 162–177. <https://doi.org/10.1080/08886504.2000.10782307>
- Rafiq, M., Batool, S. H., Ali, A. F., & Ullah, M. (2021). University libraries response to COVID-19 pandemic: A developing country perspective. *Journal of Academic Librarianship*, 47(1), 102280. <https://doi.org/10.1016/j.acalib.2020.102280>
- Rafique, G. M., Mahmood, K., Warraich, N. F., & Rehman, S. U. (2021). Readiness for Online Learning during COVID-19 pandemic: A survey of Pakistani LIS students. *Journal of Academic Librarianship*, 47(3), 102346. <https://doi.org/10.1016/j.acalib.2021.102346>

- Saleh, A., & Bista, K. (2017). Examining Factors Impacting Online Survey Response Rates in Educational Research: Perceptions of Graduate Students. *Journal of MultiDisciplinary Evaluation*, 13(29), 63–74.
https://journals.sfu.ca/jmde/index.php/jmde_1/article/view/487
- Shodhganga*. (2021). <https://shodhganga.inflibnet.ac.in/#>
- Tolppanen, B. P. (2021). A survey of response of access services in academic libraries to COVID-19. *Journal of Access Services*.
<https://doi.org/10.1080/15367967.2021.1871619>
- UNESCO. (2021). <https://en.unesco.org/covid19/educationresponse>
- University Grants Commission. (2020). In *UGC*.
- Vance, M. (2011). *7 Questions to Consider Regarding Survey Response Rates – RMS*.
<https://rmsresults.com/2011/01/06/7-questions-to-consider-regarding-survey-response-rates-marketing-research-in-syracuse-ny/>
- Veen, F. van, Göritz, A. S., & Sattler, S. (2015). Response Effects of Prenotification, Prepaid Cash, Prepaid Vouchers, and Postpaid Vouchers: An Experimental Comparison. *Http://Dx.Doi.Org/10.1177/0894439315585074*, 34(3), 333–346.
<https://doi.org/10.1177/0894439315585074>
- WHO. (2021). https://www.who.int/health-topics/coronavirus#tab=tab_1