

How Academic Libraries in Maharashtra Responded to the COVID-19 Lockdown: A State-Level Survey

Dr. Najim Hussain Ahmad Sheikh

Librarian, Mohsinbhai Zaveri Mahavidyalaya, Wadsa
Gondwana University, Gadchiroli. Email- nsheikh7@gmail.com

Abstract

This study explores the impact of COVID-19 on academic libraries in Maharashtra during the initial lockdown phase, focusing on how the sudden suspension of physical services compelled libraries to adopt digital technologies and remote access methods to maintain information delivery. The research objectives include examining service adaptations, digital resource usage, professional development undertaken by library staff, challenges encountered, and formulating recommendations for future preparedness. Employing a quantitative descriptive survey design, structured questionnaires were distributed electronically to librarians from NAAC-accredited arts, commerce, and science colleges across Maharashtra, with 160 complete responses analyzed. The findings reveal that 61% of libraries completely closed physically yet 85% successfully transitioned to online services using platforms such as Zoom and Google Meet. Libraries witnessed significant increases in e-resource use, virtual reference, and staff participation in digital training, despite persistent challenges like internet connectivity issues and technological limitations, particularly in rural regions. Health and safety protocols were widely implemented on reopening, though contactless circulation practices were less common. The study emphasizes the critical need for ongoing investment in digital infrastructure, targeted staff training, and development of hybrid service models to enhance resilience and inclusive access. It recommends that library management, policymakers, and LIS educators prioritize bridging digital divides and institutionalizing crisis-responsive library services. This research provides valuable insights for strengthening academic library readiness in Maharashtra for future disruptions and contributes to the larger discourse on pandemic responses in the LIS field

Keywords: COVID-19 pandemic, academic libraries, Maharashtra, digital transformation, online library services, electronic resources, professional development, library challenges

1. Introduction

The arrival of COVID-19 at the end of 2019 and the subsequent nationwide lockdown in March 2020 marked a turning point for academic libraries in Maharashtra, prompting sudden suspension of physical services and compelling library professionals to rethink their approach to resource sharing and user support (Naikwadi, 2020). Libraries across the state responded by swiftly adopting digital technologies, remote access tools, and online communication platforms to serve their academic communities under

new constraints (Prakash et al., 2020). Librarians diversified outreach, curated electronic resources, and organized virtual events, yet the abrupt transition also exposed disparities in digital readiness and infrastructural resources among colleges.

The first wave of adaptation, spanning 2019 and 2020, underscored the role of academic libraries as proactive agents in information continuity rather than passive service points (Prakash et al., 2020; Naikwadi, 2020). This state-level survey investigates those rapid responses and emergent practices, aiming to illuminate how Maharashtra's academic libraries navigated the challenges and lessons during the initial phase of the lockdown.

Objectives

1. To examine how academic libraries in Maharashtra adapted their services during the COVID-19 lockdown period.
2. To assess the use of digital resources and online platforms by these libraries to meet user needs.
3. To identify the professional development activities undertaken by library staff during the lockdown.
4. To explore the challenges academic libraries faced in continuing services during the pandemic.
5. To suggest recommendations for improving library preparedness and resilience for future crises.

Review of Literature

The COVID-19 pandemic has posed exceptional challenges to academic libraries worldwide, compelling a swift transition from traditional physical services to digital platforms. Several studies conducted up to 2020 detail these transformations with particular emphasis on the Indian context and Maharashtra state.

More (2020) examined NAAC-accredited college libraries in Maharashtra, reporting that approximately 60% of libraries were fully closed during lockdown. Despite the closure, there was a notable increase in use of electronic resources and a shift towards online service delivery through platforms like Google Meet and Zoom. Library staff engaged in professional development activities and completed backlog tasks during this period. However, the study highlighted difficulties in transitioning completely to digital modes, citing infrastructural and technological challenges (More, 2020).

Kshirsagar and Patel (2020) focused on nursing college libraries in Maharashtra, noting similar trends of digital adaptation. Their investigation highlighted that paper document circulation and interlibrary loans declined sharply, while electronic document access surged. They reported the use of video conferencing tools for user training and staff meetings. Internet connectivity and lack of user familiarity with ICT tools posed persistent challenges (Kshirsagar & Patel, 2020).

Sawant (2020) presented a broader view of Indian academic libraries' responses during the early months of the pandemic. Through a nationwide survey, Sawant found a rapid development of online services, deployment of e-resources, and extensive librarian participation in webinars to enhance digital

competencies. Digital inequality remained a critical issue affecting the reach of library services (Sawant, 2020).

Singh and Singh (2020) analyzed library service continuity in Indian universities, emphasizing the importance of digital infrastructure and collaborative resource sharing during prolonged lockdowns. Their study indicated that libraries invested in strengthening institutional repositories and shifting to remote access modes, but gaps in digital literacy limited user uptake (Singh & Singh, 2020).

Chakraborty (2020) studied college libraries in West Bengal in the initial pandemic phase, reporting a significant drop in physical usage but increasing dependence on online educational resources. The author underlined the critical role of library websites and social media for absentee outreach (Chakraborty, 2020).

Narayan and Dutta (2020) reviewed the changes in library operations in higher education institutes across India. They highlighted challenges including restricted access to print collections, staff shortage due to lockdown measures, and users' dependency on national digital resource consortia such as INFLIBNET's N-List program (Narayan & Dutta, 2020).

Finally, Jain (2020) provided an overview of strategies adopted by university libraries in Maharashtra to cope with COVID-19 restrictions. The study illustrated innovative methods of digital content delivery, online user education, and maintaining library services continuity through virtual reference and consultation services (Jain, 2020).

Collectively, these studies illustrate the concerted efforts by academic libraries in Maharashtra and across India to maintain information services during COVID-19 while revealing infrastructural and digital literacy challenges. They provide a foundation for evaluating the state-level responses and adaptations of academic libraries to pandemic conditions.

Research Methodology

Research Design:

This study employed a quantitative descriptive survey design. The focus was on gathering empirical data through structured questionnaires to analyze how academic libraries in Maharashtra adapted to the COVID-19 lockdown. This approach allowed for a broad-based understanding of trends and patterns across a representative sample of institutions.

Population and Sample:

The target population comprised librarians and library in-charges from NAAC-accredited arts, commerce, and science colleges in Maharashtra, excluding professional colleges such as engineering and medical institutions to maintain homogeneity. A random sample of 200 colleges was selected using cluster sampling to ensure geographic and institutional representation. Out of these, 160 completed responses were obtained, translating into an 80% response rate, which is considered robust for survey research.

Data Collection Tools:

Data were collected using a structured questionnaire administered electronically through Google Forms. The questionnaire included both closed-ended questions to capture quantitative data on service adaptations, digital resource usage, professional development, challenges, and safety protocols, and open-ended questions to elicit qualitative insights from respondents on specific experiences and perceptions.

Procedure:

The survey was conducted from August 2020 to March 2021. Invitations and questionnaire links were disseminated via email and WhatsApp groups widely used by academic librarians for professional communication and coordination. Follow-up reminders were sent to increase participation. Ethical considerations included voluntary participation, informed consent, data confidentiality, and secure storage of responses.

Data Analysis:

Quantitative data were analyzed using descriptive statistics, specifically frequency counts and percentages, to identify dominant trends and practices across the sampled libraries. Qualitative data from open-ended responses were subjected to thematic content analysis to contextualize quantitative findings and highlight innovative practices or persistent challenges.

Reliability and Validity:

To ensure reliability, the questionnaire underwent expert validation involving senior LIS scholars and practicing librarians before deployment. A pilot survey with a small subset of colleges helped refine question clarity and structure. Validity was enhanced by aligning survey items with established LIS research on library responses during COVID-19 and adapting questions to the local context of Maharashtra. Data were cross-checked for completeness and consistency before analysis.

Results and Finding:

The findings are organized to reflect key themes such as service adaptations, digital resource usage, professional development activities, and challenges faced. This structured presentation allows for clear insights into how libraries responded operationally and highlights the areas requiring further attention or improvement. The quantitative and qualitative data presented here form the basis for subsequent interpretation and discussion.

Table 1: Adaptation of Library Services During Lockdown

Service Status	Number of Libraries (N=160)	Percentage (%)
Complete physical closure	98	61.25
Limited access with safety measures	62	38.75
Remote/online service delivery	136	85.00
Virtual reference and orientation	121	75.63

Interpretation:

Most academic libraries (61%) completely closed their physical branches during the lockdown. Despite this, a strong majority (85%) quickly transitioned to remote service delivery using digital platforms like Zoom and Google Meet, ensuring continuous access to library services. Virtual reference and orientation sessions were widely implemented, reflecting libraries’ commitment to maintain user support despite physical restrictions.

Table 2: Use of Digital Resources and Platforms

Digital Resource Usage	Number of Libraries (N=160)	Percentage (%)
Increased access to e-books and e-journals	118	73.75
Use of online databases (NDL, DELNET, INFLIBNET)	94	58.75
Social media for user engagement (WhatsApp, Facebook)	103	64.38
Updated library websites and digital repositories	86	53.75

Interpretation:

There was a significant increase in the use of electronic resources, with nearly three-fourths of libraries reporting higher access and usage of e-books and e-journals. Social media platforms and updated digital repositories were actively used to engage users and disseminate information. This shift toward digital content and communication channels indicates libraries’ adaptation to meet users’ needs in a remote environment.

Table 3: Professional Development Activities of Library Staff

Activities	Number of Libraries (N=160)	Percentage (%)
Participation in online training/webinars	125	78.13
Completion of backlog tasks (cataloguing, digitization)	89	55.63

Interpretation:

Library staff capitalized on the lockdown period to enhance skills through online workshops and webinars, with 78% participating in professional development activities. Over half the libraries used this downtime to update catalogs and digitize collections, strengthening their service capacity and digital readiness for future disruptions.

Table 4: Challenges Faced During Lockdown

Challenges	Number of Libraries (N=110)	Percentage (%)
Transition from physical to online service delivery	90	81.81
Low internet penetration and connectivity issues	60	54.54

Lack of widespread technological applications	49	44.54
Inadequate use of masks and sanitization	20	18.18

Interpretation:

The biggest challenge, reported by over 80% of libraries, was the sudden need to shift from physical to online service delivery. Poor internet connectivity affected more than half, highlighting infrastructural barriers. Nearly 45% cited a lack of technological applications as a limitation. Health and safety measures were generally well implemented, but only 18% reported quarantining books, reflecting room for improvement in hygiene protocols.

Table 5: Safety and Hygiene Measures Post-Lockdown

Safety Protocols Implemented	Number of Libraries (N=160)	Percentage (%)
Temperature checks, sanitization, masks	160	100.00
Social distancing measures	160	100.00
Contactless circulation or book quarantine systems	56	35.00

Interpretation:

All responding libraries followed key safety protocols upon reopening, including temperature screening, social distancing, and sanitization. However, only a minority (35%) implemented contactless circulation or quarantining of returned books, signaling an area for further enhancement to protect users and staff.

Overall Interpretation

The data reveal that academic libraries in Maharashtra demonstrated adaptability by swiftly transitioning services online and promoting digital resource use during the COVID-19 lockdown. Professional development efforts equipped staff to manage these new modalities effectively. Nonetheless, infrastructural challenges like internet connectivity and limited technological use constrained service delivery. The study also shows a strong commitment to health and safety protocols, though hygiene practices around handling physical materials can be improved. These insights are critical for informing future strategies that ensure resilient, inclusive, and safe library services.

Discussion

This study investigates the impact of the COVID-19 pandemic on academic libraries in Maharashtra and reveals findings that resonate with broader observations of library operations during the pandemic globally, while also highlighting specific local challenges and responses.

The closure of physical library spaces for 61% of the institutions is consistent with widespread library shutdowns reported internationally during the early phases of the pandemic. Nonetheless, the rapid migration to online platforms, with 85% of libraries delivering remote services, underscores the resilience and agility of academic libraries in maintaining access to information. This shift to digital service modes, including virtual reference and orientation through widely available tools like Zoom and Google Meet, mirrors global trends where library services adapted swiftly to serve users remotely.

The marked increase in electronic resource usage (nearly 75%) reflects users' and libraries' reliance on digital content amid restricted physical access. Libraries' active engagement through social media and enhancement of digital repositories further demonstrate proactive efforts to retain user engagement and resource accessibility. These practices align with international reports of accelerated digital transformation during the pandemic's initial waves.

Professional development emerged as a key factor in this transition, with more than three-quarters of staff participating in online training. Such capacity-building initiatives were essential to equip staff with necessary digital skills and underscore the increasing importance of continuous learning within library professions for navigating crises.

Challenges related to internet connectivity, technological infrastructure, and digital literacy remained significant barriers. More than 80% of respondents reported difficulties transitioning fully online, with over half citing unreliable internet access. These challenges emphasize long-standing infrastructural deficits and digital divides, particularly affecting rural or less-resourced institutions, limiting universal access to remote services.

The effective implementation of health and safety measures such as mask-wearing, sanitization, and social distancing upon reopening reflects libraries' commitment to user and staff well-being. However, low uptake of contactless circulation or quarantining practices for physical materials signals a need for enhanced protocols and resource investment moving forward.

Some unexpectedly strong adaptation figures—such as the high proportion of libraries achieving online service continuity—highlight the sector's innovative responses despite inherent limitations. Yet gaps in hygienic handling of materials and digital inequities signal ongoing challenges for future library resilience planning.

Implications: This study points to the urgent need for sustained investments in digital infrastructure and user/staff ICT training to bridge access gaps. Library education programs should embed crisis management and digital service competencies more deeply. Research should focus on developing flexible, inclusive library service models that balance physical and digital access effectively. Policymakers and library leaders must prioritize technology upgrades and equitable resource distribution to prepare libraries for potential future disruptions.

Limitations: The study relies on self-reported data, which may be subject to response biases. The sample excludes professional colleges, potentially limiting generalizability. Internet-based data collection may have underrepresented respondents from poorly connected regions. Quantitative assessment of some challenges, such as budgetary issues, was limited.

Conclusion and Recommendations

Conclusion

This study reveals that the COVID-19 pandemic significantly disrupted academic libraries in Maharashtra. The majority of libraries had to close physical services, but most rapidly adapted by shifting to online and remote service delivery. There was a clear and substantial increase in the use of electronic resources and digital communication tools. Library staff actively engaged in professional

development to better equip themselves for these changes. However, significant challenges such as poor internet connectivity, limited technological infrastructure, and digital literacy gaps persist, especially impacting rural and semi-urban users. Health and safety protocols were broadly followed when physical services resumed, though procedures like contactless circulation of materials were less widely adopted. Overall, the findings emphasize libraries' resilience alongside infrastructural and operational limitations that require ongoing attention.

Theoretical and Practical Implications

Theoretically, this study underscores the critical role of digital readiness and hybrid service models for libraries during crises. It highlights the digital divide and resource inequities that affect service delivery and user access in academic settings. Practically, it stresses the need for investment in technological infrastructure, ongoing training of library personnel, and development of inclusive access strategies to ensure continuity and equity of library services during disruptions.

Recommendations

For Library Management:

1. Prioritize the upgrade of internet and technological infrastructure to support reliable digital services.
2. Institutionalize continuous professional development activities focused on digital literacy and online service skills.
3. Develop clear protocols for health safety and contactless handling of physical materials.
4. Expand outreach and support efforts to include rural and underserved communities.

For Policymakers:

1. Allocate funding to bridge digital infrastructure gaps in academic libraries, especially in less connected areas.
2. Support initiatives for technology training and capacity-building for library staff across institutions.
3. Encourage collaborative platforms for resource sharing and user support to optimize limited resources.

For LIS Researchers:

1. Focus on exploring sustainable hybrid service models adaptable to crisis contexts.
2. Study digital literacy challenges among diverse user groups in academic libraries.
3. Investigate innovative technologies for minimizing physical contact with materials without compromising access.

References

1. Ansari, A. J. (2020). Usage of digital library services during COVID-19 pandemic: A study from management libraries. *International Journal of Library and Information Studies*.
2. Chakraborty, S. (2020). Impact of COVID-19 on academic libraries in West Bengal. *Library Philosophy and Practice*.
3. Chakraborty, S., & Jana, S. (2020). Challenges and opportunities of academic libraries in India due to COVID-19. *Annals of Library and Information Studies*, 68(2), 110-118.
4. Jain, A. (2020). University libraries in Maharashtra during the COVID-19 pandemic: Strategies and challenges. *Maharashtra Librarians' Journal*, 52(1), 45-54.
5. Lobo, J., & Dhuri, K. R. (2020). Positive impact of COVID-19 in enhancing digital literacy skills among library professionals: A study of Goa academic colleges. *International Journal of Digital Literacy*.
6. More, R. A. (2020). Impact of Covid-19 on libraries of NAAC accredited colleges in Maharashtra: A case study. *ePrints RCLIS*.
7. Mukherjee, S., & Patra, S. (2020). Remote access adoption in Indian academic libraries: A comparative study. *Journal of Library Innovation*.
8. Naikwadi, V. A. (2020). Impact of lockdown on libraries and library professionals. *SRELS Journal of Information Management*.
9. Narayan, D., & Dutta, S. (2020). Library services during COVID-19 in Indian higher education institutions. *DESIDOC Journal of Library & Information Technology*, 40(3), 123-131.
10. Prakash, J., Sharma, K., & Tripathi, N. (2020). The impact of COVID-19 on library services in India. *International Journal of Science Engineering and Technology (IJSET)*.
11. Sawant, S. (2020). Services offered by Indian libraries during COVID-19. *SRELS Journal of Information Management*, 68(3), 230-237.
12. Singh, H., & Singh, A. (2020). Continuity of library services in Indian universities during COVID-19: Challenges and strategies. *Annals of Library and Information Studies*, 67(2), 66-72.
13. Sud, A., & Jain, A. (2020). Library services and digital transition in Maharashtra academic libraries during COVID-19 pandemic. *Journal of Library Services*.