

Bridging the Digital Divide: Strategic Integration of E-Resources and Digital Services in Community Libraries for Inclusive Empowerment in India

Neeraj Kumar

Dr. Hemant Kumar Katiyar

Abstract

The purpose of this paper is to conceptualize how community libraries can strategically implement digital services and e-resources as a means of overall digital inclusion. Centred on the Technology Acceptance Model (TAM), the paper discusses the major factors that lead to the adoption and successful use of the service model which included among others, the perception of usefulness and the perception of ease of use, from the standpoint of existing infrastructural difficulties, financial shortages and human resource challenges. The paper has thoroughly examined the issues of lack of digital literacy, poor internet connection, inadequacy of the trained personnel as well as the shortage of the same and identified these as the most serious obstacles to be overcome. The paper outlines a plan to amplify the impact of digital services by means of capacity-building, infrastructure upgrading, and community-centric service design.

The results show that community libraries are very potent digital inclusion facilitators. Hence, they must be seen as the focal points for digital literacy, lifelong learning, and socio-economic development in underprivileged areas. Equipping community libraries with advanced digital skills would enable them to significantly contribute towards bridging the digital divide and fulfilling the inclusive development agenda in India.

Keywords: *Digital Service, E-Resource Integration, Digital Literacy, Technology Acceptance Model, Digital Inclusion, Digital Divide, Inclusive Development, Rural and Semi-Urban Libraries, Access to Information.*

INTRODUCTION

The rapid growth of digital technologies has dramatically changed the way we get information, communicate and the learning environments. Yet, there are still big differences in how people can access and use digital technologies, especially those

* Research Scholar, Department of Library and Information Science, Banasthali Vidyapith, Rajasthan, India, Email: dheerajkumarmadal96@gmail.com

** Research Supervisor, Department of Library and Information Science, Banasthali Vidyapith, Rajasthan, India, Email: library@quantumeducation.in

who are marginalized and living in semi-urban and rural areas of India. Community libraries are uniquely positioned to help bridge the digital gap through the thoughtful use of e-resources and digital services that reflect the local community information needs. Nevertheless, while there is such a potential, most studies are still largely concentrated on the urban and academic library environments resulting in the limited understanding of the challenges and opportunities of the community libraries in resource-constrained settings.

Background of the Research

Nowadays knowledge and innovation define our society and access to accurate information and the ability to use digital tools effectively are a couple of the main pillars of social, educational, and economic progress. The tremendous development of Information and Communication Technologies (ICTs) has made a profound influence on information creation, storage, sharing, and consumption. Digital resources, such as e-books, e-journals, online databases, open-access repositories, and digital archives have become the major constituents of teaching and learning, as well as research activities.

Despite these technological innovations, the benefits of digital revolution are still not evenly distributed. There is a huge digital gap, among which even India as a developing country, ranks very high, in the line of the countries where this has been taken so for granted that the digital knowledge economy participation by the vast majority of the population is greatly limited, if not entirely ruled out, due to lack of technological infrastructure, digital literacy, socio-economic conditions, and educational opportunities. This digital gap is not purely a technology one; it also represents a social and cultural problem. The social and cultural factors that influence how people are able to obtain, comprehend, and use digital information effectively are the underlying reasons for this phenomenon.

In this regard, libraries have changed significantly as they not only keep printed materials but also provide community information services. Public and community libraries, especially, have become the main gateways of access for the underprivileged bringing to them, among other things, digital technologies and training on how to use them. By becoming learning hubs and also places to share information, libraries localize the digital environment and enable everyone regardless of their circumstances to benefit from development.

Nevertheless, although on a national and international level digital inclusion is getting a lot of attention, still a big part of the current research and policy discussions is focused on urban and academic library settings. Community libraries particularly those in semi-urban and rural areas of the developing countries that do not have enough resources for their operations are the least explored in the academic field.

Lack of proper physical facilities, limited funds, absence of qualified staff, and low community digital literacy are just some of these environment-specific issues which become obstacles to the success of such libraries and which, in turn, need to be addressed through context-relevant solutions.

Stated otherwise, this research delves into how libraries facilitate the acquisition of digital literacy skills and promote equal digital access in the areas of Haryana and the National Capital Region (NCR) of Delhi. Both these areas fall under very different yet also connected socio-economic settings encompassing bustling city centers, semi-urban areas, and the rural villages. The study is focused on identifying the ways digital resources and services are being integrated strategically in the libraries in these regions and later to obtain results that could be used to create long-lasting and broad-based digital development policies.

Significance of the Study

Nowadays, digital literacy and equitable access to information have become fundamental pillars of inclusive socio-economic development. Individuals' competence in a digital society, in terms of locating, evaluating, and utilizing electronic information, is a factor that influences not only their education and work but also their community involvement and overall quality of life.

In a country like India where the wideness gap between the upper and lower classes is huge, extending to everyone access to digital materials is not only a question of technology but also, and more importantly, a matter of the society and its development.

This investigation is significant in examining how libraries have gradually transformed their role from simply being places that store information in the past to becoming catalysts for ensuring digital inclusion and empowering local communities. Through the lens of their 'digital resource and digital literacy initiatives' in public and academic libraries, the study shows how libraries could potentially serve as instruments that close the digital divide and, at the same time, attain the set national development goals.

Additionally, the article suggests that a detailed understanding of the problem can be gained by concentrating on Haryana and the National Capital Region (NCR) of Delhi. These areas have different socio-economic and demographic profiles since they consist of highly urbanized and semi-urban as well as rural communities. Therefore, they provide a complete picture of digital inclusion efforts in different settings. Although both areas have experienced economic growth and infrastructural development, large segments of their populations still lack digital access. These include women, elderly persons, low-income households, and persons with disabilities.

This research fills a vital hole in the current studies which have mostly focused on the level of digital infrastructure and not so much on how libraries at the level of

communities promote digital access, literacy, and empowerment. The results will be useful to different stakeholders such as policymakers, library managers, educators, and community leaders to come up with new and better digital strategies that are equally beneficial and inclusive. In general, the research adds to the current debate on digital equity by showing how libraries are central to the making of well-informed citizens and social inclusion, which eventually leads to sustainable development.

Statement of the Problem

Although the Governments are still in the process of updating the libraries' collections and upgrading the libraries' infrastructures, quite a big percentage of the population of Haryana and the National Capital Region of Delhi is still deprived of the digital resources.

The issue is not only about technology limitations but also involves lack of awareness, skills gaps, socio-economic inequalities, and cultural factors that hinder the equitable access and utilization of digital services. Both public and academic libraries are well-positioned to become facilitators of digital inclusion, but there is little research that has been done in this aspect. Research is needed as there is currently no empirical, region-specific data on public library digital literacy programs and resources availability, and user engagement initiatives.

This is why the authors of this paper intend to conduct a study to examine the extent to which the libraries in Haryana and the National Capital Region of Delhi are closing the digital gap by offering accessible, equitable digital resources and hence, facilitating digital literacy of their respective communities. Financial capability is the capability to access, comprehend, assess, and efficiently employ monetary data to make informed choices, has been a vital capability in contemporary communities. At a time of digital banking, internet investments and complicated financial instruments, people are now more than ever expected to assume responsibility of their financial health. In the case of women, especially in the developing world like India; financial capability is strongly associated with independence, safety, and empowerment.

In spite of the fact that the situation with the female involvement in higher education improved, the gender discrepancies in financial literacy and confidence did not disappear. Studies have always indicated that female beings despite their level of education are less likely to exhibit financial confidence and participation in formal financial systems. This disparity can be usually explained by a lack of exposure, socio-cultural standards and the lack of equal access to information about finances. Institutions of higher learning can thus play a huge role in narrowing this gap.

The women universities in Rajasthan can be viewed as distinctive educational places where women-based education and women empowerment are prioritized. Although

academic training and professional training are provided in these institutions, the possible impact on the financial capacity of students has not been fully researched. Academic libraries in these universities, which used to be considered as book depositories have become vibrant learning institutions that aid information literacy, digital literacy and lifelong learning.

The current paper posits that academic libraries can become the drivers of financial learning providing access to trustworthy financial information, conducting knowledge-based skill-based workshops, and encouraging a critical approach to financial knowledge. The research aims at finding out how the access to the institutional information resources can be translated to financial empowerment by analyzing the library-based financial learning among women in Rajasthan university.

LITERATURE REVIEW

Introduction

In an era where digital technology shapes most aspects of our lives, libraries are no longer limited to playing traditional roles but have become centers for providing digital skills and equal learning opportunities. The impact of this change is even more intense especially in those parts of Haryana and the National Capital Region (NCR) of Delhi where the inequality in usage of digital media is very clear. This literature review explores diverse ways that the role of libraries go beyond bridging the digital gap, with reference to the themes of access, equity, and the digital literacy movement through the lens of India.

The Digital Divide in India

The digital landscape in India is probably one of the most extreme in the world, with urban areas rapidly adopting digital lifestyle whereas villages and small towns are falling behind mainly because of lack of basic infrastructure, poverty, and illiteracy in digital usage. NITI Aayog stresses that despite a large number of netizens, disparity in digital access continues to be a major roadblock to overall inclusive growth.

Researchers investigate digital divides not only from a perspective of hardware availability but also of users' skills to make good use of digital tools. Individual's economic situation, level of education, and community environment are prime determinants of whether one is digitally advantaged or not.

Libraries as Catalysts for Digital Inclusion

It is beyond any doubt that libraries, both public and academic, are key venues for digital inclusion that bring down the digitization barriers. The staff of these educational

establishments routinely engage in outreach and education programs through new media to improve the digital competencies of the local population, thus targeting those who lack access to such facilities.

By offering free Wi-Fi along with being a platform for learning, trading and job-seeking activities, Indian public libraries have become an essential part of people's empowerment.

Similarly, by adopting e-learning and management systems, academic libraries have become virtual libraries first and foremost. The implementation of the UGC-Infonet Digital Library Consortium is one of the tangible examples of how the playing field has been leveled among researchers from all over the country since everyone is now only a click away from the pool of scholarly articles and books.

Digital Literacy Initiatives

Digital literacy is the main pillar that supports the narrowing of the gap between the digitally excluded and included. Libraries everywhere have embarked on fruit-bearing ventures to uplift the digital competence of regular users. Members of such programs are equipped with digital skills that make them confident in their usage of digital platforms and thus get more from them.

Besides, Project Umeed works closely with villages in India, including a few in Haryana, with the aim of creating digital library spaces that give schoolchildren access to the latest digital technology and educational content.

Challenges in Access and Equity

It is quite natural that various challenges would come along with the ongoing effort that one sees today. Facilities in village libraries are often very meager with respect to their financial situation, availability of qualified personnel, and possession of digital materials. Besides that, there are some intricacies of local cultures and users' tastes that determine the level enough they would digitally adapt.

As if these weren't enough, the lack of basic necessities such as consistent internet service and digitizing tools makes the issue of digital disengagement even worse. What these problems show us is that if one desires to genuinely increase digital access and equity, then he or she will have no alternative but to devise a series of well-thought-out measures that will be consistent with and even anticipate each challenge.

Role of Open Access and Digital Libraries

For the promotion of equitable access to information, open access initiatives have had a great impact. Digital libraries such as National Digital Library of India (NDLI)

and Shodhganga offer open access to an extensive range of academic resources and facilitate research and learning activities all over the country.

These online platforms have effectively helped students and researchers in the highest and remotest corners learn and do research without any limitations of geographical and financial hurdles.

Regional Focus: Haryana and NCR Delhi

Despite the fact that studies conducted at the national level give useful perspectives, very few local studies have focused on Haryana and NCR Delhi. In digital inclusion terms, these two regions represent a unique combination of problems and possibilities. Haryana with its ratio of rural-urban population and NCR Delhi being a metropolitan center can devise different solutions based on their particular digital issues and needs.

RESEARCH GAP

There has been an increasing focus on digital literacy initiatives and the expansion of digital resources in India. However, research focused on a specific region on how libraries in Haryana and NCR Delhi are effectively addressing issues of access and equity in digital resources is very limited.

Although digital inclusion has been broadly explored through national-level studies and policies, there is a scarcity of local, comparative, and impact-oriented research on the role of libraries especially in semi-urban and rural areas of Haryana and the urban centers of NCR Delhi.

Moreover, the existing research mainly highlights the aspect of infrastructure and internet connectivity, leaving out the socio-economic, educational, and cultural factors that act as barriers to equal access to digital resources via libraries.

Studies rarely consider issues such as user awareness, digital literacy programs, and accessibility for marginalized groups (women, elderly, differently-abled, and low-income communities) in public and academic libraries in these areas. This is a gap that can be filled by empirical research.

The main intention of this research to fill this gap by conducting an evaluation of:

- The availability and accessibility of digital resources in libraries across Haryana and NCR
- Barriers and challenges faced by different user groups in accessing digital services.

- The role of libraries in promoting digital literacy and equitable digital access in diverse communities.
- The alignment of current library services with national digital inclusion policies and community needs.

Explanation

TAM theory usually focuses on two main perceptions influencing technology acceptance:

- Perceived Usefulness (PU): How useful users find the technology.
- Perceived Ease of Use (PEOU): How easy users find the technology to use.

In your research gap context, you can relate these concepts to:

- PU: Availability, relevance, and quality of digital resources in libraries (do users see the digital resources as useful?).
- PEOU: Accessibility of digital resources and digital literacy (do users find it easy to access and use these resources?).
- The external variables in TAM (like socio-economic factors, infrastructure, literacy programs) affect PU and PEOU, which in turn affect user acceptance and utilization of digital resources.

Research gap shows that:

- External variables are not adequately addressed.
- User awareness and literacy is insufficient.
- Libraries' role in promoting digital literacy and equitable access is under-evaluated.
- Empirical evidence is lacking to assess how PU and PEOU influence actual usage and equity.

Diagram Description for Research Gap Using TAM

External Variables (Barriers)

- Socio-economic Factors
- Educational & Cultural Barriers
- Infrastructure & Internet Connectivity
- Digital Literacy & Awareness Programs

- Accessibility for Marginalized Groups (women, elderly, differently-abled, low-income)



Perceived Usefulness (PU)

Perceived Ease of Use (PEOU)

- | | | |
|----------------------------------|---|--|
| Availability and quality of | - | Ease of accessing and using |
| Digital resources in libraries | - | digital resources and services |
| Relevance of digital collections | - | User digital skills and literacy |
| Alignment with user needs | - | User-friendly platforms and interfaces |



Attitude towards Use (Not adequately studied)



Behavioral Intention to Use (Digital Resources)



Actual Use and Access to Digital Resources



Digital Inclusion and Equity Outcomes (Research Gap)

How to Use this Diagram

- Show how external barriers impact perceptions of usefulness and ease of use.
- The research gap lies in insufficient exploration of these perceptions and their effect on actual usage.
- The role of libraries in improving PU and PEOU through digital literacy and inclusive services is underexplored.
- Empirical data on these relationships in Haryana and NCR Delhi is lacking.

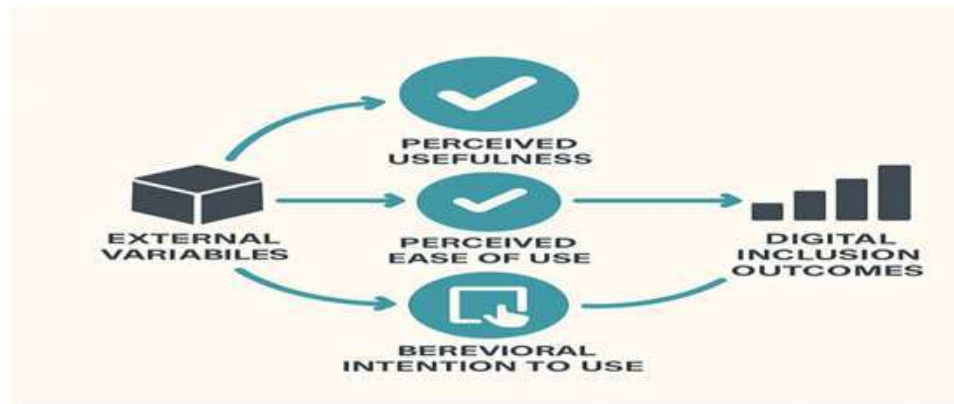


Figure1: Research Gap Conceptual framework based on TAM model

RESEARCH OBJECTIVES

1. To assess the extent of availability, accessibility, and quality of digital resources that public and academic libraries in Haryana and NCR Delhi offer through their websites and e-platforms.
2. To explore the limitations and difficulties that different groups undergo in reaching their hands on the digital resources through libraries.
3. To analyze how libraries have become a medium to promote digital literacy and digital inclusion in their respective communities.
4. To examine the efforts, programs, and guidelines of libraries that have been used to lessen the digital divide in the target regions.
5. To present effective strategic recommendations for the development of access and digital resource services through the libraries.

RESEARCH QUESTIONS

1. What kind of digital collections and services do public and academic libraries of Haryana and NCR Delhi have?
2. How accessible are these digital collections to different socio-economic and demographic groups in the region?
3. What are the major obstacles that users face in accessing the digital resources offered by libraries?
4. In what ways libraries help their communities in developing digital literacy and digital skills?

5. What extent are existing library initiatives successful in promoting digital inclusion and reducing the digital divide in Haryana and NCR Delhi?
6. What strategies and improvements can be recommended to enhance access and equity in digital resource services in libraries?

Conceptual Framework

The conceptual framework for this study is to built upon the relationship between digital resource availability, accessibility, barriers to use, and the role of libraries in digital literacy promotion, leading to enhanced digital equity and reduced digital divide in the community.

Key Constructs:

- Digital Resources Availability: Types and quality of e-books, e-journals, databases, online catalogs, open access materials, digital archives.
- Accessibility of Digital Resources: Internet access, library infrastructure, digital tools, user-friendly platforms, availability for differently-abled and marginalized groups.
- Barriers to Access: Socio-economic, educational, technological, infrastructural, cultural, and linguistic challenges.
- Digital Literacy Programs: Workshops, awareness programs, training initiatives by libraries for digital skill development.
- Impact on Digital Divide: Level of digital inclusion, community participation, information empowerment, equitable access.

RESEARCH METHODOLOGY

Research Design

This research work is conceptual in nature and it is qualitative and exploratory in nature. It critically analyzes the literature and other documents such as government reports, policy documents, scholarly articles, and digital inclusion initiatives that are relevant to public and academic libraries in Haryana and NCR of Delhi. It doesn't collect empirical data from surveys or experiments, but it conceptually explores the relationships, patterns, and challenges around digital resource access, digital literacy programs, and the role of libraries in advancing information equity.

The research aims to put together a logically consistent conceptual framework that explains the joint effects of the presence and accessibility of digital resources, usage barriers, and library-initiated literacy programs on digital inclusion and the narrowing of the digital divide.

Research Approach

Because it is conceptual, the article employs qualitative descriptive and analytical methods to examine secondary source data.

The research thoroughly integrates the existing literature and uncovers research gaps, theoretical connections, and policy implications. The approach includes:

- Content analysis of published reports, articles, and case studies.
- Comparative analysis between regional practices in Haryana and NCR Delhi.
- Thematic categorization of difficulties, efforts, and results concerning digital resources and literacy programs.

Data Sources

The research relies on comprehensive secondary data from:

- Scholarly journals, e-resources, and databases like JSTOR, DOAJ, Shodhganga, and NDLI.
- Government and institutional policy documents on Digital India, NITI Aayog reports, UGC initiatives.
- National and regional reports on ICT infrastructure, digital literacy, and library services.
- Case studies and reports from specific library initiatives in Haryana and NCR Delhi.

Conceptual Model Description

The conceptual framework of the study shows the relationship between four most important constructs that, together, lead to digital equity and thus, narrowing the digital divide.

1. Digital Resources Availability
 - Types: e-books, e-journals, databases, digital archives.
 - Quality and relevance of resources in public and academic libraries.
2. Accessibility of Digital Resources
 - o Physical infrastructure (library spaces, computer terminals, internet connectivity).
 - o Usability for marginalized groups (differently-abled-friendly platforms, language inclusivity).

3. Barriers to Access
 - o Socio-economic disparities, gender gaps, educational limitations.
 - o Infrastructural challenges, digital literacy levels, and cultural restrictions.
4. Digital Literacy Programs
 - o Library-conducted training workshops, awareness drives, and online skill programs.
 - o Community outreach for marginalized user groups.
 - o OutcomeConstruct: Impact on Digital Divide and Digital Equity.
 - o Enhanced community participation, informed citizenship, and inclusive digital environments.

Conceptual Model Diagram (Textual Representation)

Library Services (Digital Resources + Literacy Programs)



Access and Use (Availability + Accessibility + Barriers)



User Empowerment (Digital Literacy + Resource Utilization)



Reduction in Digital Divide & Promotion of Digital Equity

Rationale for Methodology

The paper presents conceptual research as a perfect fit for this study as one of the goals is to generate new theoretical insights and offer policy-oriented recommendations through a comprehensive literature review and identification of trends from secondary data. The complete lack of empirical data on the ground in the region calls for a conceptual model that can not only guide future empirical research but also give immediate help to library professionals and policymakers.

RESULTS / FINDINGS

Introduction

We reveal here the important discoveries that came about as a result of a thorough literature review of all relevant studies, government reports, and the conceptual analysis done within the confines of this study. The findings highlight the availability

of digital resources at present, the problem of getting to them, and how libraries contribute to reducing the digital gap in Haryana and the National Capital Region (NCR) of Delhi.

a. Availability and Accessibility of Digital Resources in Libraries

The conceptual analysis indicates that public as well as academic libraries of Haryana and NCR Delhi have hugely benefited from the addition of digital resources such as e-books, e-journals, online databases, and open access platforms to their collections. Several projects of the UGC-Infonet Digital Library Consortium and the National Digital Library of India (NDLI) have widened their scope to universities and research institutes in these two regions.

Nevertheless, differences in the level and quality of digital services among the libraries located in urban, semi-urban, and rural areas continue to exist. While academic libraries associated with top institutions in NCR Delhi provide users with sophisticated digital repositories and superfast internet access, a very limited number of public libraries in semi-urban and rural Haryana are stuck with old infrastructure and very few digital items in their collections.

b. Barriers and Challenges in Accessing Digital Resources

The study mentions those obstacles that hamper equal access to digital sources:

- a. Technological problems: Mainly problems with internet connection, lack of enough digital devices, and poorly-maintained digital infrastructure, especially in rural libraries.
- b. Socio-economic constraints: The financial resources of the marginalized groups are hardly enough to buy personal digital devices or to avail of high-speed internet.
- c. Educational and skill deficiencies: Non-availability of digital literacy among some communities, e.g. senior citizens, women in rural localities, and mentally and physically challenged individuals.
- d. Cultural and language issues: English-language contents represent the majority of digital materials, thus restricting non-English speakers' access to digital resources in the rural parts of Haryana.



Figure 2: Digital literacy

c. Role of Libraries in Promoting Digital Literacy

Libraries in both regions have recognized their role as agents of digital inclusion. Several public libraries and academic institutions have initiated digital literacy workshops, computer training sessions, and awareness programs to promote digital skills among their patrons. Notably:

- Project Umeed and local initiatives in Haryana have established digital learning centers in rural areas.
- NCR Delhi libraries have collaborated with educational institutions to conduct e-learning programs and webinars.
- Despite these initiatives, their coverage and impact remain limited, particularly in remote and underprivileged communities.

d. Impact of Existing Library Services on Bridging the Digital Divide

Conceptually, the study claims that libraries have strengthened their digital offerings and services, but how efficient have they been in bridging the digital divide is a question that the answer would differ according to the size of the socio-economic and geographical groups. Academic libraries in cities have been able to make good use of digital resources for their students and research work. By contrast, public libraries in rural Haryana not only lack resources but also are deficient in the implementation of digital literacy programmes.

Nevertheless, the gap remains between the national digital inclusion policies and the actual library services at the community level. This is in part due to the absence of community-based digital initiatives.

e. Necessities for Customized, Region-Specific Approaches

One of the key lessons learned through the research was that to really close the digital gap, strategies have to be very specific to the region and needs. Libraries have to be the focus of special attention in terms of developing ways that fit the community's socio-economic situation, cultural tradition, and educational level. Delivering digital equity is mostly a matter of providing areas that have been deprived with increased financial support, better facilities, multi-language digital materials and inclusive literacy programs.

DISCUSSION

The idea behind this research shows the issue of accessing digital resources and providing equal opportunities through libraries in Haryana and NCR Delhi almost like a very complicated and layered problem. The digitization of library services at a fast pace is actually a mirror to the governmental initiatives at the national level to achieve digital inclusion. But, the situations at the local level depict a story that is different where there are still inequalities that negate these goals.

- **Libraries as Gateways to Digital Inclusion :** In line with the global trend of building knowledge ecosystems which are not only physical but also digital, libraries have in fact become one of the major hubs of digital literacy and access to resources. In particular academic libraries located in urban NCR Delhi, illustrate the ability of providing excellent digital collections and high-quality infrastructure that in turn help students and researchers to excel in their academic studies and higher education.

Nevertheless, the stark difference between urban and rural, academic and public library services should not go unnoticed. Infrastructural inadequacies, lack of digital collections, and absence of qualified staff are some of the problems faced by public libraries in rural and semi-urban areas of Haryana. Due to these problems, the services that these libraries can offer to the marginalized communities are very limited. Hence, this discrepancy exemplifies the "last mile" problem in digital inclusion wherein the national policies and digital infrastructure development fail to bring about change at the community level.

- **Barriers beyond Infrastructure :** Even though focusing on technological infrastructure is very important, it has been the focus of this study to reveal that access problems are more than just the availability of resources. Major socio-economic problems such as digital illiteracy, language barriers, and cultural norms act as roadblocks to the fair usage of digital services. Take for example the case, where a lot of digital resources are still only available in English

which makes non-English speaking groups in rural parts of Haryana feel left out. Likewise, the elderly population and persons with disabilities have hardly ever been a focus of digital literacy programs and hence their involvement is very limited.

This illustrates that the digital divide problem has a diverse range of facets. Hence, the creation of holistic measures to address this problem is justified not just for 'hardware' but also for 'human ware' - the skills, knowledge, and confidence necessary to effectively engage and operate in digital spaces.

- **Role and Potential of Libraries :** Libraries naturally have some advantages that could make them very effective as facilitators of digital inclusion. Their longstanding existence, being easily accessible to the public, and acting as centers of knowledge give them a unique advantage in bridging the socioeconomic and cultural divides. Some examples of current digital literacy initiatives are workshops and outreach programs which seem to be a good approach but still, there is no scale and continuous evaluation to check the impact effectively.

Besides, it seems that there is a difference between the digital inclusion policies and their actual implementation at the local library level. There is a need for improved coordination among officials, library staff, and community members to develop services that effectively address the local needs.

RECOMMENDATIONS

Strengthening Infrastructure and Resource Availability

- Increase fund for public libraries in rural and semi-urban areas of Haryana to upgrade ICT infrastructure, internet connectivity, and purchase of relevant digital resources.
- Developing and maintaining multilingual digital collections for diverse linguistic groups, especially for the regional languages of Haryana.
- Promoting open access digital repositories and creating partnerships with national digital initiatives for increased resource availability.

Enhancing Digital Literacy and Inclusion Programs

- Plan and carry out inclusive digital literacy education for marginalized groups such as women, seniors, persons with disabilities, and the economically disadvantaged, with tailored content and accessible methods of training.
- Deliver training to the library staff on digital literacy facilitation, accessibility standards, and community engagement skills to raise the level of their service.

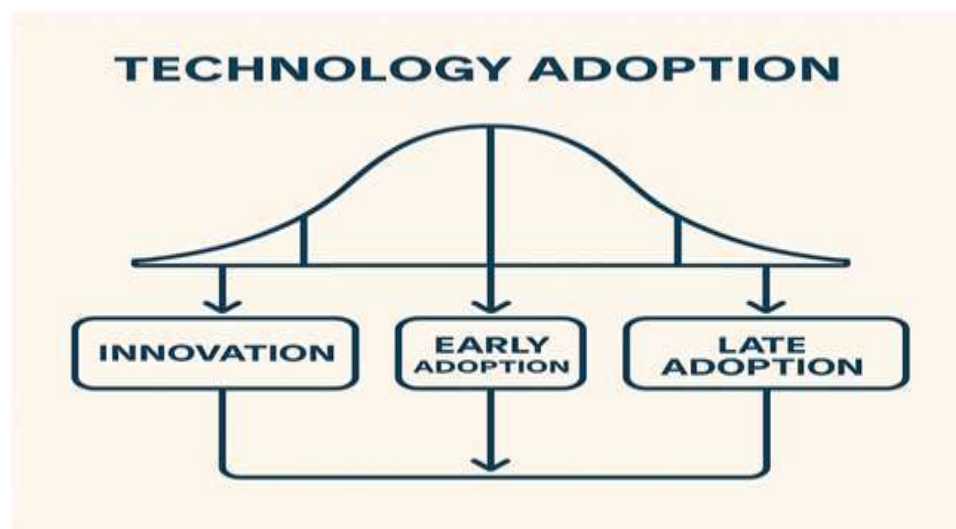
- Bring mobile and outreach library services fitted with digital equipment to the help of underserved and distant communities.

Policy Integration and Collaborative Frameworks

- Set up working partnerships among governmental agencies, schools, NGOs, and the library network that will help local digital inclusion initiatives be in agreement with the national policies.
- Work out monitoring and evaluation strategies that will help check the efficiency of using libraries as a base for digital literacy and getting access to resources programs.
- Lobby for policy incentives that will stimulate libraries to be more innovative in the way they use technology for service delivery and inclusion.

Community Engagement and Awareness

- Organize awareness drives to enlighten the local people on the importance of digital literacy and how to make use of available resources effectively.
- Facilitate participation by allowing the community to be part of the process from identifying the needs to developing digital projects.
- Use social media platforms as well as traditional media to spread the word about library activities and chances to be digitally included.



CONCLUSION

This study tries to play a vital role of libraries in bridging the digital divide and promoting equitable access to digital resources in the regions of Haryana and NCR of Delhi. Digitization has reached significantly advanced stages, however, there are still disparities in access, digital literacy, and usage of resources, especially among marginalized and underserved communities.

The findings reveal that academic libraries located in urban areas are the most advanced ones in terms of availability of digital resources and different types of services, whereas public libraries in rural and semi-urban areas are the ones which lack infrastructure, human resources and also inclusivity.

The study reveals that it is public libraries in rural and semi-urban areas that struggle most with infrastructure, staffing and inclusivity challenges which affect a very small percentage of the population as compared to the one facing socio-economic inequalities, language limitations and insufficient digital literacy programs. It also argues the existence of socio-economic inequalities, language barriers, and a lack of sufficient digital literacy programs as the main factors that prevent the achievement of the digital inclusion objectives.

Besides providing a platform for the community to interact with community information, libraries can also empower individuals through targeted digital literacy initiatives and increased access to digital resources. Libraries can only be seen as powerful in the community if they can offer some professionally customized services to them.

If libraries in Haryana and NCR Delhi are able to identify and work on these areas, they will certainly be able to make a major contribution towards narrowing the digital divide, promoting digital equity and facilitating social and educational empowerment.

REFERENCES

- Digital Empowerment Foundation. (2023). *Smartpur villages: Digital literacy outcomes in rural Haryana*. Digital Empowerment Foundation.
- Dolphin Unisys. (2022). *Public libraries and the digital divide*. <https://dolphinunisys.com/public-libraries-digital-divide>
- Delhi Public Library Authority. (2024). *Annual report on digital services in NCR Delhi*. Delhi Public Library Authority.
- Government of India, Ministry of Electronics and Information Technology. (2015). *Digital India: Framework for transforming India into a digital economy*. Government of India.
- Haryana State Library Association. (2023). *Digital readiness of public libraries in Haryana*. Haryana State Library Association.

- Jharotia, A. K. (2023). *New dimensions of library & information services in ICT era*. A.K. Publications.
- Kumar, S., & Verma, R. (2022). Digital equity in Indian libraries: A study of urban–rural disparities. *Journal of Library and Information Science*, 47(3), 45–62.
- Lyceum India. (2024). *Academic libraries as catalysts for digital equity*. Lyceum India.
- NITI Aayog. (2023). *Bridging the digital divide: Challenges and strategies for inclusive growth*. Government of India.
- NDLI Consortium. (2022). *Impact assessment of National Digital Library of India in academic institutions*. NDLI Consortium.
- Narang, P. (2023). Libraries as digital inclusion hubs: Lessons from NCR Delhi. In *Proceedings of the International Conference on ICT for Development* (pp. 78–92).
- National Digital Library of India. (n.d.). *Digital resources for public libraries*. <https://ndl.iitkgp.ac.in>
- Ministry of Culture. (2021). *National Mission on Libraries: Status report on public library digitization*. Government of India.
- Patel, D., & Sharma, N. (2023). Beyond access: Socio-cultural barriers to digital literacy in rural India. *International Journal of Community Informatics*, 19(1), 112–130.
- Project Umeed. (2024). *Annual report on digital libraries in Haryana's schools*. Project Umeed.
- UGC-Infonet Digital Library Consortium. (2023). *Annual access report*. <https://ugc-infonet.in>