

Impact of Digital Transformation on Library User Behaviour

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ABSTRACT

How library patrons' habits have changed as a result of digital revolution is the focus of this research. One hundred fifty students, teachers, and researchers participated in the study by filling out a standardised questionnaire; the research strategy employed was descriptive. Basic statistical methods like percentage and frequency were used to analyse the data. The majority of users like digital resources and primarily use them for academic and research-related tasks, according to the data. Users are usually satisfied with digital library services, and the survey shows that library visits are modest.

Keywords: Digital Transformation, Library Usage, User Behaviour, E-resources, Information Access

INTRODUCTION

The idea of libraries has changed drastically in the last few decades, mostly because of how fast digital technology has progressed. Books, periodicals, and reference materials were traditionally thought of being physically housed in libraries (Abumandour, 2021). The main reasons people went to libraries were to get knowledge, to study in peace, and to borrow books for school and themselves. But, libraries' traditional functions and roles have been greatly broadened by the advent of digital technology. As a result of digital transformation, libraries may now provide remote access services, electronic resources, databases, and online resources to its patrons, changing the way people utilise information systems (Sharma and Kohli, 2023). Streamlining library operations, improving user experience, and expanding access to information are all goals of digital transformation in libraries. Digital collection digitisation, library administration software installation, electronic book and journal distribution, and data storage and retrieval via cloud computing are all components of this revolution (Kayode *et al.*, 2020; Castro and Tumibay, 2021). To

meet the demands of a more tech-savvy patronage, libraries have transformed into hybrid or entirely digital information hubs. This transition has been hastened even further by the proliferation of internet connection and smart gadgets, which do away with the necessity for people to physically visit libraries in order to access information (Singh *et al.*, 2022).

The shift in library patronage habits is a major effect of digital revolution. How people look for, find, assess, and utilise information is known as user behaviour. Catalogues, librarians, and physical browsing were the mainstays of the conventional library user experience. It was a laborious procedure that was constrained by the library's resource availability. In comparison, digital libraries provide instantaneous access to extensive knowledge resources via digital repositories, online databases, and search engines. As a result, people are no longer content to idly consume information; instead, they are actively seeking it out, and they value easy access to relevant resources. The digital age has also brought about a dramatic shift in library patrons' tastes. Because of its convenience, mobility, and searchability, many users increasingly prefer electronic resources over printed ones.

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Features like keyword search, hyperlinks, and interactive content improve the user experience in multimedia resources, online journals, and e-books. Digital platforms also tend to provide more current and updated material, which makes them more appealing to academics and researchers (Deiniatur and Cahyono, 2024). Because of this change in taste, libraries are putting more money into digital collections and using less physical resources. Less frequent usage of physical library locations is another significant indicator of shifting user behaviour. Users are no longer reliant on library visits due to the availability of digital materials that may be accessed remotely. This has caused a shift in the function of traditional library rooms, which are undergoing renovations to better accommodate group work, virtual meetings, and other forms of collaborative learning. More and more, libraries are evolving beyond their traditional role as book repositories and become community centers that provide digital resources, educational opportunities, and research assistance (Ebbers *et al.*, 2021).

The manner in which patrons engage with library resources is another area where digital revolution has left its mark. Services provided by modern libraries should be intuitive, easy to use, and tailored to each patron's unique digital habits. Modern libraries couldn't function without features like automated circulation systems, online catalogues, mobile apps, and virtual reference services. By making information more accessible in a variety of ways, these services not only boost productivity but also make users happier. In addition, library systems that include data analytics and artificial intelligence have enhanced information retrieval operations and made personalised suggestions possible. While there are many positive aspects of digital transformation, there are also some negative aspects that impact user behaviour. Users' engagement with digital resources may be impacted by issues including the digital divide, a lack of technological skills, and worries about the validity and copyright of content (Kari, 2020). Disparities in information access and use may arise because not all users have equal access to digital technology. Furthermore, it might be challenging to evaluate the reliability and applicability of sources due to the deluge of information available online. In response to these threats, libraries should strengthen their information literacy programs, educate library patrons, and provide trustworthy research services. When it comes to universities and research institutions, digital transformation has made information access far more

efficient and effective. There are no longer any regional restrictions on the availability of academic publications, research papers, and data sets to students, researchers, and teachers from across the world. Because of this, more extensive cross-disciplinary research, teamwork, and information exchange have become possible. Because of their central role in making high-quality digital materials and services available to the public, libraries are essential to fostering academic achievement and research output.

The COVID-19 epidemic has also hastened libraries' transition to digital resources, underscoring the significance of these tools in maintaining patrons' access to information in the face of disruptions. People all throughout the globe relied on digital libraries as their main information resource during times of social isolation and closure. This incident highlighted the need of being flexible in order to meet the evolving demands of users and the necessity of having a solid digital infrastructure. Libraries have been driven to innovate and extend their digital services by the pandemic, which has accelerated digital change. Within this framework, it is crucial for scholars, policymakers, and library professionals to comprehend how digital change affects the behaviour of library users. Libraries can better serve their patrons and adapt to their changing requirements by collecting and analysing data on patrons' tastes, habits, and levels of satisfaction. Focusing on factors including resource choice, frequency of use, purpose of access, and overall satisfaction, this research seeks to explore how digital transformation has affected library user behaviour. The results of this study will aid in the development of digital library services with the user in mind and shed light on the shifting dynamics of library use.

Objectives of the Study:

- To examine the impact of digital transformation on library usage
- To identify changes in user behaviour
- To analyse user preferences between print and digital resources
- To evaluate user satisfaction with digital services

Review of Literature:

Yunita and Iqbal (2025). With an eye on the evolving dynamics between library patrons and staff, this study investigates how digital culture has altered the nature of library-related discourse. New possibilities and threats

arise for libraries in the management of communications and services in this fast developing digital age. To gather information for this study, the researchers consulted a variety of relevant literatures and conducted desk research to familiarise themselves with relevant theories. The findings demonstrate that librarians' interactions with patrons and the dissemination of information may be influenced by digital culture, which encompasses social media, library applications, and digital communication platforms. Now more than ever, librarians can reach their patrons, provide information, and engage with them via digital means. At the same time, people are increasingly preferring digital platforms for communication and online service access. Managing information privacy and security and the need for librarians to possess sufficient digital skills are two of the several obstacles highlighted by the research. Additionally, it brought attention to chances for digital innovation to boost user engagement and broaden library services' reach. Libraries may use this study's results to enhance the quality of their services and adapt their communication tactics to the digital world.

Meena (2024). Through the use of a quantitative literature analysis and a systematic review, this research delves into the digital transformation of libraries in the Indian setting. Quantitative studies on library digital transformation published in academic journals, conference proceedings, and reports between 2010 and 2023 are eligible for inclusion. The results show that university-wide digitisation efforts increased by 40% due to a significant uptick in government financing. Successful deployments of technologies like Radio Frequency Identification (RFID) have led to significant improvements in efficiency and a decrease in book losses. Nevertheless, there are still problems with balancing digital and physical resources; the 30% drop in physical book checkouts is proof of that. Strategic content acquisition procedures are necessary due to the influence of cultural differences on user preferences. Targeted digital literacy programs should be implemented to bridge the digital gap, according to the report. An inclusive and vibrant future may be charted by Indian libraries as they traverse this complicated terrain by combining qualitative and quantitative findings.

Elaïess (2023). Libraries are changing the way they operate and serve their patrons with the help of digital technology. We call this change "digital transformation." This report aims to illuminate the process of digital transformation inside libraries. In an effort to facilitate

libraries' transition, it provides a high-level framework for potential transformational projects. This study's research methodology was based on a theoretical approach, which calls for a literature review of relevant works but places greater emphasis on original research and the opinions of subject-matter experts. In this study, we will look at the five most important factors that libraries must take into account while undergoing digital transformation. In order to ensure a smooth transition, it is crucial to employ these components correctly. While libraries undergo transition, they may face challenges with interoperability, community engagement, IP rights, and sustainability, among others. This study seeks to provide light on these and other potential challenges. This study's findings suggest that libraries of all kinds need to strengthen their information technology systems and make their collections more accessible if they want to meet the needs of modern library patrons, who expect not only easy, personalised, and entertaining digital experiences, but also remote access to a wealth of information.

Scarnò (2010). Thanks to CASPUR, a digital library platform, several academic institutions in central and southern Italy have access to over 7 million publications. The "traces" left by users and saved in the web server's log file were used to analyse their activities. An ever-evolving shift in article access patterns was uncovered by the author via the use of various data mining and web mining approaches. Specifically, compared to the searching mode, journal browsing seems to have increased. According to the theory put up to explain these occurrences, users' demands for being up-to-date on scientific developments are better met by browsing than by doing more generalised searches inside the digital library.

METHODOLOGY

The present study adopts a descriptive and analytical research design to examine the impact of digital transformation on library user behaviour in the Uttarakhand region particularly in Kumaun region of Uttarakhand state. In order to achieve the research objectives, the research approached higher education institutions of Nainital district (chosen randomly) and then selected one private institute (randomly again by preparing a list of all HEIs). Both primary and secondary data sources were utilized to ensure a comprehensive understanding of the phenomenon. A structured

questionnaire was developed to collect primary data focusing on users’ digital preferences, frequency of e-resource usage, and satisfaction levels. A total of 150 respondents comprising students, faculty, and researchers were selected using random sampling. Secondary data were gathered from journals, reports, and institutional records to support the analysis. The collected data were analyzed using basic statistical tools such as percentages and mean scores. The methodology enables a systematic evaluation of how digital technologies influence information-seeking behaviour, accessibility, and overall library usage patterns among diverse user groups in the region. Basic statistical approaches, including frequency and percentage distribution, were used to analyse the data.

DATA ANALYSIS AND INTERPRETATIONS

Demographic Profile of Respondents:

The study’s gender distribution is shown in Table 1 and Fig. 1. In a sample size of 150, 80 (or 53.3% of the total) are men. From this, we may deduce that there are somewhat more men than women among the participants.

In contrast, 46.7% of the overall population consists of female responders (70 in total). Slightly fewer women than men participated in the survey, but the gap is not huge, so it seems like the research had a good mix of the sexes.

Particular	Frequency	Percentage %
Male	80	53.3%
Female	70	46.7%
Total	150	100%

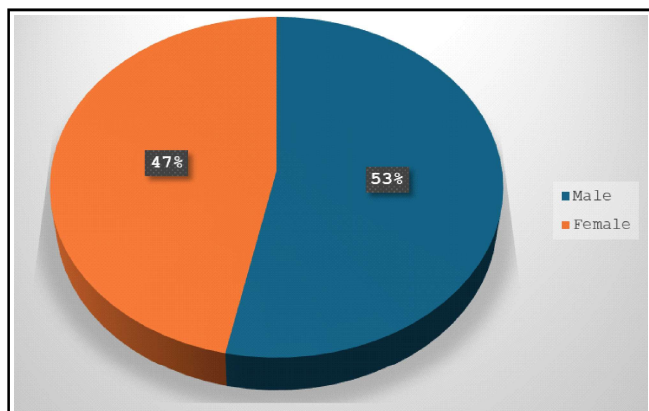


Fig. 2 : Gender of the respondents

Usage Pattern and Preferences of Digital Library Resources:

The study’s age distribution is shown in Table 2 and Fig. 2. Among the participants, 65 people (or 43.3% of the total) are in the 18–25 age bracket. It may be inferred from this that the research population is mostly composed of younger persons. Fifty people, or 33.3% of the total, fall within the 26-35 age bracket, making it the second biggest group.

Particular	Frequency	Percentage %
18–25	65	43.3%
26–35	50	33.3%
36–45	20	13.3%
Above 45	15	10.0%
Total	150	100%

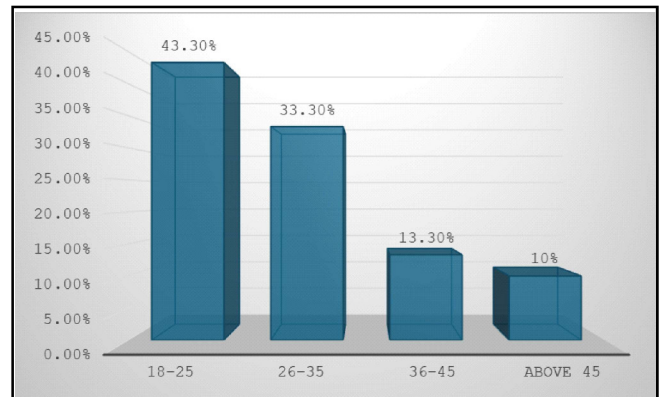


Fig. 2 : Age of the respondents

This indicates that a significant percentage of the participants are young adults. On the other hand, only 20 people, or 13.3% of the total, fall within the age bracket of 36–45. Similarly, there is the smallest category consisting of those aged 45 and above, with only 15 responders (10.0%).

Results show that respondents under the age of 35 make up the bulk of the study’s sample, with fewer people in the higher age brackets participating.

Table 3 shows which kinds of library materials were most popular with the respondents. With a preference

Resource Type	Frequency	Percentage (%)
Print Resources	30	20.0
Digital Resources	95	63.3
Both	25	16.7
Total	150	100%

for digital resources like e-books, online journals, and databases, 63.3% of the sample (95 people) leans heavily toward this medium. A lesser percentage, 30 people (20.0%), prefer print resources, indicating that some users still value conventional items like books and printed copies. A mixed approach to information access was suggested by 25 respondents (16.7%), who said they utilise both digital and paper materials. While the majority of respondents clearly choose digital resources, a small percentage still places a high value on print or hybrid media.

The frequency of respondents' library visits after digital transformation is shown in Table 4. While the library is still useful, not many people use it often, according to the biggest group of respondents (60, or 40.0%). Of the total responders, 35 (23.3%) visit at least once a week, while 23.3% come less often.

Table 4 : Frequency of Library Visits After Digital Transformation

Visit Frequency	Frequency	Percentage (%)
Daily	20	13.3
Weekly	35	23.3
Occasionally	60	40.0
Rarely	35	23.3
Total	150	100%

This demonstrates a modest degree of participation, with some people coming in once a week and an equal number coming in less often. Twenty people, or 13.3% of the total, visit the library every day, which indicates that very few people utilise it often for essential purposes.

As a whole, the numbers show that most patrons no longer make daily library visits but instead do so on an as-needed or irregular basis after digital transition.

Table 5 for a rundown of how people put digital library resources to use. A significant portion of the respondents, namely 70 individuals (46.7%), use these resources for academic purposes. This highlights the vital function that digital libraries have in assisting students with their assignments and learning. With 45 respondents

Table 5 : Purpose of Using Digital Library Resources

Purpose	Frequency	Percentage (%)
Academic Study	70	46.7
Research Work	45	30.0
General Reading	20	13.3
Entertainment/Leisure	15	10.0
Total	150	100%

(30.0%) using digital resources for academic and investigative tasks, research work is the second most prevalent objective. All the more reason to use digital libraries to help students and researchers get the information they need. Twenty people (13.3%) use digital resources for general reading, which might mean that some people utilise digital material for things other than academic or research purposes, such as expanding their own knowledge. Also, fifteen people (or 10% of the total) utilise these resources when they want to relax or have fun. In general, the results demonstrate that digital library materials are mostly used for research and academic reasons, with a smaller percentage being utilised for recreational reading.

Users' opinions on digital library services are shown in Table 6. The majority of respondents are happy, with the biggest group being "very satisfied" (60 respondents, or 40.0%). The general favourable impression of digital library services is further supported by the fact that 55 respondents (36.7%) expressed extreme satisfaction. Twenty people, or 13.3% of the total, said they were ambivalent, meaning they didn't have strong feelings either way but could see where the services might be better. As for the dissatisfied respondents, the smallest fraction of the sample was represented by 15 people (10.0%). In general, the research shows that digital library services are well-received by the majority of users, with just a small percentage expressing indifferent or unfavourable opinions.

Table 6 : User Satisfaction with Digital Library Services

Satisfaction Level	Frequency	Percentage (%)
Highly Satisfied	55	36.7
Satisfied	60	40.0
Neutral	20	13.3
Dissatisfied	15	10.0
Total	150	100%

Conclusion:

According to the results, digital transformation has made a big impact on how people use libraries. Digital resources have largely replaced print materials, with the majority of users preferring them for academic and research purposes. Library patronage has declined over the years, with many users only making infrequent trips to peruse the collection. Users' general happiness with digital library services is evidence that these systems are fulfilling their expectations.

REFERENCES

- Abumandour, E. S. T. (2021). Public libraries' role in supporting e-learning and spreading lifelong education: A case study. *Journal of Research in Innovative Teaching & Learning*, **14**(2) : 178–217.
- Castro, M. D. B. and Tumibay, G. M. (2021). A literature review: Efficacy of online learning courses for higher education institutions using meta-analysis. *Education & Information Technologies*, **26**(2) : 1367–1385.
- Deiniatur, M. and Cahyono, B. Y. (2024). Digital literacy practices of novice English as a foreign language teacher in writing research articles for publication. *Journal of Education & Learning*, **18**(1) : 165–172.
- Ebbers, F., Zibuschka, J., Zimmermann, C. and Hinz, O. (2021). User preferences for privacy features in digital assistants. *Electronic Markets*, **31**(2) : 411–426.
- Elaïess, R. (2023). Digital transformation readiness in libraries: Insights and implications, *International Journal of Academic Information Systems Research*, **7** (5) : 4–6.
- Kari, H. K. (2020). Digital transformation of information and its impact on libraries. *World Journal of Innovative Research*, **9**(1) : 26–30.
- Kayode, A. I., Tella, A. and Akande, S. O. (2020). Ease-of-use and user-friendliness of cloud computing adoption for web-based services in academic libraries in Kwara State, Nigeria. *Internet Reference Services Quarterly*, **23**(3–4) : 89–117.
- Meena, A. (2024). Digital transformation in libraries: A quantitative analysis of the adoption of new technology and its user impact. *Asian Journal of Agricultural Extension, Economics & Sociology*, **42**(2) : 41–46. <https://doi.org/10.9734/ajaees/2024/v42i22362>
- Scarnò, M. (2010). User's behaviour inside a digital library. *International Journal of Decision Support System Technology*, **2**. <https://doi.org/10.4018/jdsst.2010040106>
- Sharma, R.C. and Kohli, D. (2023). Embracing digital transformation for sustainable development: The synergy between learning organizations, human resource management, and service quality. *Journal of Chinese Human Resource Management*, **14**(3) : 3–17.
- Singh, B., Gangwar, S., Sharma, M. and Devi, M. (2022). An overview of hybrid, digital and virtual library. *World Journal of English Language*, **12**(3) : 32–38.
- Yunita, I. and Iqbal, R. (2025). Communication transformation in libraries: The impact of digital culture on librarian-user interaction. *KnE Social Sciences*, **10** : 123–132. <https://doi.org/10.18502/kss.v10i14.19080>.
