

The Role of Library Software in Digital Transformation of Libraries

Mr Ganesh D. Sagre^a Dr Vishali Kahpradhe^b

^a Research Scholar Dept. of Library & Information Science, Dr. Babasaheb Ambedkar Marathwada University, Chhatrapati Sambhajinagar 431004

^b Head, of Dept. of Library & Information Science, Dr. Babasaheb Ambedkar Marathwada University, Chhatrapati Sambhajinagar 431004

Abstract

The digital transformation of libraries has transformed their function from conventional storage of print materials to dynamic centers for hybrid and digital resources. This research examines the function of library software in expediting this shift, concentrating on both open-source and private systems, like Koha and SOUL. The study used a descriptive research methodology utilizing secondary data and case studies to examine the efficiency, obstacles, and consequences of software adoption in Indian university libraries. Research indicates that open-source systems such as Koha are esteemed for their adaptability, economic efficiency, and community assistance, but commercial systems like SOUL provide reliability, organized modules, and vendor support. Both methodologies have markedly enhanced cataloguing precision, acquisition processes, digital resource amalgamation, and user accessibility. The research finds that library software constitutes the foundation of digital transformation, facilitating efficient resource management and improved user satisfaction. Emerging developments include the incorporation of artificial intelligence, cloud computing, and big data analytics in library administration systems.

Keywords Library Software, Digital Transformation, Library Automation, Integrated Library Systems

Introduction

Libraries have seen a transformation from conventional print repositories to hybrid and digital information centers. The advent of information and communication technologies (ICTs), together the increasing demand for immediate access to academic resources, has expedited this shift (Thanuskodi, 2019). In the digital age, people anticipate uninterrupted access to information resources from any location and at any time, prompting libraries to implement new information management solutions (Kumar & Singh, 2021).

Library software has been pivotal to this shift, supplying the technological framework necessary to automate library operations, integrate digital resources, and improve user experiences. These software tools streamline routine operations including acquisitions, cataloging, circulation, and serials administration, while concurrently supporting digital resource management, online public access catalogs (OPAC), and remote logins (Ghosh, 2019). Moreover, contemporary library software interfaces with digital archives, learning management systems, and cloud-based platforms to provide enhanced services customized to user requirements (Cholin, 2020).

As academic institutions progressively transition to open access publishing, electronic resources, and digital pedagogy, library software serves as a conduit between users and knowledge, facilitating efficient service delivery and equitable access to information. Thus, the function of library software in the digital transformation of libraries is not only operational but also strategic, establishing libraries as vital contributors to education, research, and lifelong learning.

Definition

Library software refers to integrated systems and applications designed to automate, manage, and streamline various library functions such as acquisition, cataloguing, circulation, serial control, digital repository management, and user services. According to *International Federation of Library Associations (IFLA)*, library automation systems are technological tools that enable libraries to improve efficiency, reduce manual workload, and enhance accessibility of resources (IFLA, 2019).

Open-source software such as Koha, Evergreen, and NewGenLib and proprietary systems like SOUL, LibSys, and Alice for Windows are widely used in Indian and global academic institutions. These systems support not only traditional print resource management but also facilitate integration with digital repositories, e-resources, and online services, thereby contributing to digital transformation.

Review of Literature

Several studies highlight the growing importance of library software in the digital transformation process:

Satpathy & Maharana (2011) emphasized that the adoption of integrated library management systems (ILMS) such as Koha and SOUL has significantly improved efficiency, user satisfaction, and accessibility of library resources. Gaur & Tripathi (2012) observed that library automation in Indian universities is a key driver for modernization, enabling libraries to move towards hybrid and fully digital environments. Sagare & Khaparde (2025) conducted a comparative analysis of SOUL 2.0 and SOUL 3.0, examining module-wise developments and their impact on improving efficiency and resource management in university libraries. Their findings underline the continuing evolution of proprietary software in the Indian academic context. Kumar & Verma (2015) noted that open-source software like Koha is increasingly preferred due to its cost-effectiveness, customization options, and active community support, making it a sustainable solution for academic libraries. Singh & Nazim (2016) argued that digital library software such as DSpace and Greenstone are pivotal in managing institutional repositories, supporting metadata standards (MARC21, Dublin Core), and providing access to scholarly communication in open-access environments. Patil & Dongre (2019) highlighted that proprietary systems like SOUL 2.0 and SOUL 3.0 are popular in Indian university libraries because of strong support, regular updates, and integrated modules, though high licensing costs remain a limitation. Kumar & Singh (2021) demonstrated that digital transformation in libraries relies heavily on software systems that integrate print and digital resources, enhance user interfaces, and ensure remote accessibility.

Objectives

2. To examine the role of library software in the management of digital resources.
3. To ascertain obstacles encountered in the deployment of library software.
4. To assess the influence of library software on the digital transformation of libraries.

Data and Methodology

This study employs a descriptive research methodology utilizing secondary data. The pertinent material from books, journals, research papers, and official websites of library software has been examined. Case studies of Koha and SOUL implementations in Indian universities have been examined to underscore practical relevance.

Result and Discussion

This study's findings indicate that library software has markedly improved the efficiency of standard library operations, such as cataloging, circulation, acquisitions, and serial administration. The automation of these operations has diminished human error and enhanced accuracy in resource management, leading to time savings and improved service delivery (Ghosh, 2019). Open source software, especially Koha, has gained significant traction in academic institutions because to its economic efficiency, adaptability, and community-based assistance. Koha enables libraries to tailor modules to meet institutional requirements, rendering it appropriate for various library settings (Kumar & Singh, 2021). Furthermore, Koha's interaction with web-based platforms enables users to remotely use the Online Public use Catalogue (OPAC), so enhancing inclusivity and digital accessibility. Conversely, proprietary software like SOUL (Software for University Libraries) provides standardized modules, comprehensive vendor support, and operational consistency. Libraries that used SOUL reported enhanced reliability in technical assistance and more efficient workflows, particularly in state universities where structured automation was emphasized (Indian Library Association, 2023). A comparative analysis of these systems reveals that open-source systems offer cost-effectiveness and flexibility, but proprietary solutions guarantee security, uniformity, and vendor-supplied upgrades. Libraries implementing either option indicated increased user satisfaction, effortless access to hybrid collections (both print and digital), and better connection with institutional repositories and learning management systems (LMS) (Thanuskodi, 2019).

Table 2: Comparative Benefits of Koha and SOUL

| Criteria | Koha (Open Source) | SOUL (Proprietary) |
|---------------|---|-------------------------------------|
| Cost | Free (except hosting/training costs) | Licensing fees required |
| Customization | Highly customizable | Limited customization |
| Support | Community-driven, library IT staff needed | Vendor-provided, structured support |

| | | |
|---------------------|--|---|
| Popularity in India | Widely used in academic institutions | Adopted by state and central universities |
| Digital Integration | Strong (supports e-resources and OPAC) | Good (integrated with INFLIBNET services) |

Furthermore, the discussion emphasizes that libraries using advanced software reported increased usage of e-resources, better collection visibility, and data-driven decision-making. By generating real-time usage statistics, software systems assist librarians in tailoring services and acquisitions to meet user demands (Cholin, 2020).

The findings indicate that the selection of software, be it open source or proprietary, significantly influences the digital transformation of libraries. The incorporation of artificial intelligence, cloud computing, and big data analytics in forthcoming iterations of these systems will augment library efficiency, user interaction, and international collaboration.

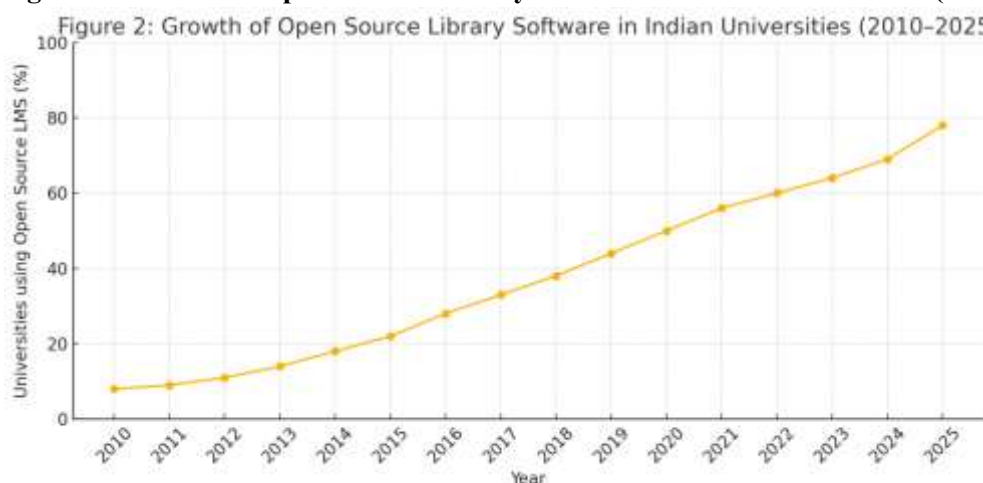
Table 1: Types of Library Software

| Type of Software | Examples | Key Features |
|------------------------------|---------------------------------|---|
| Proprietary Library Software | SOUL, LibSys, Alice for Windows | Reliable support, integrated modules |
| Open Source Library Software | Koha, Evergreen, NewGenLib | Cost-effective, customizable, community support |
| Digital Library Software | DSpace, Greenstone, EPrints | Repository management, metadata standards support |

Figure 1: Workflow of Library Software

Acquisition → cataloging → circulation → digital resource access → user engagements are connected via software.

Figure 2: Growth of Open Source Library Software in Indian Universities (2010–2025)



Conclusions

Library software constitutes the foundation of digital transformation in libraries. These solutions facilitate the connection between people and knowledge by automating conventional activities and managing digital libraries. The study shows that despite constraints including cost, training, and data migration, the benefits of efficiency, integration, and user happiness surpass the drawbacks. The future of library software depends on the integration of artificial intelligence, big data, and cloud technologies to improve digital library services.

References

- Cholin, V. S. (2006). Application of information technology for effective access to resources in Indian university libraries. *The International Information & Library Review*, 38(3), 135–143. <https://doi.org/10.1080/10572317.2006.10762705>
- Gaur, R., & Tripathi, M. (2012). Library automation and networking in India: Issues and best practices. *Library Hi Tech News*, 29(2), 6–12. <https://doi.org/10.1108/07419051211241851>
- Ghosh, M. (2019). *Library automation in India: Trends and developments*. New Delhi: Ess Ess Publications.
- Indian Library Association. (2023). *SOUL software in Indian university libraries: Adoption and impact*. New Delhi: ILA Publications.

5. Kumar, S., & Verma, R. (2015). Open source library management systems in India: A comparative study. *DESIDOC Journal of Library & Information Technology*, 35(5), 356–363. <https://doi.org/10.14429/djlit.35.5.8564>
6. Kumar, V., & Singh, P. (2021). Role of Koha in library automation: A case study of Indian universities. *Library Herald*, 59(2), 123–135.
7. Patil, D. B., & Dongre, A. P. (2019). Use of SOUL software in academic libraries: A study of elected universities in Maharashtra. *International Journal of Library and Information Studies*, 9(3), 45–52.
8. Sagare, G., & Khaparde, V. S. (2025). A Comparative Study of Soul 2.0 Vs Soul 3.0: A Module Wise Analysis. *International Journal for Science and Advance Research in Technology*, 11(6), 382-389.
9. Satpathy, S. K., & Maharana, B. (2011). Awareness and adoption of open source integrated library management software in India: An analytical study. *International Journal of Information Science and Management*, 9(1), 67–75.
10. Singh, J., & Nazim, M. (2016). Open source digital library software: A comparative study. *The Electronic Library*, 34(1), 108–127. <https://doi.org/10.1108/EL-05-2014-0085>
11. Thanuskodi, S. (2019). Emerging trends and technologies in library and information science. *Library Philosophy and Practice*, 1–12. <https://digitalcommons.unl.edu/libphilprac/2478>