### Analysis on the Core Ideas of Risk Prevention and Control of Scientific Research Management in Colleges and Universities from the Perspective of Reform of Government Functions

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Abstract: From the perspective of reform of government functions, the risk prevention and control work of scientific research management in colleges and universities should be adjusted and innovated accordingly. Only by actively changing the traditional working mode and constantly optimizing the working mode of scientific research management can we effectively reduce the possibility of financial risks and promote the development and progress of scientific research in colleges and universities. Given this, this paper expounds the related concepts of reforms to streamline the government, delegate power and improve government services and university scientific research management, analyzes the problems existing in the risk prevention and control of university scientific research management at the current stage, and summarizes and puts forward the optimization strategy of university scientific research management risk prevention and control based on the perspective of reform of government functions.

**Keywords:** Reforms to streamline the government, delegate power and improve government services, Colleges and universities, Scientific research management, Risk prevention and control

#### 1. Preface

With the continuous deepening of educational reform, the state has implemented the policy of reform of government for the scientific research management of colleges and universities, that is, the three aspects of reform in delegating powers, enhancing regulation, and strengthening public services, which urges colleges and universities to actively change the traditional concept of scientific research management, constantly adjust the working mode of scientific research management and innovate the working mode of scientific research management in combination with the actual situation of the development of colleges and universities. So as to improve the work level of risk prevention and control of scientific research management, and provide a perfect financial guarantee for educational and teaching activities in colleges and universities. Therefore, colleges and universities should comprehensively study the relevant policies of reform of government functions, understand the real-time dynamic information, actively adjust the existing management mode, provide an effective material basis for scientific research activities in colleges and universities, and promote the continuous improvement of scientific research level.

# 2. Analysis on the Related Concepts of Reforms of Government Functions and Scientific Research Management in Colleges and Universities

### 2.1 Conceptual analysis of reforms of government functions

The proposal of the policy of reform of government functions has innovated the working mode of scientific research management in colleges and universities, promoted managers to simplify administration and delegate power, changed their original working functions, improved the standardization of management work, and provided a better service experience for college teachers and students.

Specifically, it requires scientific research managers to change traditional administrative concepts and implement modern management concepts. In the traditional mode, the service function of the government is weak and the management of the approval process is relatively strict, but there are defects in the

supervision level, resulting in a great discount in the service effect. The modern management concept requires the government to actively change its work functions, enhance the service awareness of staff, clearly divide the approval function and supervision function, and promote the corresponding supervision work to be effectively implemented to provide more perfect services for the public. This is also true for scientific research management in colleges and universities. Relevant managers should also clarify the specific responsibilities of work at all levels, change existing work functions, and improve the service nature of scientific research management [1].

At the same time, it also requires the scientific research management to change from the traditional extensive management to the modern intensive management mode. The extensive management mode has strong characteristics of rule by man. Managers can rely on their own subjective experience to make judgments and decisions, resulting in many mistakes in the work. Intensive management requires standardizing all details of work, establishing a perfect system, ensuring that all work can be operated according to unified standards, setting up strict assessment processes, strengthening accountability, and making scientific research management more scientific and standardized [2].

#### 2.2 Conceptual analysis of scientific research management in colleges and universities

Scientific research management mainly refers to the management of various expenses used to solve scientific and technological problems in colleges and universities. Managers need to allocate various existing teaching resources and scientific research funds, improve the effective utilization rate of funds, and ensure the normal progress of scientific research activities in colleges and universities reasonably. In this process, the staff needs to pay high attention to the ultimate goal of scientific research management. They need to strictly follow the relevant policy, give researchers maximum autonomy, so that scientific research funds can be effectively used in the core position, and achieve the dual improvement of economic and social benefits.

This requires scientific research managers to constantly improve their own management methods, keep in mind the working principles, and fully follow the principles of legitimacy, authenticity, controllability, periodicity and selfless dedication. Only in this way can the work risks of scientific research management be minimized, the work quality be improved, and colleges and universities are able to successfully complete the corresponding scientific research activities. Specifically, scientific research managers should comprehensively study the laws and regulations issued by the state, standardize the work processes, especially pay attention to the prevention and control of integrity risks, and strictly investigate illegal work behaviors. On this basis, the projects invested by the scientific research management institute should be true, and the relevant personnel should reasonably control the various risks generated in scientific research activities, which is the premise and foundation of scientific research management. On this basis, scientific research management needs to carry out different approaches according to different periods of scientific research activities, adopt different systems and norms according to the characteristics of phased development, and improve the pertinence of scientific research management. At the same time, scientific research managers also need to establish a high sense of service, have the spirit of selfless dedication, and provide assistance within their capabilities for scientific research activities to improve the overall service level and ensure the smooth progress of scientific research in colleges and universities [3].

## 3. Problems in Risk Prevention and Control of Scientific Research Management in Colleges and Universities at the Present Stage

### 3.1 Project management and fund management are not unified

In the actual work at this stage, there is usually a problem that the project management and fund management are not unified in the scientific research management of colleges and universities, which can easily increase the possibility of financial risks. Specifically, scientific research managers focus on the effective implementation of the management system, and strictly control the capital costs required for scientific research activities. Financial management staff pays more attention to whether the expenditure of scientific research funds follows the principle of legitimacy, and do not pay high attention to the research results of scientific research activities. This kind of management dislocation has seriously affected the quality of scientific research management, resulting in the inconsistency between project management and fund management. The related work cannot be effectively coordinated, which reduces the accuracy of the scientific research funding budget. The composition of capital expenditure is not

scientific enough either, which greatly reduces the effective utilization rate of scientific research funds and increases potential risks [4].

#### 3.2 The supervision mechanism of scientific research management is not in place

The expenditure of scientific research funds needs to have a strict examination and approval system and a corresponding supervision mechanism to ensure the accuracy of the flow of funds. However, the scientific research management mechanism of most colleges and universities is not perfect, and the supervision work is not implemented in place. Once someone exploits the loophole of the system, it will bring immeasurable economic losses to colleges and universities. Although the scientific research management staff can strictly define the approval authority and responsibility of the corresponding scientific research management staff according to the amount of funds when approving the funds. While in the actual operation process, some scientific research management staff will split the large scientific research funds into various small funds for reimbursement in order to avoid the strict approval procedure of the superior departments, which destroys the normal approval work. At the same time, some scientific research managers do not have high professional ethics. They did not strictly implement the principle of the authenticity of scientific research activities, and reported false scientific research economic activities, which were actually their own economic consumption unrelated to scientific research. The failure to apply funds for real scientific research activities, or even the use of some false invoices to defraud funds, has seriously hindered the normal operation of scientific research activities in colleges and universities, and is unable to apply scientific research funds to accurate positions. The reason is that the supervision mechanism of scientific research management in colleges and universities is not in place. The approval process of many scientific research funds is not standardized, and the fund trend is not clear, which greatly reduces the overall quality of scientific research work [5].

#### 3.3 The management of scientific research assets has not yet formed a strict system

Most of the scientific research funds of colleges and universities come from the financial allocation income, mainly belonging to fixed assets. However, scientific research managers did not fully record these fixed assets, resulting in some scientific research funds becoming the current assets of scientific researchers. The use of some scientific research funds is not clearly recorded and supervised, which leads to the fact that this part of funds can easily become personal private property and is not used in scientific research and economic activities. Therefore, there are still some loopholes in scientific research management. The management of scientific research assets has not formed a strict system, and the research projects and research results of scientific researchers have not been fully incorporated into the asset management work, resulting in loopholes in the management of corresponding scientific research funds. The effectiveness of capital expenditure cannot be guaranteed, which increases the risk of scientific research management and hinders the further development of scientific research in colleges and universities to a certain extent [6].

### 4. Optimization Strategy of Risk Prevention and Control of Scientific Research Management in Colleges and Universities Based on the Perspective of Reforms of Government Functions

# 4.1 Establish and improve the working mechanism of scientific research management, and improve the standardization and scientificness of scientific research management

The scientific research management department of colleges and universities should establish and improve the corresponding scientific research management mechanism. The standardization and scientificness of scientific research management can be improved by setting scientific and reasonable standards for each scientific research management staff that they can follow.

To begin with, the scientific research management staff should fully grasp the requirements of the scientific research project application, and standardize the application process of the reporting staff according to the "one-time submission of materials" system. At the same time, in view of the complex application procedures in the past, the scientific research management staff should simplify them according to the actual work situation, provide the reporting staff with a clear material notice, and minimize repeated filling-in activities. This not only provides convenience for applicants but also simplifies the approval process, so as to comprehensively improve the efficiency of scientific research project applications [7].

Furthermore, scientific research management should have a high degree of flexibility. Under the condition of ensuring the effective promotion of scientific research, relevant staff can adjust their work according to the actual situation, and optimize the research plan and technical route to a certain extent, so as to effectively control the quality of scientific research management.

Moreover, the scientific research management department should make overall arrangements for all the work. This is their work that optimizes the relevant processes of the inspection work, adopts the way of joint inspection, simplifies the working procedures, prevents the phenomenon of repeated inspection, and improves the overall efficiency of the inspection work of scientific research projects.

In addition, in the inspection stage of scientific research projects, scientific research management staff should conduct a one-time comprehensive evaluation of the project results, that is, unify the financial acceptance and technical acceptance, and comprehensively review the work, so as to form the final evaluation results to enhance the standardization and scientificness of scientific research management.

# 4.2 Strengthen the process control of scientific research funds in colleges and universities, and improve the quality and efficiency of internal control management

When managing and controlling funds, university scientific research management staff must establish a sense of overall control, strengthen process management and control, fully link the pre-prevention, inprocess control and post-supervision, and build a whole process scientific research funds supervision system, so as to improve the quality and efficiency of internal control management and ensure the smooth progress of scientific research.

Firstly, Scientific research management departments should strengthen the contact between staff at all levels, actively do a good job in mutual communication and exchange, break the information barrier between staff at all levels, build a scientific and reasonable coordination mechanism, and promote effective circulation and comprehensive sharing of data and information in scientific research management to give full play to the joint efforts of staff at all levels and effectively mobilize the efficiency of scientific research management.

Secondly, the scientific research management department needs to publicize the expenditure and flow of scientific research funds, so that relevant staff can grasp the trend of funds in time. This will enhance the transparency of scientific research management and ensure the effective use of scientific research funds.

Thirdly, scientific research management departments should also actively cooperate with third-party audit institutions. Invite professional staff to conduct a comprehensive review of scientific research management on a regular basis, and supervise the use and flow of scientific research funds. In this process, a corresponding accountability mechanism should also be established and improved, so that the expenditure of each scientific research fund can correspond to specific scientific researchers. A comprehensive review and accountability should be carried out for cases where the flow of funds is not clear, and appropriate punishment should be imposed on the person in charge. Only in this way can we effectively urge scientific research staff to make rational use of scientific research funds and promote the continuous progress of scientific research activities in colleges and universities [8].

## 4.3 Strengthen the training of scientific research management staff and build a high-level professional scientific research management team

The relevant management departments of colleges and universities should strengthen the publicity and education of relevant policies, fully implement the corresponding policy spirit, and promote the scientific research management departments to form a good working atmosphere.

On the one hand, scientific research management staff need to comprehensively study and understand the reforms to streamline the government, delegate power and improve government services policy and other relevant laws and regulations, clarify the specific requirements of the policy, and pay close attention to the relevant policy trends. They should sort out and master the new policies in time to ensure that scientific research management staff can have the necessary theoretical knowledge.

On the other hand, universities should also take reform in delegating powers, enhancing regulation and strengthening public services as the center and strengthen the training work for scientific research management staff, transform their traditional working concepts and implement new management ideas. The specific processes of management should be comprehensively reviewed and standardized. Research

management staff should be urged to continuously learn new working skills and professional knowledge, improve their own business ability, strengthen their awareness of risk prevention and control, and do a good job of prevention, so as to create a high-level professional research management team. These are key actions to improve the level of research management in universities [9].

#### 5. Conclusion

To sum up, there are still some problems in the risk prevention and control of scientific research management in colleges and universities at this stage. Project management and fund management are not unified. At the same time, the supervision mechanism of scientific research management is not in place, and the scientific research asset management has not yet formed a strict system. These factors have affected the substantive effect of scientific research in colleges and universities to varying degrees. Therefore, under the policy background of "reforms to streamline the government, delegate power and improve government services", because of these problems, the relevant management departments of colleges and universities should establish and improve the scientific research management mechanism, improve the standardization and scientificness of scientific research management, strengthen the process control of scientific research funds in colleges and universities, improve the quality and efficiency of internal control management, and strengthen the training of scientific research management staff to build a high-level professional scientific research management team.

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