

Integrated Library Management Software: A Backbone of Modern Library Systems

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ARTICLE DETAILS	ABSTRACT
Research Paper Received: 21-06-2026 Accepted: 21-07-2026 Published: 21-08-2026 Keywords: <i>Integrated Library Management Software (ILMS), Library Automation, Digital Libraries, Library Management Systems and Digitisation.</i>	Libraries are now in the process of shifting from their traditional status as centers of information storage to the new status of information centers with digital integration. The automation of the major library activities such as acquisition, cataloging, circulation, serial control, and user access through the medium of Online Public Access Catalogs (OPAC) and Integrated Library Management Systems (ILMS) has assumed a position of major prominence in the new library scenario. The present paper seeks to evaluate the position and importance of ILMS in the new library scenario, with reference to their constituent elements, their major characteristics, and the numerous advantages they offer to library professionals and users alike. It also seeks to highlight the use of large-scale ILMS in a number of libraries located in geographically diverse locations around the globe. ILMS, with their capacity for centralized management and the integration of diverse elements, form the technological core of the new library scenario.

1. Introduction

Today's rapidly changing information environment is encouraging libraries to increasingly explore the use of digital solutions to manage their operations and services. Previously, books, user records, and circulation

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operations were handled manually; however, increasingly, quicker, more precise, and user-friendly automated systems are being introduced in their place. What is relatively new is the use of Integrated Library Management Systems (ILMS), which are integrated systems used to automate and manage various library operations under one umbrella. Integrated Library Management Software (ILMS) is described as a software application that combines all the significant library operations, such as acquisition, cataloguing, circulation, serial control, and the Online Public Access Catalogue (OPAC), in a single application.

It helps libraries keep a centralised database, automate workflows, enhance access to resources, and offer improved service, both onsite and offsite, to the users. As the demand for digitisation continues, ILMS is a must-have application in academic, public, and special libraries, effectively catering to both physical and digital collections. (Boss, 2008)

With the evolution of libraries from static collections of knowledge to dynamic centres of information, the integration of ILMS provides the foundation of contemporary library systems in terms of giving automated access, management, and delivery of resources.

2. Importance of ILMS

In today's library environment, the use of Integrated Library Management Software (ILMS) is vital. This is because, apart from making library services and activities more efficient, the use of ILMS makes library services and activities more effective and accurate. This is due to the automation of library activities such as cataloging, circulation, acquisition, and serials control. ILMS provides the ability to have centralized access to library resources, and the user can search, place holds, and renew the resources through the Internet with the help of the OPAC interface provided by the ILMS system. It provides real-time analysis and reporting capabilities, which enable the librarian to make data-driven decisions.

In addition, ILMS's ability to accommodate new technological advancements, such as RFID, mobile applications, as well as cloud computing, keeps libraries contemporary and accessible in a networked society. (Panchal & Parikh, 2017)

In this regard, ILMS is the technological basis upon which efficient, transparent, and user-centric library operations are provided.

3. Objective of the Article

The primary objective of this article is to explore the concept, features, and significance of Integrated Library Management Software (ILMS) in the context of modern library systems. It aims to:



- 3.1. Provide a comprehensive understanding of ILMS and its core components.
- 3.2. Highlight the advantages of using ILMS in automating library operations.
- 3.3. Examine popular ILMS platforms currently in use in different types of libraries.

4. Background of the study

According to a study done by **Asnawi, Maulidin, Ibrahim, and Mukhtaruddin (2025)** Automation in libraries is essential for better efficiency, accuracy, and patron satisfaction in modern libraries. Integrated Library System (ILS) software is primarily used to automate acquisition, cataloging, circulation, and patron service in a coordinated and efficient approach. The Pidie Regency Library and Archives Office has been using INLISLite since 2017 for integrating its core activities, i.e., acquisition, processing, membership management, and reports. Though termed flexible, rapid, and intuitive with high data reliability and security, application of the system is yet to be totally optimized due to limited mastery by librarians and inadequate infrastructure. For its assessment, a study employs the End User Computing Satisfaction (EUCS) paradigm that studies content, accuracy, format, timeliness, and ease of use. Results show high patron satisfaction, but repeated instruction, infrastructural upgrade, and systematic reviews on the system are recommended for best use of INLISLite as well as improved performance by the library.

Al-Kubaisy and Al-Khateeb (2024) Integrated Library System (ILS) highlights their core significance for libraries to manage growing and diverse collections, for example, books, audio, videos, and images. Researches by diverse researchers emphasize that cataloguing, lending, and stock management efficiency is boosted by ILS through consolidating diverse library functions within a single system. Contributions thus far have mainly relied on checklist-like appraisal that considers essential parameters like cost, availability as a package that is open-source, reusability, ease-of-use interface, number of functionality, flexibility, security, and community support. Comparison studies unanimously highlight Koha and Evergreen as top-rated open-source systems, and Koha being concluded as better with its strong feature set and higher use. Most contributions thus far have, however, relied on manual appraisal methods that are time-consuming and reliant on expert opinion. Recent research findings advocate that automated appraisal methods be embraced for system selection streamlining and for saving libraries a vast amount of time and effort in installing the optimum solution.

Yaya (2023) research examined the role of Library Management Software (LMS) in improving library services and highlighted its importance in ensuring libraries automate their operations to make services fast and accurate. The research followed the evolution of software use within libraries and how Nigerian libraries changed from manual to computerised systems for greater efficiency. The research underscored

that appropriate LMS should be user-friendly, cost-effective, and reliable for regulating cataloguing, circulations, and patron records. The research also discussed selection criteria for LMS and highlighted a need for selecting software that is custom-made for a given library. Despite being a crucial bottleneck, lack of skills and inadequate funding remain essential obstacles. As such, appropriate skills retraining and staff retraining are essential in promoting the development and evolution of libraries.

5. Components/Modules of Integrated Library Management Software (ILMS)

An Integrated Library Management Software (ILMS) is designed with multiple functional modules that work together to automate and manage all aspects of library operations. These core modules are interlinked and operate on a centralised database, ensuring seamless data flow and operational efficiency. The key modules typically include:

COMPONENTS/MODULES OF INTEGRATED LIBRARY MANAGEMENT SOFTWARE (ILMS)

- Acquisition Module
- Cataloguing Module
- Circulation Module
- Serial Control Module
- OPAC (Online Public Access Catalogue)
- Administration Module
- Reports and Statistics Module

Figure 1: Components/Modules

- Acquisition Module:** This module handles the selection, ordering, and purchase of library materials. It also handles tasks like budgeting, vendor management, order tracking, and invoicing.
- Cataloguing Module:** The cataloguing module is responsible for creating and maintaining bibliographic records using standards such as MARC21. It ensures consistency and enables users to discover resources through the OPAC easily.
- Circulation Module:** This module is responsible for managing lending and returning library materials.
- Serial Control Module:** It is also used for journal management, magazines, newspapers and other periodicals. It records subscriptions, receipt of issues, binding of volumes, and renewals.
- OPAC (Online Public Access Catalogue):** The OPAC allows the patron of the library to carry out online catalogue searches, check the availability of items, and reserve items. It acts as the user interface for the Integrated Library Management System (ILMS).
- Administration Module:** This module is responsible for the configuration of the system, user management, policies, and general maintenance of the library management system.



- g. Reports and Statistics Module:** It is used for generating reports and statistics, which are crucial for decision-making and strategic planning, such as reports and statistics regarding circulation, acquisition, and user and collection status. **(Panchal & Parikh, 2017)**

These modules are designed to work together, providing a seamless and effective experience for both the patron and the library staff. This modular approach allows for the scalability of the system, meeting the needs of the library.

6. Key Features of Integrated Library Management Software (ILMS)

Integrated Library Management Software (ILMS) offers a wide range of features that support efficient library management and provide users with a seamless experience. **(Weng & Amri, 2020)**

The key features include:

- a. Centralised Database:** ILMS uses a single database, which guarantees the integration of basic library operations such as cataloging, circulation, acquisition, and the OPAC. This design removes any redundancy from the data. **(<https://kohasupport.com/key-features-of-an-integrated-library-system/>)**
- b. Web-Based and Remote Access:** Most integrated library management systems are web-based, thus facilitating accessibility for the staff and users from any geographical location. This is very useful for the academic environment as well as for online courses.
- c. Barcode and RFID Integration:** Barcodes and Radio Frequency Identification (RFID) are incorporated for faster circulation processes. These are useful for faster check-in/check-out operations, better management of inventory, and reduced human error.
- d. User Authentication and Role Management:** ILMS allows for user login and access control, ensuring that different types of users, such as students, faculty, and library staff, are granted access based on their roles.
- e. Online Public Access Catalogue (OPAC):** OPAC offers the facility of online search, browse, and reservation of items. Advanced features may also be included, such as the use of faceted search, display of book covers, and user reviews.
- f. Automated Notifications:** The library automation system offers the facility of sending automated alerts and reminders regarding due dates, overdue items, new arrivals, and reservation statuses via email and SMS.
- g. Customizable Reports and Analytics:** It also helps in generating comprehensive reports regarding circulation, acquisition, usage statistics, etc.



- h. Digital Resource Integration:** There are many different ILMS systems that can integrate electronic resources, digital libraries, and repositories, which can provide access to physical as well as electronic resources.
- i. Multi-Lingual and Multi-Branch Support:** Some ILMS software provides multi-language interfaces and can manage multiple branches or departments within an institution from one centralised platform.
- j. Data Backup and Security:** There is also an integration of data backup, audit trails, and encryption in ILMS for data security to ensure data integrity and security. (Khan & Shahzad, 2022)

7. Benefits of Integrated Library Management Software (ILMS)

Integrated Library Management Software (ILMS) offers many benefits that greatly help in the efficient administration of library staff as well as library users. Some benefits include:

- a. Automation of Routine Tasks:** ILMS automates routine library operations such as cataloguing, circulation, acquisition, and reporting. This frees the library staff from routine work and enables them to focus on more important issues.
- b. Improved Resource Management:** With the centralized database in ILMS, it is possible to keep a record of all library materials, whether in print or digital format. This would be helpful in inventory control.
- c. Enhanced User Experience:** With the OPAC in ILMS, library patrons are able to access the catalogue independently. This would reduce the pressure on library staff.
- d. Real-Time Access and Remote Connectivity:** Since many ILMS systems are web-based, it is possible for library patrons and library staff to access library services at any time and from anywhere. This would be helpful in the digital transformation process (Adams, 2023).
- e. Time and Cost Efficiency:** With ILMS, it is possible to save time and costs in the long run. This is because routine work is done automatically. Reports are also generated automatically. This would be helpful in budgetary planning.
- f. Customisation and Scalability:** ILMS can be customized according to the needs of various types of libraries. It is also possible to incorporate new technologies into ILMS systems. This would be helpful in the growth of the library.
- g. Enhanced Data Security:** With features such as user authentication and backup in ILMS, it is possible to protect library data from unauthorised access.

8. List of Library Management Software (LMS) Used in Libraries



Currently, a large number of LMS platforms are available, which are intended to cater to the diverse needs of academic, public, and special libraries. These platforms vary with regard to their features, costs, and scalability, being either open-source or commercial. The following are some of the widely used ILMS platforms:

Table 1: Examples of Library Management Software Packages and Manufacturing Agencies

S/N	Library Software Package	Manufacturing Agency
1	Catman	INSDOC, New Delhi, India
2	CDSware	European Organisation for Nuclear Research.
3	CDS/ISIS	UNESCO, 1985
4	Defence Library Management System (DELMS)	DESIDOC, New Delhi, India.
5	DSPACE	Massachusetts Institute of Technology (MIT)
6	DSpace-CRIS	Cineca
7	Eprints	University of Southampton
8	Fedora	University of Virginia and Cornell University
9	Golden Libra	Golden Age Software Technologies, Bombay, India
10	Granthalaya	INSDOC, New Delhi
11	Greenstone	New Zealand Digital Library Project at the University of Waikato



12	KOHA	Katipo Communications for the Horowhenua Library Trust in New Zealand, 1999
13	Lib Data	Murphy Associates, Secunderabad
14	Lib Info	M.N. Dastur & Co., Madras
15	Libman	Datapro Consultancy Services, Pune
16	LIB ⁺	Raw Materials Research and Development Centre in Abuja, Nigeria
17	Libra	Ivy System Ltd., New Delhi
18	Librarian	Soft-Aid, Pune
19	Library Catalogue System (LCS)	Ultra-Business Systems (P) Ltd., Bangalore
20	Library Management	Raychan Sysmatics, Bangalore
21	Library Management System (LMS)	U & I Software (P) Ltd., Bangalore
22	Library Manager	System Data Control Pvt. Ltd., Bombay
23	Libris	Frontier Information Technologies Pvt. Ltd
24	Lib Soft	ET & T Corp., New Delhi
25	Libsys, Micro-Libsys	Info-Tek Consultants Pvt. Ltd., New Delhi/ Libsys Corp., New Delhi
26	Maitrayee	CMC, Calcutta (for the CALIBNET Project)

27	NEWGENLIB	Versus Solutions Pvt Ltd, via the Kensavan Institute of Information and Knowledge Management, Hyderabad, India, 2005.
28	Salim	Expertise, Tiruchirapalli, Uptron India Ltd.. New Delhi
39	Sanjay	DESIDOC, Delhi (under a NISSAT Project)
30	Searcher	INDATA, New Delhi
31	SOUL	INFLIBNET, Ahmedabad
32	Suchika	DESIDOC, Delhi

Sources: Patel and Bhargava (1995), Mohandas and Shet (1992), Dhamdhare (2011) and Zaid (2004), (Abdulazeez Yaya, 2024)

Example of Select Integrated Library Management Software (LMS) Used in Libraries

- a. Koha:** Koha is a fully open-source ILMS, widely used across the world. It supports all standard modules, including acquisition, cataloguing, circulation, serial control, OPAC, and reporting. Its flexibility, cost-effectiveness, and active developer community make it especially popular in academic and public libraries. (Singh & Sanaman, 2012)
 - Example use: Adopted by many universities and college libraries in India and globally.
- b. SOUL (Software for University Libraries):** Developed by INFLIBNET Centre (India), SOUL is a Windows-based ILMS tailored for Indian academic libraries. It supports all core modules and is integrated with union catalogues, such as IndCat. (<https://soul.inflibnet.ac.in/>)
 - Example use: Used in numerous UGC-funded colleges and universities across India.
- c. LIBSYS:** LIBSYS is a commercial ILMS developed in India. It offers modules for circulation, cataloguing, serials, acquisitions, and OPAC, along with RFID integration and mobile access. (<https://www.libsys.co.in/>)
 - Example use: Preferred by engineering institutions, research libraries, and corporate libraries.
- d. Evergreen:** Evergreen is another open-source ILMS popular among public libraries, especially in the United States. It is scalable and supports multi-branch libraries.
 - Example use: Used by many library consortia and state-level library systems in the US.



- e. **NewGenLib:** Developed by Verus Solutions, NewGenLib is an open-source ILMS with strong support for digital library integration, MARC21, RFID, and mobile interfaces. **(Singh & Sanaman, 2012)**
 - Example use: Adopted by various academic and research libraries in India.
- f. **VTLS (Virtua):** Virtua by VTLS Inc. is a commercial ILMS designed for large academic and research libraries. It offers multilingual support, full MARC21 compliance, RFID integration, and sophisticated search capabilities.

9. Challenges in Implementing Integrated Library Management Software (ILMS)

While Integrated Library Management Software significantly improves library work, its introduction is not without issues, which need to be resolved by libraries:

10. **Budget Limitations and Initial Outlay:** The commercial ILMS is likely to require a great deal of initial outlay in software licenses, hardware, and training. This is costly, especially for tiny and resource-poor libraries.
11. **Specialized Skills and Training:** Implementing ILMS successfully demands a library staff well-qualified in IT as well as trained library staff. Libraries face a deficiency in technical expertise in most cases, which translates into software underutilization or incorrect software use.
12. **Data Migration Problems:** Integrating existing catalogues and records into a new ILMS is risky and time-consuming. The possibility of data inconsistency, loss, or incompatibility of format may result in delay and disruption of operations.
13. **Customisation and Integration:** Libraries have unique work procedures, and in certain instances, require ILMS customisation. Software integration with other in-place infrastructure, such as digital repositories or institutional databases, often requires additional developmental resources.
14. **Berger's Limitations:** Libraries in rural areas or ones that have out-of-date equipment might not operate efficient contemporary cloud-based ILMS offerings successfully.
15. **Resistance to Change;** The staff familiarized with manual or legacy systems will resist new software adoption as a result of perceived complexity or fear of job loss, causing a delay in implementation.
16. **Ongoing Updates and Maintenance:** The software's automatic updates, patching, and maintenance require vendor- or IT-team-backed continuous support, which is not an option in all libraries **(Olatunji et al., 2020)**



17. Future Trends in Integrated Library Management Software (ILMS)

The ILMS environment exists in a permanent state of flux as a result of technological changes and evolving user expectations. Key trends for the future are:

- a) **Cloud-Based Solutions:** Increasingly, libraries are adopting cloud-hosted ILMS platforms that offer scalability, reduced IT infrastructure costs, and remote access capabilities. Cloud offerings simplify software update and maintenance as well.. **(Li, 2014)**
- b) **Machine Learning and Artificial Intelligence:** AI-based features such as smart search, predictive analysis, user-centric suggestions, and cataloguing, which are automatically undertaken, are refining user experience as well as operational efficiency in modern ILMS.
- c) **Mobile and Responsive Interfaces:** As mobile devices are increasingly used, ILMS platforms are building totally responsive and mobile-centric interfaces so that users may use library resources anywhere, anytime.
- d) **Integration with Digital Repositories and Open Access:** Future ILMS will provide seamless integration with institutional repositories, digital archives, and open access platforms, facilitating easy access to a broader range of scholarly materials. **(Li, 2014)**
- e) **Enhanced Data Analytics and Reporting:** Advanced analytics dashboards will help librarians better understand user behaviour, resource usage, and workflow bottlenecks to make data-driven decisions.
- f) **Support for Linked Data and Semantic Web:** ILMS will increasingly support linked data technologies to improve metadata interoperability, resource discovery, and knowledge organisation.
- g) **Increased Focus on User Experience (UX):** Future systems will emphasise intuitive design, user personalisation, and accessibility to ensure all patrons, including those with disabilities, have a smooth experience. **(Mukhopadhyay, n.d.)**

11. Conclusion

Integrated Library Management Systems (ILMS) are at the center of the current information infrastructure and improve conventional library services through greater efficiency, user-friendliness, and technological complexity. ILMS provide greater efficiency through the automation of the core operations of the library, including cataloguing, circulation, acquisitions, and user management, thereby offering improved library services to the user community. ILMS improve the management of the library collection, thereby reducing the chances of errors and offering the user community access to a wide range of resources. In spite of these



advantages, there are challenges in implementing ILMS, such as high costs, technical requirements, data transfer complexities, and difficulties in technology adoption by library personnel. However, these challenges are mitigable through proper planning, training, and post-implementation support strategies. The future looks promising with the inclusion of cloud computing, artificial intelligence, mobile technologies, and data analytics in ILMS, which are likely to improve system efficiency and provide a more personalized experience for end-users, thus increasing their utility and relevance.

Overall, an Integrated Library Management System (ILMS) is a necessity for those libraries that aspire to succeed in the digital world. With the continued upgrading and improvement of the ILMS, the library will be able to satisfy the increasing information needs, support research activities, and share information in a dynamic and interconnected world.

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