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Exploration of the Informationization Construction Plan for University Discipline Inspection and Supervision

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Abstract

Currently, scientific and technological advancements are progressing rapidly, and the informatization of various industries in society is gradually deepening. The discipline inspection and supervision work must also align with the trends of the times by leveraging advanced technologies to enhance work standards and efficiency. As a hub for the learning and application of new technologies, universities are more conducive to leveraging technological resources to strengthen efforts against misconduct. This article attempts to propose an information platform construction plan suitable for the discipline inspection and supervision departments of universities, based on the development of digital campuses. It is hoped that this plan can promote the digital transformation of departmental business processing, improve work efficiency, and further enhance the governance capacity of universities.

Keywords

Discipline Inspection and Supervision, Informatization, Efficiency, Data, Universities

1. Introduction

In recent years, global scientific and technological development has been very rapid, with technologies such as artificial intelligence and big data widely applied in various fields. This has promoted the rapid transformation of society towards digitization and intelligence. Discipline inspection and supervision refer to the inspection of internal party discipline and the supervision of national functions. Discipline inspection and supervision organs will investigate and punish disciplinary violations and job-related crimes, and shoulder the heavy responsibility of

governing the party and combating misconduct. Integrating digital technology into their work and vigorously advancing its informatization are objective necessities to adapt to the needs of the times. As a crucial domain of social education, universities have achieved a new stage in their informatization driven by the times, namely a smart campus with highly integrated networks and information. The disciplinary inspection and supervision departments of universities also need to establish an information management platform that is suitable for their own situation. This can enhance the standardization of case handling and data usage, improve comprehensive management efficiency, and promote the high-quality development of university discipline inspection and supervision work.

2. Background and Current Status of Informationization Construction in Discipline Inspection and Supervision

With the rapid development of digitalization in society, new types of misconduct cases are gradually becoming high-tech and covert, and the scale of investigation data is also quite large. Traditional disciplinary inspection and supervision work methods are becoming increasingly difficult to adapt to the real situation. Promoting the informatization construction of discipline inspection and supervision, improving work efficiency and governance effectiveness, is the inevitable path in the current era. In 2024 our Chinese government pointed out the need to deepen the development and utilization of data resources, build an integrated platform for disciplinary inspection and supervision, and promote the deep integration of digital technology into various disciplinary inspection and supervision businesses [1]. In 2025 the government pointed out the need to empower anti-misconduct with big data informatization, comprehensively promote the construction of an integrated platform for discipline inspection and supervision, improve case handling efficiency, and strengthen information query, analysis, and judgment [2]. In 2026 the government pointed out the need to focus on technological empowerment and accelerate the construction of a digital discipline inspection and supervision system [3]. It can be seen that the digitization of disciplinary inspection and supervision work has received great attention and is an important focus for disciplinary inspection and supervision departments at all levels to improve their governance capabilities.

The discipline inspection and supervision work itself has complex business operations, long process cycles, a wide range of departments to handle, multiple steps, and a large amount of data. In today's highly developed information society, various industries and individuals will generate massive amounts of data, and the complexity of the business that disciplinary inspection and supervision personnel need to investigate and process is also increasing. The traditional way of working mostly relies on manual investigation and data archiving, with a degree of informatization of separate software use, hardware upgrades of electronic equipment for handling cases, etc., and has not formed a systematic, standardized, and integrated mode. In the process of interacting with other departments, data can-

not be quickly and timely interconnected, transaction processing efficiency is not ideal, data mining and analysis are not efficient enough, and the permission control and traceability of business processes also need to be improved. The uniqueness of the disciplinary inspection and supervision business requires it to keep up with the development of the times, enhance its own capabilities in profound changes, and do a good job in digital transformation.

3. The Problems in the Development of Informationization of Discipline Inspection and Supervision in Universities

The trend of informatization development in various universities is similar. In the early stage of digital campus construction, the discipline inspection and supervision department established a separate portal website to publish departmental introductions, notices and announcements, policies and regulations, work dynamics, anti-misconduct propaganda, information disclosure, reporting instructions and other business information. It has functions such as user login, menu operation, authorization management, and log tracking. In the later stage of digital campus construction, mobile communication and education platforms such as WeChat official account have been established, and daily online office work has been carried out relying on the university's overall collaborative office system, which has achieved good results in normal office work. But with the improvement of the overall informatization level of society and the high integration of data in various business systems of universities, the shortcomings of the original discipline inspection and supervision informatization have gradually emerged, mainly reflected in the following aspects.

3.1. Lack of Professional Information Management System for Handling Case Circulation

This is the most prominent issue, involving the full process and all element system construction of core businesses such as personnel integrity file management, petition management, lead management, case handling, data management, and document management [4]. Some businesses have unified platform construction at the national or provincial level, while most businesses rely on subordinate departments to build their own platform according to the situation. At present, there is a lack of an integrated management system for various stages of work at the university level, from petition filing, process approval, to case closure and archiving, resulting in slow access to some case information, weak data analysis effects, and insufficient precision in permission management.

3.2. Insufficient Data Fusion and Mining Analysis

The data that disciplinary inspection and supervision departments need to investigate is often core data, and the traditional way is to manually search and retrieve it from various departments, which may need multiple runs and be inefficient. Some data can be extracted from the university data center, while others need to

be collected from various business departments. The data standards of different departments are inconsistent, which can cause significant inconvenience during later collection and analysis [5]. In addition, document data generated during the business process, such as paper, audio and video or case logs, should be stored in a complete and long-term manner. At present, there is also a lack of professional storage equipment and data mining analysis, which cannot fully realize the value of data.

3.3. The Information Security Mechanism Needs to Be Improved

The business characteristics of disciplinary inspection and supervision determine that they have high requirements for security, such as registration of petition and report information, management of clue information, approval of case investigation information, case archiving, etc., all of this require high-level confidentiality measures. Previously, most departments focused on the confidentiality mechanisms that existed in offline business transactions, but with the development of information technology, online security should also be adequately prepared in advance. Online data archives have replicability, which also poses great challenges to management [5]. This requires the development of managing methods established by the leadership, and long-term implementation to ensure the secure operation. It should be given equal status with the software and hardware construction of the system platform.

3.4. Lack of Personnel Information Technology Training

Discipline inspection and supervision personnel are mostly specialized in legal, auditing, finance, and other fields. Due to the serious nature of their business and busy daily affairs, they are less likely to actively learn new technologies and integrate them into their work. Overall, the digital training of the personnel team is not sufficient, and there is a lack of experience in applying the latest technologies. In the rapidly transforming society, it is imperative for personnel to have an awareness of information technology and promote its widespread use. The informationization construction of the department also lacks professional IT personnel, which makes it difficult to carry out integrated management such as requirement design, application construction, and coordinated operation and maintenance.

4. Information Construction Plan for Discipline Inspection and Supervision

According to the central government's emphasis and task deployment on government informationization, universities should prioritize the informationization of discipline inspection and supervision in their work plans. In the process of building a digital campus, the construction of information systems for various businesses has established some rules. Based on accumulated work experience and understanding of the business characteristics of disciplinary inspection and supervi-

sion, we hereby propose an information technology construction plan that meets their needs. In the plan, the focus will be on information system construction framework, data fusion, implementation of security measures, and personnel training to solve the identified problems.

The construction plan includes three aspects: institutional guarantee, system construction, and operation and maintenance management. Based on the experience of our university's information system construction, the following practical and feasible measures are proposed.

4.1. Prepare Work Plans and Systems in Advance

Before the construction of information systems, it is necessary for university and relevant department leaders to make top-level planning and coordination, accurately grasp the essence of information technology issues [4]. It is necessary to fully plan the development progress, effectiveness testing and review, network construction and isolation, network security protection and other planning during the construction period. It is also necessary to implement the operational mechanisms involved in regular vulnerability scanning and repair, user approval permission management, and user operation tracking after operation. In data archive management, appropriate access permissions, backup security management, etc. should also be considered. We should establish a work system and methods for the informatization of discipline inspection and supervision from the leadership. We can fully investigate the experience of information system construction in fraternal institutions or other departments within the university, especially the information network management department. We should comply with the university's information planning and data standards to form rules and regulations, including the rules during the platform construction process and the stable operation period in the later stage, in order to ensure that all work is carried out in an orderly manner.

4.2. Information System Construction

1) Sort out business requirements

The prerequisite for improving work efficiency through informatization is effective demand extraction. The current demand is to optimize personnel integrity file management, petition and reporting management, clue registration, case handling, case filing, case data management, and case data query and statistics from offline to online [6]. During this process, all offline processing personnel should be visited to collect and summarize the functional points of requirements, and then the business process should be sorted out to standardized, traceable, and safe online workflow. The data items, data sources, business processes, approval requirements, login account management, role classification, role authorization, and operation records involved in each process should be designed and improved based on the actual offline case handling situation.

This platform must not only meet functional requirements, but also achieve a

high level of security. This requires the disciplinary inspection and supervision department to closely cooperate with the information network department of the university to jointly ensure the security of the network and storage. This is a top-down, multi departmental collaboration, and overall planning task that should integrate security into every step of requirement design.

All survey content will be compiled into a requirement report, which will be analyzed and evaluated based on departmental business requirements in order to achieve accurate online standards. Once the requirement report is formed, it cannot be easily modified, and technical personnel will use it as the basis for arranging other work in the next step.

2) System architecture design

The construction of the information system should start from four aspects: hardware, software, adaptability, and simplicity [6].

In terms of hardware, we need to consider the server requirements for databases, programs, and data storage, and familiarize ourselves with the current mainstream specifications and parameters. The procurement model is determined based on key factors such as the operational performance of main components like the CPU and memory, total storage capacity, and various types of interfaces, with particular emphasis on the scalability of storage space. After the system runs, a large amount of data will be stored and queried, and it is necessary to prepare for data backup and expansion.

In terms of software, mainstream mature development languages and B/S architecture should be adopted, and program development should be carried out based on the sorted requirements document. Data should be prepared based on business requirements and unified standards of university informatization, and standardized in design. Develop model forms based on various business processes to standardize the requirements for registering and uploading data. The approval process and data updates are both done with minimum available authorization to protect the security of petition and case information. Take preventive measures and data backup measures in accordance with the national security protection level requirements.

In terms of adaptability, it is necessary to coordinate with the digital management of university, including network planning, server IP and domain management, firewall management, system vulnerability scanning, virus scanning, data sharing and synchronization, etc. The information network department of the university has a lot of experience and should fully plan and communicate with each other.

In terms of simplicity, consideration should be given to the page usage and backend maintenance operations, striving for a simple interface, unified layout, easy operation, and no need for extensive training to apply.

Based on the construction experience of other systems, it is recommended to design the information system according to the following framework, as shown in Figure 1. It is divided into access layer, business layer, and data layer as a whole

[7].

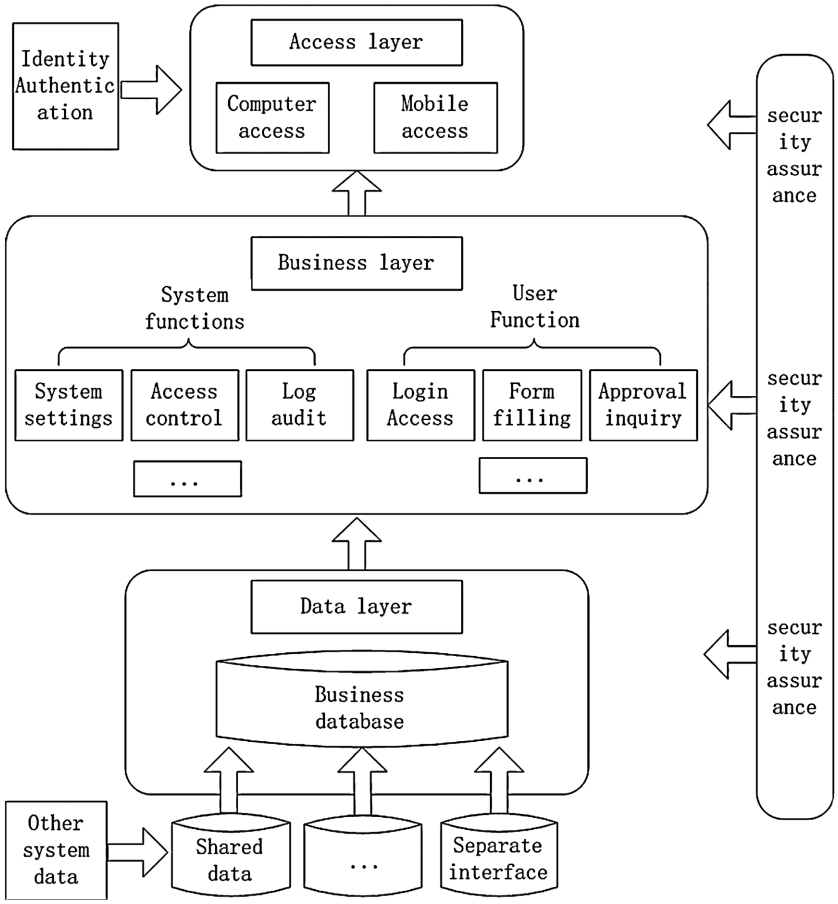

Figure 1. Construction framework diagram.

To achieve fast access to business data in the entire data layer, it is necessary to establish an independent database. If for the sake of convenient and stable operation, it can be established on a unified platform in the university data center, but it needs to be negotiated with the information network center and the database version and type are relatively fixed. If it is necessary to establish a separate server for personalized and flexible settings and independent management, it requires strengthening self-management in terms of network and security. In addition to the business data of disciplinary inspection and supervision itself, some organizational data can be shared from the university data center, such as organizational structure, personnel information, financial information and other basic information, improving data utilization and ensuring unified sources. If the data center does not yet have enough needed data, it needs to be extracted separately from other systems, we need find other departments' systems to build separate reading interfaces and set scheduled synchronization times. The entire database will become a small integrated platform that supports business process retrieval, data query analysis, and also requires remote and secure backup.

The middle layer is the business layer, which includes all functions and is

mainly divided into two categories: system settings management and user usage. User usage includes two subcategories: case handling process approval and data file management. Process approval focuses on online business processing, while data file management focuses on indexing and querying all case data. Programmers strictly follow the requirements document to implement systematic and orderly business operations [8]. The business layer program can be deployed on the campus virtual machine platform or on a separate server as needed. The virtual machine is easy to operate, and the separate server is isolated and secure, which can be selected according to actual needs.

The top layer is the access layer, which is related to the user's login account and access method. This platform can use digital campus unified user login, which has undergone real name authentication and is secure and stable, but requires program integration. If using a separate user account, it is necessary to add real name authentication, but it is more secure and independent in terms of management. In addition, role authorization should consider the minimum functional scope and grant the minimum permissions within the appropriate range. Add the access methods on mobile devices is due to the fact that mobile office has become a daily trend. However, with the complex system environment types on various mobile devices, ensuring security while being convenient is the biggest consideration. Regardless of the login way, it is recommended to use a method with real-time interactive verification to avoid security risks where a single login has significant operational permissions.

3) Safety mechanism

Based on the particularity of disciplinary inspection and supervision work, safety is an extremely important indicator. At every step of information construction, it is necessary to consider how to implement security. In the construction of functions, clear documentation and implementation verification are required for account login authentication, permission management, authorization management, input/output specification restrictions, operation tracking, log review, data encryption, data backup, data access scope specification, personnel operation requirements, etc. [8]. During the system daily operation, network protection, vulnerability scanning, virus scanning, and situational analysis can all utilize the existing resources of the digital campus for protection and improve the utilization rate of university resources.

4.3. Long Term Stable Operation and Maintenance Management

1) Personnel team

To ensure the long-term stable operation of the system, first of all, personnel with professional technical backgrounds should participate in coordination among departmental business personnel. This personnel does not need to participate in specific programming work, but they need to understand the technology while also being familiar with the business situation, so that in the progress of the project, they can clearly feedback the online trial situation of the platform to the

programmers for further improvement. This process is quite lengthy and involves the cooperation of multiple personnel. After the platform is put into use, the professional programmer team can solve problems such as program anomalies, but the personnel in the business department need long-term operation and maintenance, such as system authorization, case flow anomaly resolution and adjustment, data backup and organization, business personnel training and answering, collecting feedback and opinions, improving and upgrading, and other management related work. So the department should have professionals who can manage information work. If they do not have a professional technical degree, they should at least have a certain level of information technology and be able to participate well in construction and later operation and maintenance. Other business workers should also regularly engage in technical learning, possess a certain level of information technology awareness and operation, use the platform proficiently, change work modes, and improve personal work abilities.

2) Rules implementation and evaluation improvement

To ensure that the achievements of information technology construction can be maintained in the long run and continue to play a role, the leadership team should formulate a good management rule system from top to bottom. From the aspects of construction, management, personnel team, and continuous investment, combined with the digitalization process of the university, we should make top-level plans and implement it into an effective system work, continuously monitor the execution status.

Finally, an evaluation of the effectiveness should be conducted based on the operating conditions over a period of time, such as the completion time of each process on the system platform, the completeness of data archiving, and user experience and so on. Develop multidimensional evaluation indicators and compare them with traditional work methods, continuously improve according to the actual situation. Only in this way can we continue to play the role of informationization in improving work efficiency.

5. Summary

The disciplinary inspection and supervision management platform aims to improve case handling efficiency and explore the value of data utilization. Based on the research conducted by the university, the project categories that have already been put into use will no longer be duplicated, and only the key missing case approval and data management parts will be constructed. On the one hand, it can improve work efficiency, and on the other hand, it also saves funds. After use, the platform will have high practicality and accurately improve the current situation of information technology work. After achieving initial application results on the platform, the integration and analysis of key supervision data such as finance, bidding, procurement, equipment management, and logistics can be gradually improved to enhance risk warning capabilities. The application of big data and intelligent analysis will be a direction for further improvement and development,

which can further enhance work efficiency. However, it is also necessary to pay attention to the control of access boundaries such as personal privacy and sensitive data [9]. This will be the next step in deepening research direction. I hope this article can provide reference for the informatization development of disciplinary inspection and supervision work, and help promote the development of university governance.

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Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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