

Research on The Construction of Big Data Supervision Platform for Public Power in Universities

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Abstract: With the rapid development of information technology and the increasing public power in universities, it has become necessary to establish a big data supervision platform for public power in universities. Based on the analysis of the existing supervision mechanism of public power in universities, this paper puts forward the necessity of building the big data supervision platform of public power in universities and discusses the key problems and challenges of platform construction. Through the research, we can provide effective technical support for the supervision of public power in universities and promote the transparency and efficiency of public power in universities and colleges.

Keywords: Colleges and Universities; Public Power; Big Data; Supervisory Platform.

1. Introduction

As one of the important institutions of social development, the exercise of university's public power is crucial to social stability and justice. However, due to the special nature of public power, the supervision and management of public power in colleges and universities has always been an important issue. Traditional supervision mechanisms often have problems such as inefficiency and information asymmetry. Therefore, it has become necessary to establish a big data supervision platform for public power in universities [1]. This paper will discuss the status quo and problems of university public power supervision, the construction of university public power big data supervision platform, as well as the challenges, problems, and countermeasures of platform construction.

2. Current Situation and Problems of Public Power Supervision in Colleges and Universities

At present, the supervision of public power in colleges and universities mainly relies on internal management and external supervision. However, due to the special nature and complexity of colleges and universities, there are some problems in the traditional supervision method. First, the internal management mechanism is often restricted by interests and information asymmetry, and it is difficult to achieve effective supervision. Secondly, the supervision of external supervision institutions is relatively weak, and the scope of supervision is limited, so it is difficult to comprehensively supervise the exercise of public power in colleges and universities. Therefore, the establishment of a university public power big data supervision platform has become a necessary measure. public institution, the exercise of public power in colleges and universities is very important to social stability and justice. However, the supervision and management of university public power has always been an important issue.

2.1. The Supervision Mechanism is not Perfect.

The traditional supervision mechanism often has problems

such as low efficiency and asymmetric information, so it is difficult to realize effective supervision. The main manifestations are frequent academic misconduct, more irregularities in teachers' ethics, insufficient protection of students' rights and interests, confusion in school management, unreasonable academic evaluation mechanism, inadequate ideological education of students, and inadequate connection between schools and society.

2.2. External Oversight is Relatively Weak

The scope of external supervision is limited, and it is difficult to fully supervise the exercise of public power in universities. The reasons for the relatively weak supervision of the external supervision institutions of universities can be explained.

There are the following points: the power of the supervisory body is insufficient, the power and responsibility of the supervisory body are limited, and it is unable to carry out effective supervision and management of colleges and universities; The resources of the supervisory organs are limited, and the human, material and financial resources of the supervisory organs are limited, so they cannot conduct comprehensive supervision and management of all colleges and universities. The supervision means of the supervision institutions are insufficient, and the supervision means of the supervision institutions are relatively simple, which cannot carry out comprehensive and in-depth supervision and management of colleges and universities. The supervision standards of the supervisory institutions are not uniform, so it is difficult to carry out a fair and objective evaluation and supervision of colleges and universities; The supervision effect of supervisory institutions is not good, and it is difficult to carry out effective supervision and management of colleges and universities, resulting in some problems in colleges and universities can not be solved in time.

2.3. The Process of Exercising Public Power is not Transparent

The exercise process of public power in universities is not transparent enough, and it is difficult for the public to understand the decision-making process and resource allocation of universities. The opaque process of the exercise

of public power in colleges and universities may be manifested in the following aspects: the opaque decision-making process of colleges and universities, the important decisions of colleges and universities are often decided by a few people, and the lack of extensive participation and transparent decision-making process; The information disclosure of colleges and universities is not sufficient, and important information of colleges and universities is often not open enough, which makes it difficult for students, staff and the public to understand the operation of colleges and universities. The university management rules and regulations are not perfect, the lack of transparent system guarantee, easy to produce power abuse, corruption, and other problems; The administrative procedures of colleges and universities are not standardized. The administrative procedures of colleges and universities are not standardized and lack of transparent procedural guarantee, which is easy to produce improper administrative acts and illegal acts. The process of power operation in colleges and universities is not transparent, and the lack of supervision and openness of power operation is easy to cause problems such as power abuse and corruption. These problems will affect the credibility and reputation of colleges and universities, but also affect the development and stability of colleges and universities.

2.4. Lack of Supervision Consciousness

Some administrative departments and individuals in colleges and universities have insufficient understanding of the importance of public power supervision and lack of effective supervision consciousness and actions. The lack of supervision consciousness in colleges and universities may have the following reasons: lack of supervision mechanism and norms. Some colleges and universities lack a sound supervision mechanism and norms, resulting in insufficient supervision consciousness. University internal culture and atmosphere. Some universities have a culture and atmosphere of authoritarianism and bureaucracy, which is not conducive to supervision and criticism. Attitudes of university leaders and faculty members. Some university leaders and teaching staff are indifferent to supervision and lack of attention and understanding of supervision. The degree of participation of college students. Some college students have a low degree of participation in supervision and lack of attention and supervision to college affairs.

2.5. Corruption Problem

There are some problems such as corruption and corruption in the process of exercising public power, which seriously affects the credibility and image of colleges and universities. The main manifestations of corruption in colleges and universities include corruption behavior -- some administrators and teachers in colleges and universities may take advantage of their positions to obtain personal benefits by taking bribes, embezzling public funds and other means. Abuse of position - Some university administrators may abuse their power and take advantage of their position to seek improper benefits for themselves or others. Exam fraud - In the college entrance examination, postgraduate examination and other important examinations, some colleges and universities have fraud, including leaking questions, proxy examination and other means. Academic misconduct - Some college teachers may have academic misconduct, including plagiarism, falsification of data and other violations of

academic ethics.

3. Construction of Big Data Supervision Platform for Public Power in Universities

The construction of big data supervision platform for university public power is one of the important ways to improve the efficiency of university public power supervision [2]. The platform can realize the supervision and evaluation of the exercise of public power in universities by collecting, sorting, and analyzing a large amount of data. The following are several key steps to build a big data supervision platform for university public power.

3.1. Data Collection

Data collection of public power in colleges and universities refers to the collection and sorting of data generated in the process of exercising public power in colleges and universities [3]. The purpose of public power data collection is to strengthen the supervision and management of the exercise of public power in colleges and universities, and ensure the legality, justice and transparency of public power.

The content of public power data collection in colleges and universities includes but is not limited to the following aspects: administrative license data: including the application, approval, decision and other relevant data of administrative license in colleges and universities. Fund use data: including university fund application, allocation, use and other relevant data. Personnel management data: including university personnel appointment and removal, assessment, salary and other related data. Teaching management data: including university teaching plans, curriculum arrangements, test scores and other relevant data. Student management data: including college enrollment, student status management, student evaluation and other related data. The data collection of public power in colleges and universities can improve the supervision effect on the exercise of public power in colleges and universities, ensure the legitimacy and fairness of public power, and promote the sound development of colleges and universities [1].

3.2. Data Reduction

The collation of public power data in colleges and universities refers to the collation and archiving of data generated in the process of exercising public power in colleges and universities in order to facilitate management and supervision. The purpose of data collation is to improve the availability and analyzability of data and provide accurate data support for decision-making. The steps of collating public power data in colleges and universities include the following aspects: Data collection: Collect all kinds of data generated in the process of exercising public power in colleges and universities, including data on administrative permission, use of funds, personnel management, teaching management, and student management.

The data arrangement of public power in colleges and universities can be carried out by means of information technology, using database management system and data analysis tools to improve the efficiency and accuracy of data arrangement. At the same time, it is also necessary to strengthen the training and management of data collation personnel to ensure the quality and reliability of data collation work. Through the data collection of public power in colleges

and universities, it can better manage and supervise the exercise of public power in colleges and universities, improve the scientific and accuracy of decision-making, and promote the good development of colleges and universities.

3.3. Data Analysis

The data analysis of public power in colleges and universities refers to the analysis and processing of the data generated in the process of exercising public power in colleges and universities, so as to find the rules and trends in the data and provide scientific basis for decision-making. University public power data analysis can be carried out from the following aspects: administrative license data analysis: analyze the quantity, type, time limit and other situations of university administrative license, and find the existing problems and improvement measures in administrative license. Fund use data analysis: Analyze the use of university funds, including the source of funds, use benefits, etc., to find the existing problems in fund management and improvement measures. Personnel management data analysis: Analyze the situation of personnel management in colleges and universities, including personnel structure, salary treatment, etc., and find the existing problems and improvement measures in personnel management. Teaching management data analysis: Analyze the situation of teaching management in colleges and universities, including teaching quality, teacher-student ratio, etc., and find the existing problems and improvement measures in teaching management. Student management data analysis: Analyze the situation of university student management, including the number of students, the quality of students, etc., to find the existing problems and improvement measures in student management. The data analysis of university public power can be carried out by means of information technology. Data analysis tools and statistical software can be used to process and analyze the data and find out the rules and trends. At the same time, it is also necessary to strengthen the training and management of data analysts to ensure the quality and reliability of data analysis work. Through the data analysis of public power in colleges and universities, we can better understand the exercise of public power in colleges and universities, find existing problems and improvement measures, improve the scientific and accuracy of decision-making, and promote the sound development of colleges and universities [2].

3.4. Supervisory Feedback

The supervision feedback of public power in colleges and universities refers to the supervision of problems and improper behaviors in the exercise of public power in colleges and universities, and the provision of feedback and suggestions to relevant departments or institutions to promote the standardization and transparency of the exercise of public power.

The feedback of supervision of public power in colleges and universities can be carried out from the following aspects: Supervision mechanism construction: Establish and improve the supervision mechanism of public power in colleges and universities, clarify the responsibility and authority of supervision, and ensure the independence and fairness of supervision work. Object of supervision: Supervise all links and departments of the exercise of public power in colleges and universities, including administrative licensing, use of funds, personnel management, teaching management, and student management. Supervision methods: Adopt a variety

of methods for supervision, including regular inspections, random checks, complaints and reports, public opinion monitoring, etc., to ensure the comprehensiveness and timeliness of supervision [3].

Feedback of supervision results: Timely feedback of supervision results to relevant departments or institutions, put forward problems and suggestions, and require corresponding rectification measures to ensure that problems are solved. Supervision information disclosure: Strengthen the openness and transparency of supervision information, disclose supervision results and handling opinions to the public, and accept social supervision and supervision by public opinion. It is necessary to establish an effective communication channel and feedback mechanism to ensure that the supervision opinions are dealt with and responded to in time. At the same time, it is also necessary to strengthen the training and management of supervisors to improve the quality and effectiveness of supervision work. Through the feedback of the supervision of public power in colleges and universities, the problems, and improper behaviors in the exercise of public power in colleges and universities can be found and corrected in time, the standardization and transparency of public power can be promoted, and the management level and social reputation of colleges and universities can be improved.

3.5. Security Assurance

The security of public power in colleges and universities refers to a series of measures and mechanisms to ensure the security and stability of the exercise of public power in colleges and universities. Legal and regulatory protection: Establish and improve the legal and regulatory system for the exercise of public power in colleges and universities, clarify the authority, procedures, and responsibilities for the exercise of public power in colleges and universities, and standardize the exercise of public power in colleges and universities. Internal management mechanism: Establish and improve the internal public power management mechanism in colleges and universities, including clear rights and responsibilities, standardized procedures, effective supervision, etc., to ensure the legitimacy and standardization of the exercise of public power in colleges and universities. Information construction: Strengthen the information construction of public power in colleges and universities, establish and improve the information management system for the exercise of public power, and ensure the transparency and traceability of the exercise of public power. Personnel training and management: Strengthen the training and management of personnel exercising public power in colleges and universities, improve their awareness of laws and regulations and professional ethics, and ensure the fairness and integrity of the exercise of public power. External supervision mechanism: Establish and improve the external supervision mechanism of public power in colleges and universities, including social supervision, supervision by public opinion, audit supervision, etc., to ensure the transparency and justice of the exercise of public power. Emergency plans and risk prevention and control: Establish emergency plans and risk prevention and control mechanisms for the exercise of public power in colleges and universities, respond to emergencies and risks in a timely manner, and ensure the safety and stability of the exercise of public power. Through the establishment and implementation of the above measures and mechanisms, the security and stability of public power in colleges and universities can be effectively guaranteed, and the good development of colleges

and universities and social harmony and stability can be promoted.

4. Problems and Countermeasures of the Construction of Big Data Supervision Platform for Public Power in Universities

Building a big data monitoring platform for public authority in universities also faces several challenges and problems, including the following:

4.1. Data Acquisition and Collation are Difficult

Public power in universities involves a wide range of data sources, including decision-making documents of various departments, resource allocation, personnel appointment and removal information, and data acquisition and collation work is complicated and difficult.

Data sources are dispersed: Public authority data is often distributed in different departments and systems, making it difficult to obtain and organize. The solution is to establish a unified data platform or interface to integrate data from different departments and systems for easy access and sorting [2]. Inconsistent data formats: Data formats used by different departments and systems may be inconsistent, resulting in difficult data collation. The solution is to develop uniform data standards and formats to ensure data consistency and comparability. Data quality issues: Public power data may have quality issues, such as missing, incorrect, or incomplete data. The solution is to establish a data quality inspection and repair mechanism, verify and clean the data, and ensure the accuracy and integrity of the data. Data protection and privacy issues: Public authority data involves sensitive information and requires protection of personal privacy and data security. The solution is to establish strict data protection and privacy policies to ensure data security and compliance. Technical capacity and resource constraints: Access to and collation of public authority data requires certain technical capacity and resource support, but some institutions may lack relevant capacity and resources [3]. The solution is to strengthen technical training and resource support to improve the data processing capacity of institutions.

4.2. Insufficient Data Analysis Techniques

The lack of efficient public power data analysis technology may lead to the limitation of the analysis and utilization of public power data. The following are some of the factors that can lead to technical deficiencies and possible solutions: insufficient data processing power, public power data is often large scale, and requires strong data processing power to analyze. The solution is to improve data processing capabilities, including the use of high-performance computing, distributed computing, and other technologies to improve the efficiency and speed of data processing. Insufficient data mining and machine learning technology: public power data contains a lot of information, and it is necessary to use data mining and machine learning technology to dig out the potential rules and patterns. The solution is to strengthen the research and application of relevant technologies, train professionals, and improve the accuracy and effect of data analysis. Lack of data visualization technology: The visualization of public power data can help users better understand and use data, but it needs

certain visualization technology support. The solution is to improve the level of visualization technology and develop more intuitive and easier to use data visualization tools to facilitate users to carry out data analysis and decision-making. Insufficient data security and privacy protection technology: Public power data involves sensitive information, and corresponding data security and privacy protection measures need to be taken. The solution is to strengthen the research and application of data security and privacy protection technologies to ensure data security and compliance. Insufficient personnel training and technical support: Public authority data analysis requires professional support and technical training, but some institutions may lack the relevant capacity and resources. The solution is to strengthen technical training and resource support to improve the organization's data analysis capacity.

4.3. Supervision Feedback Mechanism is not Perfect

The imperfect feedback mechanism of public power supervision in colleges and universities may lead to unsatisfactory supervision effect. The following are some factors that may lead to the imperfect mechanism and possible solutions: Imperfect supervision system and rules: Universities may lack perfect supervision system and rules, leading to imperfect supervision feedback mechanism. The solution is to establish a sound supervision system and rules, clarify the objectives, contents, and procedures of supervision, and ensure the effectiveness and fairness of supervision. Unclear roles of supervisory subjects: The supervision of public power in universities involves multiple subjects, including students, faculty and staff, and external supervisory bodies, etc., but the roles and responsibilities of each party may not be clear. The solution is to clarify the supervision responsibility and authority of all parties, establish an effective cooperation mechanism, and ensure the comprehensiveness and continuity of supervision. Supervision feedback channels are not smooth: Colleges and universities may lack smooth supervision feedback channels, resulting in supervision information cannot be timely communicated and processed. The solution is to establish a variety of supervisory feedback channels, including complaint reporting channels, opinion suggestion boxes, etc., to provide convenient and quick feedback channels to ensure the timely collection and processing of supervisory information. Supervision results feedback is not timely: Colleges and universities may have the problem of supervision results feedback is not timely, resulting in supervision effects cannot be evaluated and improved in a timely manner. The solution is to establish a timely supervision feedback mechanism, evaluate and deal with the supervision feedback in a timely manner, and take timely improvement measures to ensure the continuity and effectiveness of supervision.

4.4. Data Security and Privacy Protection

University public power data security and privacy protection is very important, the following are some protection measures:

Data classification and permission control: Public power data is classified, and permission control is carried out according to different sensitivity and access rights. Only authorized personnel can access and process sensitive data to ensure its security. Data encryption and transmission security:

public power data is encrypted for storage and transmission, and secure encryption algorithms and protocols are adopted to prevent data from being illegally obtained or tampered with during storage and transmission [2]. Strengthen network security protection: Strengthen network security protection measures, including the establishment of firewalls, intrusion detection systems, etc., to discover and prevent network attacks in time, and protect the security of public power data. Data backup and recovery: Regularly back up public data and establish a sound data recovery mechanism to prevent data loss or damage, to ensure data integrity and availability. Establish a privacy protection mechanism: formulate privacy protection policies and relevant regulations, clarify the scope and purpose of the use of public power data, ensure that data is only used for lawful and necessary purposes, and hold accountable those who violate privacy protection regulations. Strengthen personnel training and awareness education: strengthen data security and privacy protection training for relevant personnel, improve their security awareness and protection awareness, and reduce the threat of human factors to data security and privacy. Regular security audit and evaluation: Conduct regular security audit and evaluation, discover and repair potential security vulnerabilities and risks, and ensure the security of public power data.

4.5. Monitor Compliance and Credibility

College supervision compliance and credibility are important aspects to ensure the exercise of public power in colleges and universities. The following are some key measures:

Establish a sound supervision system: Colleges and universities should establish a sound supervision system and rules, clarify the objectives, contents, methods, and procedures of supervision, and ensure the legitimacy and standardization of supervision [3]. Strengthening the construction of supervisory institutions: Colleges and universities should establish independent and professional supervisory institutions, which are responsible for supervising the exercise of public power in colleges and universities and ensuring the objectivity and impartiality of supervision. Improve the quality of supervision personnel: supervision personnel in colleges and universities should have professional knowledge and moral literacy, receive special training, improve supervision ability, and level, and ensure the professionalism and effectiveness of supervision. Strengthen information openness and transparency: Universities should take the initiative to disclose relevant information, including the rules, procedures, and results of the exercise of public power, to improve the transparency and credibility of supervision. Strengthen external supervision and social participation: Universities should actively accept external supervision, including the supervision of social

organizations, media, and the public, listen to the opinions and suggestions of all parties, and improve the credibility and public recognition of supervision. Establish supervision and evaluation mechanism: Colleges and universities should establish supervision and evaluation mechanism to regularly evaluate the effect and efficiency of supervision work, timely find problems and improvement measures, and improve the continuity and improvement of supervision.

To sum up, the construction of the big data supervision platform for public power in universities faces a series of challenges and problems, which requires universities and relevant departments to work together to strengthen technology research and development and personnel training, constantly improve the supervision mechanism, and improve the transparency and efficiency of public power in universities and colleges.

5. Conclusion

The construction of a big data monitoring platform for university public power is an important measure, which can help improve the transparency and efficiency of university public power and promote the standardized operation and fair decision-making of universities. However, there are also some challenges and problems in the construction process, such as difficulties in data acquisition and sorting, insufficient data analysis technology, and imperfect supervision and feedback mechanism. Therefore, it is necessary for universities and relevant departments to work together to strengthen technology research and development and personnel training, constantly improve the supervision mechanism, and ensure the compliance and credibility of the supervision platform. Only in this way can the effective supervision and management of the public power of colleges and universities be realized, and the sustainable development of colleges and universities be promoted.

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