Research on Rational Application of Incentive Mechanism Based on B/S Structure in Scientific Research Management

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Abstract: In recent years, with the improvement of national economic strength and the development of higher education, the scientific research environment of Chinese universities has undergone profound changes. In view of the existing problems of the incentive mechanism in the scientific research management of Chinese universities in the new period, at present, the incentive mechanism is not perfect in the management of scientific research, and the incentive means are single. Only reasonable use of incentive mechanism can effectively mobilize the enthusiasm and initiative of scientific researchers, thus promoting the development of scientific research in our country. This topic is based on the research of incentive mechanism of B/S structure, aiming to explore a new way of thinking for the rational use of incentive mechanism in scientific research management.

1. Introduction

At present, many colleges and universities in China have set off a wave of comprehensive information management, scientific research management is an important part of the informatization of colleges and universities. Many universities or scientific research management institutions have established network management platforms [1]. The scientific research activities and abilities of colleges and universities have become an important indicator of their comprehensive strength, which has led to the continuous expansion and intensification of their scientific research and statistical work. Faced with this phenomenon, the effective implementation of incentive mechanism of scientific research management in scientific research management plays a vital role in the cultivation of high-tech talents [2]. How to effectively stimulate and mobilize the enthusiasm and initiative of university scientific research workers, so that university scientific research can more adapt to the development requirements of the socialist market economy has become a problem that scientific research managers must seriously solve. The core of scientific research is innovation, which is a series of high-intensity mental work based on talents with rich scientific knowledge [3]. Therefore, cultivating internal talents and attracting external talents is an important guarantee for the sound operation of scientific research activities in Chinese universities. It is the primary guarantee for the rational use of scientific research talents and the optimization of scientific research resources. It is an important function of university management. Therefore, vigorously improving the level of scientific research management is the construction task that all colleges and universities in China must complete.

2. The Concept and Function of Incentive Mechanism

Incentive mechanism is a way to reflect the interaction between incentive subject and object through a set of rational systems. Individuals will have certain needs because they are at a certain stage of development, and individuals will have a nervous state of mind because their needs have not been met. Incentive factors are reflected in scientific research policies and systems in colleges and universities, which can play an active guiding role [4]. First of all, the scientific research management policies and systems in colleges and universities are the concretization of the national scientific and technological development goals, value trends and policy orientations. Therefore, its incentives will definitely play a positive role in guiding researchers. The so-called scientific
research management incentive mechanism refers to the scientific research department to guide and motivate scientific and technical workers through certain incentive measures and behavioral standards, which not only can stimulate the enthusiasm of scientific researchers to fully engage in work, but also can exert their own value. It becomes a useful talent for the country and society [5]. Once the incentive mechanism is formed, it will act intrinsically on the organizational system itself, making the overall function of the organization in a state and affecting its survival and development. Figure 1 below shows the process of incentives. Organizations should tailor their incentives to the specific needs of individuals, understand their maximum needs at the stage, and provide scientific and reasonable compensation for their needs.

![Fig.1. Incentive process](image)

3. The Importance of Incentive Mechanism in Scientific Research Management

3.1 Is conducive to the development of people's initiative and creativity

As a scientific research management method and means, the adoption of incentive mechanism is conducive to bringing people's initiative and creativity into full play. Only by mobilizing the subjective initiative of scientific researchers can scientific research be targeted. Motivation is an important means to improve management performance and a working motivation to stimulate individual potential. In order to achieve the established scientific research objectives, colleges and universities need to establish a set of mechanisms that adapt to the characteristics of scientific research management in colleges and universities and conform to the development laws of scientific research management in colleges and universities. This has formed the social power support for teachers to engage in scientific research work, and has urged teachers to continuously improve their scientific research ability and innovate [6]. As a university scientific research manager, the actual operation environment of the business has always been out of the scope of management. Almost every daily work reminds the scientific management personnel that they have good management ability. Establishing a scientific and reasonable incentive mechanism is a reflection of people-oriented, and it has an important guarantee role in realizing the tasks and objectives of scientific research management in colleges and universities.

3.2 To guide scientific research activities with systems and policies

As a norm of behavior, scientific research management policies and systems have the role of judging and measuring the behavior of scientific research workers. The recognition of teachers' scientific research achievements by schools and society enables teachers to achieve self-realization and form a spiritual incentive effect, which can further stimulate teachers' enthusiasm for actively engaged in education and scientific research, and pursue broader social identity. Due to the relatively complex work tasks, they often need to face multiple tasks at the same time. This situation has tempered the ability of college scientific research managers to simplify and integrate easily and quickly. Combine your scientific research with the needs of the state and society to play the role of research and service society. Secondly, as a code of conduct, scientific research management policies and systems have the function of judging and measuring the behavior of scientific researchers [7]. This function can guide the behavior of scientific researchers by
influencing their values. Therefore, the educational and scientific research management departments in colleges and universities should seize this mentality of teachers and adopt various feasible incentive mechanisms to stimulate teachers’ enthusiasm for scientific research so that they can realize their own value through scientific research and gain social recognition. This has also improved their ability to adapt to changing circumstances. The organization and management departments will grant them more rights out of their trust, and the scientific research management personnel also know how to control and use the rights granted.

3.3 **Strengthen the social responsibility and sense of accomplishment of scientific researchers**

Incentive factors in scientific research management policies and systems also play an educational role, which is mainly manifested in encouragement. Proper use of incentive mechanism will lead to fair and reasonable competition and create a healthy competitive atmosphere. Teachers with strong scientific research ability in colleges and universities will realize others’ recognition of their own values due to the introduction of incentive measures [8]. When the scientific research management department has a task assignment, the scientific research management personnel can only accept the only task and have no other choice. Reflecting incentive factors in scientific research management policies and systems can promote them to actively carry out scientific research towards the goals and directions set by the organization [9]. Therefore, the awards and bonuses obtained in scientific research work are only a kind of reward for researchers, but they can not fully reflect the real value of the incentive mechanism of scientific research management. Social recognition can not only satisfy the pursuit of scientific researchers, but also further stimulate their enthusiasm to engage in scientific research actively, actively and creatively, and constantly pursue new and greater social recognition, thus forming a virtuous circle conducive to the deepening of scientific research work. At the same time, encouragement can guide them to firmly establish the correct scientific and technological values with the mission of rejuvenating the country through science and education and the purpose of innovation for the people, and enhance the sense of responsibility and achievement of scientific researchers.

4. **Problems of Incentive Mechanism in Scientific Research Management**

4.1 **Neglect the actual contribution of the individual**

Although the incentive mechanism has been implemented, the salary and remuneration are determined by the title, educational background and length of service, which is not divided according to the actual contribution of myself to the work. In terms of research incentive policy, it mainly focuses on top talents who have made outstanding achievements in scientific research. Under the influence of Matthew effect, incentive measures can only benefit a small number of excellent teachers in scientific research, and there are disadvantages such as excessive incentives and repeated incentives. Comparatively speaking, if the incentive mechanism is not strong enough, it will not show its advantages. There will be a huge contrast between the two, which can not mobilize the enthusiasm of teachers, and the incentive mechanism is nothing. At the same time, scientific research managers in colleges and universities, as individuals among the incentive objects, will have different needs from other stages and other individuals in different stages of their work and life development [10]. Without a positive attitude and completely passive acceptance and completion of scientific research activities, research in this state is far from the depth of research, let alone the innovation of research. The management of scientific research education in colleges and universities should strengthen the incentive for scientific research, and take the quantification of scientific research as an important task and an important basis for teachers to obtain qualifications such as rewards and promotions.

4.2 **The system is not perfect, ignoring individual differences**

The index for evaluating scientific research personnel is single, and whether scientific research personnel are competent or not is only measured by the number of papers, projects and awards.
Ignoring the individual differences of scientific researchers, they did not really achieve the purpose of motivation. The focus is on material incentives, and incentives are relatively single. College teachers, as intellectuals, need material incentives to solve life problems, but what is more important after solving life is spiritual satisfaction. The career of scientific research managers in colleges and universities has its peaks and valleys just like life. Grasping the right time to support or restrict their behavior can achieve twice the result with half the effort for their motivation. Each level of scientific research ability is different. If each teacher is measured by the same scientific research standard, some teachers will lose confidence because they cannot meet the requirements. Some teachers with strong scientific research ability will find this standard not challenging. And thus lose power. Now that the country's economic strength has increased, research funding has continued to increase, and schools have more financial incentives for researchers to give more material rewards. However, practice has found that many university research managers have gone to the other extreme, focusing only on material rewards for researchers. According to the scientific research results, a hierarchical incentive mechanism is established, and according to the actual situation of the teachers engaged in scientific research, different incentive methods are formulated to establish an incentive mechanism in line with the university itself.

4.3 The incentive means are single, only positive incentive, no negative incentive

At present, the incentive mechanism is only a simple material incentive, the spiritual level of incentive is seriously lacking, and incentive means are limited to positive incentives. The current university system is relatively rigid, the management is relatively mechanical, the administrative color is too strong, and the lack of positive progress. At present, there are still many shortcomings in the incentive mechanism of scientific research in universities, mainly focusing on teaching work, putting forward higher requirements for teaching, less requirements for scientific research work, and some universities simply do not care about teachers' scientific research. Insufficient incentive means insufficient incentive effect, which is the performance of incentive failing to achieve the desired effect, and naturally can not significantly improve the enthusiasm and efficiency of scientific research managers. Positive incentives include positive incentives such as affirmation, permission, praise, reward and trust from scientific research managers, while negative incentives include negative incentives such as negation, restriction, criticism and punishment from scientific research managers. If there is no effective restraint mechanism, it is difficult to mobilize the enthusiasm of scientific research work. Therefore, in order to effectively promote the output of scientific research results, the incentive mechanism for scientific research in colleges and universities must include effective restraint mechanisms and clear rewards and punishments.

5. Reasonable Application of Incentive Mechanism Based on B/S Structure in Scientific Research Management

The incentive mechanism for scientific research managers in colleges and universities is a set of incentive system and scheme for scientific research managers in colleges and universities formulated by higher management departments, which is an objective reflection of the particularity of scientific research managers. According to the information requirements of scientific research management, this paper analyzes the logical relationships among basic data entities such as research personnel, scientific research management, scientific research institutions, etc., and builds an information platform for scientific research management based on B/S mode. Through the establishment and maintenance of a scientific research management network platform, a networked, paperless and automated office system for the daily scientific research management in colleges and universities can be realized, and personalized communication and service between scientific research management departments at all levels and scientific research workers in colleges and universities can be achieved. According to the user's authority, provide corresponding statistical query of massive data; provide report support for scientific research decision-making according to scientific research statistics, provide auxiliary support for school leaders' relevant scientific research decision-making; establish a set of scientific and reasonable scientific research management
mechanism to ensure colleges and universities. The scientific research work is carried out smoothly, and the scientific research level and quality of scientific research workers in universities are improved. The purpose of the incentive mechanism of scientific research managers in colleges and universities is to stimulate the enthusiasm of scientific research managers, tap their talents, improve their work interests and efficiency, and better realize the strategic purpose of scientific research work in universities. Therefore, the most important part of the incentive mechanism is institutional construction, which maximizes the effectiveness of institutional guarantee incentives.

A good system plays an important role in the scientific, standardized and effective management, and provides a basis for managers and researchers in scientific research management to follow. In order to realize the information interaction platform of scientific research management system and realize the sharing and exchange of resources, the system uses the ASP.NET technology skeleton developed by the website to design the data processing layer (DAL), business logic layer (BBL) and user presentation layer (UI) Layer 3 technology architecture. The research management system based on B/S has the advantages of large storage capacity, rapid retrieval, convenient searching, etc., and can quickly realize data storage and query. The organizational guidance in the incentive mechanism of scientific research management in Colleges and universities is mainly manifested in the establishment of planning indicators, the implementation of management regulations and management methods to meet the needs of scientific research personnel, which has strong administrative authority, obedience and compulsion. Through the departments and scientific research department two levels of institutions, step by step audit of the way to establish the storage, so as to ensure the correctness and integrity of the system data. The system can provide powerful data query and analysis functions. Therefore, the main body of incentive should regularly collect the information of scientific research managers from material to spiritual, from internal to external changes, and make a scientific analysis and induction of these information, and then summarize new incentive experience. This has a good feedback effect on improving the incentive mechanism.

The construction of incentive mechanism for scientific research management in Colleges and universities is a systematic and strong work. Therefore, we should combine the actual situation of colleges and universities, give full play to the collaborative work of various functional departments in Colleges and universities, and formulate incentive objectives that conform to the general laws of scientific research management in Colleges and universities. In order to realize parameterization and function module management, the design pattern based on original data is adopted in the technical framework. This will facilitate the implementation of the project and at the same time provide users with greater personalized services. In colleges and universities, we should establish a competitive mechanism of eliminating the fittest and selecting the fittest, stimulate the enterprising spirit of excellent scientific researchers and urge the underachievers. At the same time, we should encourage scientific researchers to cooperate and exchange according to the development characteristics of contemporary social economy and science and technology. The scientific research management system based on B/S mainly completes the remote declaration function of scientific researchers, and can provide more convenient operation entrances. The system has clear operation flow and simple operation, and users can easily use the system without complicated business training. In addition, data acquisition methods such as stored procedures are developed on the database management system to complete the functions of the data service layer. In the practice of scientific research management in colleges and universities, it is necessary to reasonably and flexibly use these incentives to complement each other and form complementary advantages.

6. Conclusion

Nowadays, scientific research is developing rapidly. With the continuous expansion of scientific research scale and the continuous improvement of scientific research management level, it is an inevitable trend for the development of scientific research management system in colleges and universities to adopt computer network information management mode and integrate scientific research work flow. Therefore, scientific research managers should sort out their thinking, pay attention to the system construction of incentive mechanism, and continuously explore and practice
management methods in order to improve the enthusiasm and initiative of scientific research personnel. Based on the incentive mechanism of B/S structure, the modern incentive theory and management research results are combined into the incentives of scientific research managers in colleges and universities, which increases the application angle and observation level of incentive theory, and enriches the theory and method of incentives for scientific research managers in universities. The research, development and application of this subject are aimed at exploring a new way of thinking for the rational use of research and development in incentive management in scientific research management.

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