

*Satellite Meeting: Grey Literature: Scholarly Communication in a Digital World*

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## **New Knowledge Services for Grey Literature: Innovative Ways to Improve Our Services in China**

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### **Abstract:**

*Purpose—Since the days of keeping pamphlets and newspaper clippings in a vertical file, how to get deeper knowledge from the grey literature and other numerous resources is more and more important. To support the scholars or scientists deeply and efficiently, new knowledge service appears in the ranks of library services with a new look, and highlights its increasingly important role. And it is increasingly becoming a distinctive signifier of excellence and consequently distinguish a library in Chinese university libraries. Despite an emerging picture worldwide, a lack of published research or library practices has made it difficult to gain an accurate overview of new knowledge services to support researching on grey literature in China. This paper aims to introduce new knowledge services for grey literature are provided by the Peking University library specifically focuses on those that meet the additional criteria of placing the Peking University library as either the first to introduce the service in China or the only library in China with the particular service offering, and finally show a comprehensive framework of new knowledge services in China for librarians around the world.*

*Design/methodology/approach—A qualitative approach was used to address the two research questions “Which new knowledge services for grey literature are provided by libraries in the current era?” and “Which knowledge services for grey literature does Peking University library provide?”, through the use of a mixed methods research, this paper highlights knowledge service offerings considered within the literature and also within the Peking University library.*

*Findings—This paper reveals knowledge services as distinctive signifiers of excellence in China. In this regard, within the Peking University library, services offered to for grey literature were found to incorporate knowledge service themes and prove the Peking University library as the outstanding provider of knowledge services.*

*Originality/value—Our findings highlight a range of creative library programs that will assist librarians in improving knowledge services for grey literature. This paper will be of interest to public*

*and school libraries across the world. The paper will also provide systematic review that is readily available for professionals and academician.*

**Keywords:** New Knowledge Services, Grey Literature, University libraries

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## **Introduction**

Grey literature is a new type of information source, which generally refers to documents published in private. There are many kinds of grey documents, including government documents and dissertations published in private, conference documents, scientific and technological reports and technical archives not publicized in public, enterprise documents, product information, trade documents (including product specifications, dynamic information materials issued by relevant institutions) and working documents not issued outside, unpublished articles, internal publications, exchange of information and gift materials, etc. Although some grey literature information is not mature, but the information involved is extensive, novel content, unique insights, with special reference value.

As one of the most famous universities in China, Peking University has a demonstration role. Peking University library hold over 10 million volumes with a rapidly expanding inventory of digital resources, making their collection the largest in China. These materials and the experience and expertise of library staff provide strong support for the research of Peking University faculty and students, as well as that of an international community of scholars.<sup>1</sup> The grey literature of Peking University mainly includes dissertations published in private, conference documents, scientific and technological reports and technical archives not publicized in public, working documents not issued outside, unpublished articles, internal publications and exchange of information and etc.

Libraries can effectively utilize various resources, including grey literature, and promote the development of Library resources, facilities and services through comprehensive and professional management, so as to make the management and operation of libraries more efficient.

This study seeks to review selected literature or investigating homepages within China to identify the knowledge services for grey literature and the study investigates the extent to which the services provided by the Peking University library constitute knowledge services.

In this regard, this paper responds to the research questions: What are the knowledge services for grey literature that provided by university libraries in the current era? And which knowledge services does Peking University library system provide? The first section of this paper presents a review of the literature and investigating the homepages of universities in China with the objective of identifying the knowledge services for grey literature provided by a library in the current era. Certain service themes emerged from this research: knowledge services for grey literature incorporating research data services, knowledge sharing service, subject librarians, and information literacy services and so on.

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<sup>1</sup> <http://www.lib.pku.edu.cn/portal/en/fg/jieshao>

## **Methodology/approach**

Document analysis through a process of thematic analysis was applied for this paper. And as a useful supplement, a survey of homepages of Chinese university libraries is also used for looking for the knowledge services for grey literature in the Chinese university libraries.

## **Review of the literature and homepages investigation**

This section attempts to answer a research question: What knowledge services are libraries provide for grey literature? We will adopt the qualitative method of document analysis to solve this problem. Therefore, the following criteria are used to select the sample of literature review: related to knowledge services (especially for grey literature) with the title or content expressing excellence, difference, novelty, quality, uniqueness, future and technology, which has been published in the past 10 years. At the same time, the related content of knowledge service has also been found on the websites of university libraries in China.

Zhang Xiaolin (2000) summarizes knowledge service. He believes that knowledge service is a concept of understanding and organizing service. It includes the following characteristics. “Knowledge service is a user-driven service. Its focus and final evaluation are not ‘Do I provide the information you need’ but ‘do I solve your problem through my service’.” “Knowledge service is a solution-oriented service, which is concerned about and dedicated to helping users find or form solutions. Because the role of information and knowledge is the most important contribution to the solution.” Through comprehensive and professional management, resources among libraries, including grey resources, facilities and services, can be shared or used in many ways, which makes the management and operation of libraries more efficient.

Now more and more scholars or researchers have studied the ways and effectiveness of knowledge services for grey literature. Samantha (2006) explore the changing nature of grey literature, the British Library collections of grey literature and the future challenges of collecting and supplying this type of material. Joachim Schöpfel (2015) investigate the impact of the open access movement on the document supply of grey literature. Daniela (2000) outlines the principal stages in the development of grey literature , and briefly outlines the main subjects addressed at international GL conferences, identifying both elements of continuity with earlier work and new developments. Shu L (2017) discussed the library’s services based on the theory of the scientific research life cycle, and believed that libraries should offer different services according to the life stages and the characteristics of the scientific research.

On the other hand, according to the survey on the websites of C9 universities<sup>2</sup> (the same as Ivy League) libraries in China, Shanghai Jiaotong University library provides subject application analysis, subject frontier tracking, patent analysis, subject development situation analysis, talent evaluation, etc.<sup>3</sup> Peking University library now provide a variety of knowledge services, including high-level research consulting, data analysis, academic exchange, intellectual property and publishing services<sup>4</sup>. Fudan University provides subject data and evaluation, scientific research data management, subject literature services, etc.<sup>5</sup> The library of the University of Science and Technology of China offers three courses of information retrieval

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<sup>2</sup> <https://baike.baidu.com/item/%E4%B9%9D%E6%A0%A1%E8%81%94%E7%9B%9F/2059866?fr=aladdin>

<sup>3</sup> <http://www.lib.sjtu.edu.cn/index.php?m=content&c=index&a=lists&catid=53>

<sup>4</sup> <http://www.lib.pku.edu.cn/portal/en>

<sup>5</sup> <http://www.library.fudan.edu.cn/xkfw/kysjgl/list.htm>

teaching all the year round<sup>6</sup>. The library of Harbin University of Technology offers freshmen training, undergraduate literature retrieval course and database training week all year round<sup>7</sup>.

To sum up, literature or website on knowledge services lists a long list of practices and action strategies worth considering which emerged, namely, scientific research data services, knowledge sharing service, knowledge service librarians, information literacy services and so on along with the particular supporting statements and review notes made about said statements. These practices and action strategies have a long-term relationship with library services, which should be understood as a useful overview of the main knowledge services for grey literature. This raises the question of the extent to which these services of the Peking University Library reflect the above-mentioned service themes. In ensuring section, knowledge services are conceptualized as services incorporating the following themes: scientific research data services, knowledge sharing service, knowledge service librarians, and information literacy services.

### **Discussions on knowledge services for grey literature**

This section seeks to answer another research question: Which knowledge services does Peking University library provide? Knowledge services for grey literature are conceptualized as services incorporating the following themes: research data services, knowledge sharing service, subject librarians, and information literacy services and so on.

These several distinctive service themes outlined may not fully reflect all the knowledge services of University Libraries in China. We think it as a useful overview of the main knowledge services of grey literature. We can see that the knowledge service provided by Peking University Library for grey literature is consistent with the main service themes of research data services, knowledge sharing service, subject librarians, and information literacy service and so on. Next, we will provide a mini-discussion or specific examples of these services, discussing the progress of these services in the Peking University Library.

#### **Research data services**

Scientific data is gradually becoming an important support resource for scientific research in Colleges and universities, as well as an important grey literature. At present, many university libraries can collect various types of data from the scientific research process, select, classify, index and save them, and provide sharing and reuse.

Research data management is very important for scientific research staff. At present, many libraries provide research data management services, such as saving research data generated in the process of scientific research and collection, establishing institutional repository, providing text or data analysis tools, etc. In this process, the library not only standardizes the research management process, but also constructs the research management platform.

The Peking University Institutional Repository<sup>8</sup> plays an important role in supporting the basic knowledge resources of Peking University in carrying out education, teaching and academic research. It not only provides a series of services for academic research and academic exchanges among teachers, researchers and students, but also provides a wider range of

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6 <http://lib.ustc.edu.cn/>

7 <http://www.lib.hit.edu.cn/node/42>

8 <https://ir.pku.edu.cn/>

academic resources sharing and utilization services for users of the whole society through open access.

The Institutional Repository will include books, papers and almost all kinds of grey literatures such as reports, courseware, demonstration papers, experimental reports, pictures and data, project results and materials, and strive to collect the academic results of the school, and on this basis, to provide knowledge services for departments and individuals, such as results analysis.

Based on the multi-dimensional bibliometrics and information analysis accumulated over the years, Peking University library has analyzed and combed the competitiveness of 43 first-level disciplines of Peking University by using a large number of scientific research evaluation literature resources and efficient analysis tools, and has achieved good results in practice. Subject competitiveness analysis reports of 2016, 2017 and 2018 have been completed successively<sup>9</sup>. These reports have played a supporting role in the construction and development of disciplines. Another service report named research frontiers is to analyze and publish research frontiers and hotspots in various disciplines of Chinese universities. Based on a variety of data sources, including recently published papers, the number of downloaded and cited papers, user retrieval data, user focus data, etc., to provide a reference for the development of various disciplines. The completed reports include library, information and archives management, psychology, chemistry, environmental science and engineering, materials science and engineering, atmospheric science, physics, computer science and technology, biology and geography. The librarians participate in the production of reports and give full play to the advantages of teachers<sup>10</sup>. These deep-seated knowledge services will play a supporting role in the development of scientific work.

#### Knowledge sharing service

The concept of open access to academic resources is combined with modern information and communication technology. Its purpose is to use modern scientific and technological means to promote the openness and reuse of academic achievements, and to form a scientific research environment conducive to knowledge sharing, public innovation and economic development. (Wu, 2018)

The Open Research Data Platform of Peking University is co-sponsored and constructed by the Library of Peking University and the Management Science Data Centre of Peking University of the National Natural Science Foundation of China. Its goal is to become an open platform for publishing high-quality research data and disseminating academic influence. The platform has been promoting grey literature in the hands of researchers for many years, such as research data, reuse, citation practice and measurement, research data publishing and preservation exploration, the realization of interdisciplinary collaborative innovation, and the deepening of knowledge sharing services.<sup>11</sup>

#### Subject librarians

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<sup>9</sup> <http://www.lib.pku.edu.cn/portal/en/fw/kyzc/jingzhengqingbao>

<sup>10</sup> <http://www.lib.pku.edu.cn/portal/en/fw/kyzc/zhishichanquan>

<sup>11</sup> <http://opendata.pku.edu.cn/>

Discipline development service is a knowledge service developed by University Libraries in China in recent years. It provides support for research groups, management departments or disciplines, rather than individual researchers. In Peking University Library, service components include tracking the progress and development of research teams and their competitors at home and abroad, dynamically updating new technologies, and providing patents related to disciplines. (Shu L, 2017)

Discipline resources (What North American libraries might call “subject collections”) are important resources to support teachers and researchers in teaching and research, and are also the basis for deepening library services.

Libraries attach great importance to the collection of academic achievements of departments and students. Many libraries have established special databases. For example, the Earth and Space Science Branch reviewed papers published since 1960 for use by teachers and students, and the Institute of Mathematical Sciences has been collected the technical reports since 1990 annually and have bound them into a database to provide services to teachers and students.

#### Information literacy services

Peking University Library regards user training in teaching as one of the main contents of knowledge service.

In the faculty of the School of International Relations of Peking University, librarians have conducted a thorough collation of literature. For decades, librarians have subscribed to internal reference materials, produced briefings and pasted them into easy-to-use books.

In the undergraduate teaching of Law Department of Peking University, subject librarians play the role of cooperative teachers and participate in the whole process of teaching. Subject librarians and teachers discuss the syllabus together, design the course content and select teaching cases. In the process of selecting teaching cases or other materials, teachers and subject librarians work together according to the syllabus to analyse which resources including grey literature could be provided to students. In this way, teachers' professional knowledge and subject librarians' retrieval skills can be highly integrated, and both sides have established trust in long-term cooperation. Teachers hope to have more in-depth cooperation with libraries, such as using subject librarians' data processing skills to analyse legal case data, and hope subject librarians can participate in project application and scientific research.

#### Conclusions

Grey literature, as an important part of academic literature, has not been fully utilized for a long time. Knowledge services mentioned above for grey literature are valuable, but there are certainly services that are not mentioned in the literature review, or services that are not provided by the Peking University Library.

The knowledge services significantly influenced library resources construction, library services, library facilities and even the future of the library. Luckily, more and more librarians focus on knowledge services. On the basis of traditional services, research libraries around the world should pay more attention to the knowledge services for researchers, especially for grey literature. With the help of platform and subject librarians, libraries actively promote the reuse of grey literature. Libraries should actively provide knowledge services to support researchers to discover, manage and make full use of grey literature or data resources to promote scientific

development. This is not only a positive response to changes in the external information environment, but also a change in the concept of library services.

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