The Object of Study in Library Science: Review, Commentary and Model Construction

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Abstract

[Purpose/Significance] To clarify the research object of library science, remedy the deficiencies and shortcomings of previous theories such as "element theory," "library theory," "library cause theory," "technology theory," and "knowledge theory," and thereby consolidate the disciplinary foundation and enhance disciplinary legitimacy.

[Method/Process] Based on literature review and critical analysis of existing viewpoints, this study constructs a conceptual model of the research object of library science from a management perspective.

[Results/Conclusions] Library science is an applied interdisciplinary discipline characterized by multi-dimensional research topics and multiple contextual dependencies. Essentially, library science should be library management science, and its research object should be the "management theory," comprising four research themes: library organization, management subject, management, and management object. Specifically, the library serves as the context and carrier, librarians constitute the core and purpose, management acts as the means and basis, and the management object represents a complex system. The human nature assumption regarding librarians is the "first principle" of library science.

Full Text

Preamble

Chinese Title: The Research Object of Chinese Library Science: Review, Critique, and Model Construction

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Abstract:
[Purpose/Significance] This study clarifies the research object of library science to address the shortcomings and deficiencies of previous "element theory," "library theory," "library cause theory," "technology theory," and "knowledge theory," thereby consolidating the disciplinary foundation and enhancing legitimacy. [Method/Process] Based on literature review and viewpoint commentary, this paper constructs a conceptual model of library science's research object from a management perspective. [Result/Conclusion] Library science is an applied interdisciplinary discipline with multi-dimensional research themes and multi-context dependency. Library science should essentially be library management science, and its research object should be the "management theory," encompassing four research themes: library organization, management subjects, management, and management objects. Among these, the library serves as context and carrier, librarians constitute the core and purpose, management provides the means and basis, and the management object forms a complex system. The human nature assumption of librarians is the "first nature" of library science.

English Title: The Research Object of Library Science: Review, Comment and Model Construction

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English Abstract:
[Purpose/Significance] Clarifying the research object of library science, so as to make up for the shortcomings and deficiencies of the "theory of elements", "theory of library", "theory of library cause", "theory of technology" and "theory of knowledge" in the past, and consolidate the foundation of the discipline and enhance the legitimacy of the discipline. [Method/Process] Based on literature review and viewpoint commentary, a conceptual model of library science research object is constructed from the perspective of management. [Result/Conclusion] Library science is an applied interdisciplinary subject with multi-dimensional research themes and multi-situational dependence. Library science should be library management, and its research object should be "management theory", which includes four research themes of library organization, management subjects, management and management objects. Among them, library is the context and carrier, and librarian is the core and purpose. Management is means and basis, and the object of management is a complex system. The human nature assumption of librarians is the "first nature" of library science.

Keywords: Library; Library Science; Research Object

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1 Introduction

Born in 1807, library science has undergone more than two centuries of development, contributing unique wisdom and value to knowledge dissemination, talent cultivation, and social progress. While Chinese library professionals are encouraged and heartened by these achievements, they also face tremendous practical pressures: the massive impact of emerging technologies such as the internet, big data, and AI on library undertakings; the renaming of the former first-level discipline "Library, Information and Archival Management" to "Information Resource Management," which demoted library science from a first-level to a second-level discipline; and most importantly, the fact that the theoretical framework, research paradigms, and disciplinary knowledge system of library science have long remained unclear, with the discipline's research object still undetermined.

The research object of library science constitutes the discipline's subject of inquiry, defining its scope, connotation, and essential characteristics. It serves as the prerequisite and foundation for establishing library science and represents a crucial basis for distinguishing the discipline from related fields while demonstrating its independence and legitimacy. However, the research object of Chinese library science has varied across different historical periods, and the Chinese academic community has yet to reach genuine consensus on this matter—in other words, what library science should study remains unclear. Meanwhile, apart from bibliometrics, theoretical research in library science generally lacks scientific research methods, with few economic and management research methods being adopted in the field. At present, Chinese library science remains a perplexing domain, seemingly still in a "pre-scientific" stage, with its disciplinary positioning and legitimacy not only questioned but also facing the risk of increasing marginalization. Based on this context, this paper reviews and critiques the research objects of library science and constructs a conceptual model from a management perspective, aiming to stimulate discussion and provide an analytical framework for clarifying library science's research object.

3 Review of Perspectives

In 1807, German scholar Martin Schrettinger published two classic works, *Handbook of Library Science* and *Overview of Library Science*, first proposing and defining the library and library science: a library is a vast collection of books aimed at rapidly fulfilling all documentary needs, while library science constitutes the totality of all propositions required to meet the purposes of library arrangement [1]. Subsequently, theories such as Dewey's "management theory," Butler's "interdisciplinary cognitive theory," and Ranganathan's "Five Laws of

Library Science" emerged in succession.

Chinese library science academia has also been committed to constructing indigenous schools of library theory, most notably represented by Liu Guojun's theories on library science's research object. In 1921, he proposed the "three-element theory," which posited that libraries consist of legitimate equipment, suitable librarians, and proper books. In 1934, he advanced the "four-element theory" based on books, personnel, equipment, and methods. By 1957, this evolved into the "five-element theory" comprising books, readers, leading cadres, buildings and equipment, and working methods [2]. Liu argued that library science is the science of libraries, studying the nature and laws of library undertakings and their constituent elements, with the research object being these five elements. The *Fundamentals of Library Science* and its revised edition, jointly compiled by the Library Science Departments of Peking University and Wuhan University in 1981 and 1991, maintained that library science studies libraries as an institutional discipline, with research beyond library boundaries falling outside its scope. Huang Zongzhong further confirmed in his 1988 *Introduction to Library Science* that "the research object of library science is the library, specifically the science studying the contradictions between libraries' collection, processing, organization, preservation, and control of books and certain social readers' utilization of these collections." Since then, Chinese library science's "element theory," "library theory," and "library cause theory" have formed an integrated system. Luo Deyun and Huang Zongzhong (1999) argued that the "element theory" of library science, which originated in the late 1920s and matured by the mid-1950s, represents China's earliest library science system [3]. Wu Weici et al. (1999) commented that to this day, the "five-element theory" remains the most complete and fundamental understanding of Chinese library science's research object, constituting the most characteristically Chinese library theory and a major contribution of Chinese library researchers to global library science [4].

Library science is an applied discipline that emphasizes not only knowledge for its own sake but also practical application, with theory serving library organizational practice in a results-oriented manner—practicality being a core characteristic of the discipline. In practice, due to the special nature of library resources and services, technologies are needed to acquire, analyze, transmit, and integrate resources, particularly for important service innovations such as the transition from traditional paper-based lending to electronic access. As Jiang Yongfu (2005) noted, library science's technological complex is indelible, and its credibility and value lie precisely in improved service efficiency [5]. The renowned librarian Dewey also believed that people often do not pursue theoretically complete systems but simply use technical tools to solve practical problems. Consequently, many scholars advocate technological pragmatism and instrumental rationality, interpreting library science from the perspective of technological application rather than situating it within social philosophy and behavioral theory. The "technology promotion theory" or "technology theory" is thus widespread, emphasizing the technical attributes of library operations

and the decisive role of technology and its applications—especially current computer, big data, and AI technologies—seemingly making technology application the library's main business. This view suggests that without riding the "convenient express train" of new technologies, libraries cannot demonstrate their differentiation, professionalism, and "fashionability," while neglecting technology's instrumental nature, the singularity and "short-lived" nature of technological applications, librarians' subjectivity, leadership, and creativity, and management's integrative and value-creative functions. This lack of deep reflection and systematic summarization of library science's core issues has led to problems in Chinese library science research such as "publications without thought, trends without direction, and methods without objectives" [6].

Furthermore, following the three industrial revolutions, the rapid development of higher education, the emergence of knowledge workers, and the advent of the knowledge economy have made knowledge exchange, creation, and utilization a focal point of academic concern for effectively addressing environmental and innovation uncertainties. With everything becoming knowledge and everything being knowledge, the "knowledge theory" has also gained popularity in library science: in 1974 and 1978, Brookes successively proposed the knowledge equation and objective knowledge theory for information science. In 1985, Mi Hao and Huang Chunyuan proposed the "knowledge exchange theory" regarding libraries [7]. In 1992, Liu Hongbo proposed the "knowledge organization theory" [8]. Jiang Yongfu (1999) argued that libraries themselves are knowledge organizations [9], and that library science's research object is the interrelationship among objective knowledge, libraries, and people [10]. Wang Zizhou (2000) believed that both the essence and research object of libraries are knowledge collections [11]. Ke Ping (2004), based on knowledge resource theory, proposed that library science's research object is knowledge resources [12]. In fact, the "knowledge theory" extends Schrettinger's explanation of libraries as "a vast collection of books," further interpreting libraries as knowledge organizations or collections and library service activities as knowledge activities, emphasizing the importance of knowledge elements (creation, utilization, and sharing). In this sense, the "knowledge theory" still tends toward "element theory" or "library theory."

From "element theory," "library theory," and "library cause theory" to "technology theory" and "knowledge theory," Chinese library science academia has spent over a century attempting to answer the fundamental question: what exactly does library science study? Different scholars hold different understandings, and even the same scholar may express inconsistent views across different periods or works [13]. In this regard, Wei Fuyi et al. (2024) lamented that whether the research object of library science is the concrete library or abstract information and knowledge, theoretical achievements have not resolved our inner confusion, nor have they reached a basic consensus. The reason may lie in the fact that domestic library science has deviated from a proper understanding of library science's meta-theory from the very beginning [14].

The emergence of library science demonstrates the importance of information, knowledge, and their dissemination, resulting from the combined effects of several factors: first, the practical needs of library organizational development, which constitutes the primary reason for library science's emergence; second, the theoretical contributions of library scholars such as Dury, Schrettinger, Dewey, Ranganathan, and Hong Fanshu, which gradually established library science as an independent disciplinary knowledge system; third, the successive publication of academic journals such as France's *Bulletin des Bibliothèques*, Germany and America's *Library Journal*, and Britain's *The Library*, with intellectual debates among library scholars greatly promoting the establishment, improvement, and popularization of the disciplinary knowledge system; and fourth, the rapid development of related disciplines such as philosophy, psychology, economics, management, and computer science, providing ample "nutrients" for the emergence and development of interdisciplinary library science.

Library science is an interdisciplinary discipline—a "hybrid" inheriting genes from philosophy, sociology, economics, management, psychology, and computer applications—and should naturally possess a multi-dimensional research theme structure, as evidenced by the "iSchool Movement" that originated in 2003. Therefore, library science inevitably connects with other disciplines, not only borrowing knowledge from related fields as a "recipient" but also contributing its own research findings to other disciplines as a "donor." Consequently, it must not become insular or singularize its research themes by simply assuming that library science's research object is the library or that library science is merely the study of libraries. However, while interdisciplinary research can enrich library science's theoretical system, if numerous library science questions can be answered through related disciplines, expanding the discipline's scope may dilute the foundation of its legitimacy. Such expansion should not constitute the main focus of library science research but can only serve as a supplementary force. As an independent discipline, library science must establish its own legitimacy system, including a unique research object, exclusive research methods, and a comprehensive knowledge system. The fundamental issues in library science research remain meta-problems and meta-theories that distinguish it from related disciplines, particularly concerning the research object and the discipline's "first nature."

Based on existing literature, whether "element theory," "library theory," "library cause theory," or even "technology theory" and "knowledge theory," all essentially tend toward "institution theory" or "institutional attribute theory," taking the library as the research object and focusing primarily on library organizations to explore their laws, rights, goals, missions, philosophies, technological applications, operations, processes, and functions. Due to the strong influence of relevant scholars and their institutions within Chinese library science academia, "institution theory" or "institutional attribute theory" has remained the mainstream perspective on library science's research object. Although many young scholars have repeatedly questioned this approach in recent years, their efforts have been like "ants trying to shake a tree." Undoubtedly, library science is

a discipline rooted in library organizations, and the library organization is an important object of library science research; otherwise, it could not be called library science. However, library science is not merely the study of libraries, and its research object should not be limited to library organizations alone. Against the backdrop of the first-level discipline's renaming from "Library, Information and Archival Management" to "Information Resource Management" (in fact, the author believes "Information Management" would be more appropriate, as "information resources" is relatively concrete and definite, and "information resource management" weakens the discipline's creative functional attributes and narrows its imaginative scope—for example, "human resource management" is merely a second-level discipline under "business administration"), library science's interdisciplinary nature, and its increasingly marginalization, the limitations of "institution theory," such as its lack of comprehensiveness and focus, have become increasingly apparent. Although many scholars have repeatedly called for changing library science's research direction, due to inconsistent viewpoints and the absence of particularly convincing new theories, the situation appears to have remained fundamentally unchanged to this day [5][15].

Chinese library science theoretical research has experienced stages including a delayed start, continuous hesitation, difficult initiation, prolonged reconstruction, breakthroughs amid confusion, and the glory of the new century [16]. Regarding the reshaping of library science's research direction, Wu Jianzhong (2019) argued that library science research should shift from focusing on "resolving the contradiction between collection and use" to a "people-oriented" philosophy [17]. Xiao Ximing et al. (2019) advocated adhering to the integrated educational concept of "information, technology, and people," placing greater emphasis on the "human" factor in the information field to harmoniously integrate library humanistic traditions and value rationality into library science education [18]. He contended that as the "information paradigm" and "knowledge paradigm" have become mainstream in library science research and interdisciplinary research has become a developmental trend, we must reconsider whether library science's structural system should still be centered on libraries or documents [19]. Suo Chuanjun and Rong Juntao (2022) categorized perceptions of library science's research object across different periods into institutional, sociological, information, knowledge, and humanistic paradigms, arguing that paradigm evolution results from the combined effects of social environment, internal disciplinary factors, disciplinary cognitive subjects, and library career development [20]. Suo Chuanjun (2023) also maintained that the statement "library science is the study of libraries" has significant limitations, though libraries can serve as an optimal application scenario for library science [21].

Without history, there is no present. Examining, evaluating, and reflecting on library science's research object does not aim to "de-library-ize" or negate existing research achievements and academic contributions. Rather, it seeks to objectively and accurately describe library science's research object, clarify fundamental issues, place Chinese library science research on the correct track, construct a reasonable and comprehensive library science knowledge system, en-

hance disciplinary legitimacy, and promote the healthy development of library science and library undertakings. So what should be the research object of library science? During the 1920s and 1930s, Chinese library science's research object was essentially the same as that of foreign library science circles, with the mainstream view being the "library management theory" [22]. For instance, Hong Fanshu, one of the founders of modern Chinese library undertakings, emphasized the importance of "management" in library science and library organizations in his representative work *Library Organization and Management*. Later, for a long period, Chinese "orthodox" library science was dominated by "institution theory," with theoretical research proceeding primarily along this track. Upon silent retrospection amid multiple predicaments, fundamental problems appear to exist in the theoretical foundation of domestic library science. Initially, Schrettinger defined library science as "library arrangement," but some Chinese scholars seem to have misinterpreted his original intent, neglecting the "arrangement theory" and taking his definition out of context to claim that library science is simply the study of libraries, identifying this interpretation as originating from Schrettinger's definition. Undoubtedly, library science research requires localization to contribute Chinese wisdom to its development and provide effective solutions for the prosperity of Chinese library undertakings. However, localization should not be pursued for its own sake, nor should it reject or exclude mature theories or ideas abstracted from specific contexts. The renaming of the first-level discipline from "Library, Information and Archival Management" to "Information Resource Management" has caused considerable waves in the library community. After continuous questioning, challenging, and reflection, scholars seem to have further clarified library science's attributes as a management discipline. Chinese library science research appears to have come full circle back to the scenario of the 1920s and 1930s, with some scholars beginning to focus on library management issues such as knowledge management [12], brand building [23], service capacity [24], service innovation [25][26], cultural construction [27], and user relationship management [28]. Particularly noteworthy is the "Library Management and Service Innovation Forum" hosted by Shanghai Jiao Tong University Library since 2008, which has been held for sixteen consecutive sessions and identifies "library management" as one of its two core themes.

Referencing the translations and interpretations of more scholars such as Liu Xun, Zhang Guifeng, Zhuang Yixun, and Kuang Nengfu [29], in fact, Schrettinger, the founder of modern library science, defined library science as "the totality of all propositions required to meet the purposes of library arrangement (Einrichtung)," thereby pointing the way for library science research. The "arrangement theory" should rightfully be the "management theory," which in that historical context aimed to optimize the allocation and effective utilization of books, technology, and space. Clearly, Schrettinger also emphasized the practical nature of library science, which coincides with management's practicality. Figures such as Panizzi, the "Napoleon of the library world," and Edwards, the "spiritual father of the public library movement," are typical representatives of

the "library management theory." Dury, former director of the British Royal Library, explicitly emphasized the importance of "management by managers" in *The Reformed Librarian* (1650). The ideas of "modern library career father" and American librarian Dewey—such as "readers above all," "librarian training," "library 'three modernizations' management," and "serving the most readers with the best books at the lowest cost"—all permeate with the management thoughts of Taylor, the "father of scientific management." Additionally, since 2009, Professor Ke Ping's team has conducted a series of studies on "Research Hotspots and Frontier Analysis of Foreign Library Science," with results indicating that "library management based on librarians, users, services, and capabilities" has consistently been a core concern for foreign library science academia and practice [30].

4 Model Construction

Libraries originated primarily from books, and library science mainly originated from library organizations and their practices. However, at present, books are no longer the entirety of libraries, and their function and status are gradually diminishing. Libraries also cannot comprehensively and accurately reflect library science's research object. In this sense, both the terms "library" and "library science" currently have certain limitations. Whether "Library, Information and Archival Management" or "Information Resource Management," both fall under the management discipline category, and they essentially study management. Furthermore, library science is a discipline that studies library management, specifically including the management of books, space, technology, librarians, and services. Its core and focus is the management of librarians rather than book management [31], material management, or task management. Therefore, "management principles" should rightfully be library science's meta-theory. Additionally, drawing on Schrettinger's "library arrangement theory" and other scholars' viewpoints, this paper constructs a conceptual model of library science's research object from a management perspective, as shown in Figure 1 [Figure 1: see original paper]. The model reveals that library science's research object includes the library (organization), management, management subjects (librarians), and management objects (whose core is also librarians). Among these, the library, management, and librarians constitute three core research themes/objects, and virtually all library science research cannot depart from these three core themes. Here, management objects are defined as the fourth theme of library science research to indicate a secondary distinction.

Figure 1: The Research Object of Library Science: A Conceptual Model

4.1 Library (Organization)

Library science is a contextual science, and management ideas and methods must be applied in conjunction with specific contexts when "landing." In other words, library management approaches are context-dependent, as shown in Figure 1, depending on the library organization's external context, internal con-

text, and the contexts of management subjects (i.e., all librarians, especially library leaders) and management objects. The external context includes three levels: the macro-environment of politics, economy, law, culture, technology, and education; the meso-environment of the library industry; and the micro-environment of readers, resource suppliers, and collaborative libraries. The internal environment includes resources, operations, vision, mission, values, strategy, and other factors within the library organization. Library science research must be grounded in disciplinary characteristics, the era's background, regional features, and industry traits; in the public, non-profit, open, equal, and sharing nature of library organizations; and in the particularities of library resources and service objects, the weak competitiveness among libraries, and the close relationship and value alignment between libraries and readers.

Structure determines function. Library organizations, serving as "intermediaries," "connectors," and "navigators" between resources and readers [32], are information centers [33], knowledge centers [34][35], learning centers [36], and cultural centers [37]. They are physical transformation institutions that convert factor inputs into service outputs and represent a team service production model that bidirectionally substitutes for both individual services and market-based services. Their service production function can be expressed as: . Where Q represents service output, and M, R, F, and I refer to management, resources (including books, space, technology, etc.), functions (including strategy, culture, systems, mechanisms, and structure), and innovative spirit (also called entrepreneurial spirit), respectively. Undoubtedly, in this service production function, management and innovative spirit based on librarians are the most creative and important elements. The discovery, cultivation, stimulation, and release of innovative spirit depend on active and effective management. According to economists Schumpeter and De Soto, the former aims to optimize allocation and effective utilization of various resources under given conditions to achieve static or allocative efficiency within the "circular flow," while the latter seeks dynamic or innovative efficiency that breaks the "circular flow" [38][39]. The service production process involves a series of physical transformations converting inputs such as reader demand information, books, space, and technology into service outputs, constituting a value creation process.

A library is a collection of books, space, technology, librarians, and other elements, but more importantly, an integrative body of service capabilities. What is truly valuable in libraries is not their collection resources but the service capabilities built upon the integration and utilization of resources, functions, and librarians [40]. Such capabilities are more reliable than any concrete things like resources, technology, or space and are directly related to service performance (efficiency and effectiveness). They can effectively satisfy the demands of stakeholders centered on readers, resolve legitimacy dilemmas, and constitute the reason or basis for libraries' existence—"what makes them what they are." In this sense, the essence of library organizations is the service capability to meet the needs of internal and external stakeholders centered on readers, with "digital-intelligent" empowerment becoming a new growth point for library, in-

formation, and archival science development [41]. Against a backdrop of high environmental uncertainty and increasingly personalized reader demands, mere maintenance is ultimately unsustainable. Like business organizations, the sole function of libraries' existence is service innovation, with the core of their capability system gradually shifting from traditional service "manufacturing" capabilities (meeting standardized needs) to service "creation" capabilities (meeting personalized needs). Therefore, modern library management is essentially library service capability management, particularly service innovation capability management. However, due to the interactive influences of library organizations' own capability limitations, the widespread availability of external resources, and the popularization of digital-intelligent technologies, the explanatory power of traditional library organizations is gradually diminishing. Library organizations are increasingly transforming into new organizational forms such as library service alliances, service networks, service systems, service ecosystems, and service platforms, thereby achieving transformations in service (innovation) approaches and enhancing service (innovation) capabilities and effectiveness.

4.2 Management

Management comprises three levels: management theory, management methods, and management practices. What is commonly referred to as management denotes management practices or management implementation, which is context-dependent and determined by four aspects: the library organization's external environment, internal environment, management subjects, and management objects, as referenced in Figure 1. As one of the core themes of library science research, management involves establishing suitable library organizational order through the dynamic coupling of leadership management, functional management, and self-management, based on the particularities of library organizations' resources, services, service objects, and goals (in industrialized contexts, artificial order predominates; in post-industrial contexts, spontaneous order predominates). This achieves management value-added effects: (1) absorbing various useful external resources, such as introducing new external technologies and excellent librarians, to seek aggregation effects; (2) realizing optimal allocation and effective utilization of resources such as books, space, and technology to seek integration or allocation effects; and (3) cultivating, stimulating, and releasing the creativity or "wisdom" of all librarians to discover new uses for resources, invent new service technologies, and create new service models, thereby seeking amplification effects.

Management possesses scientific, moral, and artistic qualities—the organic unity of truth, goodness, and beauty—permeating all aspects of library organizations and their activities and performing foundational, integrative, and coordinating functions. Good management does not guarantee a good library, but poor management will certainly lead to a poorly functioning library. In the library service production function, management is the integrative value-creating activity that "strings pearls into a necklace." Without management, "pearls" such as informa-

tion, books, technology, space, and librarians remain scattered; with poor management, these "pearls" cannot be formed into exquisite "necklaces," and value is significantly diminished. Evidently, management serves as an "amplifier" of library service capabilities. Without management, libraries fundamentally lose their value. As strategic management scholar Chandler stated, "Synergy is the essence of organization and the core proposition of management." It is precisely because of management that synergistic effects of 1+1 2 are generated, amplifying library organizations' service capabilities. For example, when management can achieve "1+1=5," the incremental value "5-2=3" represents management's value. Furthermore, library science is the study of how to implement effective management to better gather and utilize various resources, stimulate librarian creativity, and thereby "amplify" library organizations' service (innovation) capabilities.

Library management transforms ordinary librarians into extraordinary ones, renders ordinary services extraordinary, and makes ordinary libraries extraordinary. Library management must be grounded in library organizations and benchmark against the most scientific, standardized, professional, humane, and effective business management. As service supply and demand gradually transitions from library sovereignty to user sovereignty, library operations shift from "manufacturing" services to "creating" services, library elements transform from being resource-centered to librarian-centered, and librarians evolve from "tool persons" to "free persons." Management motivation changes from seeking artificial order to seeking spontaneous order. In the postmodern perspective, library science research should transition from the traditional scientific management paradigm (where people are means, emphasizing scientific principles and static efficiency) to a humanistic management paradigm (where people are ends, emphasizing humanistic principles and dynamic efficiency).

4.3 Management Subjects/Librarians

Management subjects comprise all librarians, especially library leaders. All librarians are both managers and managed, requiring both external management and self-management. Moreover, to effectively manage "things" and "tasks," librarians must first be well managed. In this sense, library management is the management of all librarians. As Drucker clearly stated in his classic work *The Practice of Management* (1954), "Management is a people-centered enterprise, and people deserve more attention than any concept."

In library organizations, the satisfaction of reader needs depends on librarians' services and service innovation. Although various technological applications are crucial for better meeting reader needs, we must acknowledge that technology is created by people, usually external, and materialized, while librarians are the primary carriers of knowledge and the main subjects of technology creation and utilization. Free, creative librarians constitute the "primary productive force," "wisdom productive force," and "sustainable productive force." Indeed, to transform all librarians' potential creative endowments into actual creativ-

ity, effective management and good "production relations" within libraries are essential. As Dewey stated, "Librarians are no longer custodians but active and progressive educational forces, like signposts always pointing the way for others." Therefore, library management must be librarian-centered, respecting, relying on, cultivating, developing, stimulating, and serving people. It must release librarians' creativity, achieving the transition from "passive manufacturing" to "active creation" to effectively address environmental and service innovation uncertainties.

Tracing back to the source and the very beginning, any discipline has "first nature" or "meta" issues. "First nature" constitutes a discipline's "knowledge core," the logical origin of its research object. Only with a clear, solid, and robust core can a firm "disciplinary edifice" be built. As a study of people and human behavior, management's "first nature" is the issue of human nature assumptions—that is, behind every management measure must lie assumptions about human nature and human behavior. As a second-level branch of management, library science is a discipline concerning library management, and library management is the management of librarians. In other words, the core and focus of library science research are also issues of people and human behavior, rather than matters of resource allocation, service output, or social benefits—material issues, task issues, or phased issues. Therefore, following the logical thread of human nature, needs, values, behavioral ethics, and behavior, the first nature of librarian behavior is human nature, and library science's "first nature" should rightfully be the human nature assumption of librarians. Here, synthesizing the human nature assumptions of economists such as Smith, Mises, Keynes, and Hayek, as well as management scholars such as Maslow, Drucker, and Schein, it is generally believed that under industrialized/deterministic contexts, librarians' human nature assumptions tend toward mainstream economics' assumptions of "economic person, complete information, and full rationality," thereby promoting librarians' craftsman spirit, seeking optimal solutions under given technological and organizational conditions, achieving optimal allocation and effective utilization of books, technology, space, and librarians, and primarily meeting readers' standardized needs. Under post-industrialized/uncertain contexts, librarians' human nature assumptions tend toward the Austrian School's assumptions of "free, creative complex person, incomplete information, and bounded rationality," thereby cultivating, stimulating, and releasing librarians' innovative spirit, breaking established constraints, creating new services, and primarily meeting readers' personalized needs. In summary, starting from methodological individualism rather than methodological holism, from the assumption of free, creative complex persons rather than economic persons, with librarians as the core rather than tasks or materials, and treating people as ends rather than means, both library theory research and library organizational practice ultimately point toward the direction of library civilization.

4.4 Management Objects

As the fourth theme of library science research, management objects include librarians, resource systems, functional systems, capability systems, service (innovation) systems, and performance systems, as shown in Figure 2 [Figure 2: see original paper]. Librarian research encompasses human nature, needs, motivations, values, behavioral norms, culture, literacy, and capabilities. Librarians also constitute the core of management objects and the subjects of service and innovation, contributing to the realization of libraries' "wisdom." The functional system is the library's basic architecture and safeguard mechanism, including the library's institutions, structures, mechanisms, culture, and strategy. The resource system includes paper resources, electronic resources, space resources, and software/hardware systems—the content and tools of services—among which emerging technologies such as big data and AI contribute to realizing libraries' "intelligence." Capabilities result from the integrative utilization of books, space, technology, and other resources, with the capability system including indicators such as service capacity and service innovation capacity. The service system includes specific content such as lending services, lecture training, teaching and research support, data services, and space services, while the service innovation system comprises innovative activities in these various services. Performance represents the evaluation results of libraries meeting reader needs, with the performance system including service performance and service innovation performance. The entire management object constitutes a nested system. With librarians at its core, service (innovation) capabilities are constructed through active management of librarians, resource systems, and functional systems, acting upon service (innovation) activities and determining their performance. The "first nature" or "meta-problem" of service (innovation) is the characteristics of reader needs. Therefore, service (innovation) management is essentially the process of perceiving, responding to, and connecting librarians' creativity/innovative spirit with reader need characteristics—a "unity of two natures." The more aligned these two natures are, the more effective the service (innovation). This also tests the market legitimacy of libraries' existence: (1) service outputs are effective, satisfying all stakeholders centered on customers; and (2) the service output process is efficient, making total service benefits exceed total service costs. All management objects collectively form a continuous logical closed loop of evaluation, feedback, and iteration. It should be added that under open and cooperative contexts, library organizations establish various connections with external stakeholders, forming various intermediate organizational forms. Correspondingly, management activities overflow organizational boundaries and extend to external stakeholders, such as user relationship management, resource supplier management, and even library governance, to create a favorable service (innovation) ecosystem and better meet service (innovation) demands.

Figure 2: Components of Management Objects and Their Relationships

5 Conclusion

Library science is a continuously developing discipline that requires not only constantly discovering and accumulating new theories to enrich its knowledge system but also tracing back to origins, eliminating falsehoods to reveal truths, identifying and abandoning unnecessary weak or erroneous theories to solidify its disciplinary foundation. Chinese library science's research object has generally experienced stages such as "element theory," "library theory," "library cause theory," "technology theory," and "knowledge theory." However, viewing library organizations as the sole object of library science research is clearly self-restricting, undermining the legitimacy foundation of library science and constraining its development. Both "information resource management" and library science are specific branches of the management discipline. Simultaneously, referencing numerous domestic and foreign scholars' viewpoints and library service practices, library science's research object should rightfully be the "management theory," thereby endowing library science with creative value attributes. Integrating Figure 2 nested within Figure 1 together constitutes the complete content of library science's research object, from which we can more accurately understand library science's applied interdisciplinary attributes, multi-dimensional research theme structure, and multi-context dependency. Libraries are the foundation of library science research, management is the "lifeblood" of library science research, and service innovation is the mission or historical responsibility of library science research. Future library science research should rightfully be placed within the management discipline framework, grounded in library organizations and combined with library goals and characteristics; centered on librarians, focusing on their creativity and wisdom; strengthening management's core functions to create suitable library organizational order and "amplify" library organizations' capabilities, thereby solidifying the foundation for "establishing one's existence and career." Building upon the three "core themes," particular attention should be paid to the cultivation, construction, and management of service capabilities, service innovation capabilities, and learning capabilities, pioneering and progressing to achieve excellent service (innovation) performance and demonstrate the market legitimacy of library organizations' existence.

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