



The Transformation of Library Practices through Internet and Web Technologies: A Survey-Based Study

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Abstract:

Worldwide the role of the library has drastically changed with the advent of web technologies and information landscape transformation. Once the libraries were known for print form of information now libraries are transforming to hybrid mode where print and digital form of resource are integral part of library's collection. The paper investigates the influence of web technologies and internet on the usage of libraries by incorporating theoretical and empirical aspect. Internet has influenced the information seeking behaviour, resource accessibility and library resources this components covered in literature review in the study. The sample of 200 respondent have taken from undergraduate students, post graduate students, faculty and research scholar across Maharashtra's academic institutions. Structured questionnaire was prepared by the investigator to collect data on information seeking patterns of users, relevance of libraries in current scenario, web technologies used in the libraries. The findings shows that physical visits to the library have reduced but the demand for pin-pointed e-resources have increased significantly. Libraries are subjected to strain considering the issues like digital divide, budget constraint, unskilled staff, user awareness. The study finds that libraries to adopt new technologies, digital literacy programs and enhanced user's engagement to remain central to research ecosystem and academic pursuits.

Keywords: Internet, Library Usage, Web Technologies, Information Access, Digital Resources, E-Services

Introduction:

Every aspect of human life radically changed with the advent of internet in the sectors of education, health, communication, research and so on. With respect to libraries the scenario has changed from print form to digital access, digital literacy, knowledge creation and web technologies. Web technologies has enabled the users to access Web OPAC, digital resources, digital repositories, library portals, e-resources therefore users are empowered to access information anywhere anytime. In India internet revolution reshaped the communication and have become the gateway

to information. Due to changing nature of libraries some questions are arising like are the physical visits to the libraries are declined? Are the users inclined towards using digital resources? How effectively libraries are using web technologies for attracting users to the libraries? The paper finds answers to the questions both theoretical and empirical base. The investigator focuses on the future of libraries in the digital era and provides insights into how libraries can adapt new changing needs.

Review of Literature:

Many research works have explored the relationship between internet technologies and library services. The key themes that emerge are:

- **Changing Information-Seeking Behaviour:** Nicholas and Rowlands (2011) observed that users increasingly prefer electronic sources over print. The internet has fostered a culture of immediacy, where users demand instant access to information.
- **Integration of Web Technologies in Libraries:** Web 2.0 tools, including blogs, wikis, RSS feeds, and social networking platforms, have been adopted by libraries to improve communication and user engagement (Harinarayana & Raju, 2010). The rise of institutional repositories and OPACs has further facilitated remote access to resources.
- **Decline in Physical Usage of Libraries:** According to Tenopir (2013), the number of physical visits to libraries is declining, while virtual visits are increasing exponentially. This shift is especially noticeable in academic institutions.
- **Barriers and Challenges:** Studies by Singh and Gill (2013) highlight issues such as inadequate ICT infrastructure, lack of trained staff, and the digital divide as major barriers to effective implementation of web-based library services.
- **Libraries in the Indian Context:** Indian libraries have made significant progress in adopting web technologies, particularly through consortia such as INFLIBNET and initiatives like the National Digital Library of India (NDLI). Yet, the pace of transformation varies across institutions.

This review highlights the importance of libraries adapting to technological progress and changing user needs.

Objectives of the Study:

1. To investigate how internet and web technologies influence library usage pattern.
2. To pinpoint the challenges faced by librarians in adopting internet and web technologies.
3. To explore how web-based services, OPAC, e-journals, repositories and databased support and enhance the quality of user interactions with library resources.
4. To measure the proportion of library usage through physical visits as compared to virtual platforms.
5. To suggest ways to improve library service in the digital age.

Methodology:**1. Conceptual Component:**

Extensive survey of literature of secondary sources is done which consists of case studies, reports, scholarly articles, newspaper clips. It provides conceptual clarity between library services and internet technologies.

2. Empirical Component:

- **Population and Sample:** The study surveyed 200 participants, including undergraduate students (100), postgraduate students (50), faculty members (30), and research scholars (20) from academic institutions in Akola District of Maharashtra State.
- **Data Collection Tool:** The investigator prepared structured questionnaire tool to collect data from 200 participants. It consists of both open ended and close ended questions.

- Specifications and Parameters Used:**

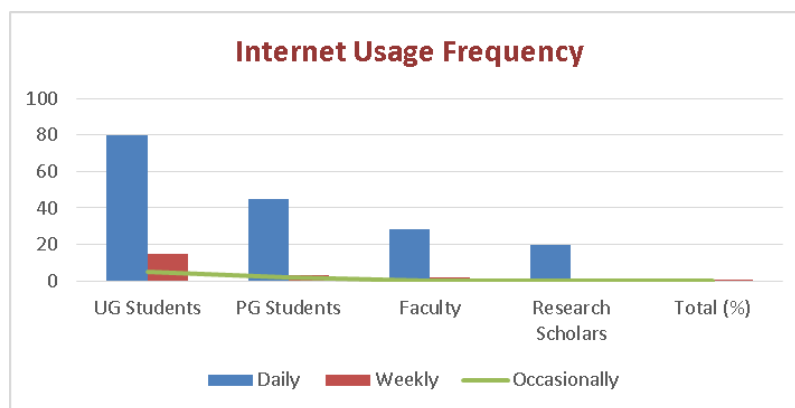
Purpose of library visits Internet, usage frequency, preference for print vs. digital resources, user awareness of web-based services

- Analysis:** Data were analyzed using descriptive statistics, percentages, and graphical representations.

Data Analysis and Findings:

1. Internet Usage Frequency:

Frequency of Internet Use	UG Students	PG Students	Faculty	Research Scholars	Total (%)
Daily	80	45	28	20	86.5%
Weekly	15	3	2	0	10%
Occasionally	5	2	0	0	3.5%

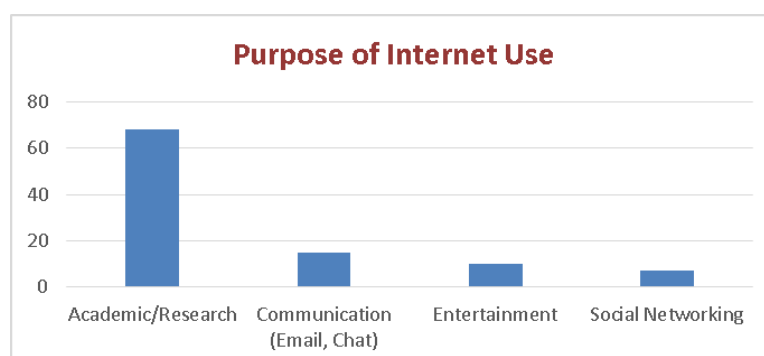


Finding: The study focuses on significance majority, 86.5% of respondents, reported using the internet daily, it reflects that high dependency on the internet for online resources. Therefore, digital platforms are the

first choice of the users to locate their learning resources. The trend indicates that paradigm shift from traditional sources of information to online resources.

2. Purpose of Internet Use:

Purpose	Respondents (%)
Academic/Research	68
Communication (Email, Chat)	15
Entertainment	10
Social Networking	7

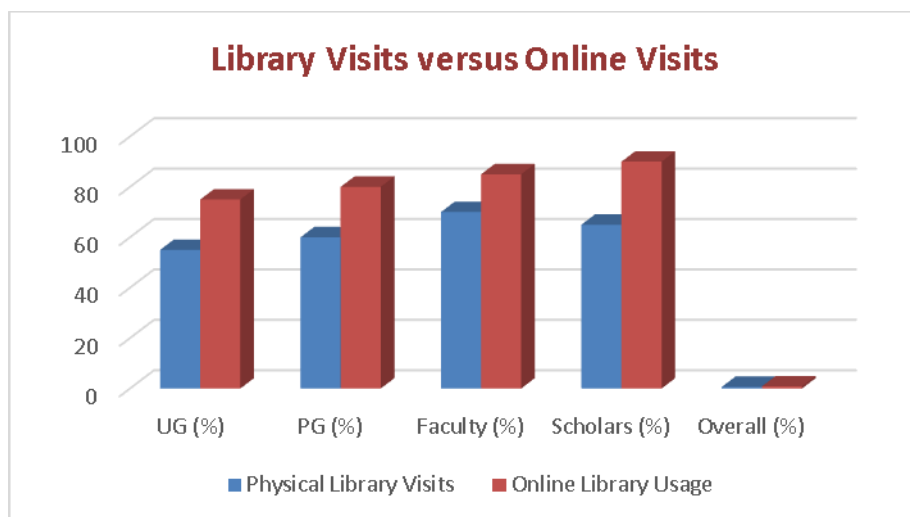


Finding: Most of the users depend on the internet to access information through digital resources therefore its vital to equip libraries as a learning resource centre. So above

parameter shows internet become the vital force for educational activities as well research and other academic pursuits.

3. Library Visits vs. Online Usage:

Mode of Library Usage	UG (%)	PG (%)	Faculty (%)	Scholars (%)	Overall (%)
Physical Library Visits	55	60	70	65	62%
Online Library Usage	75	80	85	90	82.5%

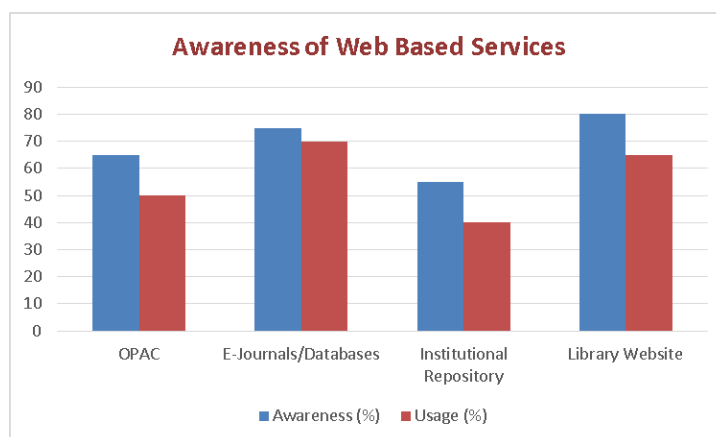


Findings: In every category, online access is preferred over physical visits, with the highest reliance seen among research scholars. This

indicates a clear shift toward virtual platforms as the dominant mode of academic engagement and resource utilization.

4. Awareness of Web-Based Services:

Service Type	Awareness (%)	Usage (%)
OPAC	65	50
E-Journals/Databases	75	70
Institutional Repository	55	40
Library Website	80	65



Findings: Having awareness of repositories does not necessarily mean that users actively make use of them. In many cases, students and faculty may know about the existence of repositories but lack the skills, motivation, or proper guidance to integrate them into their regular academic or research practices.

Discussion:

The findings reinforce theoretical insights from the literature:

- With users depending more on digital services than on traditional library visits, the internet now plays a crucial role in academic activities,
- Though the shift remains uneven, and certain services continue to be underused libraries are evolving into digital knowledge centers,
- Undergraduate students still prefer visiting libraries physically for study, whereas faculty members and research scholars make the most extensive use of e-resources.
- Barriers like limited awareness, inadequate technical infrastructure, and gaps in digital literacy restrict the complete adoption of online resources

Challenges:

1. **Infrastructure Issues:** Financial constraints and obsolete technology hinder modernization and innovation.
2. **Copyright and Licensing:** Some academic institutes can't afford subscription to e-resources further legal and licensing restrictions often limit the availability of e-resources.
3. **Training Needs:** Both library staff and users need continuous training to strengthen digital literacy skills.

4. **Digital Divide:** In rural and semi-rural areas access to internet facility is still faraway therefore unequal access to reliable high-speed internet creates disparities among students.

5. **User Awareness:** Academic institutes to take initiative on digital literacy programmes as a large number of users remain uninformed about advanced digital tools and services.

Conclusion and Suggestions:

Library usage significantly reshaped Internet and web technologies, resulting in a consistent rise in the use of digital resources. Yet, this transformation does not eliminate the need for physical libraries; instead, it calls for a reimagining of their role and functions.

Suggestions:

- Arrange and improve digital literacy training for users.
- Initiatives for increase access to e-resources by joining consortia.
- User friendly library portal for all categories of users.
- Initiation of awareness programs about e-resources and institutional repositories.
- Creation and Development of hybrid library spaces that blend physical and digital services.

While maintaining their traditional role as open and inclusive spaces for learning, libraries should keep adopting new technologies and innovations

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