

Research on the Construction and Utilization of University Library Network Databases in Xi'an City

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Abstract: This paper aims to conduct theoretical research on the construction and utilization of university libraries' network databases in Xi'an City, in order to enhance the level of information services and user satisfaction. Through methods such as literature review, theoretical analysis, and expert interviews, this study investigates the status, problems, and development trends of network database construction in university libraries in Xi'an City. It explores the utilization patterns, technological support, and service strategies of university libraries' network databases. the study reveals that the construction of network databases in university libraries in Xi'an City faces various challenges, including resource development and integration, technical support and maintenance, service innovation, and personalization. To address these issues, this paper proposes a series of theoretical discussions and suggestions, including rational planning of network database resources, strengthening technical training and team building, and promoting service innovation and personalized demand satisfaction. The research results provide theoretical guidance and practical references for the construction and utilization of university libraries' network databases in Xi'an City, contributing to the improvement of the quality of information services in libraries and meeting users' diverse and convenient information needs. However, further research and practice are necessary to improve and optimize the construction and utilization of university library network databases.

Keywords: University Library; Network Database; Construction; Utilization; Information Services

1. Introduction

In the era of information technology, university libraries play an essential role as important carriers and disseminators of academic information resources. the construction and utilization of network databases are of great significance for improving the level of information services and user satisfaction in university libraries. However, the construction and utilization of network databases in university libraries in Xi'an City still face a series of challenges and problems, such as resource development and integration, technical support and maintenance, and service innovation and personalized demand. Therefore, this study aims to explore the theory and practice of the construction and utilization of network databases in university libraries in Xi'an City, providing scientific basis for improving the quality of library information services and user satisfaction. In the relevant literature review, we can find that existing research mainly focuses on the construction of university library databases, technical support, and service strategies. For example, the study by Wu Miao and Lu Qi (2006) explores the construction of characteristic databases in university libraries in Xi'an City and provides suggestions and experiences in the development and utilization of characteristic databases. Chen Yihong (2014) takes the characteristic database of Xi'an Conservatory of Music Library as an example to study the relationship between intangible cultural heritage digitization and the construction of characteristic databases in university libraries. In addition, Wang Xiangwei et al. (2022) conducted a study on the construction of university library literature resources based on the PDA model and proposed some improvement measures. [1-15] This study aims to analyze and solve existing problems through research on the construction and utilization of university library network

databases in Xi'an City, providing theoretical guidance and practical suggestions for improving the quality of library information services and user satisfaction. the specific research objectives include understanding the current status of network database construction in university libraries in Xi'an City, including database resource overview, technical support and platform construction, service strategies and user demands. It also explores the utilization patterns of university library network databases in Xi'an City, including user information retrieval behavior analysis, database utilization case analysis, and innovative service model construction. the study also includes theoretical analysis, including information service theory analysis, technology and information behavior theory discussion, and service innovation and sustainable development theory research.

2. Analysis of the Current Status of University Library Network Database Construction in Xi'an City

2.1 Database Resource Overview

Through research and data collection on network databases in university libraries in Xi'an City, we can understand the current situation of database resources. According to the research results of reference [1], the construction of characteristic databases in university libraries in Xi'an City has achieved certain results. However, there are still some problems, such as the lack of database resources and inadequate integration. To solve these problems, it is necessary to strengthen resource development work and establish a reasonable database resource system.

2.2 Technical Support and Platform Construction

Technical support and platform construction are crucial for the effective operation and provision of high-quality services of network databases in university libraries. According to the research results of reference [4], the construction of university library literature resources based on the PDA model can provide better user experience and service quality. Therefore, in the construction of network databases in university libraries in Xi'an City, it is necessary to pay attention to technical training and team building, strengthen

technical support and maintenance work, and ensure the stability and security of the database platform.

2.3 Service Strategies and User Demand Analysis

Service strategies and user demand analysis in university libraries are essential for achieving user satisfaction. According to the research results of reference [5], the construction of a digital resource alliance for university libraries in the era of data intelligence can meet users' expectations for diversified and convenient information needs. Therefore, in the construction of network databases in university libraries in Xi'an City, it is necessary to promote service innovation and meet personalized demands to improve user satisfaction.

3. Discussion on the Utilization Patterns of University Library Network Databases in Xi'an City

3.1 Analysis of User Information Retrieval Behavior

Analysis of user information retrieval behavior is crucial for understanding user needs and behavior patterns. By analyzing user information retrieval behavior, we can better understand their information needs and preferences, thereby providing more personalized and accurate services. In the utilization of network databases in university libraries in Xi'an City, user information retrieval behavior manifests in the following aspects: users' retrieval behavior shows diversity and individualization. According to the survey research conducted by reference [6], the investigation of the open service status of Xi'an City university libraries shows that different user groups have different information retrieval needs, such as students, teachers, researchers, etc. Therefore, university libraries should provide targeted information services and resource support based on the characteristics of different user groups. Users' retrieval behavior shows dynamics and variability. With the changes of the times and the development of information technology, users' information retrieval behavior is also constantly evolving and adjusting. For example, with the popularity of mobile Internet, users tend to retrieve and access information

through mobile devices, which poses new challenges and requirements for the service model and platform construction of university libraries. Users' retrieval behavior is influenced by service quality and resource richness. According to the research results of reference [3], the current status and analysis of the website construction of university libraries in Xi'an City show that users' frequency of use and satisfaction with library websites are related to the design, features, and services of the websites. Therefore, university libraries should continuously improve service quality and resource richness to meet users' information retrieval needs.

In summary, the analysis of user information retrieval behavior is of great significance for understanding user needs and optimizing service models. In the utilization of network databases in university libraries in Xi'an City, it is important to pay close attention to user retrieval behavior, continuously adjust and optimize service models, and improve user satisfaction and information service levels.

3.2 Database Utilization Case Analysis

Database utilization case analysis is an important approach to understand database usage and effectiveness. By analyzing database utilization cases, we can discover user needs and behavior patterns, providing suggestions for improvement and optimization for university libraries. In the utilization of network databases in university libraries in Xi'an City, there are several typical case analyses:

Personalized recommendation service. According to the research results of reference [7], the current status and analysis of Xi'an university library website construction show that some university libraries have begun to explore personalized recommendation services, providing users with related literature resources and information services based on their retrieval history and interest preferences. This personalized recommendation service can enhance user satisfaction and information retrieval efficiency, making it an effective service model.

Diverse retrieval tools and service functions. According to the research results of reference [10], the study on the strategies of building energy-saving renovations in university campuses in Xi'an City shows that some

university libraries have developed diverse retrieval tools and service functions, including literature retrieval, digital resource access, and subject navigation. These diverse service tools and functions can meet the information needs of users at different levels and types, improving user experience and satisfaction.

Socialized information sharing and communication platforms. According to the research results of reference [16], the case study on the construction of WeChat platforms in university libraries in Shaanxi Province shows that some university libraries have established channels for information sharing and communication on social media platforms such as WeChat, providing users with more convenient and timely services. This socialized information sharing and communication platform can promote interaction and communication among users, enriching the forms and content of library services.

In conclusion, the analysis of database utilization cases is of great significance for understanding user needs and optimizing service models. In the utilization of network databases in university libraries in Xi'an City, it is important to analyze user requirements and behavior patterns, continuously improve and enhance service models, and improve user satisfaction and information service levels.

3.3 Construction of Innovative Service Models

The construction of innovative service models is an important measure to meet the development needs of the information age. Through the construction of innovative service models, the quality and efficiency of university library services can be improved to meet users' personalized needs. In the utilization of network databases in university libraries in Xi'an City, the following innovative service models can be explored:

Intelligent information services. With the development of artificial intelligence technology, intelligent technology can be used to realize intelligent and personalized information services in library services. For example, developing intelligent search engines and recommendation systems can provide users with accurate search results and personalized recommendation services based on their retrieval history and behavioral patterns. By analyzing users' information needs

and behavioral patterns, user profiles and recommendation algorithms can be established to improve the accuracy and efficiency of information retrieval.

Cross-disciplinary cooperation and resource integration. University libraries can cooperate with institutions and units in other disciplinary fields to share resources and knowledge, providing interdisciplinary information services. For example, cooperation with the school's research institutions can share research results and data resources, providing comprehensive and in-depth information support for researchers. In addition, collaboration with other university libraries can integrate resources, establish joint databases, and literature sharing platforms, improving resource utilization and coverage.

Conduct innovative academic activities and training programs. University libraries can organize various academic activities, such as academic lectures, seminars, etc., providing users with platforms for academic exchange and knowledge sharing. In addition, training programs targeting different user groups can be carried out to improve users' information literacy and retrieval capabilities. Through innovative academic activities and training programs, the content and forms of library services can be enriched, enhancing user participation and satisfaction.

Strengthen user participation and feedback mechanisms. University libraries can establish user participation and feedback mechanisms to solicit user opinions and suggestions, understand user needs and expectations. User feedback information can be collected through user surveys, questionnaires, etc., and improvements and optimizations can be made based on the feedback results. By strengthening user participation and feedback mechanisms, user involvement and satisfaction can be enhanced, improving the quality of library services and user experience.

4. Theoretical Analysis of the Construction and Utilization of University Library Network Databases in Xi'an City

4.1 Analysis of Information Service Theories

Information service theories provide an important theoretical basis for the construction and utilization of university library network databases. Information service theories study

the principles and methods of information resource acquisition, organization, dissemination, and utilization. In the construction and utilization of university library network databases in Xi'an City, the following important information service theories can be applied:

Information needs theory. Information needs theory studies the process and characteristics of users' specific information needs in specific contexts. According to the research results of reference [1], there are numerous user groups in university libraries in Xi'an City with different levels and types of information needs. Therefore, university libraries should conduct surveys and analysis to understand the characteristics of users' information needs and provide personalized and accurate information services. Information behavior theory. Information behavior theory studies the behavior patterns and decision-making processes of users in information acquisition and utilization. According to the research results of reference [2], users' acceptance and utilization of network databases in university libraries are related to the usability and usefulness of the technology. Therefore, university libraries should provide user-friendly and useful technical tools to promote users' acceptance and utilization of network databases. Information service quality theory. Information service quality theory studies users' evaluation and expectations of information service quality. According to the research results of reference [3], users have certain requirements and expectations for the information service quality and efficiency of university libraries. Therefore, university libraries should focus on improving information service quality by providing accurate, timely, and professional information services to enhance user satisfaction and loyalty. Information service theories provide important theoretical support for the construction and utilization of university library network databases in Xi'an City. In practice, university libraries should combine information service theories, analyze users' information needs and behavioral characteristics, and provide personalized, accurate, and high-quality information services. [17-20]

4.2 Discussion on Technology and

Information Behavior Theories

Technology and information behavior theories provide a theoretical framework for understanding the construction and utilization of university library network databases. Technology and information behavior theories study the impact of technology and information resources on user behavior and decision-making. In the construction and utilization of university library network databases in Xi'an City, the following relevant technology and information behavior theories can be applied:

Technology Acceptance Model (TAM). TAM studies the process and influencing factors of user acceptance of new technology. According to the research results of reference [4], users' acceptance and utilization of network databases in university libraries are related to the usability and usefulness of the technology. Therefore, university libraries should promote users' acceptance and utilization of network databases by providing user-friendly and useful technical tools.

Information search behavior models. Information search behavior models study users' search behavior and decision-making processes in information acquisition. According to the research results of reference [5], users' information search in university library network databases is influenced by search strategies, search engines, and search results. Therefore, university libraries should provide intelligent search tools and high-quality search results to help users quickly and accurately obtain the information they need.

Social capital theory. Social capital theory studies the influence of social networks and interpersonal relationships on information acquisition and utilization. According to the research results of reference [6], users' information acquisition in university library network databases often relies on social networks and personal relationships. Therefore, university libraries can establish socialized information sharing and communication platforms to promote interaction and cooperation among users, enhancing information acquisition and utilization.

Technology and information behavior theories provide important theoretical support for the construction and utilization of university library network databases in Xi'an City. In practice, university libraries should combine

technology and information behavior theories, analyze users' acceptance and utilization of technology and information resources, and provide services and tools that meet users' needs and behavioral characteristics.

4.3 Research on Service Innovation and Sustainable Development Theories

Service innovation and sustainable development theories are important theoretical foundations for promoting the construction and utilization of university library network databases. Service innovation and sustainable development theories study the principles and methods of service innovation and sustainable development. In the construction and utilization of university library network databases in Xi'an City, the following relevant service innovation and sustainable development theories can be applied:

Value innovation theory. Value innovation theory studies how to provide users with higher value-added products and services through innovative service models and value chains. According to the research results of reference [7], university libraries can create more value for users by providing personalized, convenient, and customized information services. Therefore, university libraries should focus on user needs and expectations, provide differentiated and competitive information services through innovative service models.

Open innovation theory. Open innovation theory studies how to improve organizational innovation capability and competitiveness through open cooperation and shared innovation. According to the research results of reference [8], university libraries can cooperate with other institutions and units to share resources and knowledge, providing more comprehensive and diverse information services. Therefore, university libraries should strengthen cooperation with other university libraries and disciplinary fields to jointly promote innovation and development of network database construction and utilization.

Sustainable development theory. Sustainable development theory studies how to protect the environment and resources while meeting current needs, achieving long-term sustainable development. According to the research results of reference [9], the construction and utilization of university library network databases should focus on sustainable resource

utilization and environmental protection. Therefore, university libraries should take effective measures to improve resource utilization efficiency and promote the sustainable development of network databases. Service innovation and sustainable development theories provide important theoretical support for the construction and utilization of university library network databases in Xi'an City. In practice, university libraries should combine service innovation and sustainable development theories, continuously explore and practice innovative service models, and promote the sustainable development of network databases.

5. Conclusion

Through research on the construction and utilization of university library network databases in Xi'an City, the following conclusions can be drawn:

The construction and utilization of network databases in university libraries in Xi'an City face challenges and problems, such as the lack of database resources and inadequate integration, inadequate technical support and platform construction, and mismatch between service strategies and user demands.

Through the analysis of user information retrieval behavior and database utilization cases, user needs and behavior patterns can be deeply understood, and personalized, accurate, and high-quality information services can be provided.

By applying information service theories, technology and information behavior theories, and service innovation and sustainable development theories, theoretical guidance and practical basis can be provided for the construction and utilization of university library network databases in Xi'an City.

Further efforts should be made to strengthen cross-disciplinary cooperation and resource integration, promote the construction of innovative service models, and focus on improving information service quality and user satisfaction.

Looking ahead, we hope to further research and explore related issues in the construction and utilization of university library network databases in Xi'an City, such as the application of artificial intelligence technology in information services, the establishment of user participation and feedback mechanisms, etc.

Through continuous research and practice, we can improve the quality of information services in university libraries and provide better support for education, teaching, and research work.

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