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Strategic Vision for High-Quality Development of Libraries under the Overall Layout of “Digital China”

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Abstract

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Full Text

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QIN Shun, DAI Baiqing, GAO Xu & XU Na

Abstract

In the digital transformation society, libraries serve as a transformative force for advancing cultural confidence and self-improvement. The overall layout of Digital China and the national cultural digitization strategy provide policy guidelines for the library sector to create a new situation of high-quality development. This article employs literature research, practical investigation, and content analysis to examine the current status and requirements for high-quality library development in the digital transformation era, analyze the international policy orientation of industry digital strategies, and propose a development path for China. The study finds that high-quality library development in the digital transformation era must meet the requirements of a “people-centered” transformation and form an ecosystem that is open, intelligent, inclusive, and sharing. Data empowerment, demand-driven development, digital-intelligence integration, value leadership, and innovation-driven approaches constitute important strategic directions in foreign libraries’ digital strategies, playing a normative and guiding role in reshaping and integrating the core elements of high-quality library development. To serve the vision of building a strong cultural nation and to meet the requirements and expectations of the country, the people, society, and the era, we should promote the library sector’ s self-transformation and renewal in terms of systems, concepts, business formats, and capabilities under the overall layout of Digital China.

Keywords: digital China; cultural digitization; digital transformation; library development

0 Introduction

Digital transformation represents the dominant trend in global development at present, extending deeply into the field of public cultural services. Opening up digital tracks and seizing the initiative in digital development has become the strategic direction for world cultural powers. Since 2022, China has issued and implemented the “Opinions on Promoting the Implementation of the National Cultural Digitization Strategy” [1], incorporating the “National Cultural Digitization Strategy” into the report of the 20th Party Congress. In February 2023, the CPC Central Committee and the State Council successively issued the “Outline for Building a Quality Power” [2] and the “Overall Layout Plan for Digital China Construction” [3] (hereinafter referred to as the “Plan”). The former proposes to “vigorously promote the digital development of public cultural venues such as libraries and museums, and accelerate the integration of online and offline services,” while the latter adheres to the scientific logic of promoting high-quality development through digitalization, forming a relatively complete top-level design. The “Plan” explicitly states the need to “thoroughly implement the new development concept, accelerate the construction of a new development pattern, and focus on promoting high-quality development” [3], establishing a “2522” overall framework that equips cultural digital development with digital foundations and capabilities. This framework is expected to radiate into the

flanks of economy, politics, society, and ecological civilization through cultural digitization, thereby providing cultural support for promoting Digital China construction and contributing cultural strength to building a quality power and achieving Chinese-style modernization.

Libraries possess a “digital mission” and should contribute wisdom and effort to cultural digitization [4]. Through a historical lens, we can observe the objective laws of library development from dimensions such as technology, concepts, undertakings, and even institutions. Under the institutional ontology paradigm, the integration and symbiosis of new technologies and new concepts undoubtedly possess transformative momentum, driving libraries to transform and update from organic entities into intelligent entities.

A comprehensive review of existing research reveals that attention has focused on library business reconstruction and development shifts under the background of Digital China [5], intelligent transformation [6,7], and the mission and practice of libraries in the national cultural digitization strategy [4,8]. The “industry-discipline” community generally recognizes that global library development is at a critical moment and a “crossroads” [9], with digital transformation being an important breakthrough point. In China, the new development pattern marked by high quality and the new technological environment dominated by digitization have also determined the future direction of library development [10]. However, there remains a lack of deconstruction of the connotation origins, development stages, and future trends of high-quality library development in the digital transformation era, which is not conducive to the library sector accurately positioning itself, determining its direction, and seizing opportunities within the overall layout of Digital China.

In view of this, this study focuses on analyzing the current situation and trends, systematically investigating and analyzing the digital development trends and strategic directions of important international library industry organizations and G7 national libraries. Combining the strategic orientation provided by the “Plan,” it analyzes the future vision of library development under the overall layout of Digital China and proposes reference solutions for promoting library digital transformation and high-quality development.

1 Realistic Requirements for High-Quality Library Development in the Digital Transformation Era

The national cultural digitization strategy has made priority deployments for the library sector, requiring that “public libraries, cultural centers, museums, art galleries, and intangible cultural heritage museums be promoted to strengthen the construction of public digital cultural resources, and to coordinate the advancement of the national cultural big data system, the national smart library system, and the public cultural cloud construction” [1]. Combining both international and domestic “environments,” the “Plan” further emphasizes “promoting the digital development of culture, deeply implementing the national cultural

digitization strategy, building a national cultural big data system, and forming a Chinese culture database” [3], which is of guiding significance. In the “14th Five-Year Plan” for the public cultural service system, promoting the transformation of libraries toward a “people-centered” approach and building modern libraries that are open, intelligent, inclusive, and sharing constitute the focus of promoting high-quality library development [11]. This aligns with the overall layout of Digital China and reflects the realistic requirements of national cultural development and digital civilization society construction for the library sector.

1.1 Openness: Making Digitalization the Middleware Connecting Society

Across major global cultural powers, library digital transformation has become the main trend. As shown in [Figure 1: see original paper], taking the period of building a moderately prosperous society in all respects as the observation window and comparing it with G7 countries, we can find that: countries such as the United States and the United Kingdom started library development early, but the node of digital transformation was concentrated around 2019, relatively late, following a “gradual” path with high development quality and efficiency; countries such as China and Canada started library development later but achieved certain speed and efficiency through a “leap-forward” path. Overall, the pandemic accelerated the digital transformation process, with digital resources and services becoming the main way for libraries to meet social needs. The digital space constructed by the library sector is increasingly becoming an important choice for people’s interaction and connection with society. In China, the scale of digital reading users has exceeded 500 million, and the National Digital Library has more than 18.6 million users [12]. The basic indicators of total electronic resources in public libraries have reached world-advanced levels [13], providing a good digital foundation. However, there are still deficiencies in the social development and utilization of digital resources for national strategies such as technological innovation and cultural confidence. The digital service capabilities of grassroots libraries remain relatively weak, and the authority of libraries in an open society is waning, requiring industry attention.

All library work serves society [14]. Modern society is an open society. To maintain the mainstream status of culture and information, libraries need to obtain social empowerment and avoid development risks [15], connecting users and society through digitalization to become linking hubs and community centers. For example, “connecting libraries” has been identified as one of the goals of the World Summit on the Information Society (WSIS), and IFLA’s “Statement on Libraries and Open and Good Governance” explicitly aims to “ensure open access to public data and information, and achieve the sustainable development goals of public access to information freedom” [16,17]. In traditional fields, libraries are mostly isolated social nodes, with enhanced radiation capacity often achieved only through models such as the main-branch library system, literature

sharing, and library-store integration. In the digital field, “spatiotemporal correlation, interactive collaboration, and immersive experience” become possible, undoubtedly narrowing the distance between libraries and society and enabling libraries to achieve goals centered on social benefits.

1.2 Intelligence: Making Digitalization the Activating Agent for Business Format Renewal

Digital transformation has profoundly reshaped library business formats. Transforming libraries into agile and flexible ecological organizations that are user-centered, data-driven, capable of continuously iterating technologies, and quickly perceiving user needs will be an important shift [18]. Digital libraries can be regarded as intelligent entities that comprehensively surpass library organic entities [19], possessing characteristics such as resource interconnection, plug-and-play functionality, and rapid response. They can supply authoritative content and services across all spatiotemporal dimensions, achieving upgrades in library service value, scenarios, and connotations. FOLIO (The Future of Libraries is Open) is a typical practice. By investigating and analyzing the user distribution of the FOLIO platform (see [Figure 2: see original paper]), we can find that it has extended from Europe to the Americas and globally, with an application peak between 2020 and 2021. Among G7 countries, the United States, Germany, Canada, Italy, and the United Kingdom have more applications. In China, Shanghai Library has built a framework for smart libraries based on FOLIO, encompassing “scenarios-standards-platform-services,” making innovative applications have infinite possibilities.

From the overall perspective of business format renewal, digitalization is not a tool but a foundation, and the platform is only a form, not the future of library development. The industry is exploring ecosystems centered on user needs, continuously innovating and implementing holistic intelligent governance. Human-centered digital technology plays an activating function in library business format renewal. Currently, against the background of national budget cuts caused by the pandemic and other factors, few libraries have reduced investment in digital content and related support technologies, which compensates for the reduced use of library physical materials by users [21] and extends the actual effectiveness of physical entities. Technologies represented by Human-centered AI, metaverse, digital twins, AI language models like ChatGPT, and AIGC have had a tremendous impact on documentation and information work. They are not only shaping new forms of library reading services but also integrating library resources, services, platforms, and spatial elements into the library intelligent entity, constructing a new library business format that blends and stimulates creativity, achieving comprehensive transcendence over traditional libraries [22]. For example, China’s National Library has proposed the “1+3+N” strategic plan for smart library service system construction, aiming to open up connection ports with service platforms at all levels of partner libraries, providing an industry solution for business format renewal. Of course, the good governance

and ethical issues existing in digital-intelligence technology cannot be ignored. Adding rich digital elements and humanistic spirit to the “activating agent” of library business format renewal, promoting the adaptation and effectiveness maximization of library digital systems, and fully demonstrating the irreplaceable social value of libraries will be breakthrough directions for a long period in the future.

1.3 Inclusiveness: Making Digitalization the New Engine for Bridging Divides

Huge “connectivity divides” still exist between and within global regions, with nearly 13% of users not connected to the internet [23]. Solving the digital divide problem is considered a key step for libraries to ensure that everyone can fully utilize existing resources and serve the growing digital native user groups [24]. In fact, the library sector has also played an active role in bridging the digital divide. IFLA has established the Dynamic Coalition on Public Access in Libraries (DC-PAL) and launched signing initiatives such as “Libraries in Response: Every Community Connected” and the “Library Pledge for Digital Inclusion” to safeguard the sustainable development goals of information access. In China, research by Peng Leiting and Jin Haitao [25] (see [Figure 3: see original paper]) shows that the interval contribution rate and Theil index fluctuations of uneven public library digital resource investment are declining, and the effectiveness of digital resource investment has improved. However, the contribution rates within eastern, central, western, and northeastern regions show a fluctuating upward trend, and the unevenness of digital resource allocation continues to increase. From the perspective of urban-rural dual structure, county-level and below libraries, which serve a broader population and regions, account for only 51.32% of the total digital resources [26], indicating a significant gap in digital resource allocation at the grassroots level. From the perspective of age structure, besides the enormous challenges posed by the large-scale Chinese-style modernization to the industry, the proportions of digital reading users in China aged under 18, 19-25, 26-35, 36-60, and over 60 are 27.25%, 44.63%, 18.49%, 8.51%, and 1.13% respectively [27]. The service effectiveness for middle-aged and elderly groups needs improvement, and their heterogeneous motivations for reading and digital reading barriers require libraries to adjust service strategies and promote the age-appropriateness of digital reading services.

Digital inclusion is an important dimension for promoting library transformation and high-quality development, possessing engine power. Digitalization helps reduce the unevenness of library information resource allocation. However, the digital divide problem hidden within the undertakings or institutions has become a “persistent problem.” For instance, libraries have long been positioned as pillars of social information and inclusion but face internal challenges and cognitive risks in achieving universal methods and technologies for digital inclusion [28]. For China, on the basis of coordinating regional gaps, promoting high-quality library development requires achieving equalized allocation of core

elements including digital resources across dimensions such as regions, urban-rural areas, and population groups, narrowing the digital divide, and ensuring supply-demand matching. Only then can we lay the foundation for building modern libraries that are inclusive, equalized, high-quality, and sustainable.

1.4 Sharing: Making Digitalization the Enabler for Inclusive and Balanced Development

Equal access to human cultural and scientific heritage is everyone's right, and achieving educational, cultural, and information missions through digitalization has become a global initiative. Fundamentally, library digital transformation aims to supply quality services and meet the strategic requirements of national development and users' ubiquitous needs. Digitalization has proven effective in helping achieve equitable access to information services. For example, in 2020, the total circulation of public libraries in China decreased by 58.26% year-on-year, while online services and website visits reached 1.607 billion and 2.296 billion times respectively, with per capita effectiveness of approximately 1.15 and 1.64 [26], largely compensating for service deficiencies caused by the pandemic. Among G7 countries, digitalization has also become an important supplement to inclusive services. In 2020, U.S. public libraries had 2.513 billion collection uses, with electronic content usage reaching 1.3 billion times, or about 3.95 uses of electronic content per capita [30]. The UK had 60 million offline visits and 155 million web visits, with offline and online visits showing fluctuating downward and upward trends respectively over the past decade, and per capita web visits of about 2.28 times [31].

As an institutional arrangement, libraries should become more inclusive in digital society, leading participation in the era's task of "panoramic presentation, universal sharing, and global influence of Chinese culture" [1]. Digitalization should become the enabler for libraries to achieve inclusive and balanced development goals, emphasizing service equality through "virtual-real integration." In China, shared development takes the national reading strategy as the main 抓手, but the contribution rate of libraries to national reading is relatively low, making digitalization undoubtedly one of the important breakthrough points. For instance, in 2021, the contact rate of digital reading methods in China was 79.6%, and the per capita e-book reading volume was 3.3 books, both showing an upward trend. However, the awareness rate, usage rate, and satisfaction rate of urban adult residents toward public libraries were only 30.3%, 14.5%, and 77.1% respectively, still at relatively low levels. The public reading service index was 5.43 percentage points lower than the personal reading index, indicating considerable room for optimization [32]. In terms of effectiveness, related research [25] (see [Figure 4: see original paper]) also found that the Theil index of online service effectiveness of public libraries in China shows a fluctuating downward trend, with the intra-regional contribution rates of the four major regions remaining at high levels and the interval contribution rate fluctuation amplitude increasing. Overall, the positive impact of digitalization is significant,

but internal differences in inequality contribute absolutely to overall differences. Therefore, China urgently needs to explore a collaborative development mechanism for library digital construction to ensure the people's nature of library subjects, that is, the value that library development is for the people.

2 Strategic Directions for High-Quality Library Development in the Digital Transformation Era

Based on the overall layout of Digital China and the orientation of the national cultural digitization strategy, this study further analyzes the development directions planned in international library industry strategic plans to provide an experience source for high-quality library development in China.

2.1 Sources of Strategic Documents

When selecting strategic documents, the following principles were followed: Typicality and representativeness, focusing on collecting digital strategies from important international and regional organizations such as IFLA and LIBER, as well as G7 national libraries; Relevance of nature and content, possessing the nature of roadmaps and plans, with themes related to library digital (data) strategies; Recent publication and update times, capable of demonstrating the current status and future trends of library digital transformation. As shown in , based on the above principles, 14 relevant strategic documents were obtained as research data sources. The policy documents focus on digital strategies, with “maintaining value and promoting transformation” being the strategic goal for library development under the new era background. The core essence is to promote sustainable development through digital transformation.

2.2 Analysis of Strategic Directions

Following the content analysis process of “determining research questions, extracting samples, defining analysis units, constructing categories, content coding, checking coding results, and interpreting and analyzing conclusions,” this study extracted and coded content from the 14 representative library digital strategic documents collected. The main approach was to extract key goals or core tasks from the text as core terms, assign values based on the richness of action guidelines provided by the subordinate concepts of core terms, and then organize and aggregate them into strategic direction theme words. As shown in [Figure 5: see original paper], the left column uses the abbreviations set in Table 1 to refer to strategic documents, the middle column contains core terms, and the right column contains theme words. Through evolutionary analysis, the digital strategic directions of globally important international organizations and G7 national libraries can be summarized into five themes: technical foundation, digital resources, business processes, user services, and social interaction, constituting the core elements and strategic framework for library digital transformation and sustainable development.

2.2.1 Data Empowerment: Building a More Intelligent Technical Foundation Data services are the final piece of the knowledge services puzzle [47], and libraries possess unique advantages in the development and utilization of data resources. “Data intelligence + network collaboration” helps consolidate the technical foundation for library development and provides continuous momentum for the construction of smart library service systems [4]. Promoting transformation and development with data thinking and technology will give libraries more possibilities in the future. The continuous integration of data flows with intelligence and decision-making attributes may optimize and reconstruct library organic entities composed of resources, platforms, spaces, and even services. Libraries have methodological advantages in digital (data) infrastructure construction, such as bibliographic control, authority control, knowledge organization, and documentation evidence [48], providing a foundation for expanded participation. From a global strategic orientation perspective, the “Digital Library Manifesto” declares the importance of standardization and network interconnection to ensure that compliant and useful information collected by libraries is provided to all users [33]. The “DPLA Strategic Roadmap” holds an optimistic attitude toward technology, believing that libraries need to actively leverage the “transformative potential of technology in unlocking knowledge and realizing creativity” [44]. The “LIBER Digital Strategy,” “BnF Digital Strategy,” and “NDL Digital Strategy” place digital infrastructure construction in a foundational position in their tasks. For example, LIBER emphasizes “achieving interoperability and scalable scalability to support the sustainable development of knowledge” [35]. The “RLUK Digital Manifesto” lists digital space construction as one of its four major goals, advocating for “building spaces where digital and physical interactions are seamless” [42]. Data-driven approaches constitute the main direction of the “LOC Digital Strategy” [49].

From China’s strategic arrangements, synchronized with global and social requirements, measures such as updating technology applications as a driving force and focusing on new infrastructure will provide opportunities for reconstructing library information infrastructure, artificial intelligence applications, and “digital memory” construction [50]. For example, open-source and platform-based operation, as well as various self-developed smart library technology solutions with intelligent perception, circulation, interconnection, and management application functions, provide ideas for achieving seamless connection, plug-and-play functionality, and global sharing through data flows. A representative example is Shanghai Library’s FOLIO solution, which uses data buses and APIs to connect data middle platforms, technology middle platforms, and business middle platforms, opening up the “back-end” of digital infrastructure and the “front-end” of services. On March 10, 2023, the “State Council Institutional Reform Plan” proposed the establishment of the National Data Bureau, responsible for coordinating Digital China, the digital economy, and data element-related work, and promoting the layout and construction of digital infrastructure, responding to the requirements of the “Plan.” In future planning for new digital infrastructure construction, there should be a place for the library sector. Only by

building a more advanced and intelligent technical foundation can we provide solid support for promoting Digital China construction with digital civilization.

2.2.2 Demand-Driven: Building More Trustworthy Digital Resources

Resources are the fundamental guarantee of services. In the digital transformation era, users need more trustworthy digital resources. The “RLUK Digital Manifesto” points out that its 2030 vision is to “provide environmentally sustainable and inclusive services that enable diverse users to identify and use trustworthy knowledge resources from around the world” [42]. Protecting future knowledge in digital form, forming capabilities and service systems that ensure digital resource use, and achieving long-term preservation, accessibility, retrievability, and usability of digital resources such as cultural heritage through standardization have become important orientations of international digital strategies. For example, the “Digital Library Manifesto” supports that “libraries and information services play a key role in promoting common standards and best practices,” “creating interoperable digital library systems, improving open standards for collections, and promoting open access” [33]. German libraries particularly emphasize the digitization of cultural heritage, achieving the combination of digital strategy formulation with library functions and legal systems, and constructing a collaborative digital preservation division network between DNB and the Bavarian State Library (Bayerischen Staatsbibliothek, BSB). The “DNB Digital Strategy” considers digital resources that can be preserved long-term according to applicable technical standards and possess accessibility and authenticity as part of the infrastructure for scientific research, culture, and education, and has formulated implementation strategies such as mandatory digital resource deposit regulations and collection guidelines [40,49]. The British Library and the Library of Congress both regard expanding accessible channels and methods as important directions. The UK emphasizes maintaining the value of digital collections, achieving this through legal deposit of digital resources and voluntary provision by owners. Meeting users’ information needs anytime and anywhere through different methods is also a major goal for the United States [49].

For China, by 2020, public libraries’ electronic book collections had reached over 800 million volumes. The library sector is actively connecting with the Chinese culture database [26,51]. Digital resources have not only become the main choice for users in scenarios such as innovation, research, and social governance but have also risen to become core elements of library development. Accelerating resource digitization and data interoperability is the necessary path for achieving innovative library development in China. What needs attention is that in the digital environment, libraries’ resource collection functions and intermediary functions are being replaced and diluted, and their ability to compete for service positions is gradually weakening, facing issues in acquisition costs and efficiency [15].

2.2.3 Digital-Intelligence Integration: Reshaping More Professional

Business Processes Reshaping organizational forms and management process systems should become the development direction of libraries in the digital transformation process. Digitalization makes every link in library business present a state of being open, interactive, and value-added [52]. Digital-intelligence integration provides continuous momentum for the transformation of libraries' entire processes, all spaces, full information chains, and full service chains. Using digital thinking and technology to reshape libraries' governance mechanisms and business work helps connect elements such as resources, services, and readers, fully activating online and offline elements of libraries, and building a smart library business and service system that integrates virtual and real, enables real-time interaction, and allows autonomous iteration. Global practices show that based on stakeholder and digital organization collaboration, updating management processes through improved data management and data governance can fully enhance libraries' capabilities and leadership to address transformative risks of digital transformation in the VUCA era. For example, the "BL Digital Preservation Strategy" emphasizes that both content and processes should comply with the library's digital preservation policy, ensuring the reliability of digital resources and services through robust management [43]. LAC believes it needs a flexible and adaptive framework composed of policies, guidelines, standards, processes, and indicators to enable scientific governance of data assets, with data management considered the foundation for evidence-based decision-making and business security [37].

Professionalism is a key factor in stimulating the vitality of library innovation and development. Entering the digital era, China's library sector emphasizes reconstructing core businesses to fully release the public nature of libraries. Currently, the digital transformation of library business in China is mostly still in the extensive stage of single-process, single-scenario, and single-entity differentiated exploration, with data silos becoming a limiting factor hindering development. Business process 打通 should focus on data governance and industry collaboration. In the future, leveraging system advantages and maintaining overall vitality, demonstrating brand and resource advantages, will require shaping a new form of library service spatiotemporal "co-presence" through the "symbiosis" of digital-intelligence integration in library business.

2.2.4 Value Leadership: Supplying More Inclusive User Services

To maintain mainstream status and gain social recognition in digital society, library development requires core value leadership. The value of libraries lies in always standing at the forefront of the times, serving the needs of the times, and ensuring the people's nature of service subjects through basic systems [9]. The "IFLA Global Vision Report" states that "we must renew our traditional roles in the digital age" and meet user needs by improving service models [53]. LOC listed user-centered and digital incentives as main directions in its FY 2019-2023 strategic plan "Enriching the User Experience" [49].

In foreign digital strategies, supplying more inclusive user services is often listed as the top priority. Related services involve open and equal services, digital discovery, digital curation, digital literacy, and user experience. Theme words such as digital divide, user research, search optimization, and urban integration reflect people-oriented development thinking. Analysis shows that global concerns for inclusive library development include but are not limited to: Open and equal services in the digital environment, such as the “LAC Digital Strategy” emphasizing open access and social participation to promote digital discovery, and the “NDL Digital Strategy” advocating universal service through substantive means [36,41]. Cultivation of user information literacy in digital society, such as the global library community represented by IFLA promoting digital literacy and skill improvement to expand influence in digital society construction. User-centered digital inclusive services and digital divide bridging, such as the “BnF Digital Strategy” emphasizing user research and 主张 library development integrating into cities to become a driver of digital divide bridging [38]. Library services supporting user and social development, such as emphasizing user experience and innovation support being key directions of the “DDB Digital Strategy” and “LOC Digital Strategy” [39,45].

For over a century, the Wenhua Spirit with “Wisdom and Service” as its core has profoundly influenced the development of China’s library industry. At the crossroads of digital transformation, wisdom and service remain the foundation for Chinese libraries to maintain their value and can and should be endowed with new era connotations to continuously enrich the dimensions of library services and enhance users’ sense of gain and happiness. Grasping the development direction of digitalization, intelligence, and popularization, and promoting service equalization and effectiveness maximization through strategies such as digital resource sharing and digital technology application, library development will not lose vitality, and the goal of universal sharing of cultural digitization achievements can gradually become reality in the process of high-quality library development.

2.2.5 Innovation-Driven: Forming More Sustainable Social Interaction Internationally, libraries are often considered “anchor institutions” of society. Libraries play an irreplaceable role in promoting human civilization, social progress, and social education. Libraries exist within society and continuously innovate along with social development [52]. Facing broader social needs and forming good interaction with society is an important path for libraries to enhance influence and achieve self-renewal in the digital age. The “Digital Library Manifesto” believes that digital libraries transcend geography and social forms, connect different cultures, open a vast world of knowledge and information for humanity, and explicitly states the need to “fully utilize the increasingly converging advantages of libraries’ own media and institutional roles to create and disseminate digital content” [33]. The “DPLA Strategic Roadmap” maintains an optimistic attitude toward the potential of libraries to disseminate knowledge and unleash creativity through digital technology [44], reflecting the pursuit of

technological inclusion and social integration. The “LOC Digital Collections Strategy” emphasizes the need to “value user behavior research to expand and deepen collection use,” continuously improve the quality and effectiveness of library services through data assessment of library impact, and tell good library stories [46].

The history of library development is the history of its interaction with society, and innovation is the primary driving force for library development. Driven by specialized innovation to meet social needs and contribute to social progress will be the main theme of future library development. At present, social information, social knowledge channels, and new technologies are challenging libraries’ status, and libraries face risks such as value loss, business dilution, and service substitution. Only by actively responding to the needs of the times, conforming to the trend of digitalization and intelligence, and promoting smart innovation can the library sector avoid losing its direction in digital society.

3 Vision for High-Quality Library Development Under the Overall Layout of “Digital China”

Integrating libraries into the overall layout of Digital China should take the national cultural digitization strategy as the starting point. The national cultural digitization strategy provides policy guidance and action guidelines for libraries to shift toward “data factorization, institutional systematization, governance modernization, service quality, and business format intelligence” [4], guiding the library sector to continuously update core elements of high-quality development such as institutional design, facility construction, resource guarantee, technology application, and service supply, and reshaping the goals, methods, and effectiveness of library evolution from organic entities to intelligent entities. Through careful understanding and critical analysis of the digital transformation thoughts and experiences of representative international organizations and advanced countries’ library sectors, we can find that the law of promoting cultural digitization emphasizes institutional design, strengthens human-centered concepts, promotes digital-intelligence integration, and pursues professional innovation. Based on this, combined with the strategic path of “consolidating foundations, empowering the whole, strengthening capabilities, and optimizing the environment” [3] determined in the overall layout of Digital China, we can preliminarily outline the future vision of high-quality library development.

3.1 Optimizing Institutional Design to Serve National Needs

China’s “Public Library Law” stipulates that “the state builds a unified standard and interconnected public library digital service network” to provide convenient and quality services to the public through digital models [54]. However, as a comprehensive law, it can only make requirements from a macro level for tasks such as digital resource construction, digital reading product development, digital resource preservation technology research, and literature information shar-

ing platform construction. In addition, digital strategic planning for China' s library sector is almost absent, and the relevant guidelines and implementation guides for cultural digitization have vague guidance for the library sector, with low feasibility of reference solutions. Foreign experience shows that forming a roadmap for library digital transformation through institutional design is the foundation for ensuring libraries achieve open, intelligent, inclusive, and shared development.

Library participation in Digital China construction and the cultural digitization strategy is a national need. The new era' s national strategies such as scientific and technological self-reliance and cultural confidence require building a sound library digital development system and forming basic capabilities for information management and cultural services. On the one hand, we should adapt to the times and changing circumstances, improve the multi-subject and multi-level library digital development policy framework and implementation details on the basis of building a national basic library system, and pay attention to the institutional improvement of underlying digital (data) infrastructure, digital resource sharing, and smart services. For example, actively participate in and lead the construction of the national cultural big data standard system, respond to the "Plan' s" requirement to "compile digital standard work guidelines, and accelerate the formulation and revision of application standards for industry digital transformation and industrial cross-integration development" [3], and promote the construction of smart library data standard systems. On the other hand, we should improve systems and mechanisms, forming leadership, coordination, incentive, and guarantee mechanisms for library digital transformation. To high-quality achieve the Digital China vision, libraries at all levels and types should place digital development in an important position in their work, integrate into the "Plan' s" integrated promotion pattern of "horizontal 打通, vertical 贯通, and strong coordination," and respond to its requirement of "establishing and improving a Digital China construction coordination mechanism to timely study and solve major digital development issues" [3]. Currently, the Ministry of Culture and Tourism and the National Data Bureau managed by the "National Development and Reform Commission" can explore the establishment of cross-departmental and cross-regional collaboration mechanisms, forming specialized institutions and systems to coordinate and advance various tasks of library digital transformation. The experience of the U.S. DPLA project in building an open collaboration platform, constructing a council system and community representative system, and emphasizing the construction of policy systems and strategic planning can serve as a reference for China [55].

3.2 Upholding Human-Centered Concepts to Meet People' s Needs

Libraries are the only social public welfare institutions with the mission of promoting the free dissemination of knowledge and information [56]. Being people-centered is the core essence of building modern libraries. In foreign library digital strategies, particular emphasis is placed on people-orientation and ser-

vice supremacy. In China, the “Public Library Law” stipulates “improving digital and networked service systems and distribution systems” to “promote the extension of public library services to urban and rural grassroots levels” [54], profoundly reflecting the people-centered development philosophy. After building a moderately prosperous society in all respects, digitalization should become a 抓手 for achieving coordinated material and spiritual civilization, focusing on the value orientation of common prosperity, and becoming the main driving force for promoting spiritual life common prosperity through library service equalization.

Libraries have educational, cultural, and information missions, which have been declared in the IFLA/UNESCO “Public Library Manifesto” and “Digital Library Manifesto.” Whether achieving the three basic missions or meeting the broadest people’s needs, fulfillment of the digital mission should be the foundation. First, we should promote the library system, especially the smart library system, to become an important pole of the cultural system, comprehensively participate in actions to improve national digital literacy and skills, and become a position for cultivating national digital literacy and enhancing digital civilization. Responding to IFLA’s “Digital Skills Strategy,” China’s “Action Outline for Improving National Digital Literacy and Skills,” and answering the “Plan’s” requirement of “building a digital literacy and skill development and cultivation system covering all people and integrating urban and rural areas” [3], the library sector needs to collaborate and implement precise policies by category, developing library services for the knowledge society and digital society to promote high-quality development of national reading. Second, we should use digitalization to help the library sector bravely shoulder the responsibility of inheriting Chinese civilization and cultivating cultural confidence, realizing people’s aspirations for a better life. Explore digital transformation practice models for service methods such as the main-branch library system, urban-rural integration, library city, and 全域 service, jointly carry out collaborative governance of digital cultural heritage with GLAM, and actively promote digital technology to become a “shaper” of cultural benefits for the people. Finally, we should use digitalization to bridge the spatiotemporal divide of digital civilization, developing library information services for 全域 and 全程 intelligence on the premise of meeting basic information guarantees. Digital and intelligent transformation should coordinate the overall, group, and individual levels, empowering the satisfaction of people’s new cultural needs [6]. For example, we can 借鉴 the 思路 of the National Library’s “Document Sharing and Borrowing Plan,” incorporating cloud sharing borrowing into the national smart library system and integrating it into the main-branch library system [57], achieving 全域 linkage through digital reform and 打通 the “last mile” of information resource supply and public reading services.

3.3 Building Integrated Business Formats to Promote Social Development

The library business format is a unified entity composed of continuously updated core elements. The high-quality development concepts and patterns in the new development stage are reshaping library business formats, continuously strengthening the library life organic entity and promoting its development and extension toward an intelligent entity. From the perspective of library development in the digital era, libraries should develop social functions [58]. Global library digital transformation experience shows that digitalization should help improve social civilization levels. Elements that promote continuous transformation of the library intelligent entity include but are not limited to management, resources, and services. Promoting business format integration development with “information, technology, and people” as the core helps achieve deep integration with public life, industries, and communities, and 发挥 library social value.

Building a 融合 and sharing library business format with data as the basis to promote library transformation and development toward intelligent, integrated, and seamless forms is three-dimensional. First, from the perspective of building a knowledge foundation, future libraries must be intelligent. It is recommended to include the national smart library system (project) in the overall layout plan of Digital China and in the digital infrastructure construction plan, making libraries become open infrastructure and public science centers. For example, based on cloud storage architecture and cloud application interfaces, build a knowledge content integrated storage system, knowledge service call system, and user data management center, forming a national “cloud smart library” [8]. Use technology thinking and tools such as human-centered AI, digital twins, and ChatGPT to transform library business processes, 打通 difficulties and blockages in services, especially equalized services, through human-machine coupling, and 发挥 the function of libraries as society’s thermometer. Second, strengthen deep integration and three-dimensional integration, building libraries into linking hubs of social information resources [15] and becoming the main force in integrating into digital civilization society construction. Actively integrate into the national cultural big data system, integrate into the overall situation of Chinese culture database and national data resource bank construction, and contribute industry strength to the goals of “consolidating the ‘two foundations’ of digital infrastructure and data resource systems, achieving efficient connectivity of digital infrastructure, and accelerating the improvement of data resource scale and quality” [3]. Emphasize leading participation in public cultural service resource integration and interconnection, integrating social open resources and self-owned resources [9,15], and 发挥 library cultural cohesion and guidance, using digital development models to enhance industry influence and social visibility. Finally, take the innovative application of digital technology as an opportunity to enhance the flow effectiveness of data and knowledge, developing library services that break through spatiotemporal limitations and

seamlessly connect with public life [15]. According to the “Plan’ s” basic strategy of promoting the deep integration of digital technology with the “five-in-one” overall layout of economy, politics, culture, society, and ecological civilization construction [3], build libraries that comprehensively empower economic and social development and provide information and service support for digital society construction.

3.4 Reshaping Professional Capabilities to Keep Pace with the Times

Advocating professional development and enhancing professional capabilities have become industry consensus in China’ s library sector in the new era. Upholding original missions, focusing on connotative development, reconstructing core businesses, leveraging system advantages and overall vitality, and connecting with social needs are the logical approaches for libraries to respond to the challenges of digital and intelligent transformation in the post-pandemic era [59]. Only by actively responding to the needs of the times, conforming to the trend of digitalization and intelligence, maintaining advancement and professionalism, and stimulating the vitality of intelligent innovation and development can libraries effectively 发挥 their professional value.

Reshaping professional capabilities for library development can focus on development concepts, empowerment mechanisms, and professional foundations. First, adhere to using advanced development concepts to guide practice. We should take the new development concept as the basic 遵循, continuously reshape core elements such as library digital resources, spaces, governance, and services, and continuously update practice patterns and development models to promote their scientific iterative application. Specifically, we should use the new development concept to solve the relationships between speed and quality coordinated development, single library and regional coordinated development, and undertakings coordinated with national economy and social civilization development. We should use digital-intelligence integration to promote the unity of elements and systems and achieve resilient development. Second, optimize the digital-intelligence empowerment mechanism for high-quality library development. In previous research [4], we proposed three mechanisms for the library sector to participate in the national cultural digitization strategy, focusing on data, technology, and user needs respectively. In addition, we should improve the governance mechanism for library digital transformation and promote the spread of advanced development experience nationwide through pilot reform mechanisms. For example, following the “Plan’ s” strategy of “coordinating comprehensive pilot work for Digital China construction, comprehensively integrating and promoting reform experiments” and “establishing a batch of Digital China research bases” [3], carry out pilot work and establish relevant theme research bases in the library sector to explore realistic paths for high-quality library development from a digital dimension. Finally, consolidate the professional foundation for library development. Seize the opportunity of the “Plan’ s” proposed safeguard measure of “coordinating the layout of a batch of digital

field discipline specialty points to cultivate innovative, applied, and compound talents” [3], adjust and optimize talent training models, teaching content, and curriculum systems facing national cultural development strategies, as well as new business format environments, professional environments, and discipline environments [3,60]. For example, the experience of Wuhan University in building a digital culture experimental class (undergraduate-master-doctoral integrated) and Renmin University of China in forming an undergraduate-master-doctoral integrated digital humanities professional talent training system can be 借鉴 by library and information science departments nationwide to fully 发挥 the role of talent as the primary resource and adapt to the requirements of the digital-intelligence era. In addition, emphasize improving the industry’ s digital cultural service capabilities, tap the potential of digital service aggregation and presentation at the 末梢 of the library service system, provide multi-granularity integrated knowledge services, access the Chinese culture panorama [4], and demonstrate professional responsibility.

The library sector is writing the answer sheet for digital transformation. The development model of digital-intelligence empowerment, innovation, balance, sustainability, connotation, and people’ s livelihood is gradually taking root in China, like a spark that can start a prairie fire. Although the global library business format maintains a positive trend, and the theories of library extinction and library crisis are unfounded, we must also 清醒地 realize that libraries in the digital era face both opportunities and challenges. The library sector must actively respond to the realistic requirements of the digital era, clarify the strategic direction of high-quality development, and promote the improvement and implementation of policies and systems to effectively regulate various development risks and ensure the maintenance of mainstream social status. Scanning the current status of library digital transformation from a macro strategic level, analyzing logical approaches, and providing theoretical solutions have enlightening significance for promoting Digital China construction and building a digital civilization society.

Looking forward, the overall layout of Digital China requires the library sector to continuously 发挥 professional value, focusing on the national cultural digitization strategy, 打通 docking points and 贯通 channels between policy and practice, improving multi-subject collaboration mechanisms, building multi-scenario application platforms, and exploring high-quality development models and their effectiveness improvement paths. Much remains to be done, but 守正创新 promises a bright future.

References

- [1] General Office of the CPC Central Committee. Opinions on Promoting the Implementation of the National Cultural Digitization Strategy[EB/OL]. [2023-03-06]. <http://www.ccipic.org/h-nd-783.html>.
- [2] CPC Central Committee, State Council. Outline for Building a

Quality Power[EB/OL]. [2023-03-13]. http://www.gov.cn/zhengce/2023-02/06/content_{5740407}.htm.

[3] CPC Central Committee, State Council. Overall Layout Plan for Digital China Construction[EB/OL]. [2023-03-05]. http://www.gov.cn/xinwen/2023-02/27/content_{5743484}.htm.

[4] QIN Shun. Transformation and Approach: The Mission of Libraries in the National Cultural Digitization Strategy[J]. *Library Tribune*, 2022, 42(9): 35-43.

[5] ZHU Li. Library Business Reconstruction and Development Shift Under the Background of Digital China[J]. *Library & Information*, 2021(6): 130-134.

[6] WANG Shiwei. On the Intelligent Transformation of Libraries Under the Background of Digital China[J]. *Journal of Library Science in China*, 2022, 48(1): 29-37.

[7] HONG Fanglin, GONG Jiaoteng. Library Smart Space Transformation Under the “Digital China” Strategy: Direction, Core, and Implementation[J/OL]. *Information and Documentation Services* (2023-03-12)[2023-03-13]. <http://kns.cnki.net/kcms/detail/11.1448.G3.20230309.1626.012.html>.

[8] XIONG Yuanming, BAI Xuehua, WU Jianzhong, et al. National Cultural Digitization Strategy: Professional Interpretation and Mission Practice of Libraries[J]. *Journal of Library Science in China*, 2022, 48(4): 4-38.

[9] CHEN Chuanfu, CHEN Yi. Chinese Practice and Theoretical Contribution of Library Development in the New Era[J]. *Journal of Library Science in China*, 2023, 49(1): 4.

[10] WU Jianzhong. Three Major Challenges for High-Quality Development of China’s Library Undertakings[J/OL]. *Library Journal* (2023-03-03)[2023-03-05]. <http://kns.cnki.net/kcms/detail/31.1108.G2.20230303.1458.002.html>.

[11] Ministry of Culture and Tourism of the People’s Republic of China. “14th Five-Year Plan” for Public Cultural Service System Construction[EB/OL]. [2023-03-06]. http://www.gov.cn/zhengce/zhengceku/2021-06/23/content_{5620456}.htm.

[12] Cyberspace Administration of China. Digital China Development Report (2021)[EB/OL]. [2023-03-06]. <https://sjzyj.ah.gov.cn/group3/M00/09/DE/wKg86mMFj3OAd6FDACGZnk6Q>

[13] Peking University National Center for Modern Public Culture Research, LI Guoxin. Toward 2035: Building a World-Class Public Library System with Chinese Characteristics[J]. *Journal of Library Science in China*, 2022, 48(1): 4-16.

[14] HUANG Jungui. The Core Value of Libraries and Its Realization[J]. *Journal of Library Science in China*, 2008(5): 14-19.

[15] CHEN Chuanfu, LI Qiushi. Open Society and Library Development[J]. *Journal of Library Science in China*, 2020, 46(1): 16-37.

- [16] IFLA. IFLA Statement on Libraries and Open and Good Governance[EB/OL]. [2023-03-06]. https://cdn.ifla.org/wp-content/uploads/2019/05/assets/hq/topics/libraries-development/documents/ifla_statement_on_libraries_and_open_and_good_governance.pdf.
- [17] IFLA. Libraries and the Digital Environment in 2021: Survey[EB/OL]. [2023-03-06]. <https://www.ifla.org/news/library-perspectives-for-the-world-summit-on-the-information-society-reporting-have-your-say/>.
- [18] CHEN Daqing. Reflections on Library Digital Transformation in the New Era[J]. *Journal of Academic Libraries*, 2022, 40(6): 14-16.
- [19] WANG Shiwei. The Library Intelligent Entity is a Comprehensive Surpassing of the Library Organic Entity[J]. *Library Development*, 2022(3): 4-9.
- [20] Karen Newbery. Implementation Details[EB/OL]. [2023-03-06]. <https://wiki.folio.org/display/COHORT2019/Implementation+Details>.
- [21] Marshall Breeding. Library Systems Market Report (2021): Advancing Library Technology in Challenging Times[J]. Translated by XIAO Zheng, SHI Xiaohua, XU Jingyi. *Library Tribune*, 2021, 41(10): 127-140.
- [22] CAI Yingchun, YAN Dan, ZHOU Qiong, et al. The Practical Path of Smart Libraries in the Metaverse Era: From Library Intelligence to Intelligent Library[J/OL]. *Journal of Library Science in China* (2023-01-30)[2023-03-07]. <http://kns.cnki.net/kcms/detail/11.2746.G2.20230130.1059.001.html>.
- [23] IFLA. Libraries for a Fair Digital Environment: Trends, Plans and Engagement Opportunities in 2022[EB/OL]. [2023-03-06]. <https://www.ifla.org/news/libraries-for-a-fair-digital-environment-trends-plans-and-engagement-opportunities-in-2022/>.
- [24] IFLA. A Call for Radical Hope: IFLA Trend Report Update 2022[EB/OL]. [2023-03-10]. <https://www.ifla.org/news/a-call-for-radical-hope-ifla-trend-report-update-2022/>.
- [25] PENG Leitong, JIN Haitao. Can Digitalization Promote Equalization of Public Library Services? —Measurement and Test Based on Theil Index[J/OL]. *Library Development* (2022-09-01)[2023-03-07]. <http://kns.cnki.net/kcms/detail/23.1331.g2.20220831.1318.003.html>.
- [26] Ministry of Culture and Tourism of the People's Republic of China. *China Culture and Tourism Statistical Yearbook 2021*[Z]. Beijing: National Library Press, 20.
- [27] Release of “2021 China Digital Reading Report” [J]. *Journal of National Library of China*, 2022, 31(3): 61.
- [28] Stover S. Public Libraries and 21st Century Digital Equity Goals[J]. *Communication Research and Practice*, 2019, 5(2): 188-205.
- [29] IFLA. IFLA Digital Library Manifesto[EB/OL]. [2023-03-07]. <https://www.ifla.org/wp-content/uploads/2019/05/assets/digital-libraries/documents/ifla-unesco->

digital-libraries-manifesto-zh.pdf.

[30] IMLS. Public Libraries Survey[EB/OL]. [2023-03-08]. <http://www.imls.gov/research-evaluation/data-collection/public-libraries-survey>.

[31] CIPFA. Stats for Libraries[EB/OL]. [2023-03-08]. <https://www.cipfa.org/-/media/files/about-us/press-office/stats-for-libraries.xlsx>.

[32] Release of the 19th National Survey on National Reading[J]. Journal of National Library of China, 2022, 31(3): 38.

[33] IFLA, UNESCO. IFLA/UNESCO Manifesto for Digital Libraries[EB/OL]. [2023-03-08]. <https://www.ifla.org/publications/ifla-unesco-manifesto-for-digital-libraries/>.

[34] IFLA. Libraries in Digital Skills Strategies[EB/OL]. [2023-03-09]. <https://www.ifla.org/publications/libraries-in-digital-skills-strategies/>.

[35] SHI Zhisong. LIBER Development Strategy 2018-2022: Research Libraries Powering Sustainable Knowledge in the Digital Age[J]. Library and Information Studies, 2019, 12(1): 64-67, 63.

[36] LAC. Digital Strategy 2015 and Beyond[EB/OL]. [2023-03-09]. <https://library-archives.canada.ca/eng/corporate/about-us/strategies-initiatives/digital-strategy-2015-and-beyond/Pages/digital-strategy.aspx#lien9>.

[37] LAC. LAC Data Strategy[EB/OL]. [2023-03-09]. <https://open.canada.ca/data/en/dataset/626c0c53-a323-4f71-8d0d-3016a3d3711a>.

[38] BnF. Schéma numérique de la Bibliothèque nationale de France[EB/OL]. [2023-03-09]. https://www.bnf.fr/sites/default/files/2020-11/bnf_{Schema}{numerique}{2020}.pdf.

[39] DDB. Strategie 2020[EB/OL]. [2023-03-09]. https://cms.deutsche-digitale-bibliothek.de/sites/default/files/media/documents/ddb_{strategie}{2020}{download}.pdf.

[40] DNB. Digitalisierungsstrategie der Deutschen Nationalbibliothek 2017 bis 2020[EB/OL]. [2023-03-09]. <https://www.dnb.de/SharedDocs/Downloads/DE/Professionell/Services/Digitalis>

[41] NDL. National Diet Library Vision 2021-2025 - Digital Shift of the National Diet Library[EB/OL]. [2023-03-09]. https://www.ndl.go.jp/jp/aboutus/vision_{ndl}.html.

[42] RLUK. A Manifesto for the Digital Shift in Research Libraries[EB/OL]. [2023-03-08]. <https://www.rluk.ac.uk/digital-shift-manifesto/>.

[43] BL. Sustaining the Value: The British Library Digital Preservation Strategy 2017-2020[EB/OL]. [2023-03-09]. <https://www.bl.uk/digital-preservation/britishlibrary/~media/c0068e4bb25c4ac39d1f4c5a020a21c8.ashx>.

[44] DPLA. Digital Public Library of America Strategic Roadmap, 2019-2022[EB/OL]. [2023-03-08]. <https://pro.dp.la/about-dpla-pro/strategic-plan>.

[45] LOC. The FY 2019-2023 Digital Strategic Plan of the Library of Congress[EB/OL]. [2023-03-09]. <https://www.loc.gov/digital-strategy/>.

- [46] LOC. Digital Collections Strategy Overview 2022-2026[EB/OL]. [2023-03-09]. https://loc.gov/acq/devpol/Digital%20Collections%20Strategy%20Overview_{final}.pdf?loclr=blogsig.
- [47] LU Cainü, GU Liping, NIE Hua. Data Diversity: Emergence, Concept, and Application Exploration[J]. *Library and Information Knowledge*, 2022, 39(2): 12.
- [48] XIA Cuijuan. Construction of “Data Infrastructure” for Humanities Research: On the Methodological Contribution of Library Science to Digital Humanities[J]. *Journal of Library Science in China*, 2020, 46(3): 24-37.
- [49] CHAI Huiming. Goals, Principles, and Strategies for Long-term Preservation of Library Digital Resources: Analysis Based on Digital Preservation Strategies of Four National Libraries in the UK, US, Germany, and Australia[J]. *Library Science Research*, 2020(14): 57-62, 75.
- [50] YANG Xinya, LUO Li, YANG Bin, et al. On the New Opportunities “New Infrastructure” Brings to Libraries[J]. *Library Tribune*, 2020, 40(12): 95-101.
- [51] GAO Shusheng. How to Implement the National Cultural Digitization Strategy[M]. Beijing: People’s Publishing House, 2023.
- [52] WU Jianzhong, FAN Bingsi, CHEN Chuanfu, et al. Future-Oriented Libraries and Society[J]. *Journal of Library Science in China*, 2021, 47(2): 4-28.
- [53] KE Ping, ZOU Jinhui. Library Transformation in the Post-Knowledge Service Era[J]. *Journal of Library Science in China*, 2019, 45(1): 4-17.
- [54] Public Library Law of the People’s Republic of China[N]. *China Culture Daily*, 2017-11-06(2).
- [55] HUANG Wenhao. Research and Enlightenment on the Digital Public Library of America Project[J]. *Hebei Sci-Tech Library Journal*, 2016, 29(3): 3-6, 15.
- [56] FAN Bingsi. The Ideal of Library Metaverse[J/OL]. *Journal of Library Science in China* (2022-06-08)[2023-03-08]. <http://kns.cnki.net/kcms/detail/11.2746.G2.20220608.1117.002.html>.
- [57] Ministry of Culture and Tourism of the People’s Republic of China. Building a National Book Borrowing Cloud Platform: Libraries Transform to “Smart Libraries”[EB/OL]. [2023-03-11]. https://www.mct.gov.cn/whzx/zsdw/zggjts/202101/t20210121_{920943}.htm
- [58] KE Ping, HU Juan, YUAN Zhenzhen. The Theoretical Basis and Practical Exploration of Library Professionalization Facing Socialization Challenges[J/OL]. *Journal of Library Science in China* (2023-02-02)[2023-03-12]. <http://kns.cnki.net/kcms/detail/11.2746.G2.20230201.1408.001.html>.
- [59] Department of Information Management, Peking University, China Senior Library Directors Forum. Initiative to Promote Professional Development of Libraries[EB/OL]. [2023-03-12]. <https://www.im.pku.edu.cn/docs/20210423154658316851.pdf>.
- [60] Education Committee of the Library Society of China. Initiative for Library Science Education in the New Era[J]. *Library and Information Knowledge*,

2019(5): 32.

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