



Changing Digital Landscape of Academic Library Services during Covid-19 Pandemic with the Support of Remote Access: An example from JNU Library, New Delhi

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Abstract

The changing scenario of libraries is an outcome of present pandemic Covid-19 situation. The entire way of library services has been altered due to non-contact kind of facilitation to users. In this context, the technological advances have proven to be boon for libraries. The present paper highlights the various perspectives and support systems in academic libraries. How remote accessbased services can be fruitful, has been deliberated with the example of JNU library, along with other significant current challenges and solutions.

Keywords: Academic library services, Digital landscape, Covid 19 pandemic, Remote Access, JNU Library

1. Introduction

The stakeholders in an academic setting should collaborate to expand and explore the best serving and educationally supporting students. Due to changed higher education environment, the university libraries are supposed to have insight into the academic communities. The position of academic libraries in their parent institution is found at the core of educational pursuits in higher education. Academic libraries are dependent upon various government policies and regulations, the consequences of various situations create impact that affect the course of their services as following:

- a) Assurance: various forms of knowledge to be delivered to engage users' trust.
- b) Tangibles: digital appearance of conventional library environment to facilitate users.



The e-resources as well as supporting devices have created their niche in academic and research libraries. The insights into the strength of e-journals and e-books in context of digital features as well as limitations in the perspectives of copyright etc. have been instrumental in the improvement and access. Usage of e-readers, tablets etc. have developed few aspects such as usage for linear or leisure reading. The readers' habits and usage tendencies have reflected various approaches towards digital information products, especially in context of e-journals and e-books. The early millennium witnessed the change in library approach by adopting learning commons, technology combinations and implementations, redesigning physical spaces and user services with broad range of services. The inclusivity and ability to address the technological challenges have been observed in the form of multimedia capabilities, online campus library services. Cawthorne (2015) discussed about "the changes institutions face, scenarios allow directors to include more uncertainty when developing and articulating a vision" and to lead in a plan, have "sharpen the evaluations and measures necessary to monitor achievements that define the value of the library". The roles and responsibilities of libraries include providing teaching and training on practices of users' rights and permissions. The academic libraries need to provide best of on campus and off campus remote based digital based services to its users.

2.Remote access to library online resources: visuals from past and present

Most of the University Libraries' databases, and other digital information resources like e-journals, e-books can be accessed by the users on the campus network yet, the remote access (i.e. access from outside the campus) to the most of the digital resources is restricted sometimes keeping in view the permissions, guidelines and license agreements. The "online identity" as the authentic user of the university is must for the users to access library resources through remote-access way. The covid-19 situation has compelled (Brynjolfsson, Ozimek, Rock, Sharma, and Ye, 2020) to look for many other non-conventional to work and access the information. Long ago, Bellamy, Silver, and Givens (1991) identified the areas for remote access support:

- a. an electronic menu system
- b. computer literature search request forms;
- c. library workshops
- d. receive citations and abstracts
- e. electronic bulletin board
- f. bibliographic retrieval software

Thus, the remote access for library services and digital resources are here to support and supplement the library usage. de Kock (1993) emphasized on being "libraries should be responsive to the needs of remote



users” as the users may demand some awareness, technical advice and instruction aids for remote access. Haines and Grodzinski (1999) have been emphasizing the web access to users through web page of library and to users from remote locations, thus enhancing the approachability. Duke, R. (2002) discussed about remote access in context of potential users, discovery and offer from the libraries. Covey (2003) discussed about the problems such as “academic libraries are not meeting user needs and expectations for easy access to online library resources. Remote users are particularly dissatisfied” which demand attention in current Covid-19 scenario as well.

There have been many efforts to improve the remote access technologies and implementation in libraries. Wu Di, Chen Gui-Sheng, Wang Xue-Zhen, Huang Shu-min (2009) analyzed the remote access technology, and other aspects such as intellectual property related protection measures in library resource utilization through remote access applications. Sean Stone, Denise Soltis and Kathy Schott (2010) made efforts to understand the use of and preference for specific library resources through remote access and found that preceptor participation has been successful with some “minor flaws in the logistics of delivering the service”. Fulkerson (2012) discussed about various tools for remote access technologies. In her words, “Identifying, implementing and updating new technologies, understanding copyright and fair use laws, creating metadata for access to digital collections, and meeting user needs” are very significant. Rodriguez, Tonyan & Wilson (2018) emphasized upon the efficient tools and techniques which are required for troubleshooting remote access, and Bhat (2019) has compared Remote access facilities provided by various softwares such as EZproxy and RemoteXs in context with remote access to e-resources which has supported the core-academic research activities. Fernandez (2020) have emphasized upon the Covid-19 situation in libraries as service organizations for delivering online services in context with remote access as e-books and other digital resources can be accessed by the users and “libraries have an opportunity to reinvent work and help their users adapt to these changes”.

3. Digital Participation of Users

Embracing digital technology paved way to enhance the service quality and spectrum including efficient services and access for the users. For example, digital resources have been a factor for change in reference services and reference guidance to users by locating digital resources for reference queries. The digital technology evolution has altered users’ expectations and way of using the resources and services in academic organizations. “Learning Landscape approach” in context with higher education has been about to have flexible planning to increase user engagement, which is changing in current times with the provisions of remote access and e-resources as:

- Understanding the key technology in higher education
- Supporting higher education through remote access to digital information materials



3.1 Digital outreach in the current Covid-19 times

University libraries are uniquely placed in higher education system to collaborate with the academic community and convey the organizational missions. These university libraries have been serving as community resource centers and partners for its research community in higher education. With the availability of in-depth of specialized online databases and research consultants, the libraries have contributed for the users in the following manner:

- a. Evolution from service provider to community resource partner
- b. Best practices of networking and combining various kinds of media
- c. Working in tandem with small focus groups of students
- d. Leveraging research consulting in context with higher education initiatives
- e. Library training and workshop initiatives
- f. Targeted collaboration with specific research groups
- g. Thorough documentation of the strategies and in-between community experiences in context with higher education needs and prospects

4. Library-Faculty Collaboration: Need of the hour

The pedagogical shift towards becoming student-centered, various challenges have contributed to prepare libraries in smarter manner with increased interactions between faculty and libraries. Collaboration between academic staff and library staff is observed in the view to achieve common goals as well as parent organisation's goals. The integral positions and role of library is capable in augmenting the academic success in higher education arena.

The identification of impactful and scalable methods to communicate the library value is possible due to output-focused. The visually rich learning environment facilitates diverse content forms in range of media as information visualization helps in improving users' comprehension and engagement. With the faculty support, it becomes easy to demonstrate the current practices and academic achievements of academic users in their academic pursuits. The library-faculty collaborations intend to promote the academic and research output due to qualitative library interventions.

4.1 The liaison program

The liaison program supports the enhanced learning by establishing contact with faculty and determining the level to serve best. Few other liaison activities include assisting component departmental library expenditure, assessing collection strength, encouraging the involvement with curriculum and research interests, informing about library policies, and expanding the library services to users, etc. The value of



academic libraries into higher education institutions is possible by improving information services, access to information and improving perception among the academic community. Few areas such as information literacy and learning skills training are greatly contributed by libraries apart from research support as increasing the collaboration between libraries and higher education stakeholders. The library-faculty collaboration can look into following areas to define the effective information services and use of digital resources:

1. Assessment of awareness among academic community regarding digital resources, means of access and effective use
2. Identification of practical interventions to increase the digital literacy and awareness among students
3. Involvement of teaching staff in designing and creating information services

Evaluation and development of appropriate skills among library staff

In this context, according to Claire Creaser et. al., (2014) the major learning services for teaching routine digital skills to scholars include training on avoiding plagiarism, increasing study skills, profound skill development for searching advanced Google services, inducing and practicing digital literacy skills, and critical appraisal skills among the other learning sessions.

Various university-wide programs, activities and events meant for academic community, i.e., staff, academic conferences, literary and student festivals, book promotions, public lectures, etc. are a kind of platform to help libraries to increase the collaboration and showcase the relevance and value. The experiences related to value of scholarly reading, library collections support in research and teaching activities are significant. To focus upon relevance of library collection readings in research provides measurement of the same. This kind of interaction helps the librarians and faculty members to decide the future direction in context of subject collections for the research and scholarship (Volentine, and Tenopir, 2013). The reading patterns in different disciplines reflect the preferences, convenience, and digital access, in context with research productivity. The interaction brings information about the way students discover, adopt manage, and use digital resources.

5.Digital Information Access

The academic libraries have been looking forward across boundaries and instructional support for the research scholars in both logistical and conceptual extensions of research. The efforts of libraries have been instrumental in promoting and integrating the information literacy in learning experiences. The digital environment offers dialogue and interaction to increase meaningful learning experiences among research scholars in the following ways:

- Developing community-engaged and faculty collaborations.



- Supporting research support services by providing English language support, advanced tools, etc.

6. Distinctive Digital Services in Librarianship

The high pace of technological developments and diverse demands of researchers have always been behind the altered library services in the form of digital resources and designing of services to facilitate users from far-flung area. The current information demands and library scenario have certain values such as:

- provisions of outline of information community and needed services with the current health emergency perspective;
- various challenges, opportunities and offerings for library staff to find out channels for knowledge delivery in the international level (Harris, 2016)
- trending library services and resources through ICT based innovative avenues and information products.

There are various types of services categorized due to various factors (Harris, 2016; 2017), given as following:

- technology-based services;
- physical place/space of library;
- teaching and research oriented library services; and
- users' requirement fulfilling services.

Accessing digital information are possible due to digital collection services are major components of digital services as technology has co-evolved with the increasing diverse demands of researchers and other kinds of library users. In this context, the views from ACRL Research Planning & Review Committee (ACRL, 2010) reflect the significance of altmetrics services. This information service is related with provisions of access and instruction for proper usage and applications of altmetrics in context with value of research produced in the organization and its impact at global level.

7. Open Access and Learning

Libraries are instructing about interdisciplinary tools which are supportive in extending the research collaboration, publishing and sharing by providing information literacy (IL) skills. As defined by Adams and Gunn (2013), "DH (digital humanities) can be understood as the place where traditional humanities research methodologies and media/digital technologies intersect". There are various needs of researchers, which demands attention from library at individual level. To cater various kinds of information needs of diverse user community, the consultation and outreach services have created regular occurrences in



academic libraries. In a highly changing scholarly communication environment, the implantation of technology has altered the context of education where knowledge of individuals is very significant role playing entity.

8. Digital Literacy Needs of Users

Digital information and its ubiquitous availability on through WWW, search engines, and multiple databases etc. has compelled library staff to constantly apply different approaches in providing e-learning related creating, sharing, delivering information in the formal higher education environment. According to Nicholas, Rowlands, Jubb & Jamali, (2010) “a form of intensively focused search and collection of resources” and following the “digital wisdom” in staying updated with new digital media and recent trends (Tait, Martzoukou & Reid, 2016) along with getting acquainted with transferable skills in blended learning, “vision that fosters a learning culture for staff beyond the walls of the library” (Martzoukou, 2013). Academic libraries have to become evident in competing for digital resources and service provisions and be prepared to demonstrate and justify the expenditures as well as value in an highly uncertain HE landscapes.; whereas “the development of subject domain expertise within multidisciplinary research fields”, the big data, and blended learning are coming together in online research) where the user-centric approach is needed in service delivery.

9. Readiness to adapt change in the Academic Libraries

The role and status of students’ information literacy and ICT skills are important to understand and measure their impacts on academic success. The library policies and intuitional goals and practices are significant areas to observe, Aslam, (2019) strongly suggested:

- Development of a sense of change
- Building a team to guide the change
- Creation of vision
- Communication without gap
- Empowerment of staff
- Making a task-based culture

Recent times in higher education have reflected various challenges before academic libraries in the shapes of explosion of digital resources, digitization drives, innovative information services, etc. Readiness is significant to sense the need to understand the targeted goals by challenging the ideas where is follows the related facets:

- understanding
- adapting



- willingness

The collaboration in academic libraries is significant to manage change effectively by motivating the staff to connect with the academic community at various levels, with the help of technology and explore few notions outside the library. A new trend of library and teaching instructional services has emerged to frame a close relationship between library and faculty with a collaborative mindset in current times.

10. Efficient Measures and Digital Information Access

The quest for scholarly information for academic and research purposes compel students to retrieve information. The competency levels of libraries and staff have faced new dimension related to digital services and digital mode). Performing multifaceted tasks by the libraries have paved ways for examination and analysis of current library services.

10.1 Library instruction and supplemental digital resources

The need of information instruction came into bigger picture due to information overload which is more relevant in current times. The demand of information literacy instructions are widely observed in academic institutions and one of the ways to interact with the library users while understanding their information skill levels. Various kinds of library instructions in academic libraries are available in the format of following programs. Providing online Information Literacy Instruction (ILI) has been helpful with directions towards library materials beyond the boundaries of library in digital format. The interpretations of information access are more than the libraries' resources and services.

10.2 Research strength and support services

The research publishing is dependent upon access to information to augment the research output and libraries are facilitating users by access to digital information as well as various training programs related to digital publishing and scholarly publishing literacy. The research support services include research consultation, research tools and to address the researchers' information requirements while following the research lifecycle. It is observed that libraries plan various services to serve the researchers according to various levels in research-process. Identified support services are categorized as of the following types:

- a. Information services: required for the complete research process such as consultation, awareness of tools and technologies including access to literature
- b. Data services: meant for various stages of research such as funding application, data management, report compilation and sharing



The practical approach for research support ensures long-term strategy. The University of Sydney Library has defined various stages such as “design and discover, plan and fund, research and experiment, curate and preserve, and curate and preserve”. In other words, few other steps are:

- Creation of research support Web pages
- Provision of research guides
- Integration of research supporting services
- Evaluating researchers’ requirements
- Providing targeted research consulting training
- Building a dedicated research support library team

10.3 Support of Remote Access: An example from JNU Library, New Delhi

The Jawaharlal Nehru University library known with the name Dr B R Ambedkar Central library has been supporting its users with remote access services since the beginning. The form and nature of remote based services have changed with the times. The remote access services through Ezproxy, OCLC Incorporation has been enabled during the 2011-2012 and is still fully operational. The JNU Library has also provides remote access services to its faculty through Open Athens for some time, but Ezproxy access has been provided to wider community of JNU including faculty, researchers, students and staff.

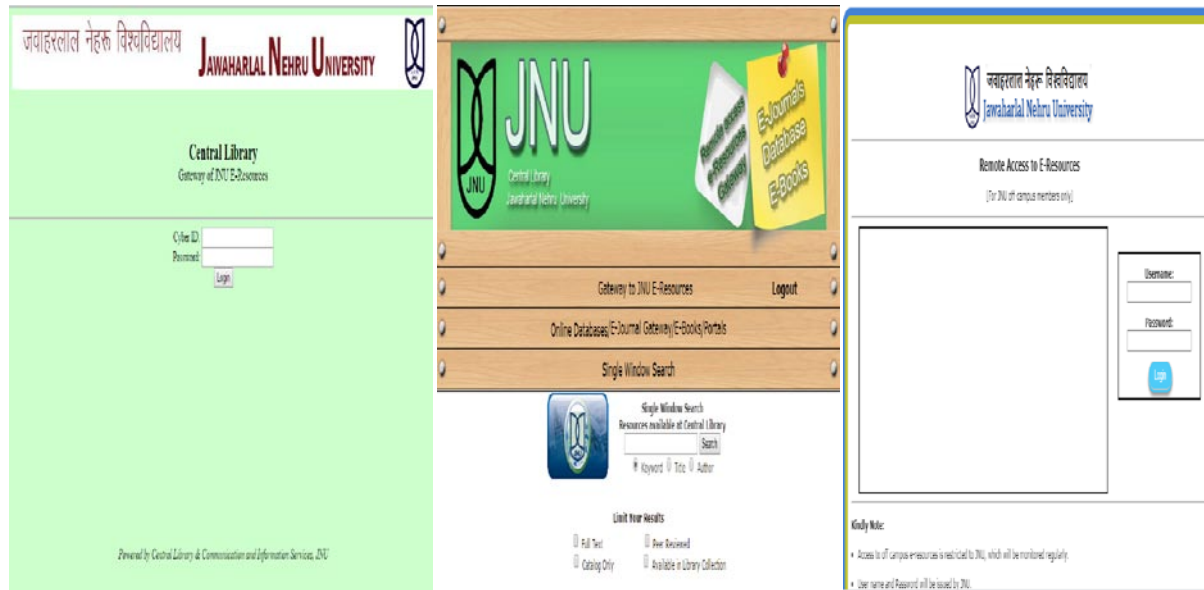
The access to remote access has helped the JNU users to connect reliably, scale rapidly, and stay protected in the period of COVID19 also. During this period the remote access came as savior to the faculty and researchers to get the best-in-class connectivity and security, allowing users to remain as productive as possible.

JNU Library has been using proxy server at an application level gateway to connect the users’ workstation, when user request a web page, the proxy server receives and processes the request as an intermediate. During this the authentication is done through LDAP server which is directory service database storing the organizational based data, policy, and authentication. Once authenticated, the web page or the file access is received from the Internet, the proxy server sends the file over to client computer. The Proxy server is also associated with the firewall, blocking incoming network requests from the Internet making difficult for the hackers to get internal addresses and details of the network.

The databases, e-journals, e-books listed through the ezproxy help in URL rewriting. It changes the URLs of the web pages so that requests for web pages from subscribed licensed e-resources are routed back to the proxy server, providing authentic users with remote access to e-resources of the library. The publisher or vendor of e-resource perceives the requests as coming from an IP address of the JNU library.

Since the University campus was closed due to COVID 19 the access to e-resources otherwise available through IPs of the University was not available to a large population base of 8000+ users. The complete load of simultaneous access by hundreds of users have been through the remote access server link <https://ezproxy.jnu.ac.in/login>

Screenshot of JNU Library Remote Access known as Gateway to E-Resources



The users accessing the e-resources widely through remote access were regularly cautioned about the access services of the JNU Library with the following rules and guidelines:

- In compliance with the permitted limits of the Copyright Ordinance, users may display, download or print limited/ permissible copies of citations, abstracts, full-text or portions from e-journals, e-books and e-databases solely for the purposes of research or private study.
- Under no circumstances should the e-journals, e-Books and e-Databases or any of the content therein be redistributed to colleagues, peers or any person or be used, duplicated or amended for commercial, business making and profitable purpose.
- The entire content of the e-journals, e-books and e-databases is protected by copyright of the providers or the publishers/ vendors/ distributors. User should not remove or alter any copyright or other proprietary notices contained in the Content given by the provider.
- As per the license agreement between the content provider and the Library, users may not download, copy, burn, capture, transmit, rent, sell, re-stream or modify any materials from the e-journals, e-Books and e-Databases, or create derivative works based on materials from these e-resources.



- Users will be held fully responsible for any legal consequences arising from copyright infringement and violations.

11. Visualizing Library Scenario in Future Higher Education

The libraries have been quick to grasp the highly changing situation due to the months old lock downs and limited access to information as following:

- Higher education Scenario: The unlimited opportunities in the future yet the shadow of current upheavals will determine the shape and format of entire sector.
- User service: By understanding the pressures of environment on learner in context with education and library services and un-following the past practices that may not be useful in current scenario.
- Redesigning learning and information services: Inclusion of more intelligent and automated systems apart from remote services (e-mail, secured access to various digital resources social media).
- Smart human resource: The library staff to serve by application of intuitiveness and in the environment of technological innovation with the pressures of learners' varied demands to information in the situation where the staff members might have to play interchangeable responsibilities.

ACRL (2018) informed to “align with the principles; identify and select performance indicators; add performance indicators that apply to the specific library; develop user-centered, measurable outcomes that articulate specifically what the user is able to do as an outcome of the performance indicator; conduct assessments that may be quantitative, qualitative, or both; collect data from assessments that demonstrate degree of success; and use assessment data for continuous improvement of library operations”

11.1 Future visualizations

The current trends and academic issues in higher education have increased pressure on library leadership to engage innovative abilities to cope with the challenging environment. The following aspects provide a clear visualization of recent trends:

- a. Need of a clear vision with the supporting collaboration in order to face current situations and manage change.
- b. Current pandemic has compelled and motivated to explore the available options in the form of technological platforms and supports such as open access, remote services, and digital modes of document delivery.



- c. Offering effective services with the help of contemporary technology-based solutions and adaptations in changed environment where the higher education itself is restructuring and reorganizing.
- d. Managing change at various levels; at parent organizational level leading towards the individual staff level to prepare for major change
- e. Identification of new ways to support educational purposes of faculty and researchers by keeping the student experiences in mind with the support of various stakeholders and library leadership

12. Conclusion

The advances in education and library related technology have permitted the diffusion of greater efficiency and fast pace to leverage digital resources and services from the patron's context. For supporting the thoughts (Dempsey, 2015) as "academic libraries are a part of the changing education enterprise, and the character of that enterprise is what will most influence an individual library's future position." The large-scale availability and accessibility of awareness and training of IPRs as well as various kinds of digital resources in digital environment have been influential for users' learning. While this current environment is posing cumbersome situations and challenges yet the valuable inputs on day-to-day basis are contributing to the scholastic development of learners in higher education. Times are approaching the library system and higher education in the perspectives of cost, convenience, and quality with the provision of individual learning services. Keeping this in view, Jawaharlal Nehru University, Dr B R Ambedkar Central Library has been in forefront in providing the access to its valuable resources and services to its users 24X7 remotely so that the users achieve maximum efficiency in their academic pursuits in all times.

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