How Academic Structure Shapes Research Focus in Library and Information Science Schools

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ABSTRACT
This study examines how academic structure influences research focus in Library and Information Science (LIS) schools. We analyzed 16,671 publications from 745 faculty across 42 U.S. programs. Schools with independent LIS units demonstrate diverse research portfolios, while those sharing administration show variations: computer science affiliations emphasize technical topics with minimal traditional library research, education affiliations focus on library science and metadata, and communication affiliations balance traditional areas with social media research.

KEYWORDS
Library and Information Science Research; Academic Structure; Bibliometrics

INTRODUCTION
Library and Information Science (LIS) has epitomized the norm of interdisciplinary study since its inception. Scholars have examined the interdisciplinarity of LIS from various angles, including research performance (Yu et al., 2024), teaching curriculum (Urs & Minhaj, 2023), and historical shifts in iSchool structures (Renear & Wei, 2022). Nonetheless, with data science emerging as a pivotal field, LIS schools have faced challenges in determining whether to adapt their organizational structures to the evolving landscape of data science (Vostal, 2016; Shah et al., 2021).

The topic of school composition and restructuring has long been a subject of discussion across diverse research fields (Huge, 1978). This aspect of university strategic planning, often referred to as Organizational Structure, concerns the organization of individuals, the division of tasks, and the coordination of these tasks (Nyathi & Bhebhe, 2019). Such topics are frequently explored within pedagogy and sociology, where it's highlighted that organizational structure is intertwined with the study of knowledge legitimation—specifically, how organizational contexts contribute to the social construction of knowledge (Gumport & Snydman, 2016). In the context of our study, the academic structure of a LIS school mirrors how it articulates its values of interdisciplinarity. In this study, we aim to build an understanding of how the academic structures of LIS influence their research and identify patterns and trends in research topics and to assess the extent to which structural configurations affect the focus and diversity of scholarly work in LIS.

DATA AND METHODS
We use the list of Best Library and Information Studies Programs from U.S. News and World Report to select schools for this study, in which there are 55 schools. Schools that only offer a LIS degree program without an academic unit of LIS are excluded. 44 out of 55 schools have a dedicated academic unit of LIS with full-time faculty. We examined these 44 schools by visiting their website to code their academic structure, identifying five major types:

- **LIS-I**: LIS units are standalone and independent (22 schools)
- **LIS-CS**: LIS units share administration with computer science (4 schools)
- **LIS-COM**: LIS units share administration with communication disciplines (7 schools)
- **LIS-EDU**: LIS units share administration with education disciplines (7 schools)
- **LIS-AS**: LIS units are in the College of Arts and Sciences (4 schools)

We collected 910 full-time faculty members (tenure-track and non-tenure track) from the 42 schools using AI-assisted extraction from faculty directory pages. Faculty publications were collected using Dimensions Analytics API. After name disambiguation and validation, 752 faculty members were matched with unique researcher IDs. For each ID we retrieved all works including research article, conference paper, research chapter, or review article. The raw pull (22,259 records) was deduplicated to 16,792 items by collapsing pre-print / published pairs. We used SPECTER2 (Singh et al., 2022) to create embeddings of publications and BERTopic (Grootendorst, 2022) to identify research themes; two outlier themes ("Quantum Communication" and "Atmospheric Chemistry") published by a couple of LIS faculty members were removed, yielding a clean dataset of 16,671 publications spanning 2014-2024.

RESULTS
We identified 14 distinct research themes (Figure 1, left). The research landscape shows clear clustering of related themes, with traditional LIS areas (Library Science and Metadata & Archives) positioned separately from emerging

technical fields (AI and Privacy & Security). Human-Computer Interaction research occupies a central position, reflecting its interdisciplinary nature. Publication trends from 2014-2024 (Figure 1, right) show overall field growth of 3.2% annually, with 16,671 total publications. Emerging areas demonstrate strong growth: AI and Human research shows the highest growth at 9.1% annually, followed by Computing Education (5.4%) and Health Information Technology(5.0%). Information Retrieval (-1.7%) and Privacy & Security (-1.7%) show slightly declining trends, while traditional LIS areas, such as Library Science (3.2%) and Metadata & Archives (1.2%), maintain steady growth.

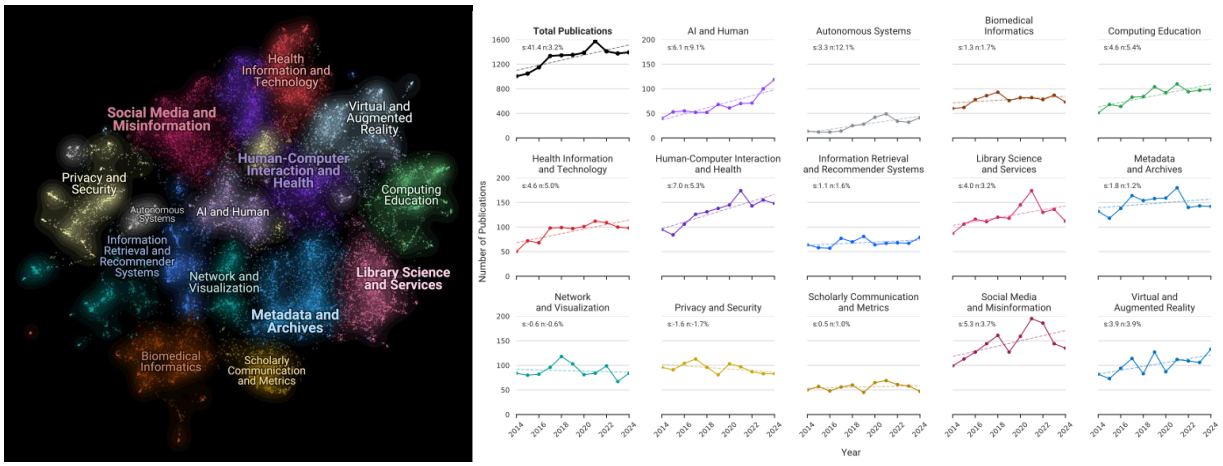

Figure 1. Research trends and landscape in LIS from 2014-2024. Left: Research landscape map where each point represents a publication colored by topic assignment. Right: Publication trends showing overall growth (top panel) and individual topic trajectories over time, with slope (s) and normalized annual growth rate (n).

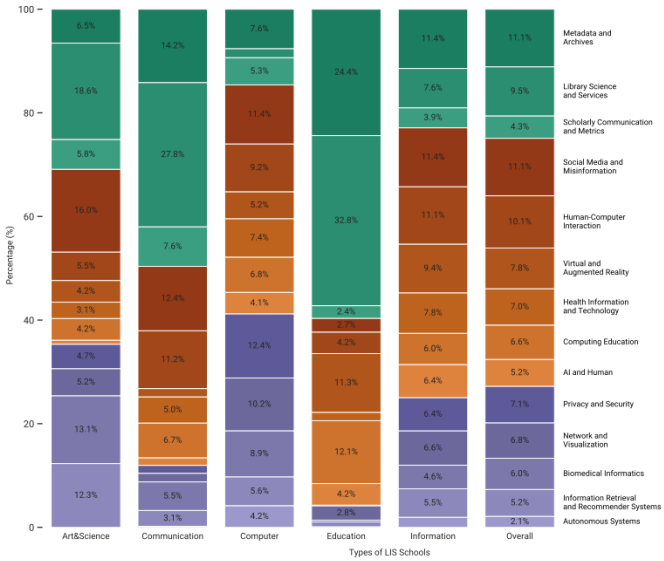

Figure 2. Distribution of research topics across different types of LIS academic structures. The color present three groups of research theme: Information Organization and Library (green), Human-Centered Computing and Social Informatics (orange), and Computing Systems (purple).

Different school types exhibit distinct research profiles (Figure 2). LIS-EDU schools show the strongest focus with 32.8% Library Science and 24.4% Metadata & Archives. LIS-COM schools similarly emphasize Library Science (27.8%) while maintaining significant focus with Social Media research (12.4%). In contrast, LIS-CS schools demonstrate a highly technical orientation with minimal library research (1.74% Library Science) but a strong focus on Privacy & Security (12.38%) and Network & Visualization (10.19%). LIS-I and LIS-AS schools display the most diverse research portfolios, with relatively balanced coverage across all 14 themes.

CONCLUSION

Our analysis demonstrates that academic structure significantly influences research focus in LIS schools, with computer science affiliations driving technical specialization, education affiliations focusing traditional library services, and communication affiliations emphasize social media research. While independent LIS schools maintain the broadest interdisciplinary profiles, variations within these schools need further investigation.

GENERATIVE AI USE

We employed OpenAI API (GPT 4.1) for the following purposes: extracting faculty information from university web pages and enhancing manuscript clarity. We evaluated the output by manual verification and validation. The authors assume all responsibility for the content of this submission.

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