

# *Analysis of the Current Situation and Optimization Strategy of University Education Management Informatization*

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**Abstract:** The results of university education management work are directly related to its future development. In the background of the modernization of higher education in China at present, it is very important to use modern information technology to promote the development of college education management, and to realize the modernization of related management. With the wide application of the Internet, education management informatization has become inevitable. Education management informatization can not only improve the effect of education management, but also promote the sustainable development of colleges and universities. Therefore, the realization of educational management informatization has become an important development direction in the current college education reform process. Based on this, this paper discusses the current situation and optimization strategy of university education management informatization.

## **1. Introduction**

With the development of computer technology, the work of university education management has been continuously innovated, and the scope of its work is more and more extensive. At the same time, due to the advancement of the reform of the educational system, the educational management mode of colleges and universities has also changed. At present, many industries including the education sector are developing in the direction of information technology, and colleges and universities are the main positions for cultivating outstanding talents for the society. They should focus on information technology construction, realize the information technology of education management, ensure the normal progress of education work, improve the quality of education and teaching, so as to promote the comprehensive innovation of education management.

## **2. Characteristics of educational informatization**

Based on the development of the era of big data, the development of education in our country is gradually becoming information based. Therefore, education informationization has gradually become digital, networked and intelligent. The digital characteristics can change the old teaching facilities and make the educational resources more diversified. Networking can guarantee the security and reliability of educational resource storage information. Intelligence can make the

education work more humanized and make the work more convenient. These three basic characteristics can make the educational management work to the direction of information development. Under this development background, making education management more transparent, open and shared can not only make the education management of colleges and universities more socialized and autonomous, but also better meet the "hard" requirements of today's society for high-quality talents. The most basic and important feature of the development of information technology is sharing, which can promote the extensive dissemination and exchange of educational resources in all aspects of society through information platforms, so as to strengthen the effective communication between teachers, students and students.

### **3. Development trend of educational informatization**

With the continuous development of the Internet economy, modern technologies such as the Internet of Things and cloud computing came into being, and Internet + education has now become the most important way of education, thus affecting the construction of college education management information. With the development of science and technology, the continuous innovation of education methods, multimedia technology into the campus has gradually become a universal education model, completely changed the previous "blackboard + chalk" education model. In addition, the construction of information technology also provides new teaching methods for current college education management, and makes use of a variety of digital Internet media such as cloud classroom, MOOCs, etc., so that classroom teaching activities become more colorful, which is also more in line with the personalized needs of contemporary students. In the construction of education management informatization, attention should also be paid to creating and updating educational intelligent software and teaching information system, so that it can keep up with the pace of The Times and promote the intelligence of information system<sup>[1]</sup>.

### **4. The significance of informatization of college education management**

Today, with the rapid development of information technology, the mode of thinking and behavior of college leaders is constantly changing, so their educational management should be adjusted to better meet the needs of educational management in the new era.

First of all, to realize the information of education management, improve the level of refinement of the management work. In the past, China's colleges and universities in the administration of education, the use of unified management, the students' personality, ability and the growing environment did not give comprehensive consideration, resulting in low management efficiency, management chaos. In the informatization process of education management, relevant managers can investigate and analyze the specific situation of college students' use of learning platforms and micro-blogs by using big data technology. At the same time, through the visualization of these data, administrators can better understand the behavior of students, so as to achieve the purpose of personalized management of different types of students, and improve the pertinence of education management.

Secondly, applying information technology to college education management can make the work more scientific and effective. In the past education management, school management decisions are often based on the reality of the managed objects and their own management experience, with a certain tendency of empiricism. In management, managers' previous management experience often cannot adapt to the current educational situation, but will have a negative impact on their work. In the construction of education management informatization, relevant managers can make more scientific and rational management decisions based on the information of the database. And according to the development needs of teachers and students, the corresponding education

management plan is formulated to improve the management level.

Finally, strengthening the information construction of education management is an effective way to improve the management effect. In the past educational management model, the management decision should be implemented at various levels, and any problem in one of the steps will greatly affect the normal development of the subsequent management work. At the same time, due to the lack of effective management of each link, some problems have not been solved in time, so that the management effect cannot meet the expectations. Based on information construction, managers can use information technology to make management decisions, and supervise and manage the implementation of each link, so that management decisions can be implemented smoothly. In addition, the manager can also use the information of the managed in the system to make reasonable adjustments to the management system and methods, so that the managed can improve themselves and deepen the understanding of education management, so as to improve the effect of the management work.

## **5. Current situation of college education management informatization**

### **5.1 The construction of education management informatization lacks scientific planning**

The construction of education management information technology has the characteristics of systematization, so colleges and universities should make careful planning. Colleges and universities are made up of multiple colleges and departments at various levels. Each college and department has its own needs, and different colleges are independent of each other. If each college adopts an independent network system and equips each system with a physical server, it will cause a great waste of school resources. Although colleges and universities will set up educational administration management system and student management system, but because the system is not perfect in function, so whether it is students' course selection, score query, or teachers' lesson preparation, upload data, etc., they need to log in to multiple systems to complete, and also go through multiple identity authentication, the operation process is complicated. At the same time, it will also increase the workload of relevant managers. Because various systems are not fully connected, multiple versions of the same file data may appear, and the versions of file data held by different departments may be different, so real-time sharing cannot be carried out, which causes great obstacles to the effective connection of the work of various departments, and also causes some departments to spend more time and energy to upgrade the data in the system. This increases the management cost. The main reason for this situation is that most colleges and universities lack the unification of existing system data and business needs in the construction of education management information, and do not use business process reorganization to sort out and reorganize the business process of various departments, resulting in the failure of timely sharing of data among various departments <sup>[2]</sup>.

### **5.2 Unclear understanding of education management information construction**

In order to promote education management informatization, university leaders and relevant administrators should fully understand and master the meaning of education management informatization, recognize the positive impact of informatization on education management work, and establish a new education management concept. However, some managers have a partial understanding of the information construction of education management, and think that this work is a simple application of information software, and do not consider its guiding function from multiple aspects. Moreover, with the development of education modernization, some college leaders and administrators have cognitive biases, and the introduction of education management information

system is more arbitrary, purchasing a large number of computers without thinking about whether the introduced information system is compatible with the specific situation of the school. In addition, some college leaders and administrators have more traditional ideas and think that the existing educational management mode can meet the current needs of educational management. In addition, at the beginning of the construction of this work, a lot of money needs to be invested in the purchase of software and hardware equipment, but because the educational funds of some colleges and universities are very limited, they have concerns about the construction work. At the same time, some managers did not conduct in-depth research on educational management theories under the background of informatization, nor did they think deeply about such issues as "why to carry out informatization construction and how to achieve informatization construction".

### **5.3 The development of information management software lags behind**

At present, some colleges and universities have not fully introduced modern and adaptive education management information system because of the shortage of funds and the relatively backward technical level. Moreover, the current system has some problems, such as poor stability, imperfect function and inability to realize internal resource sharing, which affects the construction and development of educational management informatization. For some colleges and universities with low strength and insufficient funds, their basic office computers have not been fully configured, and they lack the conditions to introduce education management information systems. For some colleges and universities that have purchased a complete set of education management information system, there is still some gap between the function of the introduced system and the specific needs of education management, so that the effect of education management is affected. Usually, developers are in accordance with the general requirements of education management to carry out the design of software functions and operation architecture, which has a certain gap with the actual situation of colleges and universities. Universities understand their management work better, while enterprises have the relevant technology, but for a variety of reasons, there are many obstacles in the development of customized products suitable for education management. In addition, some management information software of colleges and universities in the market is not perfect enough, and the system still has great network risks in the big data environment. At the same time, some existing systems have insufficient defense capabilities against external network attacks, and there are also some security risks, such as information leakage. In addition, due to the lack of funds in some colleges and universities, the construction of information infrastructure has a certain negative impact, and enterprises will consider factors such as cost and market risk, so they are not very enthusiastic about developing information management software suitable for colleges and universities, resulting in the relatively lagging development of information management software [3].

### **5.4 Lack of high-quality information education management talents**

In the construction of education management information, it is necessary to understand both management and technology, but also have a certain experience in education management practice to support professionals. At present, although some education administrators have rich management experience, their cognition cannot be in line with the development of The Times because of their age. They do not understand and do not actively learn the concepts and methods related to modern information technology and education management informatization, and there are also deficiencies in information literacy and ability. Some managers have just engaged in educational management, and their understanding of information technology and organizational structure construction is insufficient, and their application level of educational information software is not high.

In the personnel training, because some colleges and universities do not pay enough attention to it, and are affected by the economic and practical principles, there are problems in personnel training. In terms of training content, the theory is still the main, but the practical practice of technology is very little, so that the level of information technology of relevant managers has not been significantly improved. In terms of training methods, even though some colleges and universities have realized the problem of poor information literacy of managers, they will add training content related to it in the on-the-job training, but it is mainly carried out in the didacticism training mode. After training, it is still difficult for managers to skillfully operate information software in practice, and the professionalism of information management is not strong.

In terms of talent introduction, most of the educational administrators in colleges and universities are selected from within, and there are few external recruitment cases. At the same time, the comprehensive strength and salary of some colleges and universities are relatively low, which is not attractive to high-quality and professional information talents. Even if there are external talents, because there are a large number of old employees in the management department, and most of the management work is carried out by old employees, some external talents cannot give full play to their own value in the post, thus reducing their self-efficacy. In the long run, it is difficult to retain good people [4].

## **6. University education management information optimization strategy**

### **6.1 Strengthen the concept of education management informatization**

In order to promote the information-based construction of higher education management, university leaders and relevant education administrators should change their educational concepts in time and realize the necessity of information-based construction of education management. University leaders are the important decision-makers and managers are the important implementer of this work. They should take the lead in the informatization construction, effectively integrate and use the resources inside and outside the university, and play a leading role in the development of this work. Therefore, it is necessary to strengthen the training of leaders and administrators at all levels of colleges and universities, such as carrying out relevant lectures for them, so that they can realize the important role of information construction in education management. At the same time, it is necessary to strengthen the internal publicity of colleges and universities, and enhance the understanding of school leaders and managers on the concept of informatization.

### **6.2 Strengthening education management information construction planning**

The construction period of education management informatization is long, so colleges and universities should have a long-term vision to design and plan the project, so as to better achieve the purpose of teaching management informatization. Scientific development strategies should be constructed to guide the orderly development of all work. In the development strategy, there are two main aspects: one is the university education management information investment, the other is the decision making. Colleges and universities can learn the successful experience of foreign colleges and universities, improve their investment and allocation system, and solve their fund channel problems through alumni associations and external investment. In accordance with relevant national policy documents, a democratic decision-making mechanism involving multiple subjects shall be established. Because of the late research in education management informatization in our country, the relevant experience is relatively small, which requires universities to carry out scientific design for each element of the system in the early stage of construction, and look at the problem from a long-term perspective. For example, the allocation of resources and the division of benefits can



achieve the joint participation of school leaders, educational administrators, teachers and students.

After establishing the development strategy of information construction, it is necessary to adjust the organization and leadership of the school and set up a special school management organization. In the relevant national documents, it is proposed that education departments at all levels should improve the leadership mechanism of education informatization work, actively promote school leaders as CIO, and carry out unified planning for the development of school informatization. The document also proposed that all universities should establish a comprehensive and coordinated leadership mechanism to realize the integration of information technology and network security planning, improve the network security responsibility system, and improve the global influence of China's education. In this case, colleges and universities should change the previous leadership structure, promote the existing education management department to serve innovative information department, and realize the effective combination of education management and information technology. Colleges and universities should also take the initiative to cooperate with local education departments and other relevant departments to jointly explore the operation mechanism of CIO system, so as to better meet the needs of long-term development of the school and provide decision-making basis for school leaders to implement scientific management. It should be pointed out that in addition to having strong leadership, management and planning capabilities, the selected CIO must also have a good working attitude and be active and proactive in various work. Not only should various reform decisions, programs and opinions be communicated in a timely and effective manner, but also the construction work should be optimized and innovated in a timely manner based on the changes in the internal and external environment of the school<sup>[5]</sup>.

In the construction of education management information, colleges and universities should have a relatively clear development framework, so as to ensure the orderly development of various work. Here, there are many foreign universities successful experience worth referring to. For example, the Massachusetts Institute of Technology takes the lead in launching the Open courseware project, which provides a series of open courses for teachers, students and self-learners. Among them, the project team is composed of teachers responsible for teaching resources and staff responsible for technology and other work, and the collaboration between the staff is mainly composed of two main aspects, namely teachers and staff. Moreover, the teachers of the project team agree with the concept of the university very much, and have great enthusiasm for education and teaching. At the same time, according to the post requirements and project objectives, the staff are reasonably allocated, so as to improve the efficiency of the entire project work. In general, the OCW project structure of MIT is relatively perfect, and each project team can play its own role, thus laying the foundation for the construction and development of university education management information. Therefore, colleges and universities draw on the successful experience of the school, combined with the relevant policies issued by the state and the Ministry of Education, and combined with their own school-running characteristics, formulate a development framework for education management information based on "problems", and determine, adjust and improve the implementation plan under the premise of balancing efficiency and fairness.

### **6.3 Improve the education management information system**

Education management information system, which has various functions and can run reliably, is an indispensable infrastructure for colleges and universities. Therefore, improving the education management information system can promote the information process of teaching management, improve the communication efficiency among various departments, reduce the repetition of information, and improve the efficiency of various management work. Colleges and universities should increase the investment in hardware facilities such as printers and computers, and use

school-enterprise cooperation and alumni associations to alleviate the problem of insufficient funds in schools to the greatest extent, improve the efficiency of resource allocation, and change the past educational management mode that simply relies on manpower. After the completion of the application of the system, the relevant management departments of colleges and universities should cooperate with the information technology department to study, collect, sort out and analyze the problems related to the system, and give suggestions for improvement, so that the staff of the information technology department can optimize and improve the system in time. For example, technical personnel can establish attendance management for teachers and information management for students through the functional advantages of the system. When the new students register, the management staff can record the basic information of the students such as class and household registration through the system. In the daily management work of the school, we can grasp the situation of students in real time, so as to achieve fine management of students. For students applying for financial aid, administrators can aggregate all the information, then identify and compare it through the student database, and verify the information with the relevant authorities in the student's place of residence to ensure that they meet the admission requirements. In order to facilitate the subsequent management of students, administrators can modify, classify and file the registration information of students through this system [6].

#### **6.4 Optimize the information integration system inside and outside the school**

In view of the difficulty of obtaining social data in colleges and universities, relevant administrative departments should establish a sound social data information system to strengthen the correlation between social industry and higher education. First of all, in the data collection, the education department can establish contact with the market department, collect the current enterprise data information in a unified manner, and make the data into a line chart to comprehensively analyze the overall economic conditions of various industries, so as to ensure that the economic growth of various industries is sufficiently understood. Secondly, the application of hierarchical management method to establish the industrial development database. The relevant administrative departments can select some industries from which enterprises of different strengths can cooperate with each other and comprehensively analyze and study all kinds of relevant data. Thirdly, the relevant education data of colleges and universities are integrated to establish a data sharing system. Universities can fully understand the actual development of each industry through this sharing platform. Finally, the difficulties of industrial development are deeply discussed. In the new economic pattern, enterprises always have to face the real problem of industrial transformation. Colleges and universities can find out the development problems faced by modern enterprises on the basis of social industry data platform system. Colleges and universities can also use their own scientific research teams to combine the educational management work of colleges and universities with industrial development, establish a new type of personnel training system, and then improve the core competitiveness of education management, so that the management work can truly reflect its own value. In addition, colleges and universities can also establish off-campus data collection and processing mechanisms based on their own educational management characteristics, so as to establish data information systems that are compatible with their own educational management characteristics.

#### **6.5 Strengthening the construction of talents for information-based education and management**

The information construction of education management needs high-quality talents as support. Therefore, colleges and universities should strengthen the training and construction of the talent

team of information-based education management. In the case that there are already educational administrators in colleges and universities, it is possible to form a "one-to-one" relationship of mutual help among educational administrators by means of "mentoring", so that personnel with rich management experience can guide the inexperienced and unskilled administrators, so that they can master the relevant skills of information-based education management more quickly and learn new knowledge. Doing so can improve the overall quality of the management team. In addition, colleges and universities should also pay attention to the continuous education and training of existing administrators, pay attention to the development of relevant training activities, and organize administrators to visit and study in other colleges and universities in their spare time, communicate with educational administrators in other colleges and universities, and learn from their valuable experience in management. This can encourage and help managers to participate in various academic exchange activities, strive to obtain relevant technical qualifications, and constantly improve professional skills. In addition, experts in relevant professional fields and managers of education informatization construction in other colleges and universities can be invited to our school to give special lectures and provide more guidance and training to existing managers, so as to effectively improve the overall quality of the school's education management team.

In addition to strengthening the training of educational management personnel, universities should also pay attention to the introduction of outstanding talents in the field of information technology. First of all, colleges and universities should expand the introduction of excellent management talents in the field of information technology, use job fairs and online recruitment to select and hire outstanding talents, and include professional talents related to education management informatization into the introduction of high-level talents in colleges and universities. Colleges and universities can also improve their attractiveness to social talents by establishing a market wage system. At the same time, colleges and universities should improve the employment system, scientifically allocate related posts, and rationally adjust the age structure of staff in various departments, so that more outstanding talents can realize their own value in their own jobs.

In order to improve the overall quality of the talent team and promote the benign development of the talent team, the scientific management of the talent team should be strengthened. Therefore, colleges and universities should construct and perfect the talent management system. First of all, we should improve the employment system of the education management department, implement the competitive job system, for some positions with strong service nature, we can focus on skills, and appropriately relax the employment conditions. In case of repeated violations of post management regulations and unqualified management personnel, they shall be transferred. Secondly, we should build a performance appraisal and incentive mechanism for managers. In the implementation of performance management for managers, it should be based on the specific construction requirements, post responsibilities and characteristics of educational management information, and carry out a rational design of performance appraisal indicators. At the same time, the evaluation results of each index are linked with salary and evaluation, so as to stimulate the enthusiasm of managers. The assessment of managers should be based on specific levels and post responsibilities, and the overall assessment points should be carried out from the perspectives of knowledge reserve, work attitude, GPA, ability and professional ethics. The appraisal work should have certain pertinence and difference, and the weight of each index should be designed, so as to ensure that the performance appraisal of managers has fairness and objectivity. At the same time, it also plays a positive role in improving the stability of the informatization education management team in colleges and universities. For some managers who can complete their own work with high quality and outstanding performance, the leaders of relevant departments should give them material and spiritual rewards and affirm their work achievements. At the same time, humanistic care should also be strengthened in daily work, so as to improve managers' sense of achievement and recognition of



their own work, and prevent the loss of relevant talents in colleges and universities.

## 7. Conclusion

In short, under the background of the information age, the main way for colleges and universities to realize the modern development is the informatization of education management. Therefore, colleges and universities should strengthen the information construction of education management. However, due to the influence of some factors, the information level of education management in some colleges and universities is not high, and it has not realized the comprehensive coverage of information construction. This requires colleges and universities to further improve the development goal of education modernization, change the previous education management mode, and make it adapt to the current modern education management mode.

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