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Patron-Driven Acquisition in Libraries: A Review of Research (Postprint)

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Abstract

[Purpose/Significance] This study examines in phases the developmental trajectory and inherent challenges of patron-driven acquisition (PDA), exploring its future evolution to provide a reference framework for the practice and scholarly investigation of PDA services in China. [Method/Process] Through a systematic review of domestic and international PDA research literature from recent years, this study employs literature survey and bibliometric methods to analyze these documents, investigating the developmental process in distinct phases and delineating the research hotspots and characteristics of each stage. [Results/Conclusion] PDA research has transitioned from theoretical exploration to innovative investigation; however, issues of research imbalance persist. Future research should focus on new technologies, new methods, new platforms, and new models, while simultaneously giving full consideration to evolving patron demands within the “Internet Plus” environment.

Full Text

Preamble

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A Review of Research on Library Reader Recommendation for Purchase

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Abstract

[Purpose/Significance] This paper examines the developmental history and existing problems of reader recommendation for purchase in stages, and explores future development trends, providing references for the practice and research of reader recommendation services in China. **[Method/Process]** Through literature review and bibliometric analysis, this paper sorts out recent research on reader recommendation for purchase both domestically and internationally, analyzing its developmental stages, current status, and trends. **[Result/Conclusion]** Research on reader recommendation has transitioned from theoretical exploration to innovative research, but suffers from imbalance. Future research directions should focus on new technologies, new methods, new platforms, and new models, while also paying attention to changes in reader needs in the “Internet Plus” environment.

Keywords: reader recommendation for purchase; recommendation work; recommendation system

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Introduction

Since the 21st century, the flourishing publishing industry has produced an ever-increasing number and variety of books. As academic disciplines have become more specialized and numerous interdisciplinary and emerging fields have appeared, reader needs have changed accordingly. Traditional acquisition models centered on library acquisition staff can no longer meet the needs of readers at all levels due to limited personnel and narrow knowledge structures, posing serious challenges to collection development. The quality of book acquisition directly affects the standard of collection building and the degree to which reader needs are satisfied [1]. To allocate collection funds rationally, improve collection quality, optimize collection structure, increase resource utilization, and enhance reader participation and satisfaction, many libraries have successively launched reader recommendation for purchase services.

As these services have been implemented, scholars both domestically and internationally have begun theoretical research on reader recommendation. Current research has focused on concepts, necessity, recommendation methods, and recommendation systems, but no comprehensive review articles have been found. Therefore, this paper traces the chronological development of relevant literature on reader recommendation for purchase, divides the research into stages according to its characteristics, elaborates on the content and features of each stage, and proposes future research directions to provide reference for libraries to guide broader and deeper reader participation in collection development.

1. Conceptual Definitions: Reader Recommendation for Purchase vs. Patron-Driven Acquisition

To increase collection utilization and reader participation in resource building, libraries—especially university libraries—have conducted extensive exploration and practice. Reader recommendation for purchase has become a common book acquisition method in Chinese university libraries to address reader demand. In recent years, a new acquisition model called Patron-Driven Acquisition (PDA) has emerged in American university libraries and become a primary mode for purchasing books, particularly e-books [2]. As these two models are easily confused, it is necessary to clarify their concepts before analyzing reader recommendation models.

This paper compares the differences between the two models across several dimensions: selection process, material type, selection subject, timing, method, cost, selection outcome, and borrowing rate, as shown in Table 1 .

Table 1. Comparison Between Reader Recommendation for Purchase and Patron-Driven Acquisition

Dimension	Reader Recommendation for Purchase	Patron-Driven Acquisition
Selection Process	Select first, then restrict	Restrict first, then select
Material Type	Primarily print books	Primarily electronic books
Selection Subject	Considers current and long-term needs	Considers current needs only
Timing	Requires waiting	Immediate use upon selection
Method	Phone, email, QQ, recommendation system, message board, etc.	Through OPAC search and browse
Cost	Sum of publication, copy, processing, and transportation fees	Cost per reading transaction
Selection Outcome	Universal and representative	Personal and random
Borrowing Rate	May result in zero-borrowing	No zero-borrowing situation

This review focuses on research literature concerning reader recommendation for purchase, though it appropriately draws on advanced PDA concepts to propose more rational suggestions.

2. Literature Analysis

To 梳理 the research history and content of reader recommendation for purchase and analyze its developmental stages, current status, and trends, the authors searched Chinese databases (CNKI, Wanfang, and Renmin University Reprints) using keywords “reader recommendation for purchase,” “reader recommended acquisition,” and “reader recommended purchase,” yielding 148 papers after removing duplicates and irrelevant articles. In international databases (Web of Science, Scopus, Emerald), searches using terms “request,” “*recommend*,” “purchase,” “*suggest*,” “*book*,” “reader,” and “library*” retrieved 67 articles, which reduced to 6 relevant papers after careful reading and deduplication. Most other international literature focused on PDA rather than reader recommendation. To enrich the research material, the authors also surveyed numerous foreign university and public library websites to summarize their practices.

Using bibliometric analysis on these 154 relevant papers, Figure 1 [Figure 1: see original paper] shows the annual publication count from 2002 to July 2017. Based on publication trends, research content, and characteristics, the research can be divided into three stages.

Figure 1. Annual Publication Volume of Reader Recommendation for Purchase Research

2.1 2002–2010: Theoretical Exploration Stage

Research on reader recommendation for purchase began in 2002. During 2002–2010, annual publications numbered fewer than five, indicating an initial research period with scattered authors and low per-capita output. Analysis of 42 papers from this stage reveals that research characteristics included theoretical refinement based on practical summaries, with university libraries serving as the primary research setting. Research content focused mainly on the significance of reader recommendation and recommendation methods.

For instance, in 2004, Zhan Depan first proposed a book recommendation system based on book order catalogs, noting that libraries such as Hebei University had already established such systems [3]. In the same year, Liu Xunfang discussed reader recommendation methods, addressing the necessity and process of online recommendation, pointing out that many libraries had launched online recommendation services [1]. Author affiliation analysis showed that 34 of 39 authors (87.12%) came from universities, with the remainder from public libraries and research institutions, confirming that theoretical research emerged from existing practical exploration and that universities were the main research base.

2.1.1 Significance of Reader Recommendation for Purchase (1) Reader-demand orientation.

Ranganathan’s famous “Five Laws of Library Science” state that books are for use; every reader has his or her book; every book has its reader; save the time of the reader; and a library is a growing

organism [4]. Du Dingyou stated: “Book selection should be for readers, always considering the reader’s level, status, and needs” [5]. American librarians C.A. Cutter and W.F. Pool proposed the “demand theory,” arguing that libraries should select books that meet reader needs [6]. Reader recommendation services guide readers to participate in book selection, ensuring that collection development is reader-demand oriented and establishing good communication between libraries and readers.

(2) Optimizing collection structure. Publishing prosperity and network 普及 have enriched collections but also created information redundancy. Limited by their professional backgrounds, acquisition staff cannot meet all reader needs, especially in emerging and interdisciplinary fields in university libraries. Fan Chunmei argues that organizing reader participation in collection building is an effective solution [7]. Reader involvement enhances the relevance and practicality of acquisitions, rationalizes collection structure, and expands collection scope through participation from diverse reader groups.

(3) Improving collection utilization. Traditional acquisition models consider only the library’s perspective, focusing on intrinsic value and systematic completeness while ignoring actual reader needs [8], often resulting in low borrowing rates, long-term shelving, resource waste, and occupied space. Fan Chunmei notes that purchasing reader-recommended books satisfies reader needs and ensures stable utilization [9]. Gong Fei argues that online recommendation functions shorten the time for readers to access new book information and accelerate information transmission, improving utilization [10]. Reader recommendation reduces redundant purchases and provides decision support for collection development.

2.1.2 Methods of Reader Recommendation for Purchase (1) Traditional methods. Early methods included oral recommendation (face-to-face or phone) and booklist recommendation (filling out or circling selection lists).

(2) Expert consultation. Libraries purchase resources based on recommendations from senior experts in relevant fields. Yu Qingfen introduced the expert consultation system at Hohai University Library, where an expert committee at the departmental level reallocates acquisition funds, and experts make centralized recommendations through a platform [11]. Experts can better grasp disciplinary dynamics and resource needs, avoiding waste from subjective selection by acquisition staff and optimizing collection structure. However, expert recommendations are often macro-level with low participation, failing to meet personalized needs at all levels.

(3) Online recommendation. With network technology development, oral recommendation and forms have been gradually replaced by online recommendation, which has three main forms: (a) libraries release electronic catalogs for readers to select and recommend via message or email; (b) readers recommend titles through social platforms like QQ and forums; and (c) readers recommend

through dedicated recommendation systems. Tang Gaofang argues that online systems enable readers to quickly access new publication information and provide timely feedback [12].

(4) On-site recommendation. University libraries organize comprehensive or subject-specific book exhibitions, cooperate with departments for professional exhibitions, or organize readers to attend external exhibitions. Public libraries mainly cooperate with bookstores, allowing readers to select books directly and recommend them for purchase. In the network environment, university libraries have widely launched online recommendation, becoming a new feature of acquisition work.

2.2 2011–2015: Empirical Research Stage

During this stage, annual publications showed a steady upward trend, exceeding ten per year, with an increasing number of researchers and 15 funded projects at various levels. Research built upon the previous stage’s theoretical foundation, focusing on innovative methods, empirical surveys, and system design and implementation.

2.2.1 Reader Recommendation Practice Bian Lifang proposed three modes: direct recommendation, indirect recommendation, and mining-based recommendation. Through empirical analysis of 33 universities in Jiangsu Province, she noted that each mode has its strengths and libraries should select optimal combinations based on their circumstances [13]. Scholars also proposed new methods, such as micro-book reviews [14], WeChat public platforms [15], computer network media technology [16], and mobile environment services [17].

Empirical studies surveyed implementation status. Guo Mingrong’s survey of 31 undergraduate university libraries in Sichuan found that most libraries emphasized “book recommendation” but suffered from inconvenient column design, poor publicity, and low participation [18]. Li Mingxin’s survey of Jilin University and Wuhan University showed low student participation [19]. Shang Xinli’s survey of “985” university libraries revealed that recommendation services were widespread but had low participation and unsatisfactory results [20]. Xu Jingbo’s survey of “985” libraries found universal attention to recommendation work [21].

Li Mingxin et al. surveyed foreign libraries, randomly visiting ten library websites. Only McLennan Community College Library [22] provided bibliographic data sources, while the University of Waterloo Library [23] provided online catalogs and directed readers to Amazon, GoodReads, OCLC, and FirstSearch for bibliographic information. The remaining eight libraries only provided form-based recommendation. Although limited, this suggests that online recommendation was 普及 abroad, but system-based recommendation was not.

2.2.2 Design and Implementation of Recommendation Systems (1)

System design. Fu Yun used a B/S three-tier architecture to build a logical model with ten functional modules including user registration and recommendation [24]. Shi Yanfen et al. proposed a cloud-based system using cloud computing, SaaS, and Web services, designing five modules including cloud catalog retrieval and recommendation [25]. Li Yufen et al. constructed a mobile acquisition and recommendation system using mobile client software and Web technology with eight modules including authentication and feedback [26].

(2) System implementation. Fu Yun's system used ASP.NET, C#, and Microsoft SQL Server 2005 [24]. Shi Yanfen et al. designed an overall model including infrastructure, platform, application, and service layers [25]. Li Yufen et al. connected to the library's SQL Server database through a Web service interface, implementing data interaction on the Android platform [27].

2.3 2016–2017: Summary and Review Stage

In 2016, publications reached 32, with rapid growth expected to continue in 2017. This stage represents rapid development and summary review, accounting for over 30% of total publications. The surge relates to national and provincial research funding support. Notably, despite rapid growth, no core authors emerged, with the most prolific author publishing only two papers. Research focused on reviewing service status and existing problems.

2.3.1 Service Status and Problems (1) University libraries. Wang Wenjun's survey of 17 university libraries in Chongqing found that 11 offered recommendation services, with nine providing access on their homepages. Recommendations mainly concerned Chinese and foreign print books, with only two accepting electronic resource recommendations. Five allowed real-time progress tracking. Problems included insufficient publicity, limited recommendation types, simple methods, imperfect systems, insufficient bibliographic information, and time-consuming processes [27]. Zhang Meili's survey of 32 undergraduate university libraries in Henan found that 25 offered services, but five systems were inaccessible. Twenty provided recommendation portals, 15 had guidelines, and methods included web forms, systems, and QQ. Problems included lack of unified knowledge bases, cumbersome processes, high rejection rates, long acquisition cycles, and lack of evaluation [28].

(2) Public libraries. Huang Hai et al. surveyed Nanjing Library's "Taofengcai" project, a children's recommendation service launched on World Book Day 2016. Young readers could recommend 1-2 children's books at designated bookstores while borrowing 2 books. The project was successful: in 2016, Nanjing Library acquired approximately 30,000 children's books, with nearly 24,000 through recommendation, adding over 8,000 new titles. However, problems included lack of detailed service guidelines and stable long-term partners [37]. Liu Xiyi surveyed Changsha Library's "Your BOOK, My Treat" program, a citizen-oriented service cooperating with bookstores since 2010. Readers could

select books on-site for immediate borrowing after duplication checking. The program was well-received and became a daily activity. In 2016, Changsha Library established long-term cooperation with Hunan Xinhua Bookstore's Lezhi Bookstore. Challenges included difficulty controlling copy numbers, some books not meeting collection requirements, uneven quality, and book loss [38].

Foreign public library surveys of five libraries from different regions found two without recommendation services. San Francisco Public Library's collection development policy mentioned purchase suggestions but provided no online portal, instead encouraging interlibrary loan [39]. Auckland's Devonport Library had a prominent, user-friendly recommendation form [40]. Chicago Public Library also used simple forms and encouraged interlibrary loan [41].

2.3.2 Recommendation System Status and Problems Recommendation systems offer unmatched standardization, professionalism, convenience, and efficiency, making them the primary method. Scholars have explored three system types:

(1) Self-developed systems. These are typically developed by technically strong libraries. Wuhan University Library's self-built system features unified authentication, dual user/tourist operation, OPAC integration with Baidu and Douban, expedited services, and pre-order options. Areas for improvement include compatibility with library systems, integration with subject services, cloud computing applications, and APP development [42].

(2) Integrated system modules. The Libsys system, widely used in Chinese university libraries (38% of "985" and 45% of "211" universities), offers form-based recommendation through modules for user authentication, recommendation, catalog integration, and decision-making. Limitations include limited resource types, lack of duplication checking and guidelines, and small catalog databases [43].

(3) Commercial systems. Developed by vendors, such as CNPIEC's overseas book selection system, Dangdang's virtual bookstore, and Boku Bookstore platform. Advantages include powerful, targeted functions. Disadvantages include incompatibility with library catalogs, poor usability across platforms, and untimely feedback [44].

Currently, integrated system modules are most popular, especially in university libraries, due to simplicity, low cost, and compatibility. Self-developed and commercial systems, despite powerful functions, are less widely used due to technical and financial constraints [45].

3. Future Research Directions for Reader Recommendation for Purchase

3.1 New Technology Research: Using Data Mining to Analyze Potential Reader Needs

Data mining extracts valuable information from large random datasets. In libraries, researchers have applied data mining to track user search and borrowing behavior, analyze potential needs, and generate recommendation lists to help acquisition staff make timely orders based on collection needs, budget, and copy numbers [46]. Integrating data mining into recommendation services to uncover reader needs and optimize collection structure represents a promising research direction.

3.2 New Method Research: Multi-dimensional Reader Engagement

Readers are the main subjects of recommendation, and increasing their participation is key. Two innovative approaches show promise: (1) Zhu Jianjun's volunteer participation model, where volunteers connect with classes, use new media platforms, and conduct promotional activities to raise awareness. This approach achieved good results, meeting reader needs while providing literature support for teaching and research [47]. (2) Yu Jing et al.'s embedded subject librarian model at Beijing Normal University, where librarians strengthen promotion, track recommendation status, provide feedback, and offer diverse resource recommendation services. This breaks down barriers between resources and services, deepening reader recommendation work and enhancing interaction [48]. Research on how to motivate reader participation and increase engagement deserves in-depth study.

3.3 New Platform Research: Using Mobile Terminals for Recommendation

According to the 40th "China Internet Development Statistics Report," by June 2017 China had 751 million internet users, with 724 million mobile users, making mobile internet dominant [49]. Libraries should innovate by providing recommendation services through mobile platforms: (1) Integrating recommendation modules into mobile library APPs that are increasingly common [50]; (2) Leveraging WeChat public platforms with their large user base, comprehensive functions, cost-effectiveness, strong interactivity, and timely feedback; (3) Utilizing other new media platforms like Weibo's short review function and QQ groups. How to combine new media platforms with recommendation services will be a research hotspot.

3.4 New Model Research: Improving Recommendation Models by Drawing on PDA

Both reader recommendation and PDA are reader-demand-centered models. We can learn from PDA's advantages to improve domestic recommendation models: (1) Integrating order catalogs with collection catalogs to save reader time, increase exposure to order catalogs, and boost enthusiasm. Libraries can also mine reader search behavior to identify potential needs and help formulate acquisition plans [2]. (2) Using data analysis to formulate scientific acquisition standards and build profile documents [51, 52]. Acquisition staff should import order catalogs according to these standards rather than directly, reducing rejection rates. Readers' recommendation privileges should be publicly disclosed to avoid discouraging participation. (3) Standardizing workflows, importing order catalogs at fixed times, shortening processing cycles, setting deadlines for book arrival, and allowing readers to read books before cataloging [53]. As domestic PDA research proliferates, identifying applicable advantages to improve recommendation models warrants attention.

Conclusion

Through reviewing domestic and international literature and surveying actual practices, this paper finds that although research on reader recommendation has reached a summary stage, no core institutions or authoritative authors have emerged, indicating dispersed research. Domestic scholars focus more on university libraries than public libraries, showing imbalance. Theoretical research is relatively comprehensive and transitioning to innovative research. The paper divides research into three stages, elaborates on each stage's hotspots and characteristics, summarizes existing problems in theoretical and practical development, and proposes future directions for researchers' reference. Moreover, how to develop reader recommendation services that readers truly need, participate in, and find useful by leveraging new technologies and understanding the characteristics of younger readers in the "Internet Plus" environment remains an important issue requiring deep consideration and research.

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Author Contributions

Fang Xiangming: Conceived the topic, proposed research ideas, direction, and framework, guided and participated in drafting and revising the manuscript.

Shen Ling: Collected literature, participated in discussing the framework, drafted the initial manuscript.

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

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