



Performance Evaluation of Library Management Software Packages in Selected Libraries of Kota, Rajasthan: A Comparative Study of KOHA, SOUL, and E-Granthalaya

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Abstract— This study examines the performance and effectiveness of three Library Management Software (LMS) packages—KOHA, SOUL 4.0, and E-Granthalaya 4.0—used in selected libraries in Kota, Rajasthan, India. The libraries included in the study are the Central Library of Jai Minesh Adivasi University, The Indian Institute of Information Technology Kota and The Government Divisional Public Library Kota. The study aims to evaluate the role of LMS in library operations, assess service efficiency, compare software modules, identify challenges, and analysis cost and user satisfaction. The research employed interviews, questionnaires, observation, and site visits as primary methods of data collection. The evaluation was based on a Likert scale to measure feature usage and technical support across the selected LMS packages. The findings reveal that LMS has significantly improved library automation, information retrieval, and service delivery in all three institutions. KOHA was found to be the most cost-effective and feature-rich system, E-Granthalaya was highly economical and suitable for public libraries, and SOUL provided strong technical support and operational capability despite higher financial costs. The study concludes that LMS adoption is essential for modern libraries, but its success depends on effective staff training, regular updates, and institutional support.



Keywords— Artificial intelligence (AI), Integrated library management software (ILMS), software for university library (SOUL), E-Granthalaya (EG), Indian institute of information technology Kota (IIITK), Jai Minesh Adivasi University Kota (JMAUK), Government Divisional public library Kota (GDPLK).

I. INTRODUCTION OF LIBRARY MANAGEMENT SOFTWARE

Library is the heart of any academic, government or private organizations. Library management software fits on the Ranganathan's five law rule. First law says "books are for use", in this rule through LMS users can get library records through OPAC and use all the required books. Second law says "Every reader his/her books, in this rule LMS helps to solve the query and to get the books to users. Third law says "Every book its reader", in this rule librarian finds the books and provide it to the library users. Fourth law says "save the time of the user", in this rule LMS saves the time of circulation, generate records etc. Fifth law says "library is a growing organism", in this rule librarian or library staff enter the books or periodicals records in LMS and no worry

to find it easily. Indian universities are mostly using KOHA and SOUL LMS wherever government divisional public libraries are using E-Granthalaya LMS, specially in Rajasthan. The details of the above three LMS are as-

KOHA– KOHA LMS first version was developed in 1999 by the Katipo communications in the New Zealand country. It's an open source integrated LMS Linux system is best as server. Users can use it on windows and android systems. It's supports MARC21, AACR2 and RDA standards. This is mainly created for the academic institutions for ongoing library works. It's a web-based platform and available highly customizable. All modules acquisition, administration, circulation, cataloguing, OPAC, Patron management, serials section, reports, tools are available.



Photo Curtsey: Dr. Prashant Bhardwaj, Assistant Professor (JMAUK)

Fig.1: Outside and Inside view of Library

SOUL – SOUL is a state-of-the-art integrated library management software. It's developed by the Information library network (INFLIBNET) Gandhinagar. It's first version is SOUL 1.0 and released in CALIBER conference. The second version is 2.0 and released in January, 2009. The current and updated version is SOUL 3.0 and launched in 2021. To install the SOUL 3.0 software basic need is minimum 1.8 GHz or higher processor speed required, minimum 2 GB for 32 bit and 4 GB for 64 bit and 8 GB recommended for server systems. Minimum 10 GB free hard disk space required and the screen resolution is minimum 1366×768 required. The software provides

acquisition, cataloguing, circulation, serial control, OPAC administration modules. SOUL 3.0 provides two editions to academic institutions such as limited and full edition. Limited edition is limited to 50000 books and the cost is 30000 Rs. (35400/- with GST) only and in the full edition there is no limit to catalogue books and the cost of full edition is 80,000 Rs. first copy (94,400/- with GST) and 50,000 Rs. (without GST) for additional each copy. Modules i.e. acquisition, administration, circulation, cataloguing, OPAC, serial control, tools are available for users.



Photo Curtsey: Dr. Prashant Bhardwaj, Assistant Professor (JMAUK)

Fig.2: Inside view of library and services

E-granthalaya- E-granthalaya is a digital agenda for automation and networking of government libraries from National Informatics Centre (NIC). It is specially made for the government libraries. There is 76 total number of cluster hosted on NIC cloud. Total 5244 libraries are available on it and the total numbers of members are 4,005,799 till 08/04/2026. Total available titles are 27,350,915 and the available holdings are 47,392,649. E-granthalaya LMS is a cloud ready application and uses PostgreSQL - an open-source DBMS as back-end solution. LMS supports multi-lingual, Unicode and provides an online data entry solution and compliance with library standards. The latest version is EG 4.0 by NIC and introduced in 2015. The modules - database administrator, cluster admin, administrator, master data, acquisition, cataloguing, circulation, serials, micro documents, budget, search and reports are available for libraries. This software allows us to create our own digital library as well as institutional repository. This feature is very specific in terms of the data security, because all the data stored in government of India cloud MeghRaj.

About of the Institutions:

Jai Minesh Adivasi University- The university established under state private university act number 11/2023 by Rajasthan legislative assembly, government of Rajasthan. It is established on 11/05/2023 and it is situated in front of IIIT Ranpur Kota- 325003. The university has not established any off-campus centre and does not offer any distance education program. The university offers bachelor and masters of science, mathematics, commerce, arts, computer, education regular courses. In addition, there is also some professional courses i.e. diploma and bachelor of library and information science and hotel management, bachelor of ayurvedic nursing, physiotherapy, diploma in library & information science and hotel management courses, specially working in the area of research. According to management the university is the first private tribal university of Rajasthan which run by all India Shree Meena Social and educational society.



Photo Curtsey: Dr. Deepak Kumar Shrivastava, Librarian (GDPLK)

Fig.3: Inauguration Program of Web Machine service in GDPL Kota



Photo Curtsey: Dr. Prashant Bhardwaj, Assistant Professor (JMAUK)

Fig.4: View of JMA university and library

University has a central library and a separate departmental law, architecture, ayurvedic and special education library working with their departments. Central library has 2491 titles and 7965 books. Law departmental library has 329 titles and 1180 books. Architecture has 130 titles and 304 books. Veterinary has 21 titles and 255 books. Special integrated education library has 275 titles and 647 books and ayurvedic departmental library has 71 titles and 963 books. The library subscribes 7 newspapers, which of them 4 are Hindi and 3 are English. Central library has 12 periodicals and 65 national and 17 international journals. E-library and separate reading room available. The central library subscribes DELNET facility and password is displayed for all library users. The library has SOUL 3.0 library management software and all the books are catalogued. SOUL 3.0 is installed and working in the central library and all the departmental libraries by server. Two books issued to students 14 days. 4 books for non-teaching staff and teaching staff can issue 8 books for one month. CCTV surveillance for monitoring and 15 PCs available for e-library users. Users are highly satisfied with the library resources and services.

Government divisional public library- It is situated in front of income tax residential colony, near C.A.D. circle Kota. The library run under the aegis of Department of language and library (LLD). The library was earlier also known as Pandit Deendayal Upadhyay divisional public library and also fame as UTSAV library. Kota, Bundi, Baran, Jhalawar, Ramganjmandi, Bhawani mandi public libraries are working under the jurisdiction of divisional library Kota. Currently Dr. Deepak Kumar Shrivastava is working as divisional librarian and Head and also serving as Nodal officer (public libraries-Kota region, Raj.).

Currently there is a 9 post but only 3 is filled but rest are on the contractual basis due to them on retirement. Right now, home guards are working against the post of class 4th. 4 home guard appointed by the commandant home guard to open the reading room for users at 07:00 am. The library reading room opens in morning 7 o'clock to evening 07:00 pm. The library stack room opens at 11:00 am to evening 07:00 pm. The library has 85824 titles, 2207 audio books, 1542 rare books, approx. 10,000 children's literatures, 1200 Braille books, 350 e-books and journals and 52 periodicals and newspaper subscribed. Different facility i.e. children section, reference section, rare books section, visually impaired artificial intelligence instruments, e-library, Savitri Bai Phule free internet content digital library, seminar hall for approx. 100 persons, free covered parking and eco-green open library is established for young generation users. different types of membership available in library i.e. monthly, yearly and life-time. No membership fees for visually impaired users. Transgender, Nomadic people and auto-ricksha drivers. Users can issue 2 books for 14 days at a time. Artificial intelligence facility is available for visually impaired users. Audio-Video cabin is available. Separate e-library facility available for users and free limited wi-fi also available for library users. Braille books, reference section, ramp facility, wheel chairs and separate wash rooms for girls and boys available. Students of IGNOU and JMA University doing Library internship in Kota divisional public library and Bundi public library.

Divisional public libraries of Rajasthan states are using E-Granthalaya LMS for routine library works. The users are all ages from 10 years to 80 years and all are highly satisfied with library resources, management and services.



Photo Curtsey: Dr. Deepak Kumar Shrivastava, Librarian (GDPLK)

Fig.5: Outside and Inside View of library

Indian Institute of Information Technology Kota- IIITK is situated in Ranpur institutional area Kota district. Before 2021, it was running in MNIT campus Jaipur and after it is started in its own campus in Ranpur, Kota. Institute has B.Tech., M.Tech. and Ph.D. courses available in computer

science, electronics & communication and artificial intelligence and data engineering courses.

Mr. Satyanarayan Sharma is working as a library information officer. Library timings are morning 9 o'clock to evening 6 o'clock from Monday to Saturday.



Photo Curtsey: Dr. Prashant Bhardwaj, Assistant Professor (JMAUK)

Fig.6: Outside view of IIIT Kota

The total number of titles are 295 and 2866 volumes available in library. The central library has also book bank facility with 2500 library fee in each semester. Book bank volumes are 5382. 13 periodicals per month and 3 newspapers (2 Hindi and 1 English) subscribed by library for users. 4 books issued in book bank for a semester period and 2 books issued for a period of 14 days to the students. 2 PCs available for server and librarian and 1 PC is for OPAC facility to users. Laser printer and Bar code printer are available. Central library is a member of ONOS (free online journals for central/State government institutions). Central library has only 1 permanent staff and 1 temporary book attendant appointed by outsources agency. The central library has KOHA open-source LMS. Users are highly satisfied with the library collection and services.

II. REVIEW OF LITERATURE

Aute and Ghumare (2014) compared LIBSYS and Koha in Indian academic libraries, surveying 32 institutions. Their

findings revealed that LIBSYS excelled in cataloguing and documentation but was hindered by high costs, weaker technical support, and limited updates. Koha, as an open-source system, was praised for its adaptability, accessibility, and affordability, though it required significant training and technical adjustments. The study concluded that Koha provided the highest satisfaction among librarians due to its collaborative development model, while LIBSYS remained reliable in cataloguing and serial control.

Ray and Singh (2018) examined SOUL 2.0 and Libsys 7 in Gauhati University and IIT Guwahati. Both libraries were fully automated, but IIT Guwahati advanced further with Web OPAC and RFID integration. Their comparative analysis of 28 features showed SOUL 2.0 as more comprehensive, excelling in affordability, training provision, and maintenance support. Libsys 7, though robust, faced challenges in authority control and lack of in-house training. The authors emphasized the importance of institutional support and regular staff training to maximize LMS efficiency.

Meena (2024) conducted a comparative study of six LMS packages—Liberty, Alice for Windows, Virtua, LibSys (Ls-Premia), E-Granthalaya, and NettLib—based on surveys of software vendors in Delhi. The study traced the evolution of LMS from CDS/ISIS-based systems to modern web-centric architectures. Liberty and Virtua were praised for advanced integration and adherence to international standards, while LibSys was recognized for its widespread adoption and strong cataloguing capabilities. E-Granthalaya distinguished itself with national database and union catalog support, whereas NettLib emphasized RFID and smart card integration. Meena concluded that libraries must select software based on institutional needs, cost, and technological compatibility.

Bagewadi et al. (2025) examined the role of modern LMS in enhancing operational efficiency, emphasizing cataloguing, circulation, acquisitions, and integration of digital resources. Their study highlighted challenges such as technical constraints, organizational resistance, and insufficient staff training. They advocated for strategic approaches including continuous professional development, flexible technology solutions, and robust data security. Importantly, the study underscored the growing role of artificial intelligence (AI), RFID, and big data analytics in shaping the future of library automation.

Chakraborty and Das (2025) provided a comparative evaluation of Koha, LibSys, and SOUL with a focus on circulation efficiency. Their study analyzed membership management, check-in/check-out workflows, renewals, reservations, fines, interlibrary loans, and RFID/SIP2 support. Findings revealed that Koha offered flexibility and cost efficiency but required continuous technical support, LibSys provided robust enterprise-level solutions with strong vendor backing but demanded significant financial investment, and SOUL stood out as an affordable option aligned with Indian academic library policies. The authors concluded that no single system is universally superior, and suitability depends on institutional needs, budget, and technical expertise.

Needs & Scope of the study: Libraries play a key role in every academic institution and the librarian or library staff plays a vital role to fulfil it. In history when the reading material is limited and it kept in the packed almirah. There is no open access available. Its purpose only to save the books not to read. But according to Ranganathan's fifth law that is "library is a growing organism" reveals that when the reprographic services origin, the reading material increases rapidly. The mental strength of every human is limited and to manage the library resources, information seeking behavior and retrieval properly on time the ICT infrastructure/ e-library role is very important. In this view the library management software is very much helpful to

maintain the records of library resources. Through the LMS software librarian use all the resources on full strength, can give user-oriented services quickly, can save the users time and also manage the library records quickly according to Ranganathan's five laws theory. In higher academic institutions or GDPLK, there is a very large number of records already available and increasing every academic year, no one can imagine and maintain the resource without LMS. From the acquisition of books and serials, billing, cataloguing, circulation, reports generation, reminder, penalty etc. all the needed modules and operations are mostly available in all LMS to manage the library records and helpful for librarian and library staff.

Objectives of the study: The study was undertaken with the following objectives:

1. To examine the role and importance of Library Management Software (LMS) in the automation and modernization of library services.
2. To study the main characteristics, functions, and operational features of the selected LMS packages, namely KOHA, SOUL, and E-Granthalaya.
3. To assess the extent to which LMS has improved the efficiency, speed, and accuracy of library services in the selected institutions.
4. To compare the performance of open-source and commercial LMS platforms in academic and public library environments.
5. To identify the major advantages of using LMS in terms of resource management, user access, circulation control, and information retrieval.
6. To explore the practical challenges faced by libraries in implementing and maintaining LMS.
7. To analysis the differences in core modules and technical support available in the selected LMS packages.
8. To evaluate the cost-effectiveness of different LMS solutions from the perspective of institutional needs and financial sustainability.
9. To study the impact of LMS on the quality-of-service delivery and user satisfaction.
10. To suggest measures for improving the effective implementation and long-term use of LMS in libraries.

III. RESEARCH METHODOLOGY

This study employed a descriptive and comparative research design to evaluate the performance of selected Library Management Software (LMS) packages in three libraries of the Kota region. The libraries included the Central Library of Jai Minesh Adivasi University, the Indian Institute of Information Technology Kota, and the

Government Divisional Public Library Kota. These institutions were chosen purposively to represent academic and public library environments using different LMS platforms.

The study was based on both primary and secondary sources of data. Primary data were collected through personal interviews, questionnaires, direct observation, and site visits, while secondary data were obtained from official records, institutional websites, software manuals, and related literature. The questionnaire was prepared in accordance with the objectives of the study and focused on functional, technical, and operational aspects of LMS.

For evaluation, twelve attributes of LMS features and eight attributes of technical support were examined using a five-point Likert scale, ranging from 1 for Very Poor to 5 for Excellent. The responses received from librarians and library staff were analysed comparatively to assess the performance of KOHA, SOUL, and E-Granthalaya in terms of usability, technical support, module implementation, operational efficiency, and user satisfaction.

The data were analysed through a comparative approach by calculating mean scores for each attribute and interpreting

the results accordingly. This method enabled the researcher to identify the strengths, limitations, and relative effectiveness of the selected LMS packages in the chosen libraries.

IV. DATA ANALYSIS AND INTERPRETATION

This section presents the analysis of data collected from three prominent libraries in Kota, India: 1. Jai Minesh Adivasi University Kota (JMAUK), 2. The Indian Institute of Information Technology Kota (IIITK), and 3. The Government Divisional Public Library Kota (GDPLK). The analysis is structured across general profiles, automation status, software modules, user-centric features, technical support, operational capabilities, challenges, and overall satisfaction.

4.1 General Profile and User Base: The general characteristics and user base of the selected libraries are summarized in Table 1.

Table 1: General Characteristics and User Base of the Libraries

CHARACTERISTICS	JMAUK	IIITK	GDPLK
Year of Institution Establishment	2023	2013	1902
Year of Library Establishment	2023	2017	1902
Year of Automation Initiated	2024	2017	2016
Type of Institution	Private	Government	Government
Type of Library	Central	Central	Public
Approximate Number of Users	500 - 1000	Above 1000	500 - 1000

Table 1 reveals a significant variance in the institutional timelines. GDPLK is the oldest library, established in 1902, whereas JMAUK is the youngest, established in 2023. Notably, IIITK initiated automation simultaneously with its library establishment in 2017, demonstrating a proactive approach to digital integration, while GDPLK initiated automation more than a century after its establishment. IIITK also serves the largest user base (above 1000), while

JMAUK and GDPLK cater to a mid-range user base (500-1000).

4.2 Library Automation Status and Software Usage: The current status of library automation and the specific Library Management Software (LMS) deployed are presented in Table 2.

Table 2: Automation Status and LMS Deployed

Library	Automation Status	LMS Used
JMAUK	Fully Automated	SOUL
IIITK	Partially Automated	KOHA
GDPLK	Fully Automated	E-GRANTHALAYA

The data indicates that despite being the oldest, GDPLK and newest JMAUK library have achieved full automation, utilizing the government-promoted E-Granthalaya software and SOUL by INFLIBNET and National importance academic institution IITK remain partially automated. The libraries utilize distinct LMS platforms: proprietary/open-source academic standards (SOUL and KOHA) for the

academic libraries, and a public sector standard (E-Granthalaya) for the public library.

4.3 Implementation of LMS Modules: The extent of module implementation across the three LMS platforms is detailed in Table 3.

Table 3: Implementation of Core LMS Modules

MODULE	JMAUK (SOUL)	IITK (KOHA)	GDPLK (E-Granthalaya)
Acquisition	Yes	Yes	Yes
Circulation	Yes	Yes	Yes
Cataloguing	Yes	Yes	Yes
Serials Control	Yes	No	Yes
OPAC	Yes	Yes	Yes

Core housekeeping operations (Acquisition, Circulation, Cataloguing, and OPAC) are universally implemented across all libraries. However, a notable gap exists in the IITK library, which has not implemented Serials Control and Web-OPAC modules. This suggests an underutilization of KOHA's advanced web-based and serial management capabilities.

4.4 Feature-Friendly Usages of LMS: To quantitatively evaluate the librarian's perspective on LMS features, qualitative ratings were converted to a 5-point Likert scale (1 = Very Poor, 2 = Poor, 3 = Average, 4 = Good, 5 = Excellent). The converted scores are presented in Table 4.

Table 4: Likert Scale Conversion of LMS Feature Usages

SN	Feature	JMAUK	IITK	GDPLK
1	User Friendliness	5	5	5
2	Cost Effectiveness	4	5	5
3	Budget Management	5	5	5
4	Language Support	5	5	5
5	Ease of Installation	5	5	5
6	Data Migration	5	5	4
7	Backup Facility	5	5	5
8	Report Generation	5	5	5
9	Search Functionality	5	5	5
10	Regular Updates	5	5	5
11	Remote Access	5	5	5
12	System Reliability	4	5	4
Mean Score		4.83	5	4.83

IITK (KOHA) achieved a perfect mean score of 5.00, indicating that the librarian perceives all features as excellent. JMAUK and GDPLK tied at 4.83, with slight deductions in Cost Effectiveness/System Reliability (for JMAUK) and Data Migration/System Reliability (for GDPLK).

4.5 Technical and Support Features: Similarly, technical and support features were evaluated on a 5-point scale, as shown in Table 5.

Table 5: Likert Scale Conversion of Technical & Support Features

SN	Feature	JMAUK	IIITK	GDPLK
1	Technical Customer Support	5	5	3
2	Staff Training Availability	5	5	4
3	Data Security	5	5	5
4	RFID Integration	5	5	1
5	Mobile OPAC (M-OPAC)	5	5	4
6	System Portability	5	5	4
7	Software Customization	5	5	5
8	Customer Support	5	5	5
Mean Score		5	5	3.88

A significant divergence is observed in technical support. JMAUK and IIITK score perfectly (5.00), reflecting robust backend support. Conversely, GDPLK scores considerably lower (3.88), primarily due to "Very Poor" (1) RFID Integration and "Average" (3) Technical Customer Support,

highlighting a critical infrastructural gap in the public library's LMS.

4.6 Operational Capabilities: The operational capabilities supported by the respective LMS are illustrated in Table 6.

Table 6: Operational Capabilities of LMS

Operation	JMAUK	IIITK	GDPLK
Purchase Order Management	Yes	No	Yes
Accession Register Maintenance	Yes	Yes	Yes
Binding Management	Yes	No	Yes
Stock Verification	Yes	No	Yes

JMAUK and GDPLK utilize their LMS for comprehensive operational management, including purchase orders, binding, and stock verification. IIITK, however, relies on its LMS solely for Accession Register Maintenance, representing a significant underutilization of KOHA's operational modules.

4.7 Major Challenges and Issues: The challenges faced during the implementation and usage of LMS are categorized in Table 7.

Table 7: Challenges Faced in LMS Implementation and Usage

CHALLENGES	JMAUK	IIITK	GDPLK
Lack of competent and trained staff	No	Yes	Yes
Need for regular staff training	No	No	Yes
Budget constraints	Yes	Yes	No
Limited funding for infrastructure	No	Yes	No
High Annual Maintenance Cost (AMC)	No	No	Yes
Limited customization options	Yes	No	No
Internet connectivity	Yes	No	No
Vendor dependency	Yes	No	No

The challenges are highly contextual to the software and institution type. IITK and GDPLK face human resource challenges (lack of trained staff). JMAUK and IITK face financial constraints (budget limitations), while GDPLK struggles with high AMC. JMAUK uniquely faces software-specific limitations (customization, vendor

dependency, internet connectivity) likely tied to its proprietary SOUL software.

4.8 Satisfaction Level and Cost Analysis: The overall satisfaction, recommendation status, and financial implications are summarized in Tables 8 and 9.

Table 8: Satisfaction and Future LMS Outlook

PARAMETER	JMAUK	IITK	GDPLK
Overall Satisfaction	Good	Good	Very Satisfied
Recommends LMS	Yes	Yes	Yes
Plans to Switch LMS	No	No	No

Table 9: Approximate Annual Maintenance Cost (AMC)

Library	Cost Structure	Estimated Annual Cost (INR)
JMAUK	₹35,400 (Limited) / ₹94,400 (Unlimited 1st copy)	35,400 - 94,400
IITK	Zero (Open Source)	0
GDPLK	₹23,500 for 5 Years	4,700

Despite varied challenges, all librarians reported positive satisfaction levels and unanimously recommended LMS adoption, with no intention of switching platforms. GDPLK reported the highest satisfaction ("Very Satisfied"). Financially, a stark contrast exists: IITK operates KOHA at zero maintenance cost, GDPLK operates E-Granthalaya at a highly subsidized rate (₹4,700/year), while JMAUK incurs the highest cost (up to ₹94,400) for SOUL.

The data analysis reveals that while LMS adoption is successful across all three libraries, the user experience is heavily dictated by the choice of software and institutional funding. KOHA (IITK) emerges as the most feature-rich and cost-effective system, though it suffers from module underutilization and budget/staff constraints. E-Granthalaya (GDPLK) is highly economical and operationally comprehensive but lacks modern technical support and RFID integration. SOUL (JMAUK) provides excellent technical support and operational capabilities but is burdened by high costs, vendor dependency, and customization limits. The findings strongly suggest that open-source solutions like KOHA, coupled with regular capacity-building programs for staff, offer the most sustainable path for library automation in the region.

Findings of the Study: The major findings of the study are summarized below:

1. The user strength of GDPLK and JMAUK was found to be between 500 and 1000, whereas IITK served more than 1000 users.
2. GDPLK and JMAUK had achieved full automation, while IITK are under slow automated process and are progressing toward complete automation.
3. GDPLK and JMAUK are subsequently using all major ILS and LMS modules, including acquisition, circulation, cataloguing, serial control, and OPAC, whereas IITK is using all modules except serial control.
4. In the evaluation of LMS feature usage, GDPLK and JMAUK recorded a mean score of 4.83, while IITK obtained the highest mean score of 5.00.
5. In respect of technical support features, JMAUK and IITK secured a mean score of 5.00, whereas GDPLK registered a comparatively lower score of 3.88.
6. GDPLK and JMAUK are using LMS for purchase order management, accession register maintenance, binding management, and stock verification, while IITK is using KOHA mainly for accession register maintenance.

7. The study reveals that all three libraries are facing operational challenges related to Human Resources i.e. staffing, administrative support, budgetary limitations, and the changing expectations of users.
8. The librarians and library staff of all three institutions expressed satisfaction with their existing LMS and indicated no intention to switch to another system.
9. IITK is operating an open-source LMS, JMAUK has incurred software purchase costs, and GDPLK is functioning with a comparatively low annual maintenance cost.
10. GDPLK is only library which is creating Digital Library (DL) cum Institutional Repositories (IR) through ILS software eG4.0, which is cloud based.
11. Koha is good but still security challenges are major concern as data is secured on local host so it can be difficult handled backup.
3. Vacant positions in libraries should be filled promptly to ensure smooth automation and effective day-to-day library management.
4. Libraries should make fuller use of all available LMS modules to maximize efficiency and reduce dependence on manual processes.
5. Periodic software updates, continuous staff development, and user support services should be made an essential part of library planning.
6. Institutions should periodically review the suitability of their LMS in relation to budget, workload, and service requirements.
7. Koha is good but still security challenges are major concern as data is secured on local host so it can be difficult handled backup. So, suggest to create Cloud Storage and same suggested to SOUL 3.0.
8. It is highly recommended that SOUL 3.0 and KOHA application should be according to E Granthalaya APP through Play Store.
9. It's also recommended that Granthalaya app Should be on IOS and still serving through ANDROID. Also difficult to run on latest Android Version 15, 16 and 17 while its run on 14 and below 14 so strictly suggested to revised and update the existing android version.

V. CONCLUSION

The study confirms that Library Management Software has become an indispensable tool for managing modern libraries efficiently. It has transformed traditional library operations by improving speed, accuracy, accessibility, and user service delivery.

Among the libraries studied, GDPLK has achieved full automation and is effectively using E-Granthalaya for its daily operations, while JMAUK has also made substantial progress toward full automation through SOUL. IITK, although using KOHA, has not yet fully utilized all available modules due to limited training and partial implementation.

The findings indicate that the effectiveness of any LMS depends not only on the software itself but also on the commitment of the institution, the availability of trained staff, and the level of technical and financial support provided. Therefore, continued training, better infrastructure, and regular system updates are necessary to ensure the long-term success of library automation.

SUGGESTIONS: Based on the findings of the study, the following suggestions are:

1. Library management should organize regular training and orientation programs for staff to improve their technical competence in LMS use.
2. IITK should strengthen technical support arrangements and ensure better maintenance through appropriate service support mechanisms.

REFERENCES

- [1] Aute, G., & Ghumare, S. (2014). Library management softwares: LIBSYS 7 & KOHA. 9th Convention PLANNER-2014, INFLIBNET Centre, Gandhinagar.
- [2] Ray, B., & Singh, S. K. (2018). Features and use of library management software packages in the libraries of Gauhati University and Indian Institute of Technology Guwahati. *International Journal of Library and Information Studies*, 8(1), 89–94.
- [3] Meena, J. (2024). Library management software: A comparative study. *International Journal of Global Research Innovations & Technology*, 2(3), 86–95.
- [4] Bagewadi, P., Mathapati, D., Gangur, B., Madiwalar, A., & Patil, S. S. (2025). Automating libraries: The role of library management systems in modern library operations. *International Journal of Research in Library Science*, 11(2), 105–114.
- [5] Chakraborty, B., & Das, S. (2025). Technological innovations in library resource circulation: Evaluating the effectiveness of Koha, LibSys, and SOUL. *International Journal of Research in Engineering Technology*, 10(5).
- [6] <https://soul.inflibnet.ac.in/index.php#welcomehttps://soul.inflibnet.ac.in/index.php#welcome>. Access date 05/04/2026 and access time 10.55 pm.
- [7] <https://soul.inflibnet.ac.in/>. Access date 07/04/2026 and access time 08.19 pm.

- [8] <https://egranthalaya.nic.in/>. Access date 07/04/2026 and access time 08.49 pm.
- [9] https://egranthalaya.nic.in/DFILES/egranthalaya/Download/e-Granthalaya_Brochure.pdf. Access date 07/04/2026 and access time 08.52 pm.
- [10] https://egranthalaya.nic.in/DFILES/egranthalaya/Download/eG4_UserManual.pdf. Access date 08/04/2026 and access time 08.06 pm.
- [11] <https://eg4.nic.in/>. Access date 08/04/2026 and access time 08/04/2026.
- [12] <https://jmau.ac.in/UGC2F>. Access date 09/04/2026 and access time 12.20 am.
- [13] <https://iiitkota.ac.in/library>. Access date 09/04/2026 and access time 11:30 pm.
- [14] <https://www.ijlis.org/articles/features-and-use-of-library-management-software-packages-in-the-libraries-of-gauhati-university-gu-and-indian-institute-.pdf>. Access date 10/04/2026 and access time 09:05 am.
- [15] <https://inspirajournals.com/uploads/Issues/709230387.pdf>. Access date 10/04/2026 and access time 09:35 am.
- [16] <https://www.iitms.co.in/blog/library-management-software-requirements.html>. Access date 10/04/2026 and access time 09:42 am.