

Concepts, techniques and methods of librarian evaluation reform in the context of digital intelligence transformation

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Abstract: *In the context of digital intelligence transformation, in order to improve the quality of librarian service and social influence, and to promote the digital intelligence transformation and service innovation of libraries, it is necessary to reform and innovate the evaluation concepts, technologies and methods of librarians. This study proposes the following methods to promote the reform of librarian evaluation: to establish a sound evaluation index system, to implement a digital service evaluation system, to carry out international exchanges and cooperation, to implement evaluation reform and feedback, to strengthen training and guidance, and to promote and apply evaluation results. The characteristics and innovations of this research are mainly reflected in the four aspects of data-driven, user participation, innovation-oriented and multi-evaluation. Librarian evaluation reform and innovation is an important driving force to promote the development of the library, which helps to improve the service quality and social influence of libraries, and promotes the digital transformation and service innovation of libraries.*

Keywords: *Evaluation, Reform, Mathematical Intelligence, Performance Evaluation*

1. Introduction

With the arrival of the era of digital intelligence, the function of libraries has been transformed from the simple supply of documentary resources to the direction of knowledge dissemination^[1]. The transformation of digital intelligence not only brings broader information resources to libraries, but also makes significant changes in library service object, service methods, service quality and other aspects. How to better adapt to the needs of the era of digital intelligence and improve the efficiency and quality of service has become one of the urgent problems to be solved in the current library community.

The importance of librarian evaluation is becoming more and more prominent in the context of digital intellectual transformation. Evaluation can not only help librarians better recognize their own work performance, but also promote the continuous improvement of library management and service level. However, the traditional evaluation methods are no longer in line with the service characteristics and requirements of the era of digital intelligence^[2]. Therefore, how to reform the evaluation concept and master the evaluation techniques and methods has become an important issue in the research of current librarian evaluation in the context of digital intelligence transformation^[3].

2. Research content and contribution of librarian evaluation reforms

The purpose of this study is to explore the concept, techniques and method of librarian evaluation reform in the context of digital intelligence transformation. Specifically, this study will be discussed from the following aspects:

Evaluation concept aspect. This study will combine the characteristics of library services in the era of digital intelligence to propose a new evaluation concept. This concept will no longer only pay attention to the number of librarians, working hours and other surface indicators, but pay more attention to the work results, work quality and user satisfaction of librarians, so as to better reflect the actual work performance of librarians and better meet the service needs of users in the era of digital intelligence^[4].

Evaluation technology aspect. This study will introduce some advanced evaluation techniques, such as evaluation based on data mining, evaluation based on machine learning, evaluation based on natural language processing and so on. These techniques can help librarians evaluate their work performance more objectively and comprehensively, and can also provide librarians with more accurate decision

support. For example, evaluation techniques based on data mining can help librarians discover potential user needs and behavioral patterns in order to better adjust service strategies and improve service quality.

Evaluation method aspect. This study will combine the characteristics of information services in the era of digital intelligence, and put forward some new evaluation methods, such as user satisfaction evaluation, workflow evaluation, service quality evaluation and so on^[5]. These evaluation methods will be closer to the needs of users, more in line with the service requirements in the age of digital intelligence, which will help to improve the level and quality of library services. For example, user satisfaction evaluation can be used to understand users' satisfaction with library services by collecting users' feedback, so that problems can be found in time and corresponding measures can be taken to improve service quality.

In conclusion, this study puts forward a new evaluation concept, introduces some advanced evaluation techniques and puts forward some new evaluation methods that meet the service requirements of the digital intelligence era, which provide effective ideas and methods for the evaluation reform of librarians.

3. The practical problems and solutions of the research on the reform of librarian evaluation

3.1. Practical problems to be solved

Under the background of digital transformation, libraries, as information service institutions, are facing many practical problems. Among them, the evaluation of librarians is a more prominent problem. Traditional librarian evaluation methods often pay too much attention to surface indicators, such as quantity and hours, which are difficult to reflect the work results and service quality of librarians. At the same time, with the popularization of digital services, libraries are facing more complex service demands and higher service standards, which also requires that librarians evaluation methods must be constantly adapted to new needs and standards^[6].

Therefore, this study aims to solve the following practical problems:

Evaluation indicators are not comprehensive and objective. Traditional evaluation methods for librarians usually only focus on surface indicators, such as working hours and quantity, but lack a comprehensive evaluation of service quality and work results, which makes it difficult to reflect the actual work performance and service quality of librarians. Therefore, this study will propose a new evaluation concept that pays more attention to evaluation indicators such as librarians' work results and user satisfaction.

Evaluation methods lack scientific and technological support. Traditional evaluation methods often rely on manual methods, which are inefficient and susceptible to subjective factors. In the digital era, evaluation methods need to rely more on scientific and technological means, such as data mining, machine learning and natural language processing, in order to evaluate the work performance of librarians more objectively and comprehensively. Therefore, this study will introduce some advanced evaluation techniques to improve the science and efficiency of evaluation methods.

Evaluation methods do not meet the service requirements of the digital era. With the development of digital services, users' requirements for library services are also increasing, and libraries need to pay more attention to user experience and service quality. Therefore, this study will propose some new evaluation methods that meet the service requirements in the digital era, such as user satisfaction evaluation, workflow evaluation and service quality evaluation, in order to meet users' needs and improve service quality^[7].

By addressing the above practical issues, this study aims to provide useful references and guidance for librarian evaluation reform and library service enhancement in the context of digital intelligence transformation. At the same time, this study will also provide reference and inspiration for the evaluation reform of other information service institutions, and promote the development and progress of the information service industry.

3.2. Ideas for problem solving

In order to address the practical problems of librarian evaluation reform, this study will propose the following ideas:

Strengthening organizational leadership and support. Evaluation reform needs to be supported by organizational leadership. Management institutions at all levels should pay attention to the importance of evaluation reform, strengthen leadership and support for evaluation reform work, and provide necessary resources and guarantees for evaluation reform.

Developing comprehensive and objective evaluation indicators. A set of comprehensive and objective evaluation indexes should be formulated by considering various aspects such as work results, service quality and user satisfaction. In the era of digital intelligence, perception ability, resource service ability, collaborative communication ability, and development and innovation ability are the four core abilities of librarians^[8]. These four abilities can be further subdivided into indicators, and specific weights can be calculated for each subdivided indicator through measures such as peer experts' evaluation, librarian scoring and other measures. In the module of "perception ability", special attention should be paid to whether librarians can accurately grasp the needs of readers; in the module of "resource service ability", special attention should be paid to whether librarians are able to store and organize various information resources, and whether they have the metadata skills^[9] to collect, analyze, use and disseminate data information with data thinking^[10]. In the "collaborative communication ability" module, special attention should be paid to whether librarians can communicate and collaborate with readers in depth; in the module of "developing and innovating ability", special attention should be paid to whether librarians have innovative consciousness and pioneering ability. In addition, the contextual performance indicators should also be considered, which involve activities that librarians voluntarily undertake outside their scope of duties for the benefit of the organization and others, such as: whether they are dedicated to their work hard and actively improve their professional skills, whether they can actively maintain interpersonal relationships and help each other with colleagues, whether they are willing to accept extra work and complete it conscientiously, and whether they can actively participate in various social welfare activities, and so on. The indicators in the whole evaluation system should be able to fully reflect the work performance and service quality of librarians, and also give full consideration to the users' needs and satisfaction, and at the same time be operable and acceptable.

Improving the science and efficiency of evaluation methods with the help of advanced technology. The traditional librarian evaluation methods have certain limitations. For example, when the fuzzy evaluation method and the analytic hierarchy process are used to determine the index weight, the subjective randomness is large, and it is easy to produce the deviation caused by subjective evaluation^[11]. The 360° method focuses on qualitative assessment and cannot solve the quantitative problem of qualitative indicators. To solve these problems and improve the scientificity and efficiency of evaluation methods, it is necessary to adopt advanced evaluation techniques, such as rooted theory coding technology, data mining, cloud computing, knowledge graph, machine learning and natural language processing^[12]. For example, the rooted theory coding technology is used to encode the evaluation indicators into nodes. Through analysis and repeated adjustment, the evaluation indicators are encoded into semi-structured data^[13], so as to extract the influencing factors of librarians' digital competence^[14]. Using data modeling methods and metadata tools and technologies, data analysis and visualization are carried out to achieve an accurate portrait of the behavior of librarians in pushing library resources and serving readers. Machine learning techniques are used to analyze the work data of librarians to access their work efficiency and quality, and natural language processing techniques are used to analyze user feedback data in order to evaluate service quality and user satisfaction.

Combining the characteristics of digital intelligence services, and developing an evaluation method that meets the service requirements. In the context of digital intelligence services, libraries need to pay more attention to user experience and service quality. Therefore, evaluation methods that meet the requirements of digital intelligence services, such as user satisfaction evaluation, workflow evaluation and service quality evaluation, should be adopted. These methods can more objectively and comprehensively evaluate the performance and service quality of librarians, and also more in line with the needs and expectations of users.

Carrying out evaluation reform and providing feedback. Evaluation reforms are implemented within a certain scope, and feedback and improvement are continuously carried out. Through practical application and feedback, evaluation methods and indicators are continuously improved to enhance the effectiveness and scientificity of evaluation^[15]. At the same time, through case studies, empirical research, the effect and impact of the evaluation reform will be accessed, so as to provide references and lessons for the evaluation reform of other information service institutions.

Strengthening training and guidance. Evaluation reform requires extensive participation and support. Librarians and users should be adequately trained and guided to understand the purpose, content and methods of evaluation reform, to actively participate in it, and to enhance its effectiveness and practicability.

Establishing incentive mechanism and a system of rewards and penalties. In order to promote the

implementation and advancement of the evaluation reform, a corresponding incentive mechanism and a system of rewards and penalties should be established, which can encourage and reward those individuals and teams that contribute and innovate in the evaluation reform, and can correct and punish those individuals and teams that fail to meet the requirements of the evaluation indicators. For example, it is linked to professional title evaluation, job promotion, job evaluation and so on, so that the evaluation of librarians becomes the driving force to promote the improvement of librarians' quality^[16]. Librarians should establish a sense of competition and realize that university libraries in the era of digital intelligence have put forward higher requirements for the quality of librarians. Only by constantly learning, advancing with the times, healthy competition and improving their own quality can they adapt to the development of university libraries in the era of digital intelligence.

Carrying out international exchanges and cooperation. Evaluation reform is an international issue, and libraries in various countries also have their own experiences and practices in evaluation reform. Through international exchanges and cooperation, we can learn from the experience and lessons of other countries, broaden our thinking, and improve the level and quality of evaluation reform.

Promoting and applying evaluation results. The ultimate goal of the evaluation reform is to improve the quality and efficiency of library services and to provide users with better service experience. Therefore, the results of the evaluation reform should be promoted and applied in time to contribute to the digital transformation and enhancement of library services.

The process of implementing evaluation reform requires systematic planning and scientific methods, as well as a certain amount of time and resources. In the process of implementation, the evaluation reform can be divided into several stages to implement, step by step. At each stage, specific implementation plans and goals need to be formulated to ensure the smooth implementation of the evaluation reform and achieve the expected results.

The effectiveness of the implementation of the evaluation reform can be measured from multiple aspects, including indicators such as user satisfaction, service quality and efficiency. Through evaluation reform, the quality and effectiveness of digital services can be evaluated in a more scientific and systematic manner, service problems can be identified in a timely manner, service quality and efficiency can be promoted, and user satisfaction and loyalty can be enhanced.

Through the implementation of evaluation reform, libraries can better adapt to the development trend of digital transformation, improve the quality and efficiency of digital services, and provide users with better service experience. At the same time, the evaluation reform can also promote the innovation and development of libraries and promote the continuous upgrading and improvement of digital services.

4. The characteristics and innovations of the research on the reform of librarian evaluation

The reform and innovation of the evaluation of librarians is an inevitable requirement under the transformation of digital intelligence. Its characteristics and innovations are mainly reflected in the following aspects:

Data-driven. The traditional evaluation of librarians is mainly based on qualitative evaluation, which is difficult to reflect the real situation. In contrast, the transformation of digital intelligence provides a large amount of data resources, which can be quantitatively evaluated through data analysis and data visualization tools, so as to more objectively reflect the performance and service quality of librarians.

User participation. Another feature of digital intelligence transformation is user participation. The library should take users as an important participant in the evaluation, reflecting the users' recognition and satisfaction of the library service through user satisfaction surveys and user feedback, and providing an important basis for library service improvement.

Innovation orientation. In the context of digital intelligence transformation, innovation is an important driving force for the development of libraries. Librarian evaluation should encourage and support innovation, and reflect the contribution and value of librarians in promoting the digital intelligence transformation of libraries and service innovation by evaluating librarians' innovative achievements and capabilities.

Multiple evaluation. In the context of digital intelligence transformation, the evaluation of librarians should adopt diversified evaluation methods, combine performance evaluation, user evaluation and innovation evaluation to comprehensively reflect the performance and value of librarians, so as to more objectively reflect the contribution and value of librarians.

In conclusion, the reform and innovation of librarian evaluation under the digital intelligence transformation need to take advantage of digital technologies and methods, focus on data-driven and user

participation, encourage innovation orientation, and adopt multiple evaluation methods, aiming to improve the quality of library services and social influence^[17], and to promote the digital intelligence transformation and service innovation in libraries.

5. Conclusions

In the case of a new round of digital wave sweeping the whole social industry, libraries, as an important application field of digitization and intelligence, are accelerating their own digital transformation^[18]. The arrival of the era of digital intelligence has brought new challenges to the university library business, and also brought new development opportunities. The core competence of librarians has a decisive influence on the level of library's intelligent service. Therefore, reforming librarian evaluation concepts, techniques and methods to promote the improvement of librarians' core competence is an important part of the digital intelligence transformation of library services. The purpose is to improve the quality and efficiency of library services and provide users with a better service experience. The evaluation of the core competence of librarians in the era of digital intelligence is a complex problem, which requires the joint efforts of libraries and librarians to realize the digital intelligence transformation of library services and improve service quality and user satisfaction.

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