

# Research on the Administrative Knowledge Management System of University Colleges under the Strategy of Building a Powerful Education Nation

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**Abstract:** Based on the core requirements of the strategy of building a powerful education nation for higher education, namely “self-improvement and excellence, digital and intelligent empowerment, and open integration,” this paper starts from the functional positioning of college administrative organs, analyzes the mission and tasks under the new situation, and explores the adaptability of knowledge management theory to the practice of college administration. It constructs a knowledge management model from the dual dimensions of intangible assets and digital assets, designs the system framework, and refines the functional scheme of the digital and intelligent knowledge management platform, and puts forward construction suggestions, providing a practical path for supporting the construction of a powerful education nation.

**Keywords:** Double First-Class; Intangible assets; College administration; Digital-intelligent transformation; Framework of the administrative knowledge management

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## 1. Introduction

After the in-depth implementation of university two-level management, the management focus has continued to shift downward, and college administrative organs have become a hub platform undertaking core functions such as decision support, coordination and execution, service supervision, and resource integration. The role as a bridge connecting the higher level and the lower level, and linking the inside and the outside, is directly related to the ability of universities to serve the national strategy and the improvement of school quality. The *Outline of the Construction Plan for a Powerful Education Nation (2024–2035)* clearly proposes to build a “self-improving and excellent higher education system,” requiring universities to deepen governance reform, strengthen scientific and technological support, and promote digital transformation. In this context, college administration

cannot only stay at the level of traditional transactional management, but must keep up with the times to improve the level of administrative management <sup>[1]</sup>. Taking knowledge management as the starting point to achieve breakthroughs in concept innovation, mechanism optimization, and technological empowerment is the only way to meet the multiple demands of the construction of a powerful education nation for the connotative development, quality improvement, and international leadership of universities.

## **2. New missions and requirements of university college management under the strategy of building a powerful education nation**

### **2.1. The continuous increase in the scope and tasks of management urgently requires colleges to improve management efficiency**

The reform of university-college two-level management has extended the management scope of college administration from traditional teaching and scientific research services to diverse fields such as discipline construction, integration of production and education, digital governance, and lifelong learning services. The *Outline of the Construction Plan for a Powerful Education Nation (2024–2035)* emphasizes the implementation of the national education digitalization strategy and requires promoting the deep integration of information technology and education governance. Currently, college administration is facing the prominent contradiction of “task multiplication and limited staffing,” with transactional work occupying a lot of energy, making it difficult to focus on strategic planning. This requires the processization, templatization, and standardization of knowledge management, combined with technical tools such as Robotic Process Automation (RPA) and big data analysis, to automatically process repetitive work and free up administrative staff’s energy to engage in innovative work. At the same time, it is necessary to establish an inter-departmental knowledge sharing mechanism, break down “data silos,” realize the data integration and intelligent decision-making of core businesses such as discipline construction, talent training, and scientific research management, and empower the improvement of management efficiency with digital intelligence to support the efficiency requirements of the construction of a powerful education nation.

### **2.2. Improving governance efficiency puts forward higher requirements for colleges to improve the professional level of management**

The construction of a powerful education nation requires higher education to enhance its support capacity for serving the national strategy, and the management field of college administration has covered multiple professional scenarios such as scientific research innovation, talent introduction and cultivation, integration of production and education, international cooperation, and digital compliance. As a key element in the operation system of higher education institutions, the work efficiency of university administrative staff has a decisive impact on the overall governance level and sustainable development of the university <sup>[2]</sup>. Currently, some managers have problems such as mismatched professional backgrounds, insufficient digital literacy, and a lack of cross-domain knowledge, and the professional guarantee mechanisms of universities in the recruitment, training, and professional title evaluation of management positions have not yet been improved. This requires the construction of a knowledge management system to build a regular learning platform, integrate core contents such as management professional knowledge, digital technology skills, and national strategic policies, and establish post competency standards adapted to the requirements of a powerful education nation, promoting the transformation of managers into “strategic staff type,” “professional service type” and “digital and intelligent application type,” to ensure that the quality of college development is in line with the high standards of the

construction of a powerful education nation.

### **2.3. Strengthening the integration of production and education puts forward new requirements for colleges to expand the scope of management services**

The construction of a powerful education nation emphasizes “deepening the integration of production and education, and the integration of science and education,” promoting universities to carry out collaborative innovation with key industries and leading enterprises, and building an integrated system of talent training, scientific research, and technology transfer. College administration needs to undertake new functions such as school-enterprise cooperation docking, industry-university-research project coordination, and technology transfer and transformation services, requiring cross-border knowledge such as industrial policy cognition, market resource integration, and project management coordination. At present, the knowledge system of college administration in the management of industry-education integration projects, industry resource docking, and the transformation of scientific research achievements is not yet sound, and intangible assets such as alumni resources and industry resources have not been effectively activated. This requires integrating core contents such as industrial development trends, school-enterprise cooperation models, and technology transfer rules through knowledge management, establishing a knowledge graph and resource database for industry-education integration, and improving the cross-domain knowledge sharing mechanism to help colleges accurately connect with national strategic needs and enhance their ability to serve the high-quality development of the economy and society.

### **2.4. Enhancing international competitiveness puts forward requirements for colleges to improve the internationalization level of management**

The construction of a powerful education nation clearly proposes to build an “open and mutually learning international cooperation system,” promoting universities to enhance their international influence and ability to participate in global governance. College administration needs to cope with new tasks such as international education certification, cross-border cooperative education, the introduction and cultivation of overseas high-end talents, and the integration of global academic resources, requiring managers to have abilities such as cognition of international education rules and cross-cultural communication and coordination. At present, some college administrations have shortcomings in the reserve of international management knowledge and the mechanism for integrating overseas resources, making it difficult to meet the requirements of “benchmarking world-class and serving global cooperation.” This requires integrating core knowledge such as the development trends of international higher education, the management experience of world-class universities, and cross-border cooperation norms through a knowledge management system, establishing an international management case database and resource library, and incorporating the cultivation of international vision into the training system of managers to support universities in showing Chinese characteristics and contributing Chinese wisdom in the global education pattern.

## **3. Implementing knowledge management is a strategic choice for university colleges to adapt to the construction of a powerful education nation**

### **3.1. The connotation of knowledge management from the perspective of intangible assets**

As an important management field, knowledge management is core to creating value by utilizing organizational intangible assets. The Swedish scholar Sveiby proposed that knowledge assets include three categories:

employee competence, internal structure, and external structure. Under the background of building a powerful education nation, knowledge management needs to add the dimension of digital assets, forming a dual-core management framework of “intangible assets + digital assets.” Explicit knowledge can be efficiently managed through digital means, covering codifiable contents such as policy documents, business processes, and archival materials; tacit knowledge includes personalized contents such as management experience, professional skills, and interpersonal networks, which is the core competitiveness of college administration. Its excavation and transformation need to rely on the coordination of digital and intelligent tools and humanistic mechanisms. The essence of knowledge management is to promote the innovation of knowledge in sharing and the appreciation of knowledge in application through “digitalization of explicit knowledge, externalization of tacit knowledge, and valorization of digital knowledge,” which accurately meets the dual demands of the construction of a powerful education nation for the governance efficiency and quality of universities.

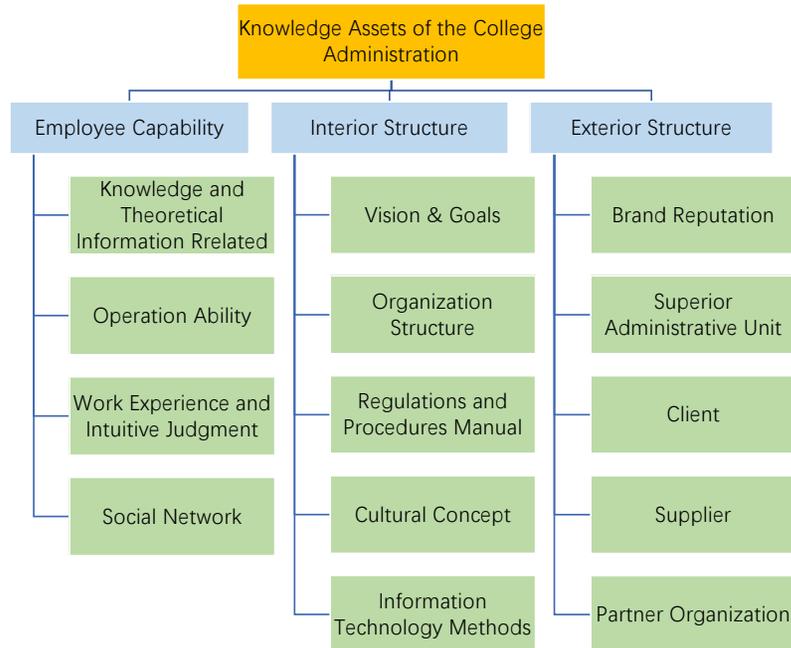
### **3.2. Introducing knowledge management is an irresistible trend for college management to comply with the development and reform of higher education**

Firstly, as a knowledge-intensive organization, knowledge is the core production factor of universities, and college administration, as a management hub, its business essence is the circulation and application of knowledge. The knowledge management theory regards knowledge as the core asset, which is highly consistent with the functional positioning of college administration of “supporting discipline development with knowledge services,” and can provide methodological support for the digital transformation of education. Secondly, the people-oriented core concept of knowledge management echoes the requirement of “strengthening team building” in the construction of a powerful education nation. Stimulating the initiative and creativity of administrative staff and improving their digital literacy and professional capabilities through knowledge management can solve the current shortcoming of insufficient professionalism of the management team. Finally, the goal of “sharing and innovation” pursued by knowledge management is consistent with the core demand of college administration to adapt to the construction of a powerful education nation. Realizing the standardization and efficiency of management processes through knowledge sharing, and promoting the internationalization and intellectualization of management models through knowledge innovation help colleges form competitive advantages in discipline construction, talent training, and other fields.

## **4. Design of the administrative knowledge management system of university colleges**

### **4.1. The composition of administrative knowledge assets of university colleges**

Different from the conceptual dimension of explicit knowledge and tacit knowledge proposed by Polanyi, Sveiby regards knowledge as intangible assets and proposes to divide knowledge assets into three categories: employee competence, internal structure, and external structure from the perspective of representation in the balance sheet. After analyzing the knowledge involved in the management business scope of colleges, the composition of knowledge assets of college administrative departments is obtained, as shown in **Figure 1**.



**Figure 1.** The composition of administrative knowledge assets in a university college

For college administrative departments, employee competence includes theoretical information on college management-related knowledge, professional skills, experience, intuitive judgment, and social networks. Among them, theoretical information on college management-related knowledge is various professional management knowledge acquired through education and learning, including information, which belongs to explicit knowledge, such as professional knowledge in educational management, scientific research management, asset management, personnel management, financial management, as well as the history of the college and the current situation in teaching, scientific research, academic research and management; college management business capabilities are mainly acquired through training and practice, including business skills, organizational planning capabilities, research capabilities, problem-solving capabilities, creativity, management capabilities, expression capabilities, etc.; work experience and intuitive judgment are acquired through reflecting on past experiences and successes and failures, relying on specific situations, and can guide future decisions, which is a feeling of believing to be true, related to life experience and personal talent; social networks are interpersonal networks. Business capabilities, work experience, intuitive judgment, and social networks all belong to the category of tacit knowledge.

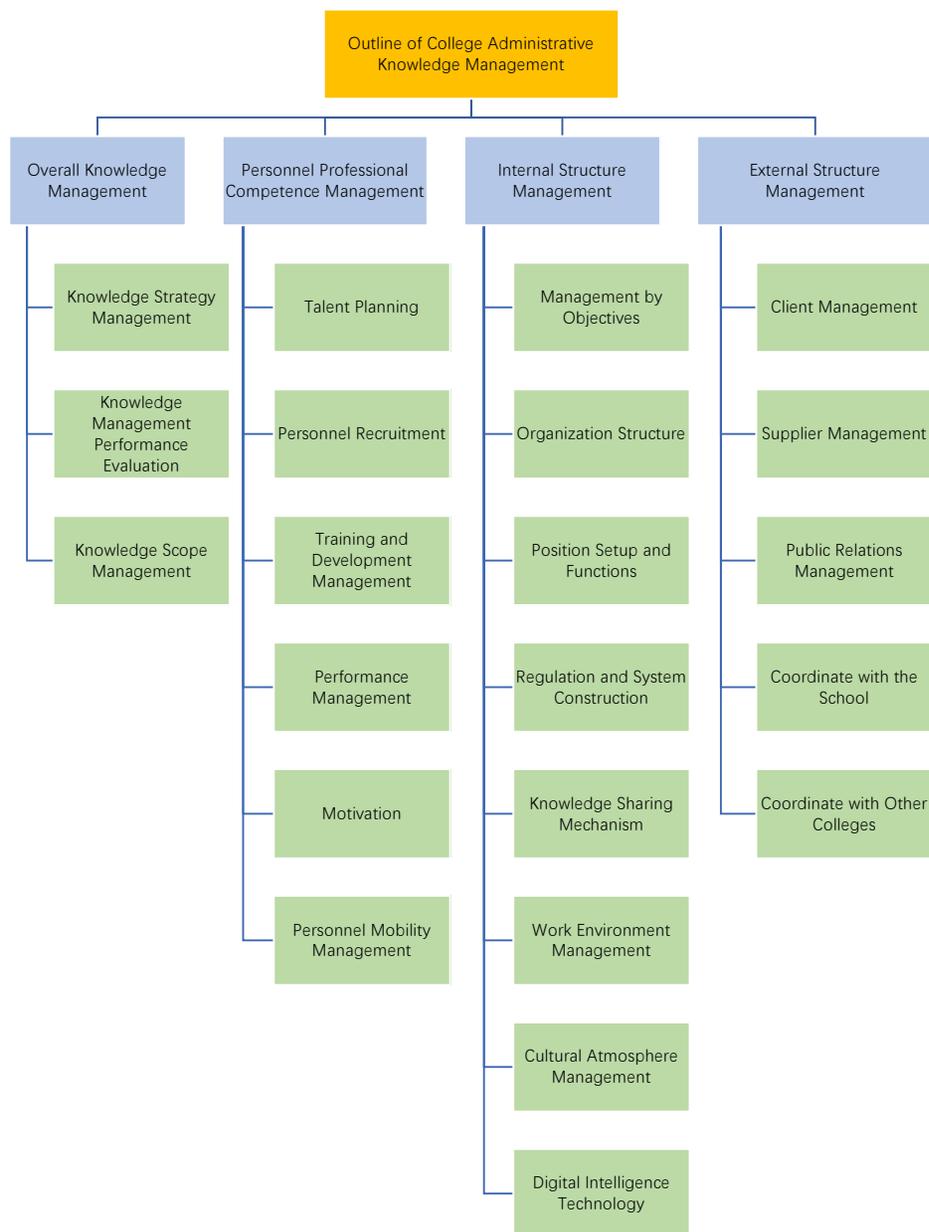
The internal structure includes vision and goals, organizational structure, rules and regulations manual, cultural philosophy, and information means. Among them, cultural philosophy is a model of values recognized and shared by all members of the organization, which can invisibly affect the organizational atmosphere and the relationship between people, and to a large extent affect the transmission of knowledge. In the construction of the college’s “Double First-Class,” it is necessary to integrate the cultural philosophy of open integration and trustful communication into it, and create a team atmosphere conducive to knowledge dissemination.

The external structure includes brand reputation and relationship resources with higher-level units, customers, suppliers, and other cooperative units. Among them, the brand reputation of the college, in addition to relying on the overall brand influence of the university, also includes the ranking of disciplines in charge of the college among universities, the status of teachers, outstanding graduates trained, employment situation, awards in discipline competitions, scientific research level, teaching awards, academic influence, etc.; customers include all faculty and staff and students of the college, student employment units, contract parties A, etc.;

suppliers include source schools, talent markets, social service providers and other relevant parties that provide talents, services, assets, information and other resources for the college; in addition, it also includes relationship resources with cooperative units such as sister colleges and industry peers.

## 4.2. Framework of the administrative knowledge management system of colleges

According to the model of college administrative knowledge management, a framework of the college administrative knowledge management system is designed and developed, as shown in **Figure 2**. The top layer of the framework is the general outline of college administrative knowledge management, which should stipulate the connotation of the knowledge-based development strategy adopted by the college, the scope of knowledge management, and the overall requirements of knowledge management. The second layer includes four modules: overall knowledge management, personnel professional competence management, internal structure management, and external structure management. Each module includes specific management work content.



**Figure 2.** Framework of the administrative knowledge management system for the college

Under the overall knowledge management module, knowledge management evaluation is an evaluation system for the effect of college administrative knowledge management. It is necessary to study and establish characterization index systems and evaluation methods for employee competence, internal structure, and external structure, respectively, evaluate the effect of knowledge management, identify deficiencies, and put forward improvement suggestions.

Under the personnel professional competence management module, the purpose of management is to reduce the organization's dependence on talents, tap the tacit knowledge of talents, realize knowledge sharing and innovation, and create value growth. Specific management measures include formulating clear talent recruitment standards, establishing a humanized career security system (the creation of employees' sense of security), diversified incentives (peer recognition, honors, learning and training opportunities, flexible working hours, etc.), and a regular post rotation mechanism.

Under the internal structure management module, the core of management is to build an internal structure that supports knowledge transfer. Management measures include the management of various personnel relationships, regular communication and training mechanisms, the design of office environments conducive to communication and exchange, a team-building model of mentoring, and the combination of old, middle-aged, and young people, cultural construction, business outsourcing, and information means.

Under the external structure management module, the core of management is to determine a knowledge-based strategy. Management measures include image building, inviting customers and alumni to promote the college, maintaining good relations with resigned employees, and encouraging employees to participate in various social activities.

## **5. Implementation suggestions for the construction of the administrative knowledge management system of university colleges**

### **5.1. Strengthening strategic leadership and improving policy guarantee**

Incorporate knowledge management into the college development strategy, align with the requirements of building a powerful education nation, and formulate a special implementation plan. The university level should provide policy support, clarify the weight of knowledge management in resource allocation, professional title evaluation, and employment, and merit evaluation; the college level should establish a knowledge management working group, led by college leaders, to coordinate the promotion of platform construction and system implementation, and incorporate digital assets into the scope of college asset management.

### **5.2. Focusing on team building and improving digital literacy**

Establish a training mechanism for professional management teams, and incorporate digital literacy and knowledge management capabilities into the core content of manager training. The application of artificial intelligence technology has significantly improved the knowledge processing capacity of enterprise knowledge management systems<sup>[3]</sup>. Carry out special training on AI tool application, data visualization analysis, international exchange management, etc., and encourage managers to obtain relevant professional qualification certificates; improve the professional title evaluation system for the education management sequence, taking knowledge sharing achievements, management innovation cases, and platform application effects as important bases for evaluation and employment, stimulating the enthusiasm of the team.

### **5.3. Deepening the integration of industry and education and activating external knowledge resources**

Build a school-enterprise collaborative knowledge network relying on the digital and intelligent platform, co-construct industrial knowledge bases with cooperative enterprises, and share technology development trends and talent demand information; establish a digital alumni resource database, integrate alumni intellectual resources and industry resources to support discipline construction and talent training; strengthen exchanges and cooperation with world-class universities at home and abroad, introduce advanced management experience and high-quality resources<sup>[4]</sup>, and improve the internationalization level of knowledge management.

### **5.4. Improving the incentive mechanism and creating a sharing culture**

Establish an incentive system for knowledge sharing and innovation, commend and reward contributors of high-quality knowledge and practitioners of management innovation, and link relevant achievements with performance appraisal; improve the intellectual property protection mechanism, clarify the ownership and use rules of knowledge achievements, and protect the rights and interests of contributors; create an open, shared and innovation-encouraging cultural atmosphere through knowledge exchange salons and innovation case selection activities, breaking down departmental barriers and information silos.

### **5.5. Strengthening evaluation and feedback and dynamically optimizing the system**

Establish an evaluation index system for the effect of knowledge management, covering dimensions such as the growth of knowledge assets, the improvement of management efficiency, service satisfaction, and strategic support capacity; carry out regular evaluations relying on the digital and intelligent platform, and collect user feedback and third-party evaluations regularly; dynamically adjust knowledge management strategies, platform functions and operation mechanisms according to the evaluation results and the new situation and requirements of the construction of a powerful education nation, continuously improving the adaptability and effectiveness of the system.

## **Disclosure statement**

The authors declare no conflict of interest.

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