Volume - 5 (2025)
Issue - 1 (December)
LIBRARY SCHOLAR
International Peer-Reviewed Journal of Library Science
ISSN 2583-2549

RECENT TRENDS IN LIBRARY AND INFORMATION SCIENCE (LIS): A 2024 – 2025 REVIEW

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Abstract : *This paper synthesizes recent developments and emergent directions in Library and Information Science (LIS) from 2022 through mid-2025. Using a targeted literature review of professional reports, peer-reviewed articles, association surveys, and sector commentary, it identifies and analyses the principal trends shaping libraries and information services: artificial intelligence and automation; digital transformation and digitization (including immersive technologies); open science, scholarly communication, and research data management; data curation and digital stewardship; privacy, ethics, and surveillance; access, equity, diversity, and community engagement; metadata, discovery, and the semantic web; workforce development and changing roles; and legal, financial, and political pressures. For each trend the paper outlines drivers, practical manifestations in libraries, benefits and risks, and strategic implications. The review ends with recommended priorities for practice, policy, and research. Key claims are supported by recent reports from major library bodies and recent literature.* *eScholarship+3crln.acrl.org+3American Library Association+3*

Introduction :

Libraries have historically adapted to technological and social shifts from the printing press through to the internet; the early 2020s continue that pattern but with accelerated intensity. New technologies (particularly generative artificial intelligence), expanding expectations for digital services, ongoing debates about privacy and intellectual freedom, and fiscal and political pressures have combined to make this a period of rapid transformation for LIS practice, education, and scholarship. This paper synthesizes recent evidence (association surveys, trend reviews, empirical studies, and professional commentary) to provide an integrative view of the most consequential trends, highlight tensions, and suggest practical responses for library leaders, practitioners, and researchers. crln.acrl.org+1

Methods: scope and approach :

This study is a targeted literature review rather than systematic meta-analysis. Sources were selected to capture contemporary professional and scholarly conversations (2022–mid-2025), emphasizing: (1) national and international library association reports

and surveys (which reveal sector-level practices and priorities), (2) peer-reviewed literature and preprints addressing technological adoption and impacts in libraries, and (3) reputable press and commentary documenting policy and operational shifts. Major sources informing the review include ACRL/College & Research Libraries News trend reviews, the ALA/PLA public library technology survey, professional commentary in *Library Journal*, and multiple recent literature reviews and empirical studies on AI, digital transformation, and privacy in libraries. Where claims are empirical or could have recently changed, citations to up-to-date reports are provided. crln.acrl.org+2American Library Association+2

Major trends :

1 Artificial Intelligence (AI) and automation

1.1 Overview and drivers :

The arrival of powerful machine learning models, especially large language models (LLMs) and generative AI tools (chatbots, summarizers, question-answering systems), has quickly moved AI from experimental projects into mainstream library planning. Drivers include user demand for faster, personalized discovery; pressures to improve operational productivity (cataloging, metadata enrichment, reference triage); and institutional interest in AI-enabled analytics for decision-making. Several recent reviews and sector pieces document AI's rapid adoption and its broad promise across library functions. crln.acrl.org+1

1.2 Applications in libraries :

Practical applications include: AI-assisted metadata enhancement (entity extraction, subject tagging), automated transcription and OCR correction for digitized collections, chatbot-based reference services and FAQ bots, recommendation/personalization systems, and analytics for space and collection planning. In academic contexts, libraries are piloting AI to support literature reviews, research discovery pipelines, and teaching about AI literacy. The 2023–24 public library technology survey lists AI as a growing area of adoption and experimentation among libraries. American Library Association+1

1.3 Benefits, risks, and governance :

Benefits are efficiency gains, improved findability, and enhanced patron services. Risks are considerable: algorithmic bias, data privacy and security, over-reliance on opaque proprietary systems, misinformation (hallucinations from generative models), and threats to professional roles if automation is used to justify staffing cuts. Libraries are therefore focusing not only on deploying AI but also on governance — transparent procurement, local oversight, training, and policies to preserve ethics and intellectual freedom. Professional guidance and case studies emphasize cautious, human-in-the-loop

approaches. crln.acrl.org+1

2. Digital transformation, digitization, and digital scholarship :

2.1 Digitization and access :

Large-scale digitization projects remain central to cultural heritage preservation and access. Recent projects (national and city-level heritage digitization) have made rare and local content widely available online, enabling global scholarship while raising concerns about metadata quality and curation resources. News coverage and institutional reports show governments and civic programs continuing investments in digitization. The Times of India

2.2 Digital scholarship and research support :

Libraries have expanded roles in digital scholarship (institutional repositories, research data management, open science advocacy, computational humanities). Academic libraries increasingly position themselves as partners in reproducible research, data curation, and publishing infrastructure. Open science agendas and the reproducibility movement make libraries natural allies for researchers, leading to new services and staffing models. crln.acrl.org+1

2.3 Immersive and emerging digital environments (VR/AR/metaverse) :

Explorations of immersive technologies for instruction, exhibits, and accessibility have accelerated. Studies assess "metaverse readiness" and explore virtual spaces for community engagement, museum-library partnerships, and experiential learning. While promising, these technologies require careful UX design, inclusion strategies, and infrastructure investment. Taylor & Francis Online+1

3.3 Open science, scholarly communication, and research data management (RDM) :

Open access (OA), open data, and alternative scholarly publishing models remain major trends. Libraries act both as advocates (policy support, APC negotiations, repository hosting) and as implementers (institutional OA funds, curation services). The convergence of OA, FAIR data principles (Findable, Accessible, Interoperable, Reusable), and pressures for research transparency have expanded library mandates in research data management, metadata standards, and researcher training. These shifts also create complex negotiation points with commercial publishers and platform vendors. crln.acrl.org+1

3.4 Data curation, digital preservation, and stewardship :

As research outputs diversify (software, code, datasets, interactive visualizations), libraries are broadening preservation strategies beyond static PDFs. Data management plans, persistent identifiers (DOIs), and active curation workflows are now standard

services in many academic libraries. Long-term stewardship presents technical and funding challenges — scalable storage, format migration, and sustaining human expertise — so libraries are forming collaborative networks, shared infrastructures, and regional digital preservation consortia. crln.acrl.org

3.5 Privacy, intellectual freedom, and surveillance :

5.1 Privacy as a core value :

Privacy remains a foundational ethical commitment for libraries. Recent advocacy and toolkits from the American Library Association and other bodies highlight libraries' role in protecting patron privacy, opposing unwarranted surveillance, and offering privacy education. This commitment is increasingly tested by third-party digital services, government data requests, and surveillance technologies introduced under the guise of security or cost savings. American Library Association+1

5.2 Surveillance, self-service, and automation tradeoffs :

Municipal and local authorities have introduced self-service kiosks, CCTV, and smartcard systems to cut staffing costs and extend hours — moves that raise questions about safety, equity, and the erosion of patrons' privacy and human interaction. Commentators and trade press document debates about the "end of the librarian" narrative where cost-cutting automation risks undermining professional, human-centered services. Libraries are responding with public advocacy, policy interventions, and calls to center user privacy when adopting new technologies. The Guardian+1

3.6 Access, equity, diversity, and community engagement (DEI) :

The pandemic-era focus on access — digital inclusion, broadband, and device lending — has persisted. Libraries increasingly frame themselves as community anchors for digital literacy, workforce training, and social services (e.g., resume workshops, tax help, civic information). DEI efforts in collections, staffing, and outreach continue to be priorities, with libraries rebalancing acquisitions, expanding multilingual and culturally responsive services, and partnering with community organizations to reach underserved populations. Legislative pressures (book bans, funding constraints) have also intensified equity challenges in some jurisdictions. everylibrary.org+1

3.7 Metadata, discovery, and the semantic web :

Improved discoverability remains a constant goal. Trends include using linked data and schema-based approaches to improve semantic richness, implementing entity-based discovery, and leveraging AI for automated metadata extraction and enrichment. While these approaches promise better search experiences and interoperability, they require governance, standards harmonization, and staff skills for ontology mapping and linked data modeling. crln.acrl.org

3.8 Workforce skills, roles, and professional development :

Library staff roles are changing: digital librarians, data stewards, metadata specialists, scholarly communications officers, and technology librarians are in increased demand. Professional development has shifted to rapid upskilling in data science basics, AI literacy, privacy law, and digital preservation practices. Libraries also face recruitment and retention pressures as private sector opportunities compete for similar skill sets, and as budget constraints affect staffing models. crln.acrl.org

3.9 Legal, financial, and political pressures :

Recent years show increased politicization of library materials (challenges/bans), legislative interest in library governance and standards, and varied government funding environments. Advocacy organizations and local campaigns have both protected and threatened library services depending on political contexts. Financial austerity in municipal budgets has pushed libraries toward automation for cost savings — a strategy that has stirred pushback from staff and communities. everylibrary.org+1

4. Cross-cutting themes and tensions :

4.1 Human-centered services vs. automation :

A recurring tension is balancing human professional judgment with automation's efficiency. While AI and self-service can extend services, they also risk degrading personalized help that is central to library missions. Practitioners emphasize "human-in-the-loop" designs, preserving professional checkpoints for quality and equity.

4.2 Openness vs. commercialization :

Libraries champion openness (OA, open data), but many technological solutions are proprietary (AI platforms, discovery layers, vendor dashboards). This raises dependency risks and reintroduces vendor lock-in for infrastructures that libraries must be able to steward over decades.

4.3 Privacy and ethics in a datafied environment :

As libraries collect more usage data for analytics and personalization, protecting patron privacy becomes both more challenging and more critical. Ethical frameworks, narrow data collection, and strong governance help balance service improvement with civil liberties.

4.4 Capacity, funding, and sustainability :

Emergent services (RDM, digital preservation, AI governance) require stable funding. Short grant cycles and ad hoc project funding hamper long-term sustainability.

Collaborative consortia and shared infrastructure models are common mitigation strategies.

5. Strategic implications and recommended actions :

Below are recommended priorities for library leaders, practitioners, and researchers based on the trends identified.

5.1 Adopt principled AI strategies :

- Create AI governance frameworks that require transparency from vendors, favor human-in-the-loop workflows, and include bias and privacy audits.
- Pilot small, high-value AI projects (e.g., metadata enrichment, FAQ bots) with evaluation metrics before scaling. (See guidance and sector discussions on AI adoption and governance.) crln.acrl.org+1

5.2 Invest in digital preservation and RDM capacity :

- Prioritize sustainable storage strategies, adopt community metadata standards, and participate in regional preservation consortia.
- Embed data curation and FAIR principles into researcher training and repository services. crln.acrl.org

5.3 Protect privacy and intellectual freedom proactively :

- Update privacy policies for new digital services; perform DPIAs (Data Protection Impact Assessments) on systems that collect patron data.
- Advocate publicly for privacy protections and oppose surveillance practices that compromise patrons' rights. American Library Association+1

5.4 Strengthen community-centered digital inclusion :

- Sustain and expand programs for broadband access, device lending, digital literacy, and workforce development.
- Use participatory design to ensure services meet community needs and support marginalized groups. American Library Association

5.5 Build workforce skills and career pathways :

- Provide structured training in data stewardship, AI literacy, metadata for linked data, and digital scholarship.
- Create collaborating pathways with local universities and professional

organizations to attract and develop talent. crln.acrl.org

5.6 Pursue diversified and collaborative funding :

- Seek partnerships (public-private, philanthropic, consortial) and shared infrastructural investments to reduce single-institution vulnerability.
- Advocate for sustained public funding that recognizes libraries' social and civic roles. everylibrary.org

6. Research gaps and future research agenda :

Several areas warrant further empirical investigation:

1. **AI impacts on professional practice** — longitudinal studies on how AI changes librarians' workflows, job satisfaction, and service quality.
2. **Effectiveness and equity of AI recommendations** — audit studies of bias and differential impacts across patron populations.
3. **Sustainability models for digital preservation** — comparative studies of consortial vs. institution-specific models and their long-term viability.
4. **Privacy outcomes of new services** — evaluation of how new digital services affect patron privacy in practice and the effectiveness of mitigation strategies.
5. **Community outcomes of digital inclusion programs** — impact assessments linking library interventions to measurable improvements in employment, education, or civic participation.

Filling these gaps will require mixed-methods approaches and partnerships across institutions and sectors. crln.acrl.org+1

Conclusion :

The period 2024–2025 has been one of rapid change for Library and Information Science (LIS), driven by technological advances, evolving user expectations, and the growing prominence of global challenges. A number of clear trends have emerged, with both opportunities and tensions.

From AI and automation to open science and privacy advocacy, the LIS field is simultaneously innovating and defending its core values. Libraries' commitments to access, intellectual freedom, and stewardship are being tested by new technologies, resource constraints, and political dynamics. Nonetheless, strategic investments in governance, workforce development, collaborative infrastructures, and community engagement can help libraries harness technological benefits while preserving public trust. The trends documented here point to a future where libraries, as adaptive civic institutions,

will remain central to knowledge ecosystems — provided they align new capabilities with ethical frameworks and sustainable funding models.

In sum, 2024–2025 is a period in which LIS stands at a crossroads: leveraging new technologies and ideas to expand reach and relevance, while also confronting the risks and inequities that rapid change brings. The libraries and information professionals who succeed will be those that balance innovation with ethics, access with quality, and tradition with transformation.

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Note: the references below were used to support major claims and to reflect recent professional and scholarly sources (2022–mid-2025).

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