View on the Buildup of New Service Capability of National Library of China From the Point of Development Trend of Reference Work

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ABSTRACT

With the change of information environment, the emergence of new technology, services, and new media, reference librarians and users have more choices in information acquisition methods, tools, and means. The reference consulting service is the most valuable part of developing collections, increasing comprehensive service ability, and revealing a library's social roles in the information age. The change in user demands has accelerated the transfer process which shifts the focus of library reference work from the literature retrieval to the individualized, information-oriented deep content mining, or metrology analysis. Improving the new service capacity to accomplish library service transformation is also an important goal of functional improvements to the National Library of China. In the coming years, the National Library of China will promote new services through improving the reading guidance, developing literature resources, innovating service methods, supporting national development strategy, strengthening the library's essentials, and promoting business cooperation.

KEYWORDS

National Library of China, Reference Work, Service Capability, Service Transformation

1. INTRODUCTION

The National Library of China (NLC) is a comprehensive research library. Its predecessor was the Capital Library, which was founded on September 9, 1909, and began performing the functions of the National Library since 1929. With a floor area of 280,000 square meters, the NLC is the largest library in Asia. As of the end of 2016, the total number of collections was over 3.65 million, and received about 15,000 users per day.

According to the "Public Library Law of the People's Republic of China," which came into effect on January 1, 2018, the functions of the NLC include: national literature information preservation, national bibliography and joint cataloging, serving national legislation and decision-making, organizing the work of national ancient books protection, library development research and international cultural exchanges, and providing operational guidance and technical support to other libraries. The National Library also has the function of a public library prescribed by this law.

The reference consulting service is the most valuable part of developing collections, increasing comprehensive service ability, and revealing a library's social role in the information age. The service has been run for 100 years in NLC, and over 1 million consulting services are provided each

Figure 1. National Library of China

year. How to give full play to, and improve efficient reference work service in the new information ecosystem is an important research topic of promoting the new service capacity's buildup in NLC.

2. THE CHANGE OF INFORMATION ECOLOGICAL ENVIRONMENT CHALLENGES TO THE REFERENCE WORK

The development of technology and the following change in the information environment provides ample space and a higher platform for the continuation, and further development of library information service. But for libraries, the change brings a great influence on the existing service model, and then, form a new trend of change, which caused the library community to undergo profound changes in the field of information service.

2.1. The Basic Relationship Between the Librarian and User Has Been Overturned

Human history and civilization are recorded and passed down through the literature. Libraries have long been known and utilized as the places of preserving human cultural heritage, and transmitting knowledge and information. Librarians act as effective information intermediaries between the extensive collection of literature, and the specific needs of users to help library users find and utilize the literature.

This situation was soon broken with the advent of the information age: most college students see the search engine as a perfect lifestyle choice (*OCLC, 2006*). Although people attach great importance to the service and human resources of traditional libraries in the field of information, they have adapted to the new information world, and the new opportunities to approach information resources (*JISC, 2010*). The development of digital resources and network services has greatly enhanced the

user's per capita literature utilization, and libraries are more inclined to purchase electronic resources (*Lumos Research Inc., 2011*).

These findings are reflections of the significant impact of information environment changes on libraries' existing user relationships with the extensive use of internet and digital resources. That is to say, comparing to few information resources from libraries in the past, users today can easily reach out for more information from internet and digital resources. Thus, the public's attention to the traditional library is significantly diluted. Finally, the function of the library was replaced by the search engine when information retrieval was conducted. Therefore, a librarians' mediating role in the use of collections to obtain documentary information has been greatly weakened, and the traditional librarians - user relations have been broken totally.

2.2. Irreversible Changes in Framework of Library Services

The Association of Research Libraries has conducted a long-term follow-up study on the changing trend of American research library services during the years 1991-2015. The results show that the content of library service has changed greatly in the past twenty years, and the interlibrary loan service has more than doubled; there has been a steady increase in the number of people who utilize libraries to carry out or participate in the group discussions; in contrast, the circulation of literature and reference services in libraries have continued to decline over the past twenty years (*ARL. 2016*).

This statistical result shows that, as increasing accessibility to literature information resources, the proportion of library collection resources utilized by the reader is reduced; library space gradually becomes an important service resource to attract users to the pavilion. Furthermore, it has become an obvious trend change from document lending to extending the library's lending space and facilities.

This trend causes a series of changes in library services and even the functions. For example, the practice of opening the learning space for the user's own use in the library has been gradually popularized, such as research rooms, seminar rooms, study rooms, multi-media demonstration rooms, and audio-visual rooms; By means of library space and facilities, exhibitions and lectures have become the common service for most public libraries. In the university library, the trend of this space service is pushed to the extreme (*Wu. 2005*). Some scholars even proposed to spell libraries in entirely new ways: L: Literacy, I: Information Network, B: Business Partnership, R: Repository and Archives, A: Access Gateway, R: Recreation and Re-Creation, Y: You (the close relation between the library and the people) (*Cheng. 2012*).

2.3. Basic Attributes of Reference Work Need to Absorbing a New Era's Elements

Reference work is a service that connects specific needs of specific users to specific content of a particular document. The characteristics of intermediaries, individualization, professionalism, and intelligence make this work distinct from other library services. Reference service have been developing for more than 100 years, but the popularity of information technology provides users with more information service options.

The deepening of opening the access for information makes the library feel the great pressure brought by disintermediation (*Wu, 2014*); the traditional database vendors are no longer satisfied to expand their businesses to intermediary agencies such as libraries, and they begin to focus on the public while directly serving the terminal users (*WanFang Inc., 2017*). Some database vendors provide the results to the user after the preliminary bibliometric and visualization analysis on the retrieval results when they provide the objective document data (*CNKI, 2015*); at the same time, the depth analysis report based on the document metrological analysis also becomes the service product provided by the database vendors (*CNKI, 2008&2016*).

These changes indicate that under the new information environment, a library's traditional service area is constantly squeezed, including reference work, and the base of existing traditional library services is shaken. User's demand has weakened gradually in the traditional library services, and at the same time, demands for knowledge and information services began to emerge. Database vendors

have been trying to take its data resource advantages to carry out the corresponding services. In such circumstances, it becomes an important issue of library survival and development under the new information environment. It is crucial for libraries to assess the situation, make accurate judgments, and take their own advantage to meet user information service requirements, and follow business development trends. Libraries must also quickly and effectively adjust service functions and methods in order to plan and construct new service capacities.

3. REQUIREMENTS FOR REFERENCE WORK DEVELOPMENT FOR THE BUILDUP OF A NEW SERVICE CAPACITY OF THE LIBRARY

The new service capacity buildup of libraries is the general requirement to improve the service efficiency of the library in the new information ecological environment. For the reference consulting services this is not a partial, individual improvement, but a comprehensive systematic review, and plan for the future orientation of library development on the top-level design.

The reference service of the National Library of China began in 1918, and now it has 100 years of history and nearly 300 reference librarians. The NLC provides various forms of reference services to government agencies, academic institutions, social groups, and the public. Since the 90s of the 20th century, besides bringing the development opportunities to the development of reference & consultancy services, the drastic change in information ecology environment also prompts us to seriously consider, and analyze the impact of changes in the information environment on the work, so as to adjust and formulate the development strategy for reference & consultancy services in the new information environment. In the process of the transformation of the new service capability for the library, the following four aspects should be achieved in order to meet the requirements of work development.

3.1. Transfer from Media to Content Delivery - Focus on the Excavation of Tacit Knowledge

Whether it is literature review, document delivery, interlibrary loan, or document copying and digitization, most of the traditional literature services in the library are provided by means of media transfer. This service has played an important role in meeting user documentation requirements and is believed to last for a long time. But with the development of the information environment and the scientific research paradigm shift, scientific research demand for literature has been far beyond the traditional library digital, or paper collections, and its distinct feature is the scientific research process based on the data (Tony Hey, etc. 2009). Collections are no longer central to the study of library operations and goals, even though the academic community values knowledge and information (*Hazen, 2011*). Therefore, the reference librarians must seize the tacit knowledge mining skill to meet the users' information requirement in an economically convenient way, not merely literature.

In order to accomplish the change from media transfer to content transfer, reference librarians are required not only to fully understand and control the reference information sources of related fields (not only the paper and electronic collection), but also required to have the ability of information screening and bibliometric analysis. In terms of service method, the reference librarians are required to provide personalized resource allocations for different users, and can adjust dynamically according to the service condition for users; for the service personnel, the reference librarians should have the professional background in related fields, and have the ability to conduct the analysis on user information behavior. Lastly, in the aspect of service mechanism, it is required to run through services to the entire process of work for users, and pay close attention to the historical situation and the latest changes of the user's practical service at the same time.

3.2. From Self-Enclosed to Brainstorming - Strengthening the Integration of Professional Knowledge

The new library information service should be a professional and expert service; therefore, in the face of users and their demands, the reference librarians are required to be proficient in the methods and tools for document access, knowledge base methods and measurement analysis. On the other hand, the reference librarians are required to change the old mode of operating behind the closed doors, and adopt a more open attitude so as to recruit the professionals with diverse academic backgrounds into the consulting team; especially in the aspects of interpretation of laws & policies, and professional advisory opinion. In the field, the reliability and usefulness of the consultation results will be improved if the brainstorm can be achieved.

3.3. From Project Assistance to Embedded in Process - Promote the Alignment of the Business Chain

The traditional reference services are mostly the transient services, and the reference librarians can provide only the assistance of a specific project of the user, without providing stronger and sustained support. The service experience shows that the library has the ability to provide support services in all aspects of the user's business and research activities. For example, the talent introduction, subject selection, and fund declaration in the preparation stage of scientific research, patent documents, literature protection, and personnel training in the development and design stage; the patent portfolio is a standard formulation and industrial chain analysis of intellectual property protection stage. In the stage of scientific research management, the library has many years of mature service experience. By embedding the reference work into the user's business and scientific research work process, and realizing the alignment of the business chain in the two professional fields, the support for the whole life cycle of the user business or scientific research activity can be achieved.

3.4. From the Self-Appointed to the Blend in - Define the Role of the Society

The library can no longer occupy the monopoly position on the literature information resources as it is, in a society where information system is highly developed; there are a large number of information service agencies, advisory bodies, and think-tanks in the community, and they provide information services related to, or similar with, libraries in different fields and in different ways. The construction of a new service capability of a library is unable to complete its social function and role positioning under the closed condition. Libraries should fully understand the core-competitiveness of different institutions, their values for users, the distribution of major user groups, and the trend of development. Based on this information, libraries can accurately analyze and judge competitors and partners. In doing so, libraries can consciously incorporate into the social public information service system, and share the obligations of serving the society so as to optimize the allocation of their own resources, and maximize the service efficiency.

4. CONSTRUCTION OF REFERENCE WORK AND SERVICE CAPACITY DURING THE 13ᵀᴴ FIVE-YEAR PLAN OF THE NATIONAL LIBRARY OF CHINA

The Five-Year Plan for National Economic and Social Development of the People's Republic of China is an important part of China's national economic plan. It mainly plans the major national construction projects, the distribution of productive forces and the important proportion of the national economy, and provides the targets and directions for the development of the national economy. Up until now, China has released 13 five-year plans, of which the 13th Five-Year Plan is the most up-to-date, and it plans the development of China's national economy and social development for 2016-2020.

Generally, each region, industry, and organization in China will develops their own five-year plans based on the national Five-Year Plans. In February of 2017, the National Library of China

issued the outline of the 13th five-year plan for NLC, which will put forward the overall plan for the various business developments of the National Library of China in the next five years. Constructing new service capacity and implementing a library service transformation have become an important goal of National Library of China's business construction for the future. In the area of reference consulting work of NLC, it takes building a national new think-tank as the goal, and they put forward: The ability of legislative decision-making service oriented by national important laws and regulations and policies has been significantly enhanced, the level of knowledge services in key areas of social-economic and sci-tech has improved significantly, the integrated information service platform is basically formed, the multi-tiered service system that supports national innovation, and development is further improved. The following six aspects of work will be implemented.

4.1. Improve the Reading Guide

For different service groups, the NLC will take different approaches to promote reading guides.

For the public, the NLC will actively promote the national reading activities through the annual "Wenjin Book Award" review activities. The Wenjin Book Award is a book award advocated by NLC. An award-winning book will be selected through open balloting and expert review. The selection range of books includes the popular books of philosophy, social sciences, and natural sciences published in the previous year, and focuses on publicity of knowledge, cultivating sentiment, and improving the public's humanistic and scientific literacy. The Wenjin Book Award has been held once a year since 2004, and has been held for 12 sessions so far. A total of 119 award-winning books and 522 recommended books have been awarded. It is one of the most influential book awards in China, and plays a positive role in building a learning society and promoting national reading.

For government agencies, academic research, and other institutional users, various kinds of new book recommendation services and literature publication metrology analysis reports provide professional reading guidance. In order to provide professional support for the construction and service of the collection resources of the library industry, NLC has been engaged in the work of the national library online cataloging and the Chinese core book evaluation project.

4.2. Development of Literature Resources

The reorganization, protection, and development of the collection resources have been carried out by NLC for a long time. The NLC initiated several document protection and development projects to promote the sharing and utilization of the resources.

The ''Chinese Ancient Book Protection Plan'' and "Minguo documents preservation and conservation program" are the ongoing national project.

The ''Chinese Ancient Book Protection Plan'' began in 2007, and by the end of 2016, 1,218 ancient book collecting institutions completed their census registration, and the census registered data reached over 2 million collections. "The Catalog of Chinese Ancient Books" has editors at both the national and local levels. The setting of national technical standards for the preservation and protection of ancient books by grade is in the process. The State Council has promulgated five batches of "List of Precious Ancient Books of China," which contains 12,274 books of ancient books. Twelve "national ancient repair centers" have set up in china, and they are responsible for the training of senior ancient books protection professionals and precious ancient books repair work, as well as promoting the establishment of a total of 247 ancient books repair studio of the ancient books collection institutions. There were 180 institutions selected as the "State Key Protection Institutions for Ancient Books". During the past ten years, the regenerative protection of ancient books is promoted by means of photocopying, digitalization and microfilm copying, and a number of ancient books, publications and digital projects such as "The Reconstruction of Chinese Rare Books Project", "Overseas Chinese Ancient Books Survey and Digital Cooperation" and "Chinese Ancient Books Digital Repository" have successively been organized and implemented.

The "Minguo documents preservation and conservation program" was a project planned by the National Library in 2011. It is another national document protection project after the Chinese ancient books protection plan, and is included in the national 13th Five-Year Plan.

The "Minguo documents preservation and conservation program" focuses on the census, cataloging, research, preservation and conservation, and the publication and database compilation of Chinese literature published between 1912 and 1949.

Up until recently, the census database has more than 310,000 bibliographic data, and more than 600,000 collection data from 22 Minguo documents collection institutions. Based on this, NLC started the catalog editing of Literature of Minguo period (Monograph Volume), and 4222 monographs of the Minguo documents were collated and photocopied.

During the 13th Five-Year Plan period, the national ancient Chinese literature census work shall be completed and scheduled to reveal by relying on the'' Chinese Ancient Book Protection Plan''; the works of census,collection,and the arrangement and publication for documents during the period of the Republic of China (1912-1949) shall be carried out with Minguo documents preservation and conservation program. Lastly, the digitalizing, revealing and providing service of the library collections shall be conducted according to schedule.

4.3. Innovative Services

The NLC has been providing sci-technology consultancy services since the 1960s, and has provided sci-technology document delivery services, research services, academic evaluations, and scientific evaluations for research institutions, universities and enterprises for more than 50 years. In March 2016, the State Council promulgated the "National S & T Innovation Plan for the 13th Five-year Plan", putting innovation at the core of the overall national development. In the NLC's 13th Five-Year Plan, it will also serve as an important part of reference work on sci-technology innovation services.

The transition from information service to intelligence service is the developing trend of library reference work, and is also an important way to build new service capabilities of the library. In March 2017, the NLC established the Science Evaluation Center, dedicated to further integration of the related services based on the existing business. Through its core data, core tools, core teams, core products, and core user base, the NLC provides academic impact assessments, technical assessments, technical analysis reports, industry development, and public opinion monitoring for government agencies, research institutes, business users, the library industry, and analysis reports and other services and products. The innovative services made an overall ascension of the NLC's ability and level serving the national scientific decision-making, scientific research management, and sci-technological innovation.

4.4. Serve the National Development Strategy

Serving the national strategic development plan is an important responsibility of NLC. The NLC will perform such duties in four main areas: First, conscientiously fulfill its legal obligation to provide information services for legislation and decision-making, reinforce the study on legislation support, and provide documentary support for the legislative activities of the National People's Congress, its special committees and working committees. Second, in line with the implementation of the scientific and technological innovation strategy, such as "National Scientific and Technological Innovation Plan of National Science and Technology," and the "Outline of National Intellectual Property Strategy," the NLC will set up a website of "Initiatives for Massive Entrepreneurship and Innovation" to provide comprehensive information support for technological innovation. Third, the National Library of China will promote the buildup and implementation of national public digital cultural projects, such as the digital library promotion project, and promote the reference ability of the nationwide library through the National Library Collaborative Reference Service Network. And last, NLC is expected to build the National Documentation Strategic Reserve in 2020, therefore, NLC is actively carrying out research on the document storage and service strategy of the National Document Strategic Reserve,so as to prepare for its construction and operation.

4.5. Strengthen the Foundation Support

The long-term and steady development of business is driven by scientific research. It is also an important work of the National Library of China to promote reference services and build a new type of service capability.

During the "13th Five-Year Plan" period, the NLC shall carry out works focusing on the following projects: the preservation, storage and service situation of domestic literature after 1949, the production and application of the precipitation data of Chinese books, application of big data in cultural field in reference service, conducting prospective, pertinence and reserved8 policy research for decision-making consultation, as well as the object-oriented planning and design of service, etc.

4.6. Promote the Collaboration

The five basic elements that make up the service capability are: human resources, facilities, equipment and tools, time, and user participation (*Liu, 2004*). The collaboration between the library industry and the library, and other industrial sectors is undoubtedly an important way to enhance the effectiveness of these elements, and thereby enhance service capabilities.

The National Library Collaborative Reference Service Network is a subproject of the digital library promotion project led by NLC. Since its establishment in 2012, it has been able to exchange information for the National Library reference consultants, share service experience, and strengthen staff training and coordination. The service provides an effective platform for business communication. During the "13th Five-Year Plan" period, the National Library will continue to use this mechanism to continue promoting the national library by reference consulting service collaboration.

Furthermore, the investigation shall be actively carried out for the resource providers, systems providers, telecommunications providers, integrators, libraries, and the institutions in related fields to match the construction requirements, and service transformation process of a new service model. The potential partners shall be selected, and extensive collaboration links shall be established with many efforts to make it become a force to promote the considerable development for reference work.

5. PERORATION

The library combines with the social environment system to form the library ecosystem. In such an ecosystem, the library works as a growing organism; its own structure and function are continuously self-abrogated and developed. The rapid development of media and information technology has had a profound impact on information dissemination and acquisition methods for the library. As a professional organization of knowledge, organizing, and information transmitting, the library faces the increasing demands and competitive pressure of information services from the public. It is also constantly adjusting and improving its business form and working style.

Today, the library development model has shifted from resource-driven to service oriented. On the basis of full play on the traditional advantages of resources, technology, space, talent, and service experience, the traditional library service, which is marked by circulation, reading, and reference consultation, has been transformed into a new type of library service characterized by academic intelligence services. Improving the library's ability for promoting the Sci-Tech innovation, cultural innovation and social development has become an important part of the new service capacity buildup.

Users and their needs are the starting point, and end-result of library services, and the construction of library service capacity is also based on users. There are more choices for both reference librarians and users in the acquisition methods, tools, and means of information due to the changes in the information environment, and the emergence of new technology services and new media. As far as libraries are concerned, it means that we must establish a new type of relationship between the library and the user, and shall plan and work on a higher level of information services. This new type of

relationship between libraries and users transcends the original literature intermediary relationship, and becomes the cooperation and collaboration relationship (*Chu, 2013*).

The change of user demand has accelerated the library reference work to shift towards providing a personalized, information-oriented service, such as in-depth mining of content and metrology analysis. This transfer process changed the original reference work framework, and embedded in the user work flow becomes the best way to improve the service efficiency. The process of providing users with information services became the process of data collection and analysis of user information behavior. It also reinforced the relationship between the library and the user. The buildup of the library's new service capacity may enter into a virtuous circle.

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