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## Comparative Analysis of Research Topics in Publishing Services of Chinese and Foreign Libraries: Postprint

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### Abstract

[Purpose/Significance] Library publishing services have garnered widespread attention and continue to evolve. Domestic and international scholars have increasingly investigated their challenges to and impacts on traditional book publishing services and the single-location library service model. By summarizing and synthesizing the research directions and topics of scholars worldwide and comparatively analyzing the focal points of Chinese and foreign researchers, this study aims to introduce novel perspectives and provide references for library publishing services in China. [Method/Process] This study employs the Latent Dirichlet Allocation (LDA) document topic extraction method and generates a topic distribution heatmap from the extracted data. [Results/Conclusion] Through a comparative analysis of domestic and international research hotspots, it is revealed that since foreign libraries initiated publishing services earlier, many universities have developed customized publishing service models based on their specific contexts. Consequently, foreign scholars' research predominantly concentrates on analyzing libraries' role positioning, online services, digital trends, and strategic innovation. In contrast, domestic scholars primarily draw upon foreign case studies while integrating domestic realities—such as funding constraints and institutional issues—to identify challenges and emerging opportunities in China's current library publishing services, concurrently proposing models and innovative approaches that align with national development conditions and combine internal and external perspectives.

## Full Text

# Comparative Analysis of Research Themes on Library Publishing Services in China and Abroad

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## Abstract

**[Purpose/Significance]** Library publishing services have attracted widespread attention and continue to evolve. Scholars both domestically and internationally have begun examining their challenges and impacts on traditional book publishing services and single-location library service models. By summarizing and comparing research directions and themes across Chinese and foreign scholars, this study aims to introduce new perspectives and provide references for library publishing services in China. **[Method/Process]** This study employs the LDA document topic extraction method and visualizes topic distributions through heatmaps generated from the extracted data. **[Result/Conclusion]** Through comparative analysis of domestic and international research hotspots, we find that foreign libraries initiated publishing services earlier, with many universities developing customized publishing service models based on their specific circumstances. Consequently, foreign research focuses more on analyzing libraries' role positioning, online services, digital trends, and strategic innovation. In contrast, domestic scholars primarily draw upon foreign cases while integrating local realities—such as funding constraints and institutional issues—to identify challenges and new opportunities in China's current library publishing services, proposing models and innovative approaches that align with domestic development conditions.

Library publishing services, derived from an expanded definition of publishing, involve libraries acting as agents or leaders in publishing activities. Their primary objective is to leverage library platforms to integrate collection resources and institutional academic materials, transforming libraries from mere reading spaces into active participants in publishing and collaborative dissemination. This expansion strengthens academic communication and broadens libraries' scholarly functions [1-2].

From 1988 to 2008, library publishing services underwent a lengthy development process, evolving from nascent to mature stages. Today, these services integrate modern technologies such as digitization, simulation, and visualization while providing intelligent management solutions for author copyrights, journal management, and reader services [3]. The transformation from print to digital and from text to visual formats has continuously revolutionized library resources and service models as technology advances. Libraries have progressed from purchasing publications and providing reading spaces to adding publishing

and academic exchange services, and now to incorporating publishing services as standard library operations. This evolution has become a powerful driver for digitalizing library resources and academic communication, playing a crucial role in improving the scholarly communication environment.

Given that library publishing services have only recently gained momentum in China, scholars have explored various directions regarding their models and content [4-6]. According to the *Library Publishing Directory* published by the Library Publishing Coalition, 102 academic libraries in North America had launched publishing services by 2017 [7]. With abundant case studies available, foreign scholars typically focus on case analysis to extract thematic patterns in library publishing models [8], while domestic scholars concentrate on introducing and adapting foreign experiences to enrich theoretical frameworks [9]. To more deeply explore the themes of library publishing services, this study employs the LDA topic model to compare domestic and international research themes, identifying key research priorities and similarities/differences to provide references for developing library publishing services in China.

## 2. Data Sources and LDA Modeling

### 2.1 Data Sources

To ensure authenticity, comprehensiveness, and persuasiveness, this study retrieved literature from CNKI, CSSCI, and other databases. Using advanced search settings, we selected publications from 2000 to 2010. After screening samples and removing invalid entries, we obtained 181 valid samples. Python was then used to extract data and generate LDA model-based topic data.

### 2.2 LDA Model

We assume that each document contains topics, which manifest as frequently occurring words or terms belonging to specific vocabularies. Extracting these topics has been a focal point for scholars. Currently, the primary models for topic extraction are PLSA (Probabilistic Latent Semantic Analysis) and LDA (Latent Dirichlet Allocation). This study adopts the LDA topic extraction model.

LDA is a three-layer Bayesian probabilistic document topic generation model that uses Bayesian principles to extract document topics and terms. The document topic generation process is defined as follows: for each document, a topic is drawn from the document's topic distribution; then, a word is drawn from that topic's term distribution. This process repeats until all words in the document have been processed.

Since applying Bayesian models requires a probability distribution foundation, options include binomial distribution, Beta distribution, multinomial distribution, and Dirichlet distribution. The multinomial and Dirichlet distributions are conjugate, making Dirichlet distribution the preferred choice.

The LDA model data extraction process can be understood simply through Figure 1 [Figure 1: see original paper]. In Figure 1:  $K$  represents the number of topics,  $k$  denotes the  $k$ -th topic,  $M$  represents the number of documents,  $m$  denotes the  $m$ -th document,  $n$  denotes the  $n$ -th token,  $N$  is the total number of tokens in the document,  $\theta_k$  is the topic distribution,  $z_n$  indicates the assigned topic,  $w_n$  represents the  $n$ -th token in document  $m$ ,  $\alpha$  is the Dirichlet distribution for topics,  $\phi_k$  is the term distribution for the  $k$ -th topic, and  $\beta$  is the Dirichlet distribution for terms.

For LDA model parameters, this study set 2,000 iterations,  $\alpha = 0.02$ ,  $\beta = 0.1$ , 15 topics, and extracted the top 50 terms by probability. The hotspot distributions for each topic are shown in Figure 2 [Figure 2: see original paper] and Figure 3 [Figure 3: see original paper].

### 3. Analysis of Research Themes in Library Publishing Services

#### 3.1 Foreign Library Publishing Services Research Themes

**3.1.1 Theme 1: Role Positioning of Library Publishing Services** This theme primarily explores the positioning of library publishing services within the academic publishing system. Libraries must play different roles across the university-library-librarian-reader-scholarly communication team chain, requiring both independent management and compliance with institutional governance. They must acquire publications while also launching publishing services when objective conditions such as funding and demand permit [10]. Consequently, coordinating and transforming these roles, enhancing the leadership of library services, cultivating librarians' recognition and participation in expanded services, and popularizing awareness among readers and scholars have become widespread challenges. Research reveals that libraries can have competitive or strategic cooperative relationships with publishers, form interest communities with universities, and establish partnerships with faculty, all of which enrich the discourse on role positioning in library publishing services.

**3.1.2 Theme 2: Library Online Publishing Services** The primary driver for libraries providing publishing services is the widespread application of computer and network technologies, which have propelled knowledge dissemination from print to digital media. Library publishing services are increasingly applied online. Currently, foreign university libraries openly provide services including hosting, academic publishing, ISSN registration, URL linking, peer review, academic exchange, manuscript processing, print-on-demand, data preservation, and document digitization. Publication types now extend beyond journals, papers, reports, literature, books, and conference proceedings [11]. Hosting serves as the core of online promotion, initially applied to institutional repository archiving (e.g., in universities) and later extended to server support, software development, and online applications. Libraries leverage information technology

infrastructure to provide digital publications while offering offline services such as document classification management, academic exchange, and book printing to support and enrich online services. Library publishing services are typically integrated with online offerings like personal digital libraries, digital projects, online access, and online consultation.

**3.1.3 Theme 3: Library Publishing Digitalization and Open Access (OA)** The University of California's Publishing Group employs advanced digital management to provide comprehensive publishing services. For example, the eScholarship project offers scholars a dynamic online academic publishing platform, while the UCPubs project provides offline book printing, distribution, and manuscript management. The University of Pittsburgh Library's D-Scribe project offers hardware/software hosting, graphic design, scanning and digital management, editorial consultation, web editing training, ISSN and DOI registration, and global sharing of open electronic publications. The Euclid project, jointly launched by Cornell University and Duke University, aims to build a non-profit online publishing platform that has shared over 30,000 publications including journals, books, conference documents, and papers, achieving global resource sharing through mutually beneficial cooperation with publishers [12].

**3.1.4 Theme 4: Strategic Innovation in Library Publishing Services** Libraries originally provided publishing services to advance academic publishing and open resource sharing, enriching academic exchange to promote scholarly development. Under this strategic vision, library publishing services have gradually formed systematic frameworks with distinctive features centered around universities. However, various challenges remain, including monopolies by commercial academic publishers over journals and books, peer review and publication timeliness, commercial conflicts with publishers, and economic benefits [13-14]. Scholarly attention and recommendations provide ideas and feasibility for addressing these issues, with some universities implementing programs such as reader-pays reading models and public participation in peer review to optimize strategic implementation of library publishing services.

## **3.2 Domestic Library Publishing Services Research Themes**

**3.2.1 Theme 1: Foreign University Library Publishing Service Cases** This theme focuses on analyzing practical cases of foreign university library publishing services. Miao Meijuan and Liu Ziheng investigated foreign library publishing service status based on the *Library Publishing Directory*, detailing the characteristics and content of publishing services provided by over 100 North American universities and analyzing different operational models such as those at the University of Michigan Library [15] and the University of Pittsburgh Library. Through these case studies, domestic scholars recommend introducing foreign library publishing service concepts to provide references for Chinese universities. Notable projects such as the University of California's eScholarship, Purdue University's e-Pubs, the University of Pittsburgh Library's D-Scribe,

Canada's Synergies, and the Australian National Library's OpenPublish all leverage institutional resources with sufficient funding support, offering distinctive services that warrant study by Chinese universities.

**3.2.2 Theme 2: Opportunities and Challenges for Domestic University Library Publishing Services** Under the new positioning of library publishing services, new opportunities and challenges have emerged. First, the open access concept advocates free and open scholarly literature, breaking publishers' monopolies and creating opportunities for academic publishing in the network environment [16]. Today, online access has become mainstream for scholars seeking academic information. According to the Directory of Open Access Journals (DOAJ), over ten thousand journals worldwide now use open access models, with hundreds of thousands of academic articles available. However, as Chinese universities are public institutions, their libraries operate under public finance appropriation systems, often facing funding shortages that suspend or terminate publishing services. For instance, Tongji University Library once suspended its subscription to the prestigious journal *Science* due to funding issues. Additionally, price increases for journal databases by international publishers pose significant challenges [17], forcing some university libraries to purchase domestic database resources instead, thereby affecting overall service quality [18-19].

**3.2.3 Theme 3: Library Publishing Service Models** Liu Yaqiong [20] identifies three primary models for library publishing services: (1) libraries establishing their own publishing houses, (2) libraries cooperating with designated publishers, and (3) tripartite cooperation among libraries, publishers, and third parties. In each model, libraries must define their role positioning and seek development opportunities. The self-established publishing house model faces two challenges: competition from commercial publishers and distribution of published materials. Since establishing a publishing house involves staffing and funding allocation, non-open access publications are difficult to consume internally, creating greater financial pressure than commercial publishers. Effectively integrating library hardware resources with university human resources remains a key issue for libraries to address under new service models.

**3.2.4 Theme 4: Development Strategies and Innovation in Library Publishing Services** In the digital and networked environment, traditional publishing models no longer suit current library publishing services. The decline of print media and the rise of digital networks have made online knowledge dissemination more concentrated and efficient [21]. Due to institutional differences in Chinese universities, we cannot simply replicate foreign approaches but must adapt them to local realities. For example, while foreign universities fund publishing services through open access models [22], this approach faces competition from commercial publishers and distribution difficulties in China. However, applying for publishing funds through university channels while promoting and dis-

playing publications internally can resolve funding and distribution challenges. Additionally, establishing systematic disciplinary promotion and academic exchange circles for university strengths can position libraries as core mobilizers, enabling publishing services to better facilitate scholarly communication and intellectual exchange.

#### 4. Comparative Analysis of Domestic and International Library Publishing Service Research Themes

Comparative analysis reveals that foreign library publishing service research focuses on four main themes: library role positioning, online publishing services, digital publishing and open access, and strategic innovation. Domestic research concentrates on four themes: foreign university library publishing cases, opportunities and challenges for domestic university libraries, publishing service models, and development strategies and innovation. The research emphases differ between Chinese and foreign scholars.

Key findings include: (1) Due to the higher 普及程度 (popularization) of foreign library publishing services, foreign scholars have ample case studies and focus more on conceptual issues like library role positioning, considering how libraries should manage upstream and downstream industry chains, undertake digital publishing of scholarly works, and cooperate with scholars, experts, and publishers to maximize knowledge dissemination. Domestic scholars, meanwhile, analyze foreign cases for applicability to Chinese university libraries and propose flexible, practical recommendations. (2) Foreign digital and online access systems are mature with systematic knowledge documentation. In contrast, most Chinese libraries must purchase services from CNKI, and self-built online libraries and document digitization remain weak or non-existent in most Chinese universities. Thus, foreign scholars can reference numerous cases when analyzing online and digital services, while domestic scholars must focus on promoting domestic library service openness. (3) Despite abundant foreign case references, direct application proves difficult. Current challenges primarily stem from management systems and funding constraints, making how to mobilize library enthusiasm and fully utilize existing resources hot topics among domestic scholars. (4) Regarding innovation, foreign scholars emphasize strategic innovation—advancing library publishing services under the overarching strategy of academic exchange and knowledge promotion tailored to specific universities—while domestic scholars focus more on tactical innovation: solving immediate problems and introducing publishing services.

This study employed the LDA model to screen CNKI and CSSCI databases for relevant articles from 2000-2010, extracting domestic and international library publishing service research themes for comparative analysis. Conclusions are as follows: (1) Foreign research hotspots concentrate on library role positioning, online publishing, digital publishing and open access, and strategic innovation; (2) Domestic research focuses on foreign university library cases, domestic opportunities and challenges, publishing models, and development strategies; (3)

While themes of “strategic innovation” and “development strategies” appear similar between domestic and foreign research, their specific emphases differ. A limitation of this study is the small sample size; however, since the LDA model repeatedly samples to identify high-frequency themes, omitted articles are avoided, ensuring reliable data and reference-worthy conclusions.

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## Author Contributions

Chen Chunyang: Paper writing, data processing, and revision;  
Liao Yuanli: Overall paper structure design and quality control.

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## Compare the Research Themes of Chinese and Foreign Library Publishing Services

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**Abstract:** [Purpose/significance] Library publishing service has been widely concerned and constantly developed. Scholars at home and abroad have begun to study its challenges and influences on the old book publishing service and the single library venue service model. By summarizing the research directions and topics of domestic and foreign scholars, and comparing the hotspots of Chinese and foreign scholars, this paper aims to introduce ideas and provide references for library publishing services in China. [Method/process] The LDA document topic extraction method is adopted, and the topic distribution heat map is drawn in the extracted data. [Result/conclusion] By comparing the research hotspots at home and abroad, it is found that due to the early development of publishing services in foreign libraries, many universities will formulate publishing service models according to their own situations. Therefore, foreign scholars' research focuses more on analyzing the role positioning of libraries,

online services, digital trends and strategic innovation; while domestic scholars mainly refer to foreign cases, combined with the actual situation in China, such as funding problems, institutional problems, etc., point out the challenges and new opportunities faced by library publishing services in China, and put forward models and innovative ideas that conform to the domestic development situation and combine internal and external factors. **Keywords:** library publishing services theme research published abroad domestic publishing

*Note: Figure translations are in progress. See original paper for figures.*

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