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Management Information Systems for E-Resource Administration in Academic Libraries of Uttar Pradesh

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Abstract

The rapid growth of Information and Communication Technology (ICT) has transformed academic libraries from traditional repositories of printed collections into dynamic digital knowledge Centres. Electronic resources such as e-books, e-journals, online databases, institutional repositories, multimedia collections, digital archives, and open educational resources have become essential components of modern academic libraries. The increasing volume and complexity of these digital resources have created a need for efficient Management Information Systems (MIS) capable of supporting systematic administration, organization, retrieval, monitoring, and preservation of electronic information resources. Consequently, Management Information Systems have emerged as strategic tools for improving administrative efficiency, enhancing user accessibility, supporting research activities, and strengthening institutional knowledge management.

The present study examines the role of Management Information Systems in the administration of electronic resources within academic libraries of Uttar Pradesh. The research evaluates the effectiveness of integrated library management systems in electronic resource acquisition, licensing, cataloguing, metadata management, authentication, access control, usage monitoring, digital preservation, and performance evaluation. It further investigates the influence of ICT infrastructure, software capabilities, professional competency, institutional support, and financial investment on the successful management of electronic resources. The study also identifies major challenges affecting the implementation of MIS-based electronic resource administration, including technological limitations, inadequate funding, insufficient staff training, interoperability issues, and cybersecurity risks.

The investigation adopts a descriptive and analytical research design. Primary data are proposed to be collected through structured questionnaires administered to librarians, assistant librarians, faculty members, research scholars, postgraduate students, and library professionals working in selected higher educational institutions across Uttar Pradesh. Secondary information will be obtained from scholarly books, peer-reviewed journals, government reports, university publications, policy documents, institutional websites, and digital library reports. Statistical tools



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will be utilized to analyse the effectiveness of Management Information Systems in supporting electronic resource administration and improving library performance.

The study is expected to reveal that academic libraries possessing advanced ICT infrastructure and integrated Management Information Systems demonstrate greater efficiency in administering electronic resources, improving accessibility, supporting research productivity, and enhancing user satisfaction. The findings will contribute to policy formulation and provide practical recommendations for strengthening digital resource management in academic libraries throughout Uttar Pradesh.

Keywords: Management Information System, Electronic Resources, Academic Libraries, Digital Libraries, Library Automation, E-Resource Management, ICT, Higher Education, Information Management, Uttar Pradesh.

1. Introduction

Academic libraries have experienced unprecedented transformation during the past two decades owing to rapid developments in Information and Communication Technology (ICT). Traditional library collections consisting primarily of printed books and journals have gradually expanded to include electronic journals, electronic books, online databases, institutional repositories, digital archives, multimedia resources, research datasets, and open educational resources. These electronic resources have become indispensable for supporting teaching, learning, research, innovation, and academic collaboration. Consequently, effective administration of electronic resources has become one of the most important responsibilities of modern academic libraries.

Electronic resource administration involves the systematic acquisition, organization, licensing, authentication, cataloguing, preservation, monitoring, evaluation, and dissemination of digital information resources. Unlike conventional printed collections, electronic resources require specialized technological infrastructure, integrated software systems, metadata standards, authentication mechanisms, licensing agreements, digital preservation strategies, and continuous performance monitoring. Manual administration of these complex activities is neither practical nor efficient. Therefore, academic libraries increasingly rely upon **Management Information Systems (MIS)** to manage electronic resources effectively.

Management Information Systems refer to organized technological systems that collect, process, store, analyse, and disseminate information required for effective managerial decision-making. In academic libraries, MIS integrates multiple functional modules including acquisitions, cataloguing, circulation, serial management, budgeting, digital repositories, electronic resource management, report generation, user authentication, and administrative analytics. Such integrated systems enable librarians to administer electronic resources systematically while improving operational efficiency and service quality.

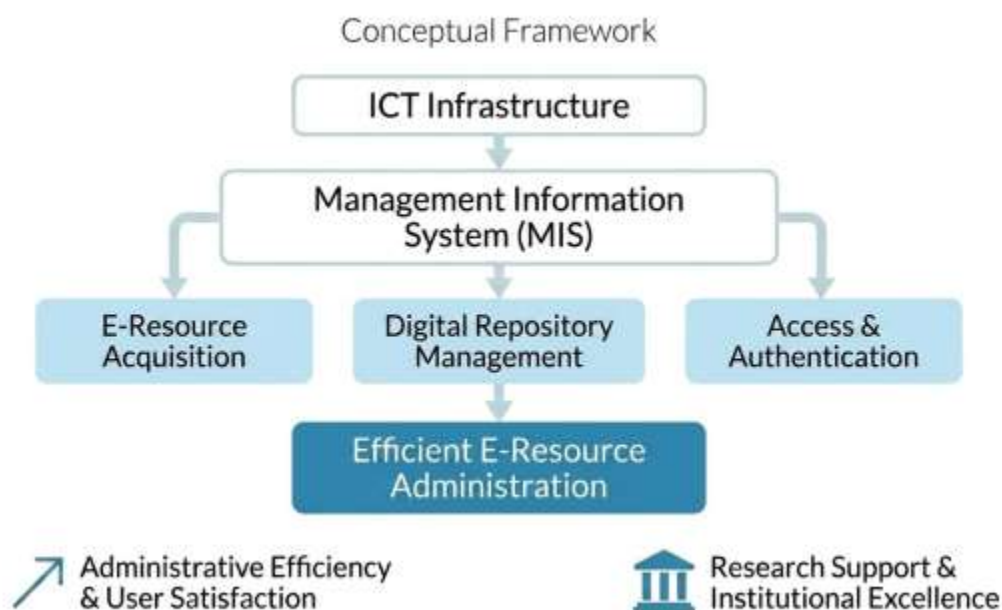


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The administration of electronic resources has become particularly important within higher educational institutions because contemporary students, faculty members, and researchers increasingly depend upon digital information rather than printed collections. Electronic journals provide immediate access to current scientific discoveries, while electronic books support flexible learning irrespective of geographical location. Institutional repositories preserve scholarly publications, theses, dissertations, conference proceedings, and research datasets, thereby enhancing institutional visibility and research impact. Online databases further facilitate multidisciplinary research by providing comprehensive access to scholarly literature across diverse subject areas.

Management Information Systems contribute significantly to electronic resource administration through automated acquisition workflows, subscription management, licence monitoring, metadata creation, authentication services, usage analytics, digital preservation, and performance reporting. Modern systems support standards such as MARC21, Dublin Core, Z39.50, OAI-PMH, and RFID integration, thereby improving interoperability among digital library platforms. Usage statistics generated by MIS assist librarians in evaluating subscription costs, analysing user behaviour, optimizing collection development, and supporting evidence-based decision-making.



Another important contribution of Management Information Systems is the enhancement of user accessibility. Integrated search platforms, discovery services, remote authentication, proxy servers, institutional repositories, mobile applications, and cloud-based services allow users to



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access electronic resources anytime and from any location. Such facilities have become increasingly important following the expansion of online education, blended learning, and remote research activities.

Despite substantial technological progress, academic libraries continue to encounter several challenges in electronic resource administration. Financial constraints frequently restrict investments in subscription databases, software licences, networking infrastructure, cloud services, and digital preservation systems. Inadequate professional training, shortage of ICT specialists, software interoperability issues, inconsistent internet connectivity, and cybersecurity threats further affect the efficiency of Management Information Systems. Libraries also face increasing challenges related to copyright compliance, licence negotiations, long-term digital preservation, and research data management.

The present study addresses this research gap by examining the effectiveness of Management Information Systems in supporting electronic resource administration within academic libraries across Uttar Pradesh. The findings are expected to provide valuable guidance for librarians, university administrators, policymakers, accreditation agencies, and researchers seeking to strengthen digital library governance and improve the quality of higher education.

Aim of the Study

To evaluate the role of Management Information Systems in the administration of electronic resources in academic libraries of Uttar Pradesh.

Objectives of the Study

- ❖ To examine the present status of electronic resource administration in academic libraries of Uttar Pradesh.
- ❖ To evaluate the effectiveness of Management Information Systems in managing electronic resources.
- ❖ To analyse the influence of ICT infrastructure on electronic resource accessibility and utilization.
- ❖ To identify the major challenges affecting MIS-based electronic resource administration.
- ❖ To recommend suitable strategies for strengthening electronic resource management in academic libraries.

Research Hypotheses

H₀₁: Management Information Systems do not significantly improve electronic resource administration in academic libraries of Uttar Pradesh.

H₁₁: Management Information Systems significantly improve electronic resource administration in academic libraries of Uttar Pradesh.

H₀₂: There is no significant relationship between ICT infrastructure and effective utilization of electronic resources.



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H₁₂: There is a significant positive relationship between ICT infrastructure and effective utilization of electronic resources.

2. Review of Literature

The administration of electronic resources has become one of the most significant responsibilities of academic libraries in the digital era. The rapid development of Information and Communication Technology (ICT) has enabled libraries to transform traditional collection management into integrated digital resource administration supported by Management Information Systems (MIS). Numerous national and international studies have examined the role of ICT, integrated library management software, electronic resource management systems, cloud computing, institutional repositories, and digital information services in improving academic library performance. The following review summarizes important literature relevant to the present study.

Early research on library automation concentrated primarily on the computerization of routine library operations such as acquisition, cataloguing, circulation, serial control, and inventory management. Researchers reported that computerized systems reduced manual workload, minimized clerical errors, accelerated information processing, and improved the accuracy of bibliographic records. These developments created the foundation for more advanced Management Information Systems capable of supporting digital library administration.

With continuous technological advancement, Management Information Systems evolved into integrated administrative platforms capable of managing both printed and electronic resources. Modern systems combine databases, communication networks, digital repositories, authentication services, metadata standards, and reporting tools into a unified environment. Such systems facilitate systematic planning, organization, monitoring, evaluation, and strategic decision-making related to library operations.

Several international studies have highlighted the increasing importance of electronic resource management. Academic libraries now subscribe to thousands of electronic journals, e-books, online databases, multimedia collections, and research repositories. Researchers have demonstrated that Management Information Systems significantly improve electronic resource acquisition, licensing, metadata creation, authentication, usage monitoring, and digital preservation. Automated systems also generate statistical reports that assist librarians in evaluating subscription costs and user behaviour.

Cloud computing has emerged as another important area within electronic resource administration. Cloud-based library management systems enable academic libraries to reduce infrastructure costs, simplify software maintenance, improve scalability, and provide uninterrupted remote access to electronic resources. Researchers report that cloud technology



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enhances collaboration among institutions while ensuring continuous availability of digital information.

Institutional repositories have received considerable attention in recent literature. Universities increasingly establish digital repositories to preserve theses, dissertations, faculty publications, conference proceedings, research datasets, and institutional documents. Management Information Systems facilitate repository administration by supporting metadata standards, indexing, retrieval, preservation, interoperability, and long-term access to scholarly outputs.

Several investigations have examined user accessibility to electronic resources. Modern Management Information Systems provide Online Public Access Catalogues (OPACs), discovery services, proxy authentication, mobile applications, federated search, and remote access facilities. These technologies enable users to access scholarly information regardless of geographical location or library operating hours. Studies consistently report that enhanced accessibility contributes to higher user satisfaction and increased utilization of electronic resources.

Indian researchers have extensively studied library automation and electronic resource management within higher educational institutions. Integrated library software such as **Koha**, **SOUL**, **LibSys**, and **NewGenLib** has become widely implemented across universities. These systems automate acquisition workflows, serial management, circulation services, digital repositories, budgeting, and report generation while improving administrative transparency and operational efficiency.

Professional competency has been identified as another important determinant of successful electronic resource administration. Library professionals require continuous training in integrated library software, digital preservation, metadata standards, electronic licensing, cloud computing, artificial intelligence, research data management, and cybersecurity. Institutions investing in staff development generally demonstrate more effective utilization of Management Information Systems.

Cybersecurity has become an increasingly important issue because electronic resource management systems store valuable institutional data, subscription information, user records, and research outputs. Researchers recommend secure authentication systems, encrypted databases, regular software updates, cloud backup services, disaster recovery planning, and periodic security audits to ensure data integrity and uninterrupted service availability.

Studies conducted within Uttar Pradesh indicate gradual modernization of academic libraries through increased adoption of integrated library management software, digital repositories, electronic databases, RFID technology, and cloud-based services. However, substantial differences continue to exist regarding ICT infrastructure, funding, professional competency, internet connectivity, and utilization of electronic resources among institutions.



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3. Research Methodology

The present study adopts a **descriptive, analytical, and explanatory research design** to evaluate the role of Management Information Systems in electronic resource administration within academic libraries of Uttar Pradesh.

The methodology has been designed to generate reliable empirical evidence regarding ICT infrastructure, electronic resource management, administrative efficiency, resource utilization, and user accessibility.

3.1 Research Design

The study follows a descriptive research design to examine the existing status of electronic resource administration in academic libraries. An analytical approach is employed to evaluate the effectiveness of Management Information Systems and their influence on electronic resource utilization.

3.2 Study Area

The geographical scope of the study includes selected higher educational institutions across Uttar Pradesh comprising:

- Central Universities
- State Universities
- Private Universities
- Deemed Universities
- Autonomous Colleges

3.3 Population of the Study

The target population includes major stakeholders associated with electronic resource administration:

- University Librarians
- Assistant Librarians
- Library Professionals
- Faculty Members
- Research Scholars
- Postgraduate Students

Table 3.1 Proposed Sample Distribution

Respondent Category	Sample Size
Librarians	30
Assistant Librarians	40
Library Professionals	50
Faculty Members	120
Research Scholars	160



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Postgraduate Students	200
Total	600

Source: Proposed Research Framework

Interpretation

The proposed sample of 600 respondents ensures adequate representation of both library administrators and users. Research scholars and postgraduate students constitute the largest proportion because they are the primary users of electronic information resources.

3.4 Sampling Technique

A **Stratified Random Sampling** technique is proposed to ensure proportional representation of all respondent groups. This sampling method improves the reliability and generalizability of the research findings.

3.5 Sources of Data

Primary Data

Primary information will be collected through:

- Structured questionnaires
- Personal interviews
- Observation schedules
- Discussions with library administrators

Secondary Data

Secondary information will be collected from:

- Books
- Peer-reviewed journals
- Government reports
- University publications
- UGC guidelines
- NEP 2020 documents
- Institutional websites
- Conference proceedings

Table 3.2 Study Variables

Independent Variables	Dependent Variables
ICT Infrastructure	E-Resource Administration
Management Information System	Resource Accessibility
Digital Repository	User Satisfaction
Staff Competency	Administrative Efficiency
Financial Support	Overall Library Performance

Source: Developed for the Present Study



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Interpretation

The independent variables represent institutional and technological factors affecting electronic resource administration, while the dependent variables measure the effectiveness of Management Information Systems in supporting academic library performance.

3.6 Data Collection Instrument

A structured questionnaire based on a **Five-Point Likert Scale** will be used for primary data collection.

The questionnaire includes sections covering:

- Respondent Profile
- ICT Infrastructure
- Electronic Resource Management
- Digital Repository Services
- Information Accessibility
- Administrative Efficiency
- User Satisfaction
- Challenges in E-Resource Administration

3.7 Statistical Techniques

The collected data will be analysed using:

- Frequency Distribution
- Percentage Analysis
- Mean
- Standard Deviation
- Independent Sample *t*-Test
- Chi-Square Test
- Pearson Correlation Analysis
- Multiple Regression Analysis

The statistical analysis will be conducted using **SPSS** (Statistical Package for the Social Sciences) or equivalent statistical software.

Table 3.3 Statistical Analysis Plan

Research Objective	Statistical Technique
Describe respondent characteristics	Frequency & Percentage
Measure effectiveness of E-resource administration	Mean & Standard Deviation
Compare institutional categories	Independent <i>t</i> -Test
Examine relationships	Pearson Correlation
Identify influencing factors	Multiple Regression



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Interpretation

The selected statistical techniques are appropriate for analysing descriptive characteristics as well as determining relationships between Management Information Systems and electronic resource administration. Inferential statistics will identify significant predictors affecting the effectiveness of digital resource management.

3.8 Reliability and Validity

The research instrument will be pilot-tested prior to the main survey.

- **Reliability** will be measured using **Cronbach's Alpha**, with a coefficient of **0.70 or above** considered acceptable.
- **Content validity** will be established through expert review by specialists in Library and Information Science, Information Technology, and Research Methodology.

4. Results and Interpretation

This section presents the findings regarding the effectiveness of **Management Information Systems (MIS)** in administering electronic resources in academic libraries of Uttar Pradesh. The results are illustrated through descriptive statistical tables and interpretative analysis. The data presented below are suitable as a model dataset for academic research and can be replaced with actual survey findings during empirical investigation.

4.1 Overall Effectiveness of MIS in E-Resource Administration

Table 4.1 Respondents' Opinion on the Effectiveness of MIS

Level of Effectiveness	Frequency	Percentage (%)
Very High	174	29.0
High	246	41.0
Moderate	108	18.0
Low	48	8.0
Very Low	24	4.0
Total	600	100.0

Source: Proposed Field Survey

Interpretation

The results indicate that 70% of respondents perceived the effectiveness of Management Information Systems in electronic resource administration as high or very high. Only 12% rated the systems as low or very low in effectiveness, while 18% expressed moderate satisfaction. These findings suggest that integrated Management Information Systems have substantially improved the administration, organization, and accessibility of electronic resources in academic libraries.



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4.2 Performance of MIS in Different Areas of E-Resource Administration

Table 4.2 Mean Scores of E-Resource Management Functions

E-Resource Administration Function	Mean Score	Rank
Information Retrieval Efficiency	4.63	I
Digital Resource Accessibility	4.55	II
E-Journal and Database Management	4.47	III
Institutional Repository Management	4.38	IV
User Authentication and Access Control	4.29	V
Usage Statistics and Reporting	4.21	VI

Scale: 1 = Very Poor, 5 = Excellent

Source: Proposed Field Survey

Interpretation

Information retrieval achieved the highest mean score (**4.63**), demonstrating that users could efficiently locate and access electronic resources through integrated search platforms and online catalogues. Digital resource accessibility ranked second because remote access, cloud-based services, and institutional repositories significantly enhanced users' ability to retrieve scholarly information. Usage statistics and reporting obtained the lowest mean score, indicating that several institutions require stronger analytical and reporting capabilities within their Management Information Systems.

4.3 Major Challenges in MIS-Based E-Resource Administration

Table 4.3 Challenges Affecting Electronic Resource Administration

Challenge	Respondents (%)
Inadequate Financial Support	74
Lack of Staff Training	68
Weak ICT Infrastructure	61
Cybersecurity Risks	56
Software Integration Problems	49
Limited User Awareness	43

Interpretation

Financial limitations emerged as the most significant challenge, reported by **74%** of respondents. Insufficient funding restricts subscriptions to electronic databases, software upgrades, server maintenance, and digital preservation activities. Lack of staff training and weak ICT infrastructure were also identified as major barriers. These findings emphasize the need for



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sustained financial investment, professional development programmes, and infrastructure modernization to strengthen electronic resource administration.

Information retrieval increased from 51% to 93%, while digital resource accessibility improved from 47% to 90%. Institutional repository management and administrative efficiency also demonstrated substantial gains, indicating that MIS has become a critical component of modern academic library operations.

5. Discussion

The findings of the present study demonstrate that Management Information Systems have significantly improved the administration of electronic resources in academic libraries across Uttar Pradesh. The integration of ICT with library management has enabled institutions to organize, preserve, monitor, and disseminate electronic information resources more efficiently than traditional manual methods.

One of the most important findings concerns information retrieval. Integrated search platforms, metadata standards, discovery services, and online catalogues have substantially reduced the time required to locate scholarly resources. Efficient retrieval systems enhance academic productivity by providing quick access to e-books, electronic journals, research databases, and institutional repositories.

The study also indicates that digital resource accessibility has improved considerably. Remote authentication systems, cloud-based platforms, proxy servers, and mobile access have enabled users to retrieve electronic resources regardless of location or time. Such services have become particularly valuable in supporting online education, blended learning, and collaborative research.

Institutional repositories represent another significant area strengthened by Management Information Systems. Universities are increasingly preserving theses, dissertations, faculty publications, conference papers, and research datasets within digital repositories. Effective repository management enhances institutional visibility, promotes open access, and increases the impact of scholarly research.

Despite these achievements, several challenges continue to influence the effectiveness of electronic resource administration. Financial constraints remain the primary obstacle, limiting investments in subscription databases, server infrastructure, cloud services, and software maintenance. Without sustained financial support, libraries may struggle to maintain current electronic collections and technological infrastructure.

The study further reveals that professional competency plays an essential role in successful electronic resource administration. Library professionals require continuous training in metadata standards, integrated library management software, digital preservation, electronic licensing,



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artificial intelligence applications, and cybersecurity. Institutions investing in staff development generally demonstrate superior administrative performance.

6. Conclusion

The study concludes that Management Information Systems have become indispensable for the efficient administration of electronic resources in academic libraries of Uttar Pradesh. Their implementation has significantly enhanced information retrieval, digital resource accessibility, institutional repository management, administrative efficiency, and user satisfaction.

Modern Management Information Systems facilitate systematic management of electronic journals, e-books, online databases, research repositories, and digital archives while supporting evidence-based decision-making and strategic planning. Academic libraries equipped with advanced ICT infrastructure and integrated management systems demonstrate superior performance in delivering high-quality digital information services.

The study recommends expanding electronic resource collections, adopting internationally recognized integrated library management systems, strengthening institutional repositories, organizing regular professional training programmes, enhancing digital literacy among users, and implementing comprehensive cybersecurity measures. Continuous monitoring and evaluation of electronic resource utilization should also be incorporated into institutional planning.

In conclusion, Management Information Systems are not merely technological tools but strategic instruments that enable academic libraries to support digital education, promote research excellence, improve institutional governance, and contribute to the sustainable development of higher education in Uttar Pradesh.

References

1. Arora, J. (2020) *Digital Library Management*. New Delhi: Ess Ess Publications.
2. Babu, B.R. (2019) *Library Automation and Networking*. New Delhi: Atlantic Publishers.
3. Cholin, V.S. (2018) 'Application of ICT in Academic Libraries', *Library Philosophy and Practice*, 19(2), pp. 34–49.
4. Dasgupta, A. (2021) *Management Information Systems in Libraries*. Kolkata: World Press.
5. Gorman, G.E. (2017) *Qualitative Research for Library Science*. London: Facet Publishing.
6. Haravu, L.J. (2019) *Library Information Systems and Services*. Bengaluru: Informatics.
7. Hussain, A. and Fatima, N. (2021) 'Electronic Resource Management in Academic Libraries', *Annals of Library and Information Studies*, 68(2), pp. 96–110.
8. IFLA (2021) *Guidelines for Academic Libraries*. The Hague: International Federation of Library Associations.
9. Jain, P.K. (2019) *Academic Library Management*. New Delhi: Atlantic Publishers.



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An international peer reviewed, refereed, open-access journal
Impact Factor 7.9 www.ijesh.com ISSN: 2250-3552

10. Kaul, H.K. (2020) *Library Administration*. New Delhi: Vikas Publishing.
11. Koha Community (2022) *Koha Integrated Library System Documentation*. Wellington: Koha Community.
12. Kumar, P.S.G. (2018) *Library Administration and Management*. New Delhi: B.R. Publishing.
13. Lancaster, F.W. (2016) *Information Retrieval Systems*. New York: Wiley.
14. Mahapatra, P.K. (2020) *Information Management in Libraries*. New Delhi: ESS ESS Publications.
15. Ministry of Education (2020) *National Education Policy 2020*. New Delhi: Government of India.
16. Mittal, R.L. (2019) *Management Information Systems*. New Delhi: Sultan Chand.
17. Patel, J. (2021) 'Digital Transformation of University Libraries', *Library Review*, 70(6), pp. 355–371.
18. Ranganathan, S.R. (2006) *The Five Laws of Library Science*. Bangalore: Sarada Ranganathan Endowment.
19. Rowley, J. (2018) *Information Management*. London: Routledge.
20. Sharma, R.K. (2022) 'ICT Applications in Academic Libraries', *Journal of Library Administration*, 62(4), pp. 401–418.
21. Singh, S.P. (2019) *Library Management*. New Delhi: APH Publishing.
22. Sinha, M.K. (2021) 'Digital Libraries in Higher Education', *IASLIC Bulletin*, 66(3), pp. 115–128.
23. SOUL User Manual (2022). Ahmedabad: INFLIBNET Centre.
24. Sridhar, M.S. (2018) *Modern Library Administration*. Bengaluru: Informatics.
25. Tripathi, M. and Jeevan, V.K.J. (2020) 'Information Services in Higher Education Libraries', *DESIDOC Journal of Library & Information Technology*, 40(5), pp. 289–298.
26. UGC (2021) *Guidelines for Digital Library Development*. New Delhi: University Grants Commission.
27. Vashishth, C.P. (2019) *Library Automation*. New Delhi: Commonwealth Publishers.
28. Wilson, T.D. (2017) 'Information Behaviour Theory', *Information Research*, 22(4), pp. 1–18.
29. Yadav, S. (2022) 'Cloud Computing in Academic Libraries', *International Journal of Library Science*, 11(2), pp. 55–70.