

# Research on User Demand and Library Service Model Innovation Based on Knowledge Management

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**ABSTRACT.** The Internet has changed the ways and means of information dissemination, and also changed the structure of users' information needs, making users' information needs show a trend of multi-level, diversification and personalization. It is necessary for libraries to build personalized knowledge service system to meet the needs of users. The implementation of library personalized knowledge service depends on the development of library knowledge management. Based on the theory of knowledge management, this paper points out the advantages of knowledge service, and then describes the connotation of knowledge management in university libraries. On the basis of library practice, the conceptual framework of user learning demand management and user online learning demand management system are constructed. As a service platform integrating high-quality information resources, advanced information technology, diversified value-added services and humanized design, knowledge service platform provides an indispensable system for university libraries to carry out knowledge management and knowledge service.

**KEYWORDS:** Knowledge management, User needs, Library services, Innovation

## 1. Introduction

Nowadays, the network has developed into the largest information base in the world and the main channel for spreading information around the world, with a large number of complicated and scattered information resources. People's demand for knowledge shows a trend towards individualization, discipline, diversification and data, reaching an unprecedented height [1]. Nowadays, there are various channels for people to obtain information, and all kinds of information sources are complicated, and the quality of information will vary. On the contrary, too many sources of information will make people feel at a loss, and there is no way to start. Especially, some information garbage is filled with valuable information [2]. Disordered information will greatly increase the difficulty for users to obtain valuable information. In the visual age, we must pay attention to the improvement of reader service level in university libraries in order to improve the service quality of libraries.

University library is very important for college students, and it is a better way for them to acquire the knowledge they need. However, there are some shortcomings in university library itself. The best way to overcome these shortcomings is to add knowledge management to the management. Users urgently need a personalized information space which can be automatically organized and adjusted according to their own characteristics and is composed of various information networks and communication channels. The information service of university library based on knowledge management can make full use of the research theory and practice methods of knowledge management, so as to rationally allocate and manage the overall resources of university library and meet the increasing demand of university teachers and students for knowledge. From users' needs to knowledge services, providing effective knowledge sharing and developing innovative services has become the development trend of contemporary library services.

## 2. Overview of Library Knowledge Management

### 2.1 Connotation of Knowledge Management in University Library

Library knowledge management is to organize, coordinate and control its knowledge resources as the management object. There are both time-space extensiveness, content extensiveness and form extensiveness [3]. Users hope that the library can provide not only local and domestic, but also foreign and international; It can not only provide the present and the past, but also hope to have a prediction of the future situation; It shows the characteristics of trans-region, trans-border and trans-time. The management of users' needs is the essence of library service management. Therefore, in

order to really improve the quality and level of library learning support services, we should focus on how to discover and meet the needs of users. Nowadays, we have entered the era of knowledge economy, and the use and management of knowledge is more important. Both static knowledge and dynamic knowledge should play their due role in the management of university libraries. As a socialized organization, university library should not only manage the traditional knowledge, such as books, but also manage the new knowledge resources, such as databases and networks, so as to provide value-added services of knowledge and achieve the ultimate goal of implementing knowledge management in university libraries.

## ***2.2 Characteristics of Knowledge Management in University Library***

### ***2.2.1 Based on Knowledge Management***

The most important content in the library is knowledge, which occupies an important position in the library. Knowledge management includes not only the management of explicit knowledge, but also the management of tacit knowledge [4]. Knowledge transformation is the spread or transfer of knowledge between different organizations or individuals, and it is a well-known sharing across organizational or individual boundaries. Library knowledge management tends to emphasize the “creative” use of knowledge, and attach importance to knowledge sharing and knowledge innovation. Information is composed of carrier, symbol or code and content. Knowledge is the sum of people's knowledge and experience gained in the practice of transforming the world, and the process of people's knowledge is the process of information processing by the brain. It needs to re-learn the existing collections of the library, fully tap the tacit knowledge and turn it into explicit knowledge. Different from traditional library work, it adds a process of creating knowledge.

### ***2.2.2 Taking People-Oriented Management as the Core***

Knowledge management is to use the wisdom of talent team to improve the adaptability and innovation ability. Innovating in management can find a better way out for the reform and development of libraries. In terms of service content, the characteristic of knowledge service is that it provides knowledge instead of general literature or information. This kind of knowledge is new knowledge which is formed by analyzing and reorganizing related knowledge on the basis of extensive collection, rather than mechanical accumulation and superposition of original knowledge. Library knowledge management is the application of knowledge management theory and methods to improve the relationship between users and knowledge, knowledge and knowledge, to better link up knowledge, to better realize knowledge sharing, and to maximize the utilization of knowledge [5]. Effective knowledge management strategy can not be separated from attaching importance to and cultivating talents. Librarians should correct their thoughts and attitudes, and organically unify their personal goals and organizational goals.

### ***2.2.3 Guided by Knowledge Innovation***

The application process of knowledge includes effective storage, quick and convenient inquiry, effective transfer and sharing, and integration and utilization of new knowledge and existing knowledge. As an important institution for collecting, processing, disseminating and utilizing knowledge and information, library is inseparable from every scientific invention and creation. Knowledge is formed on the basis of information, that is, information is the raw material for knowledge generation and renewal, but information is definitely not equal to knowledge. Personalized knowledge service of library takes knowledge management as the guiding ideology, and knowledge management is based on knowledge, which excavates, innovates and arranges knowledge, establishes an orderly knowledge management system, and makes knowledge be shared to the greatest extent. Whether it is knowledge research, development, circulation, application and knowledge management, or knowledge-related capital management and resource management, it is knowledge-centered. Knowledge management should closely link the internal and external resources of the library, pay attention to the connection and interaction between knowledge and information, and then achieve the purpose of knowledge innovation and scientific and technological innovation.

## **3. Influencing Factors of Library User Demand Service System**

### ***3.1 Development Ability of User's Needs***

For the normal operation of the library user demand service system, it is necessary to objectively obtain a benchmark number of user demands, so as to make the library cause flourish on the basis of benefiting users. The rapid development of network technology and the wide application of computers have brought information superhighway to the vast number of information users. On the basis of digitalization of information resources, libraries connect libraries

of the whole country and even countries around the world with thousands of computer users. Therefore, the construction of information sharing center of university library is not limited to the library, but is widely connected with different resource systems, and the idea of “decentralized storage of resources, centralized retrieval of catalogues, and provision of services in different places” is adopted [6]. This requires the library to change the traditional single and passive eye service content of providing users with material documents and information products in information service, and expand the collection service to the integrated service for networked users. Only then can we provide literature knowledge information services in different degrees and in different ways.

### **3.2 Acquisition Ability of User Requirements**

It is an important function of university library to provide readers with space and place for study and research. People are no longer satisfied with the primary information providing way of providing literature information directly, but also need deep-level services with the aim of solving and forming solutions, paying attention to knowledge content and strong pertinence. That is to say, after obtaining the information of users' needs, the library can turn users' needs into visible resources and information in time, and achieve the psychological expectations of users, thus realizing the ability of users' value. That is to say, after obtaining the information of users' needs, the library can turn users' needs into visible resources and information in time, and achieve the psychological expectations of users, thus realizing the ability of users' value. In the era of modern information society and knowledge economy, knowledge information has become the main factor of personal and social development; At the same time, with the improvement of people's living standards, the demand for daily life information is also increasing. In particular, the development of knowledge economy is becoming more and more prominent, information exchange is becoming more and more extensive, and users' demand for social information is also increasing. They not only need to obtain the resources and services of our library, but also need to share the resources and services of other multi-type library and information institutions.

### **3.3 Ability to Realize User's Needs**

The level of users' individual information quality is an important factor to form the difference of users' information needs. Therefore, providing people with inherent information services such as study and education, cultural appreciation, leisure and entertainment is the primary and basic. In the library user demand service system, the user demand realization ability should be able to ensure the continuity of the system. Healthy development, constantly transforming the needs of users into real information resources, that is, carrying out the continuous production and innovation of knowledge, so as to achieve the continuous power of the system [7]. It is necessary to change from providing information clues, bibliographic data or information reference data services in the past to focusing on the secondary development of literature information connotation knowledge, and even using the principle of “genetic engineering” to reorganize knowledge.

Users always want to get comprehensive and accurate information, and their needs can be met to the maximum extent. Users want to minimize the workload of acquiring and absorbing information on the premise of solving problems, so as to optimize the input and output of information behavior. In the open access environment, the role and status of traditional libraries have changed. Libraries must integrate library collections and network information resources, and build a new information service system model to meet the challenges of the new environment.

## **4. Innovation of Knowledge Service Mode in University Library Based on Knowledge Management**

### **4.1 Constructing Personalized Knowledge Service Platform**

In the library personalized knowledge service, library information resources and services can be directly integrated into the teaching and scientific research activities of personalized knowledge service users according to their needs. Library entrance education, library entrance consultation, library collection utilization guidance, books and periodicals selection and other links are the needs of users before they formally use the library to study. The results that can meet the user's needs are found in multiple resource and service templates and fed back to the user, and the dynamic webpage is used to automatically generate the user-customized dynamic page. The library carries out deep information processing, secondary development and utilization of information resources, and develops from “simple document delivery service” to “diversified, personalized and diversified information service”. Provide users with comprehensive, efficient, active, flexible, multi-level and personalized knowledge services, maximize the social benefits of the library, and achieve the effective transfer and appreciation of library knowledge.

The knowledge service mode of university library based on knowledge management is shown in Figure 1.

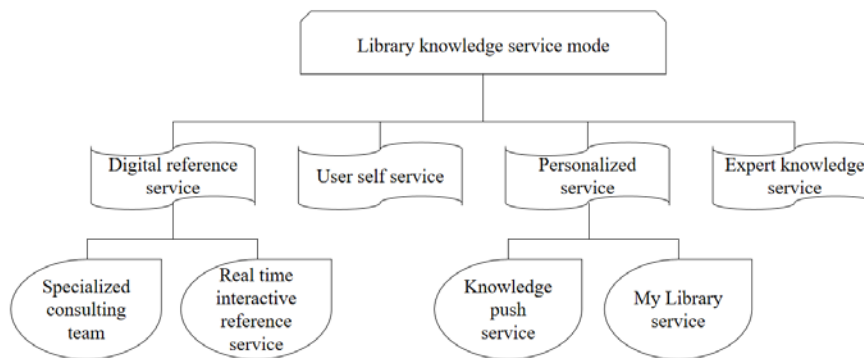


Fig.1 The Model of Library Knowledge Service

Intelligent knowledge service means can dig hidden knowledge, filter some useless information, automatically summarize and refine rich media information, and automatically transmit the latest information to teachers and students. However, in providing information, information service does not require specific analysis and refinement of its knowledge content, only provides raw materials to users, and does not need to provide a large amount of tacit knowledge contained in explicit information, but is only satisfied with the provision of specific information, data or documents. The evaluation of modern library collection should not only take the actual collection as the object, but also look at the amount of information obtained from the outside, especially from the network. Libraries can not emphasize “possession” too much, but emphasize “storage” more.

#### 4.2 Content-Based Professional Vertical Service

The traditional way of providing information services in libraries is a reference mode based on formal “accessibility”, such as establishing a reference department and setting up an information desk. Collect the network information resources of related majors in a wide range, download, classify and index the collected related webpages, establish an index database, and then establish a database query service mode to make related webpages. Consciously following the development strategy of co-construction and sharing is not only the key to the prosperity of the whole library cause, but also the key to each library gaining a place on the Internet. To put it simply, knowledge management framework is a network framework based on organization members and knowledge, which is established by using advanced information technology and management technology. Its purpose is to promote knowledge sharing, knowledge flow and knowledge interaction among organizations and their members, and to improve their competitiveness.

Users' requirements must be direct and specific, they can define the fields and goals of required knowledge, and search out the answers of knowledge and questions in the perfect information resource library and knowledge base to realize self-service. The key of knowledge service lies in the cultivation of talents, so librarians should re-recognize their roles, change from single roles to diversified roles, be good at providing and managing information, and become experts in the stable operation of library management system. Including the history, present situation and development trend of the discipline, the main academic schools, the main documents and reference books, the preface and hot issues of academic research. Therefore, for libraries, the development of network information resources has become particularly important, so that readers can better save time through network navigation and find more suitable knowledge through the personalized network resource system on the network.

By using the library homepage, the composition and distribution of library information resources are fully displayed, the integrated information service platform under the network environment is constructed, the network navigation system is set up, and the common knowledge sharing of network resources is carried out. The fundamental purpose of information literacy education is to make students adapt to the social information environment and cultivate their awareness of information acquisition, information dissemination, information confidentiality and information renewal. However, the ultimate purpose of traditional library, digital library and compound library is to use knowledge and information to serve the society. The subject librarian system can be established in the library, which can optimize the knowledge management mode of personalized knowledge service in the library, and can effectively publicize and popularize personalized knowledge service by introducing new subject librarians. Learning needs at different levels are independent and interrelated. Users' learning needs will change with their different learning stages.

#### 4.3 Learning Demand Management

The management and research of user demand is one of the main contents of marketing, because managing user demand is the main means for enterprises to understand users and then carry out accurate marketing [8]. Individual librarians will provide all the library-related services for the students they are responsible for, and even the services related to other libraries, that is, interlibrary loan and other services. The superior resources of each library are rapidly combined into a consortium with no boundaries, transcending time and space and complementary advantages through information network technology. According to the characteristics of university users' structure and information demand under the network environment, the corresponding training plans and strategies are formulated, and the user training is carried out in a focused and hierarchical manner, providing users with automatic reference and consultation system, expert consultation system, network navigation, electronic discussion group and other services. University libraries must improve their understanding of information literacy education, incorporate information literacy education into the school education plan, train users to learn self-help retrieval and literature research through literature retrieval courses and special training, cultivate users' autonomous learning ability, and let users learn to easily obtain the information they need.

In this study, learning support service is regarded as a dynamic and periodic management process for users' learning needs. On this basis, a management system for users' learning needs is constructed, which consists of “demand collection, demand identification, demand evaluation, demand response and demand tracking” (see Figure 2 below).

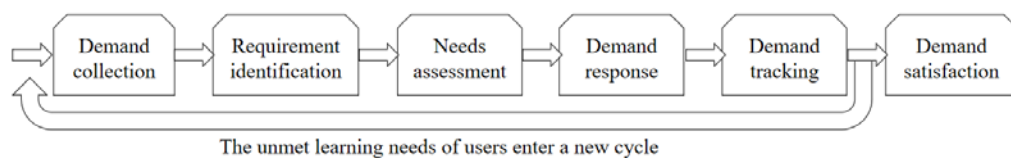


Fig.2 User Learning Demand Management System

Knowledge service librarians should be able to capture fleeting information from various information sources for effective acquisition, evaluation and development, screen out valuable information resources and distinguish core information from them. We should pay attention to the innovative mode of information service, pay attention to the originality and re-creation of knowledge, explore the original content of knowledge through keen observation, pay attention to the latest focus and hot spot, process the collected information in time, and actively tap the potential needs of users. On the one hand, we can solve the problems of users in time, on the other hand, we can improve our own development. In the process of dynamic knowledge activities, from knowledge acquisition to knowledge transformation, sharing and understanding these practices, and finally reusing best practices and applying them to new situations. There will be librarians engaged in these tasks in the library. In order to adapt to this development direction, the library should continue to educate the existing staff, and persevere in this system to create a reasonable team of high-quality librarians.

Information resource is a dynamic collection of information that can meet the needs of users by creating a user-oriented resource environment and aiming at meeting the needs of users. It reconstructs, sequences and systematizes the collection resources (physical resources, virtual resources), digital resources and network resources, and links the information content across platforms, and keeps updating. In this way, users can enter the library system of personalized knowledge service through passwords and standard browsers, and answer consulting questions in real time. From the library perspective, learning demand management is a periodic dynamic process of collecting, mining, identifying, feeding back and tracking users' learning needs, with the aim of ensuring that users' needs can be met accurately and efficiently. It can accept and respond to the information submitted by users, and has the interactive function of dialogue with users, which establishes an interactive information providing platform for college teaching and enables different groups in different disciplines to share information.

#### 4.4 Discipline Resources Construction

Subject information resources are the foundation of subject service. The effectiveness of disciplinary service depends largely on the richness of disciplinary information resources. Participating in the construction of subject information resources in libraries is an important job responsibility of subject librarians. Digitization of various carriers, storage and management of databases, organization of effective access to data, publication and transmission of digitized data on the Internet, system management and copyright protection. Librarians should give full play to the intelligent agent technology, provide them with the latest research trends in various disciplines, current and future research hotspots in various disciplines, anticipate the development direction of disciplines, and reveal and provide core information sources for discipline research. In this process, users' self-service ability for knowledge utilization will be greatly improved, and the innovation and value-added of knowledge will be realized, finally achieving a win-win effect.



Information service should pay attention to professional mode and individual mode, provide powerful and continuous service according to the individualized needs of teachers and students, and tailor-made according to the requirements of teachers and students. Nowadays, the work of library not only includes book collection, book retrieval, etc., but also needs to digitize the data, publish and transmit it online, and at the same time, maintain the online data system well. Establish a talent mechanism with incentive function, meet readers' needs, use the best equipment in reader service, and take reader service as the basic standard side to carry out various management. Knowledge service personnel should identify, extract, screen and sequence effective information from numerous information sources according to readers' needs, so as to form information resources that are suitable for readers' needs and easy to use.

The implementation of library personalized knowledge service depends on the development of library knowledge management. Library personalized knowledge service needs to meet the needs of users, and carry out specialized and personalized services around knowledge. In view of the ever-changing information needs of users, we should actively carry out research work on strategies beyond users' needs and provide reference services based on users' needs. The superior resources of each library are rapidly combined into a consortium with no boundaries, transcending time and space and complementary advantages through information network technology. We should insist on taking the personalized needs of library users as the knowledge service center, push book resources for readers according to their needs, and enhance the connotation of personalized knowledge service of library. To provide personalized and professional learning support services for users, so as to ensure that the library can accurately and efficiently meet the needs of users.

## **5. Conclusion**

Users' learning needs are the foundation of library's learning support service. Libraries provide students with rich collection resources and personalized information services. Through professional information services, students can get the information they need in less time. If university libraries want to innovate knowledge, stabilize their position and promote their development under the network environment, they must change the traditional service methods and carry out research on knowledge services based on knowledge management. Today, with the rapid development of university libraries, we should give priority to meeting users' needs, establish a reasonable information resource system structure, strengthen staff skills training and quality training, improve service quality and service level, and provide information and service guarantee for the rapid development of universities.

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