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# Fine Practice and Exploration of Scientific Research Management in Universities Under the New Situation -- Take Hainan Vocational University of Science and Technology as an example

#### Jiong He

#### Hainan Vocational University of Science and Technology, Haikou, Hainan 571126

*Abstract:* With the rapid development of science and technology and the country's increasing attention to scientific research, the management of scientific research in universities is facing new challenges and requirements. This paper aims to explore the new situation of scientific research management practice and exploration, in Hainan vocational university of science and technology, for example, through the analysis of the current research management status and problems, the necessity of fine management, implementation strategies and concrete practice measures, in order to improve the efficiency and quality of scientific research management in colleges and universities, promote the transformation and application of scientific research achievements, to make greater contribution to national scientific and technological innovation and economic development.

Keywords: University scientific research management; Technological innovation; Management practice

# Introduction

As an important position of scientific and technological innovation, colleges and universities undertake the important responsibility of cultivating scientific research talents, carrying out scientific research and promoting the transformation of scientific and technological achievements. However, the traditional scientific research management mode has been difficult to meet the complexity and scale needs of the current scientific research activities. As an advanced management concept, fine management is widely used in the field of enterprise management, and has achieved remarkable results. From the perspective of fine management, this paper will take Hainan Vocational University of Science and Technology as an example to train professional scientific research talents for Hainan Free Trade Port, and discuss its application and practice in scientific research management in universities.

# 1. Analysis of the status quo of university scientific research management

#### 1.1 Unstable management team and uneven quality

At present, the scientific research management team in many universities has the problems of large personnel mobility and low professional quality. The frequent replacement of scientific research management personnel makes it difficult to accumulate management experience and improve management efficiency<sup>[1]</sup>. At the same time, some managers lack systematic knowledge of scientific research management, and they are difficult to be competent for complex scientific research management work. The uneven distribution of scientific research resources among departments and disciplines in universities leads to the surplus of resources in some superior disciplines, while the lack of resources in emerging or weak disciplines, which affects the improvement of the overall level of scientific research. The traditional scientific research project management mode often focuses on the project approval over the process, and lacks the effective process monitoring and performance evaluation mechanism, which leads to the low efficiency of project execution and the serious waste of resources<sup>[2]</sup>.

#### 1.2 The management system is not perfect, and the scientific research enthusiasm is not high

The imperfect management system of scientific research in colleges and universities is also an important factor restricting the development of scientific research. Problems such as limited investment, low success rate of project application and unprominent research characteristics have seriously dampened the enthusiasm of researchers. In addition, the lack of necessary incentive mechanism and performance appraisal mechanism also leads to the low efficiency of scientific research management<sup>[3]</sup>. The scientific research achievements of colleges and universities are out of line with the market demand, and the lack of effective mechanism and platform for the transformation of a large number of scientific research achievements into real productivity, which affects the economic and social benefits of scientific research input. The current scientific research evaluation system pays too much attention to the quantitative indicators such as the number of papers and impact factors, and ignores the quality, innovation and practical application value of scientific research results, which is not conducive to the comprehensive development of researchers and the optimization of scientific research ecology<sup>[4]</sup>.

# 2. The necessity of fine management in scientific research management in colleges and universities

# 2.1 Improve the management efficiency and quality

Fine management is an idea as well as a method. It emphasizes paying attention to details and excellence in management, and realizes the dual improvement of management efficiency and quality by means of optimizing the process, refining the division of labor and strengthening the implementation. In the management of scientific research in universities, fine management means allocating scientific research resources more accurately, managing scientific research projects more strictly, promoting the transformation of achievements more efficiently, and building an evaluation system more scientifically. Fine management can significantly improve the management efficiency and quality by refining the management process, clarifying management responsibilities, quantified management indicators and other means. The introduction of fine management concept in the scientific research management of colleges and universities helps to optimize the resource allocation, reduce the management cost and improve the management efficiency.

#### 2.2 Promote the transformation and application of scientific research achievements

Through fine management, resource allocation can be optimized, waste can be reduced, and the implementation efficiency and success rate of scientific research projects can be improved. We will establish an efficient mechanism for transforming scientific research achievements, promote the connection between scientific research achievements and market demand, and improve the conversion rate and economic benefits of scientific research achievements. Build a scientific and reasonable evaluation system, encourage researchers to pursue excellence and innovation, and create a positive scientific research atmosphere. Fine management is helpful to improve the overall level of scientific research in universities and enhance the competitiveness and influence of universities in the field of scientific and technological innovation.

#### 2.3 Improve the cohesion and innovation ability of the scientific research team

Fine management emphasizes teamwork and collaboration, which helps to improve the cohesion and innovation ability of the scientific research team. Through clear division of labor, implementing responsibilities, strengthening communication and other means, fine management can stimulate the enthusiasm and creativity of researchers, and promote the development of research teams to a higher level.

# 3. Practice strategy of fine scientific research management in colleges and universities

## 3.1 Establish the concept and consciousness of fine management

Institutionalization construction is the basic requirement and the necessary premise of fine management. Colleges and universities should formulate fine management rules and working rules according to the financial rules and norms of the national, local and superior departments, combined with the source and management requirements of scientific research funds. Clarify the scope and standards of scientific research funds, and refine the examination and approval authority of different types of scientific research projects, so as to ensure that the use and management of scientific research project funds have rules to follow and evidence for compliance. At the same time, the management system is constantly revised, updated and improved in practice, so that the fine management has policy continuity and sustainable development.

#### 3.2 Strengthen the construction and management of scientific research teams

Scientific research integrity is the basic principle of scientific research activities. Colleges and universities should strengthen the integrity consciousness and moral cultivation of scientific researchers, establish the scientific research integrity system, and strengthen the supervision and inspection of scientific research activities. For scientific research fraud and misconduct, we should be severely punished to create a good environment for scientific research. At the same time, we should strengthen education in scientific research ethics and ethics, and guide researchers to be honest and trustworthy researchers.

## 4. Practice case of university scientific research management

Hainan Vocational University of Science and Technology has introduced the concept of fine management in its scientific research management and established a quality management platform for scientific research projects. The platform realizes the whole-process tracking and management of scientific research projects from project approval to conclusion, including project application, evaluation, execution, conclusion and other links. Through this platform, researchers can check the project progress and funds usage in real time; the management department can monitor the project progress in real time, find problems in time and take measures to solve them. The establishment of this platform has greatly improved the efficiency and quality of scientific research management, and provided a strong guarantee for the transformation and application of scientific research results. Establish an incentive mechanism for the transformation of achievements: formulate income distribution policies for the transformation of scientific and technological achievements, clarify the benefit distribution mechanism of all parties in the transformation of achievements, and stimulate the enthusiasm of researchers for the transformation of achievements.

We will build a service platform for the transformation of achievements and a service platform for the transformation of scientific and technological achievements, provide one-stop services such as technical consultation, market docking and financing support, and lower the threshold and cost of the transformation of achievements. We should strengthen industry-university-research cooperation, promote in-depth cooperation between universities and enterprises and research institutes, establish an industry-university-research collaborative innovation mechanism, and promote the rapid transformation and industrialization of scientific research achievements. The scope and standards of the use of scientific research funds have been clarified, and the approval process of the expenditure has been detailed. A budget management system for scientific research funds have been strengthened to ensure that scientific research funds are used exclusively and rationally used. Through the implementation of fine management strategy, Hainan Vocational University of Science and Technology has effectively curbed the waste and abuse of scientific research funds, and improved the use efficiency of scientific research funds.

## 5. Conclusions and outlook

As an advanced management concept, fine management has a wide application prospects in the scientific research management of universities. By establishing the concept and consciousness of fine management, improving the management system and process, strengthening the construction and management of scientific research team, strengthening the construction of scientific research integrity and promoting the information management, the efficiency and quality of scientific research management in universities can be significantly improved, and the transformation and application of scientific research results can be promoted. In the future, with the continuous progress of science and technology and the increasingly complex and diverse scientific research activities in universities, fine management will play a more important role in the management of scientific research in universities. Colleges and universities should constantly explore and practice the new modes and new methods of fine management, so as to adapt to the needs of the scientific research management under the new situation, and promote the sustainable and healthy development of the scientific research work in colleges and universities.

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