



The Purchasing Decisions Based on Analysis of University Library Resource Utilization

—A Case of Anhui Polytechnic University Library

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Abstract

The statistical software 22.0 was used to statistically evaluate data on how books and digital resources were used. Every year, the number of people using the library's digital resources increased dramatically, and the resource utilization efficiency improved greatly. However, there was a significant declining trend in the rate of paper book lending. Utilizing statistical data analysis in conjunction with our library's operations, the root cause of the issue at the university library was determined. In order to satisfy the teaching and research demands, the university library must possess or be able to obtain sufficiently rich information resources. As a result, the university library needs to enhance how its resources are used, and given its restricted budget, it needs to make effective adjustments to the way that paper books are purchased. Therefore, the current approach of buying library resources should be changed, along with the traditional subscription list technique of buying paper book resources. Publicity efforts also should be stepped up to increase public awareness of the digital resources.

Subject Areas

Library, Intelligence and Philology

Keywords

Library Digital Resources, Books, Utilization, Analysis, Purchasing Decisions

1. Introduction

Based on different storage media and storage methods, information resources are mainly divided into two forms: 1) Printed information resources: Paper re-

sources with paper materials as the carrier. 2) Electronic literature: that is, digital information resources, storing texts, sounds, graphics, images and other information in the form of binary coding on magnetic, optical and dielectric media, and spreading through the use of electronic devices such as computers, mobile phones and tablets with the help of the Internet. There are many kinds of digital resources, large quantities and rich contents, such as various electronic books, electronic journals, master and doctoral theses, online databases, network databases, CD-ROM databases and so on. Paper resources and digital resources together construct the information resource system of documents.

In recent years, in order to meet the requirements of various indicators for libraries in the undergraduate teaching evaluation of universities by the Ministry of Education, as well as the needs of different disciplines and majors in universities, a large number of new books have been purchased continuously. However, the decrease in the utilization rate of paper resources has become an unavoidable problem for every library [1] [2]. There are many reasons for this, one of which is that traditional collection ideas such as “small and comprehensive, large and comprehensive” and “heavy collection and light use” constrain collection construction [3]. In the process of book procurement, the priority is to meet the index of book collection volume, which ignores the characteristics of different disciplines and professional backgrounds in the school, making it difficult for the purchased paper books to meet the “taste” of professors and students in universities, presenting a phenomenon of “falling flowers with emotions, flowing water without intention”, resulting in a great number of books being ignored. In addition, with the advent of the era of network technology and information, the literature structure of libraries has changed, and electronic literature has gradually occupied an important position. Although paper documents still have their unique value and status, they are no longer the only form of literature, electronic literature has changed the situation of the dominance of paper documents, and paper documents are equally divided [4]. At the same time, with the advancement of technology, and changes in lifestyle and cultural environment, online reading and digital mobile reading are gradually emerging, and the changes in reading habits of readers are also always impacting the status of traditional paper books.

With the rapid development of big data, internet and multimedia technologies, university libraries increasingly prefer to synchronously purchase both p-books and e-books as part of their construction of literature resources [5]. But electronic information resources have become one of the main ways for people to obtain and exchange information. Digital technology, as an important component of information technology, plays an increasingly important role in the management, storage, retrieval and utilization of electronic information resources. The importance of electronic information resources in academic activities has been widely recognized [6].

In the era of information technology, in the development of colleges, only the

use of information technology means to inject momentum into the development of colleges, to meet the needs of students and keep up with the trend of the times. The development of new information technology promotes the innovation of library services. The digital tools have also transformed the things that researchers use as data, including text and images as well as numbers and instrument readings. Libraries have followed this developing trend with interest, and many academic libraries have recognized that data as a fundamental collection development need and adapted their collections and services [7]. For example, the application of WeChat platform has become an important support for improving the service quality of university libraries and the success of digital libraries [8] [9]. The new WeChat service platform has significantly improved the experience and management efficiency of users [10]. College students tend to obtain information resources from the internet, leading to a decline in the number of books borrowed from libraries and the number of borrowers year by year, and the utilization rate of paper books in the collections of various universities declines year by year [11].

XU J and KANG Q [12] (2015) studied the usage of social media platform WeChat in official WeChat accounts of 39 top academic libraries in China. The research indicated that approximately one-third of libraries use WeChat as a marketing tool to promote their collections and services to users, the WeChat official accounts platform of library have generally become a more effective tool, but it still needs improvement [13]. Therefore, libraries should conduct regular evaluations to understand the feedback and requests of readers and make timely adjustments.

In fact, the library is the center of school information and literature, and it undertakes many responsibilities [14]. Therefore, the purchase and maintenance of library literature collection has been the focus and difficulty of library management. Thus, improving the quality and quantity of purchased literature with limited funds and satisfying every customer is of utmost importance.

With the advent of the “Internet Accelerated Speed” era, the book borrowing rate of university teachers and students has reduced significantly, and the book procurement work of libraries has been challenged. Book procurement has always been a key part of the basic work of university library. The quality of book procurement affects not only the quality of books, but also the teaching and research work of the university. Facing the new challenges, the strategy of book purchasing work of libraries needs to be changed for providing accurate services for readers [15].

The annual investment in library constructions in universities is relatively small, and the funds invested are in straitened circumstances compared to book procurement fees, especially the high cost of database usage. More than half of library work is library service [16]. In order to make effective use of the limited financial resources, so that the good steel is used on the knife edge, college libraries must make a comprehensive and reasonable analysis of the book borrowing situation of the university, and must be closely linked with the construction of

various disciplines and specialties of the university, so as to make the collection of books and purchase of databases catering to the interests of readers, and make the library's efficiency maximized.

Some researches of purchasing of the book resources have been reported, which found that the university library found that the way of purchasing e-books in the package library brought certain problems to the construction of library resources, especially the repetition of resource contents caused a waste of funds, and a considerable number of e-books purchased by the package library were not used by readers, which led to the reduction of the efficiency of the use of e-books [17].

In order to better support the planning and management of the bibliographic materials acquisition process and the optimization of resources, Hye A K and Bakar E [18] (2020) suggested that we should establish a framework for budget allocation and purchasing model for the university academic libraries. Drumond G M and Méxas M P [19] (2018) suggested that libraries operational performance and the maturity levels should be considered in the library acquisitions process for improving quality and operations. Ibacache K's research confirms that libraries may to gather the statistical evidence that users provide to subject specialists through the graph surveys of users, which data that used to aid subject specialists and librarians to make decisions on the development of library resource collection and decisions about the purchase of books and other materials [20].

In order to study the utilization of information resources in libraries, this study took the library of Anhui Polytechnic University (hereinafter referred to as "Our Library") as the object, from 2018 to 2023 year, the utilization of information resource was investigated, including the borrowing situation of paper books (annual borrowing situation, book borrowing rate and dispersion analysis, heat map clustering analysis of book borrowing rate) and typical digital information (Chinese and foreign digital resource library). Then, the utilization situation on paper book resources and digital resources in the past five years was analyzed. At the same time, in combination with the construction background of various disciplines in the university, the causes of the decrease in the utilization rate of information resources was explored. To providing references for the future construction of libraries, especially in the optimization of book purchasing and the purchase of databases and other dimensions, so as to increase the borrowing rate of books and improve the efficiency of the use of funds.

2. Analysis of Borrowing Paper Books

2.1. Annual Borrowing Statistics of Various Books

Through a network database, a survey was conducted on the borrowing situation of 20 major categories of books (Table 1) in our library's collection over the years. SPSS 20.0 software was used for data processing and statistical analysis. The data results are shown in Table 2. Measurement of circulation of all types of

books by frequently of borrowing, average frequency of borrowing and dispersion of frequency of borrowing. Among them:

$$\begin{aligned} & \text{Boorrowing rate} \\ & = \text{Number of borrowed books} / \text{Total number of borrowed books} \end{aligned} \quad (1)$$

Table 1. Classification and representation of various books.

Ma Lie Mao Deng	Philosophy and religion	General introduction to social science	Political law	Military affairs	Economy	Culture, science, education and sports	Language and writing	Literature	Art
A	B	C	D	E	F	G	H	I	J
Historical geography	General introduction to natural science	Mathematical sciences and chemistry	Astronomy earth science	Bioscience	Medicine and health	Agricultural science	Industrial technology	Comprehensive book	Others
K	N	O	P	Q	R	S	T	Z	X

Table 2. Statistics on the borrowing of various books year by year.

Category	Borrowing rate/%						Average borrowing Read rate/%	Borrowing rate Top five	Borrowing rate Last five
	2018	2019	2020	2021	2022	2023			
A	0.36	0.37	0.56	0.80	0.63	1.30	0.67		
B	2.62	3.18	3.14	2.98	3.64	3.16	3.12		
C	1.70	1.81	2.59	2.19	2.36	1.88	2.09		
D	1.79	1.65	2.26	2.34	2.29	2.53	2.14		
E	0.20	0.21	0.11	0.12	0.20	0.14	0.16	-4	
F	5.91	4.49	4.72	3.74	3.92	3.59	4.40		
G	1.90	1.69	1.17	1.74	1.98	1.77	1.71		
H	10.96	7.76	7.18	7.42	6.53	7.30	7.86	4	
I	14.00	18.90	18.20	17.61	20.89	20.20	18.30	2	
J	7.23	5.82	5.03	4.85	4.98	4.58	5.41	5	
K	4.03	3.83	4.39	4.23	4.28	4.58	4.22		
N	0.19	0.17	0.24	0.26	0.27	0.37	0.25	-5	
O	11.71	9.39	9.95	9.99	8.62	9.83	9.92	3	
P	0.10	0.17	0.17	0.14	0.19	0.18	0.16	-2	
Q	0.68	1.11	0.97	1.14	1.50	1.16	1.09		
R	0.42	0.52	0.42	0.71	0.51	0.56	0.52		
S	0.07	0.07	0.12	0.11	0.09	0.06	0.08	-1	
T	40.16	37.21	37.09	37.23	34.40	34.84	36.82	1	
Z	0.18	0.22	0.15	0.14	0.17	0.12	0.16	-3	
X	1.52	1.43	0.51	2.28	2.54	1.85	1.69		

Note: The letters A - X represent different categories of books.

From **Figure 1** and **Table 2**, it is apparent that from 2018 to 2023, the borrowing rates of various types of books from Class A to Class Z have been decreasing year by year, which indicated that the circulation of each type of book is getting worse, and the number of times that readers borrow paper books is gradually decreasing. This phenomenon is consistent with the current circulation situation of paper books in libraries of universities across the country. Among them, the borrowing rates of E, F, G, H, J, O, S, T and Z categories of books are all showing a continuous downward trend, while the borrowing rates of other categories of books show different upward trends. In the past six years, the top five categories with average borrowing rates have been T, I, O, Hand J, accounting for 78.31% of the total borrowing rate, while the bottom five categories with average borrowing rates are N, E, Z, P and S, accounting for only 0.81% of the total borrowing rate. The students of our school are very fond of borrowing paper books, including T, I, O, H and J. These books are concentrated in the fields of industrial technology, literature, mathematical science, chemistry, language, writing, literature and art, etc. On the one hand, these books can enrich students' extracurricular life and meet the interests of college students. On the other hand, they can meet the theoretical learning needs of basic courses for freshmen and sophomores, as well as the postgraduate entrance examination needs of some juniors and seniors. Therefore, the borrowing rate and ranking are high. However, over the years, the borrowing rate of books has ranked in the bottom five, including N, E, Z, P and S, which are concentrated in the fields of natural science overview, military, astronomy, earth science and agricultural science. It is related to the professional categories offered by our school, and there are no related majors in this field, so the interest of students in borrowing is relatively low.

2.2. Analysis of Borrowing Rates and Dispersion of Various Types of Books

Variance of lending rate (VAR): a measure of the degree of dispersion in the

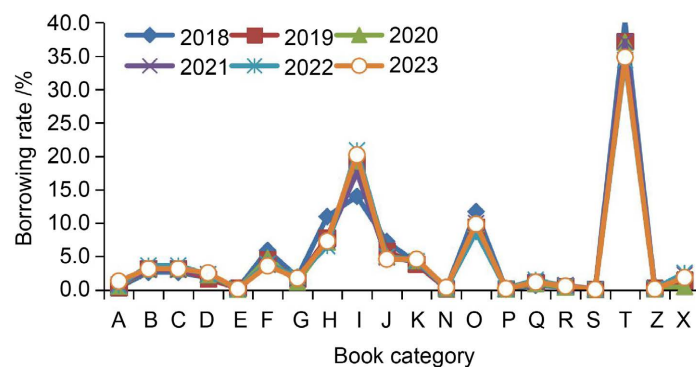


Figure 1. Statistics on the average borrowing rate of various types of books in different years. Note: The letters A - X represent different categories of books.

distribution of lending rate data, which describes the extent to which the lending rate for each category deviates from the mean of the overall lending rate for the year. The larger the variance, the greater the difference between data points; the smaller the variance, the smaller the difference between data points.

It can also be seen from the average borrowing rate and the variance of borrowing rate (VAR) in **Figure 2** that the average borrowing rate of paper books in our university shows an overall decreasing trend from 2018 to 2023, indicating that the circulation of each type of books is getting worse and worse, and readers' borrowing frequency of paper books is gradually decreasing, which is a phenomenon that is consistent with the current circulation of paper books in the libraries of various colleges and universities across the country. From 2018 to 2023, the variance of the average borrowing rate for paper-based books in our school shows an overall downward trend, with the highest VAR value being 84.69 in 2018 and the average value over the years being 75.88. This indicated that the borrowing rate of each type of book is becoming increasingly similar to the average borrowing rate for that year, and the loan rates of some books with low borrowing rates are gradually increasing. It showed that more and more students are paying attention to non-subject knowledge year by year, which reflects the current complex social phenomena. The knowledge structure and focus of students change with the times and the influence of the environment, and are influenced by information explosion, diversified society, personal interests and curiosity, comprehensive quality education and employment pressure. Therefore, university libraries need to adapt to this trend to provide more convenient learning resources to encourage students' comprehensive development and cultivate advanced talents with comprehensive quality.

The dispersion of borrowing rate is (K_d), an indicator used to measure the distribution of borrowing rate in library collections, expressed as the ratio of the number of times books are borrowed to the total number of volumes in the collection. This indicator is used to measure the utilization rate of the library, to help library managers to better plan the collections and improve the utilization

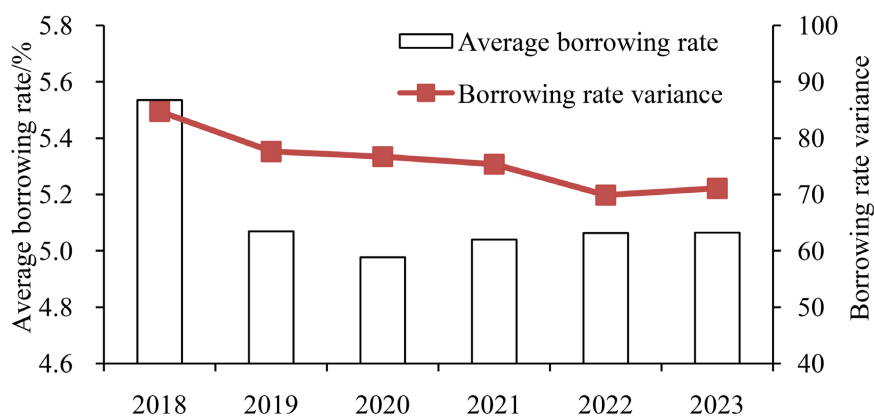


Figure 2. Annual average borrowing rate and discrete statistics of various books in different years.

rate of library resources and the level of operational services. The calculation formula is as follows:

$$K_a = \frac{\bar{X} - \Delta x}{\bar{X}} \tag{2}$$

where \bar{X} is the average borrowing rate of all types of books, is mean the squared deviation of borrowing rates for all types of books. The closer K_a is to 100%, the more concentrated the distribution of borrowing rates.

Figure 3 shows that during the period from 2018 to 2023, the K_a of books in categories H, I and X were all below 70%, while the K_a of other types of books was above 80%. Among them, the K_a of books in categories P, Z, S, E, K and N was close to 100%. This indicates that there was a significant difference in the borrowing rates of language, literature and other types of books between 2018 and 2023, while the difference in the borrowing frequency of most of the books was not significant. Combined with the data in **Table 2**, the borrowing rates of the five types of books S, P, Z, E and N are relatively low, and the values are not easily fluctuated, resulting in a dispersion closer to 100%. It means that the student borrowing rates of these books have been pretty low over these years, reflecting that paper books have gradually been replaced in the minds of college students. Although the investment and purchase of paper books in our school have increased year by year, the average borrowing rate has decreased year by year, which indicates that the decrease of the utilization rate of paper books has become an unavoidable fact. The borrowing rate is of great reference value for the collection construction and service optimization of libraries. The borrowing rate of paper books can reflect not only the quality and attractiveness of a library's collection, but also the degree of utilization and efficiency of its collection. In order to improve the borrowing rate of books, it is pretty necessary to regularly update and optimize the collection structure and enrich the types of books to ensure the quality and timeliness of books. At the same time, according

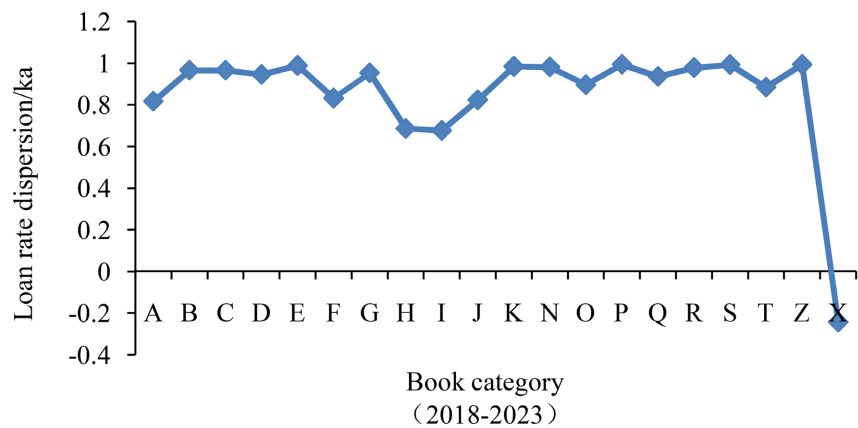


Figure 3. Average borrowing rate and discrete statistics of various books in different years. Note: Positive values indicate high dispersion of interest rates, while negative values indicate low dispersion of interest rates.

to the needs of readers and market changes, the collection structure and focus regularly adjusted to increase the collection of popular books in emerging fields. In addition, the book publicity and recommendation should be strengthened, and various activities should be carried out to improve students' reading interest and reading ability and further increase the borrowing rate of books. However, the collection borrowing rate and dispersion indicators only measure the usage of paper books, without involving the use of digital resources. In the era of network information, digital resources have become one of the important and major resources of library resources, and the evaluation of the utilization of library collection resources must be included.

2.3. Heatmap Clustering Analysis of Book Borrowing Rate

In recent years, heatmap has been one of the widely used statistical methods to simply aggregate large amounts of data and finally present the results in a gradient color band, based on the clustering heatmap analysis of the paper book borrowing data from students in 20 subject areas in our school over the past 6 years. As shown in **Figure 4**, each year is divided into two categories, the first category (I) is in 2018 and 2019, with a higher borrowing volume of paper books by students; the second type (II) is in 2020, 2021, 2022 and 2023, compared to the previous two years, the borrowing volume of paper books by students in our school has been relatively low in the past four years. The situation of students borrowing various paper books can be divided into three categories, where T is

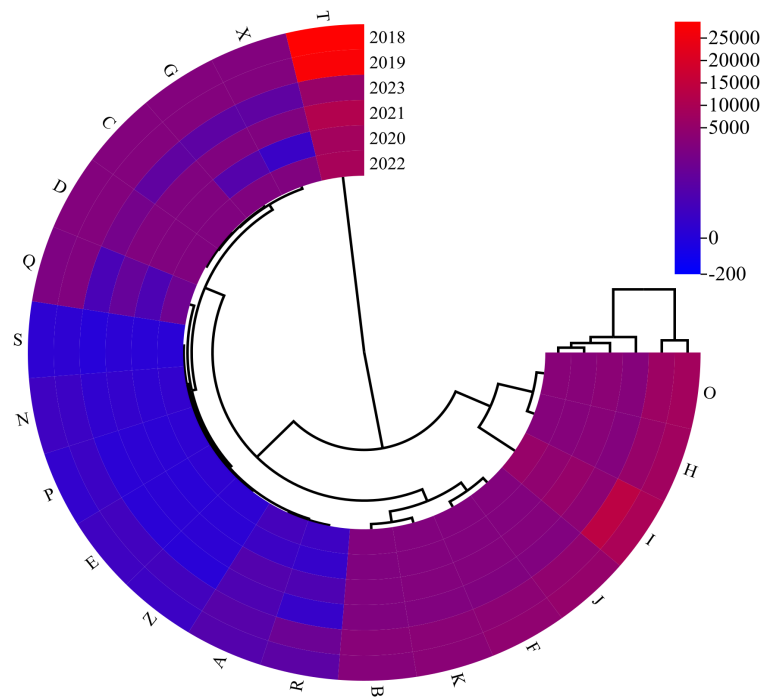


Figure 4. Heatmap clustering analysis diagram of borrowing frequency of various books in different. Note: Blue to red represents low to high expression. The letters represent different categories of books

one category, O, H and I are the other one, and the rest of the fields are the same category. It can be seen that students borrow the most books in the industrial technology field, followed by mathematical science and chemistry, language and literature, while the borrowing volume of paper books in other fields is relatively low. It is worth noting that with the rapid development of science and technology, changes in people's reading habits and the impact of the COVID-19, digital books are becoming more and more popular in the post epidemic era, including the popularity of e-book readers, the rise of digital libraries, the abundance of online learning resources, virtual reality (VR) book experience, customized reading recommendation services, digital audio books (audio books), etc. It has also had a certain impact on the borrowing of paper books, but paper books still have their unique value and irreplaceable ability.

3. Analysis of Typical Digital Resource Usage

As shown in **Table 3**, the access volume of several typical databases in our school has shown an overall upward trend from 2018 to 2023, especially the two databases of CNKI series and Elsevier. Between 2018 and 2023, the average annual increase in visits to the CNKI series databases in Chinese databases was 11139 times per year, while the average annual increase in visits to the Elsevier database in foreign databases was 36736.7 times per year. The average annual visits to Wanfang Data Resources and SCI Database increased by 1026.3 times per year and 24134.7 times per year respectively. However, the average annual access to the EBSCO database decreased by 8267.2 times per year. In the online environment, the use of electronic literature has many advantages, which has the ability to be independent of time, geography and the number of visitors. Browsing and downloading through the internet is a shared information resource, and readers can query, retrieve and access online information easily and quickly. Multiple readers can also access a certain article in a journal simultaneously without interfering with each other. Moreover, data copying or printing is much faster, more convenient and cheaper than the copying paper literature. Therefore, readers are increasingly inclined to access digital resources.

From **Figure 5**, it can be concluded that from the waterfall analysis of the visit volume of domestic and foreign databases in our school that in recent years, the frequency of accessing Chinese domestic databases visited by teachers and students in our school has been significantly higher than that of foreign language databases. Among them, the visits to China Knowledge Network CNKI and New Oriental Multimedia Database are relatively high, which are 66.81% and 14.89% respectively. The database with the highest access to foreign language is Elsevier SD, but it is only 1/15 of the traffic of China National Knowledge Infrastructure (CNKI). The majority of the students have a low usage rate of learning foreign databases. Although the number of visits to foreign databases in our school has shown an increasing trend in recent years, the growth is slow, and the students' ability of utilizing foreign language databases still needs to be strengthened.

Table 3. Typical database access statistics.

Category		Reader clicks												
Chinese database	CNKI	Online Ecture Hall	GPD	Wanfang Database	CSCD	China Social Science Excellence	Wise VIDEO	New Oriental Multimedia Database	CSSCI	CIDP	Chinese Communist Party Thought Theory Database	Starting Point Test Research Network	Hi research	
	2018	1268852	49658	22429	22096	1715	53	10224	282879	0	0	0	0	
	2019	739762	49244	408	36991	1600	616	16216	318201	900	12408	20130	15047	
	2020	805619	42983	3294	17747	1252	9721	16216	233290	51502	150720	43627	38164	
	2021	1130691	43417	26132	19412	1555	20007	28295	299166	15412	23397	85568	38250	
	2022	1416025	43273	10801	6483	1662	18887	56143	316735	30152	172145	87987	44707	
	2023	1335686	78524	21482	28554	1485	21455	78869	323506	35240	12772	59015	49722	
Foreign database	Elsevier SD	IEL	SCI	EI	EBSCO	FSS	TTC	PQDT	Springer Link	Emerald	ACS	ASP		
	2018	84688	9616	32674	9546	51763	4831	6136	6089	5853	27371	2260	523	
	2019	77308	18047	56811	10980	3185	652	828	10011	10353	16238	4875	540	
	2020	81337	17029	55365	8943	1836	927	949	7491	7066	11060	3704	254	
	2021	137996	29814	60503	10092	1941	995	1033	30778	4267	14890	4594	551	
	2022	540852	43070	136040	25717	2058	1109	1146	34635	35487	17541	10516	590	
	2023	305108	58633	177482	24364	2160	1221	1247	48616	38810	18088	32357	644	

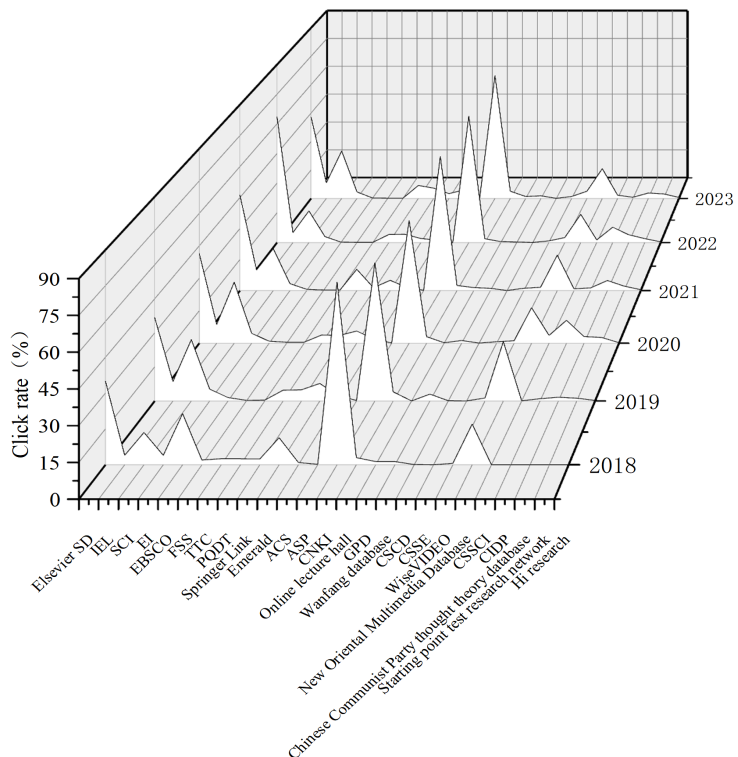


Figure 5. Click waterfall of various databases. Note: The peak value of the waterfall chart represents the high or low click through rate.

Figure 6 shows that during the period from 2018 to 2023, the visits K_a of the Chinese Science Citation Database, the Global Research Project Database of Haiyan, and the Online Report Hall were more than 70%, while the visits K_a of the other Chinese databases were less than 70%. It indicates that the average click through rate of most Chinese databases fluctuates greatly. Combined with **Table 3**, it can be seen that the K_a of some Chinese databases with high access is less than 70%, such as China National Knowledge Infrastructure (64.69%) and New Oriental Multimedia Database (17.82%), while the K_a of Chinese databases with low visits is greater than 70%, such as China Science Citation Database (0.09%) and Haiyan Global Research Project Database (0.32%). This shows that the average access of databases with low visits is not easily affected by fluctuations. The dispersion is close to 100%, but the average access value of databases with high traffic is prone to fluctuations and the dispersion is correspondingly far away from 100%.

From **Figure 7**, we can know that during the period from 2018 to 2023, the K_a of foreign language database visits is higher than 80%. Among them, the ASP foreign database had the highest K_a , which was 99.97%, while the EBSCO foreign database had the lowest K_a , which was 82.85%. Based on **Table 3**, it can be seen that the values of foreign language databases with low access volume are not easy to fluctuate, which leads to the dispersion being closer to 100%. However, some foreign language databases with high access rates, such as Elsevier SD (44.43%) are more susceptible to fluctuations in their values, and their dispersion will relatively deviate from 100%.

From **Figure 6** and **Figure 7**, it can be seen that although the visit volume of several typical databases in our school has increased significantly, their per capita visit frequency (annual visit volume/school readership) is very low. Moreover, it is easy to see from our statistical results that not all databases are favored by readers. Because the readers who visit the databases are usually senior students, graduate students and teachers, and their main purpose of accessing the database

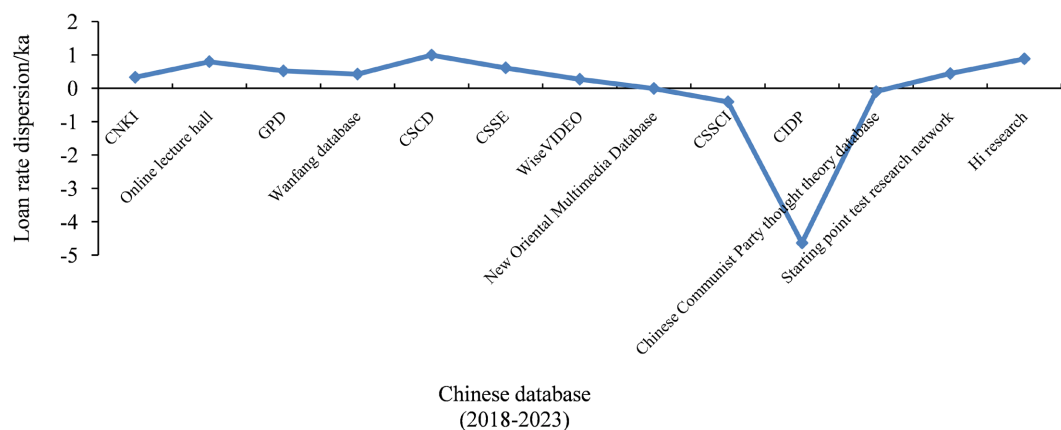


Figure 6. Statistics of the discrete click-through rate of Chinese database in different years. Note: Positive values indicate high dispersion of interest rates, while negative values indicate low dispersion of interest rates.

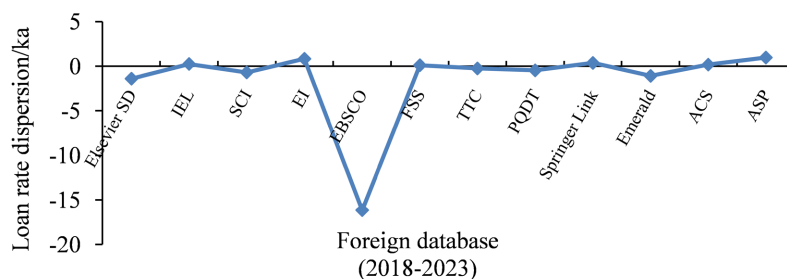


Figure 7. Statistics of discrete visits to foreign language databases in different years. Note: Positive values indicate high dispersion of interest rates, while negative values indicate low dispersion of interest rates.

is scientific research and academics, they have a strong preference for different series of databases. The academic, novel and extensive coverage of database literature directly affect the usage and access of such high-level readers in universities. For libraries, in order to meet the research needs of teachers and graduate students, it is necessary to actively communicate and exchange ideas with teachers and graduate students, and build their own unique data. Teachers and graduate students are specialized users of university libraries, who have a strong purpose for the use of digital resources. They always pay attention to the latest trends and perspectives, and they are closely related to the information of the times, and have a strong sensitivity to the digital resources of the library. They are the key service objects of digital resources [21]. In order to better meet the personalized needs of these users, it is necessary to provide more personalized and accurate services. Specific books, literature and database resources are needed to meet their needs for professional literature and maintain their stable reading interest. At the same time, to do a good job in collecting information, analyzing needs, personalized recommendation systems, tracking usage behavior, providing personalized push services and customizing services for these users, in order to better meet their personalized needs and improve quality of service and use experience.

4. Discussion and Suggestions

The rapid development of network information, especially the emergence of mobile libraries, has caused profound changes in the collection mode of libraries. Digitization, virtualization, networking, sharing and intelligence represented the key trends in the future development of information resources in university libraries. In the era of online information, only the collection of books and documents can no longer meet the needs of readers. As a university library, it is necessary to have or have access to sufficient and abundant information resources, continuously improve and innovate collection models and service methods to serve the teaching and research requirements of the university. Therefore, with limited funds, university libraries must make full and reasonable use of funds and use the good steel on the knife edge. Through the limited budget procure-

ment, digital resources and paper book resources can meet the needs of professional construction and development in our school.

1) Improve the traditional method of soliciting paper book catalogs for subscription. At present, the book procurement and subscription catalogs are all passive from various colleges, just to complete the tasks assigned by the library. In fact, it is not entirely up to every teacher to choose, let alone soliciting the opinions of every student. In order to cope with, the true utilization value of books was not considered at all, resulting in the direct result that the truly needed books were not purchased, which was one of the reasons for the decline in book utilization rate. Therefore, libraries should make full use of network technology, modern science and technology, optimize the book purchasing process, allow readers to truly participate in the book purchasing process, improve the quality of book procurement [22], and set up a “reader message” column online to timely understand the needs of readers.

Adopting QQ online subscription form, set up a book recommendation section on the homepage to display the desired book list in stages and categories, allowing readers to click on suggestions to purchase books. At the same time, a human-machine interactive electronic screen will be designed at the entrance of the library to scroll and display the desired book list. The type of book to be purchased will be determined by the reader’s click through rate, allowing readers to actively participate in the book purchase process. Even if this is not enough, it is important to keep track of the book procurement process and provide timely feedback to readers. Now, the library of the University of Science and Technology of China is doing a good job in this area, which is worth learning from for general university libraries. In addition, book reference consulting service personnel should enhance their business capabilities, understand the needs of readers and increase the promotion of reader resources to innovate. In order to enable readers to understand the emergence of new book resources timely and better in their collections, the university libraries should make full use of new media, campus networks and network communication technologies. By setting up book introduction columns, they should regularly introduce or review new favorites in the library.

2) Increase publicity efforts for digital resources. At present, with the rapid progress of intelligence, modern science and technology and the development of internet technology, the procurement of digital resources by libraries is also increasing, and the utilization rate of digital resources is also increasing. But through investigation, it was found that many digital resources are unfamiliar to readers, and some readers are not even aware of such resources. The reference and consulting service personnel in the library are also not very familiar with our digital resources, especially in terms of usage. Therefore, library reference and consulting service personnel must strengthen their familiarity with various digital resource usage functions, as well as understand the subject background and other knowledge involved. Reference consulting service personnel should

actively delve into the personalized needs of teachers and graduate students. Because the main target audience of digital resources is the research population, the main purpose of digital resources is to serve scientific research in universities. Through interactive activities such as symposiums and business promotion meetings, we aim to understand the “book needs” of scientific researchers. At the same time, the librarians should regularly conduct business promotion and consulting services to introduce the functions and characteristics of various digital resources, and provide training for scientific researchers on their usage. In addition, based on the disciplines and majors of our school, the discipline construction leadership group will build distinctive digital resources that match them to support the construction of our school’s disciplines, doctoral programs, etc., in order to avoid the stereotype of “reconstruction and light use” of digital resources. Based on serving the construction of undergraduate majors, teaching and discipline construction, the characteristic digital resources of the library should become a powerful supplement to the teaching of the various professions and disciplines and scientific research resources, for the cultivation of high-quality talents in colleges and universities to provide a strong guarantee of the literature and information resources.

3) Ameliorate the resource procurement model. Currently, the library resource procurement is reported to the provincial government for bidding and procurement, which reflects fair competition with suppliers compared to previous on campus procurement. However, it is not a very good procurement model for users either. Bidding procurement usually win at the lowest price, which directly affects the fact that what users want is not purchased, and the purchased products do not achieve the expected results. Especially in the field of digital resources, due to the uniqueness of digital resources, public bidding cannot be used for procurement, otherwise it will also become a reason for the decrease in resource utilization. Furthermore, the bias of evaluation experts in the evaluation process can also affect the procurement outcomes. It is recommended that the procurement of library resources should be carried out through a combination of on-campus procurement and government tendering.

5. Conclusion

To improve the utilization of literature resources, libraries need to continuously enhance their quality and mode of service and take some measures to make its resources closer to the needs and interests of teachers and students. Starting from the selection, procurement, promotion and introduction of paper books, as well as research and analysis on database usage, investigation, procurement and functional promotion of readers, it is essential to gain a profound understanding of readers’ needs, actively mobilize readers, and enable them to participate in various business activities of the library. Simultaneously, librarians should continuously improve their professional level and strengthen the sense of service, integrate the needs of readers and the professional abilities of librarians into a

new procurement model, and provide readers with better quality services. This approach not only achieves the goal of expanding access resources, but also builds permanent collections, so that the value of the library can be reflected and to promote the benign development of the collections.

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Conflicts of Interest

The authors declare no conflicts of interest.

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