

# Research on the Dynamic Mechanism of Industrial Participation in Multi-Cooperative Education Against the Background of New Economy

Ying He<sup>1</sup>, Lei Su<sup>2,\*</sup>

<sup>1</sup> School of Cultural Industries and Tourism, Xiamen University of Technology, Xiamen, Fujian Province, China

<sup>2</sup> South China Normal University, Guangzhou, Guangdong Province, China

\*Corresponding author: Lei Su

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**Abstract:** Against the background of new economy, the social and economic forms and industrial structures are constantly changing. The participation of industries in multi-cooperative education is a necessary way for universities, enterprises, and governments to keep up with the development of the times. In the current dynamic mechanism of industrial participation in multi-cooperative education, the internal driving factors are mainly composed of universities and enterprises, and the external driving factors are mainly composed of the government and the market. The current dynamic mechanism has the problems of difficulty in coordination between the interest mechanism of the school and the enterprise, the lack of enthusiasm for cooperation between the two parties, and insufficient external policy funding support. It is necessary to solve the problems from both internal and external aspects, improve the dynamic mechanism, and allow both schools and enterprises to give full play to their own advantages in talent cultivation and scientific research and innovation.

## 1. Introduction

Driven by new technologies such as artificial intelligence, big data, virtual reality, and 5G, as well as economic and social development, the industrial structures have been continuously optimized, and industrial innovation has become the new essence of industrial development. At the same time, with the continuous promotion of new economy and institutional innovation, the social and economic forms have also shown new looks and new characteristics. In this general environment, the model of multi-cooperative education needs to keep up with the development of the times, and the way in which industries participate in multi-cooperative education requires new changes. In-depth cooperation between universities and industries has gradually become an important way and trend for cultivating talents of the times.

The new economic era promotes industrial transformation and upgrading, which makes the contradiction between the supply side of talent training and the demand side of the industry more prominent. As model application-oriented universities, it is necessary to deeply explore the dynamic mechanism of industry participation in multi-cooperative education against the background of new economy, study the status quo and problems of the industry's participation in multi-cooperative education mechanism, and propose targeted strategies to the existing difficulties and problems, so as to provide ideas for the further development of multi-cooperative education in the future.

## 2. A Thorough Dynamic Mechanism is the Prerequisite for Realizing Multi-Cooperative Education

“Multi-cooperative education” means multi-subject cooperation in running schools. It is a new type of cooperative school running mode involving the government, schools, industry associations and enterprises [1]. Combining the motivations of multi-cooperative education, it is a school model

in which schools, governments, and enterprises are united to adapt to the era of rapid technological development, and jointly cultivate high-quality technical talents through resource sharing, joint training, and administrative assistance. Emerging science and technology have given birth to new industrial forms and economic formats [2]. With the development needs of the new economy and new formats, school-enterprise cooperation will also usher in new reforms. Moreover, for application-oriented colleges and universities, it is an inevitable choice to enhance the quality of talent cultivation by strengthening multi-cooperative education and deepening the integration of production and education [3]. In the context of multi-cooperative education, industry, as one of the main bodies of responsibility, is constantly deepening the development of integration of production and education while raising the strategic height of the multi-cooperation.

“Dynamic mechanism” refers to the motivation that promotes the interaction and influence relationship between various internal elements or components in a system. A dynamic mechanism is essentially an interest coordination mechanism [5]. Therefore, in the context of industry participation in multi-cooperative education, a dynamic mechanism refers to the formation of the necessary driving force for talent training and cooperative education operation by stimulating the benefits of universities and enterprises. Universities and enterprises should both play their due responsibilities, fully mobilize their enthusiasm and creativity. By stimulating the economic benefit mechanism of universities and enterprises, they can form the huge driving force necessary for the operation of multi-cooperative education and jointly make corresponding contributions to the cultivation of talents.

The establishment of multi-cooperative education stems from the desire of enterprises and governments for talents and the need of colleges and universities for exploring new modes of running schools, especially for enterprises and universities, which have a strong demand for cooperation [6]. In the environment of multi-cooperative education, colleges and universities bear the burden of delivering high-quality technical talents to enterprises and society. The scientific research results of colleges and universities are the cornerstone of enterprise innovation and development and meeting social needs. Secondly, society and enterprises provide funding and talent training support for colleges and universities. A thorough dynamic mechanism is a prerequisite for realizing diversified cooperative education and a guarantee for improving the quality of cooperation among the subjects of multi-cooperative education [7]. If the components of the dynamic mechanism are not perfect, it will cause the imbalance of the benefit mechanism among the stakeholders, the lack of cooperation motivation and enthusiasm, etc., and thus the goal of cultivating high-quality talents will not be achieved.

### **3. The Status Quo of the Dynamic Mechanism of Industrial Participation in Multi-Cooperative Education**

From the perspective of the subjects involved in the multi-cooperative education participated by industries, it mainly includes three major entities: universities, enterprises and governments [8]. As the advocator and leader of close school-enterprise cooperation, governments play the role of source power. Universities and enterprises are the direct participants of school-enterprise cooperation and play the role of endogenous motivation. Therefore, if the power source of school-government-enterprise cooperation is to be decomposed, it can be decomposed into two parts: internal power and external power [9]. Internal factors include universities and enterprises; external factors mainly include government and society.

#### **3.1 Internal Power: Colleges and Universities- Driven by Common Interests of Enterprises**

From the perspective of the resource advantages of colleges and universities, the main tasks for them are talent training and scientific research [10]. A diversified talent team and scientific research achievements that keep pace with the times are the core resources of universities. The talent structure of colleges and universities is relatively complete and diverse. After years of rigorous training in the education system, the teaching teams can guide students to conduct research projects. In addition, colleges and universities often hold research topics at the forefront of field development

and have first-hand information on the latest research results in corresponding fields. In terms of hardware facilities for scientific research, colleges and universities have a complete system of scientific research facilities, with a series of facilities such as laboratories, product development rooms, and libraries. Colleges and universities provide enterprises with ready-made scientific research sites and researchers. The scientific research results can not only enrich their own school-running achievements, improve their education level, but also solve the problems of production technology and operation management required for enterprises to transform in the context of new economy. They can make up for shortcomings in technical and operational capabilities as well.

From the perspective of enterprises' resource advantages, enterprises stand on the vent of market economic development and technological change, and can keenly grasp the latest scientific research trends and technological demand trends of the industry. The core resource of enterprises lies in a large amount of capital reserve and rich market practice experience, which can provide funds and talent training mode support for colleges and universities. By setting up foundations, scholarships and special research funds in colleges and universities, enterprises can help students with difficulties to complete their studies, reward outstanding students who have made contributions to industrial research, and encourage teachers and students to participate in relevant research projects with material rewards according to the specific needs of enterprises. This way, on the one hand, it can provide corresponding financial support for colleges and universities, and on the other hand, it also provides sufficient intellectual support for enterprises in their innovation and development. Secondly, enterprises can put forward new requirements for college students from the perspective of industry needs. The training plans formulated by the participation of enterprises can make college talents more in line with the needs of the new economic era. Enterprises cooperate with universities to cultivate application-oriented talents through order-based trainings, industry tutorial systems and other modes. The production workshops of enterprises provide a place for college students to practice, and a corresponding environment for the training and improvement of teachers' skills. Students can be at corresponding positions in advance, participate in practical training and substituted post exercitation, and lay the foundation for improving employment competitiveness and improving students' comprehensive quality in the future.

In general, colleges and universities need to strengthen their own talent training system to make talents more in line with the needs of industrial transformation in the context of new economy. They need to transfer their scientific research results into productivity. Enterprises need human resources to conduct scientific research for them to produce market-competitive products, optimize their management models and increase market share. The two have formed a cooperative relationship of resource sharing and complementary advantages. Only when the demand for resource sharing and complementary advantages is stronger, the role of this dynamic mechanism will be greater.

### **3.2 External Power-Driven by the Government and the Market**

After China has entered the new economy era, both the economic development modes and production modes are facing transformation and upgrading. Traditional labor-intensive industries will be deeply integrated with emerging technologies such as mobile Internet, big data, cloud computing, and artificial intelligence to transform and upgrade into high-tech industries. The effect of industrial agglomeration and the survival of the fittest in the market are particularly obvious. The contradiction between the supply side of talent training and the demand side of industrial development will become increasingly prominent. The demand of the market forces colleges and universities and industries to cultivate high-quality talents who can adapt to market changes and economic development, and to develop new products in order to gain a place under the fierce competition.

## **4. The Existing Problems and Optimizing Strategies**

### **4.1 Problems of the Dynamic Mechanism**

#### **4.1.1 The Unbalanced Benefit Mechanism between Schools and Enterprises**

The essence of an enterprise is a profit-making institution, which needs to pursue the maximization of corporate profits, while the fundamental task of a university is to cultivate talents needed for the times and the society [11]. There is a huge difference in the nature of the two parties. For many existing school-enterprise cooperative scientific research projects, on the one hand, the enthusiasm of university teachers to participate actively is not very high, on the other hand, the enthusiasm of enterprises for participating in such projects is obviously insufficient. For university teachers, the reason why they are not too keen to apply for research projects that integrate production and education is because there are many teaching and research tasks and vertical research subjects that need to be completed. The second is because when they successfully apply for the project, there may be thorny problems such as difficulty in using funds and lack of hardware and software equipment. For enterprises, they think that the talents trained through cooperation cannot truly meet their own needs after they have invested a lot of money and equipment. Cooperative scientific research projects and product projects always inevitably result in “unfinished” results. The final output results cannot satisfy the enterprise, and it wastes the resources of the enterprise, which naturally reduces the enthusiasm of the enterprise to seek cooperation.

#### **4.1.2 Insufficient External Policy Fund Guarantee**

A good policy environment and sufficient funds are the external conditions for the industry to participate in multi-cooperative education [12]. At present, most of the rules for the integration of production and education between schools and enterprises are formulated by the schools and enterprises themselves, and the system regulations stipulated by the government play a relatively small role. After consulting relevant laws and policies, the author found that there are corresponding policies, but the scope of the relevant policies is too large, lacking in pertinence, and not strong in applicability. Generally, the promotion policies issued by the central government will involve two aspects, one is for supporting enterprises, and the other is to give colleges and universities more research space. However, in terms of policy implementation, local governments often do not do enough. Many enterprises are not even aware of the existence of relevant regulations, and the school-enterprise coordination mechanism stipulated in the policy is not clear enough. In this way, the government cannot act as the interest coordinator of the school-enterprise cooperation mechanism, and cannot fundamentally solve the problem of the lack of cooperation motivation between the two parties.

In terms of fund, although the government has related research funding subsidies, the government departments belonging to different colleges and universities are not unified, resulting in a large gap in the amount of the fund that different colleges and universities can finally apply for. For those with relatively small government support, the implementation effect of the production-education integration project is less significant, or even difficult to implement.

### **4.2 Optimizing Strategies of the Dynamic Mechanism**

#### **4.2.1 Establish a Guarantee Mechanism for the Interests of Schools and Enterprises to Stimulate the Enthusiasm of Cooperation**

In order to maximize the enthusiasm of school-enterprise cooperation, the most important thing is to seek a balance between the interests of the two parties and fundamentally protect the interests of both parties. The government should participate as an advocate and supervisor of school-enterprise cooperation, increase industry participation in multi-cooperative education, and allow enterprises to truly participate in the formulation of student training plans, student practice curriculum arrangements, and student experiment project planning. Governments should actively do a good job in the application, support, and result acceptance of each related cooperation project to ensure that colleges and universities can highlight their own advantages in talent training and scientific research, complete the transformation of university scientific research results through the integration of production and education, and provide enterprises with the latest scientific research achievements and the latest technology which can be transformed into productivity that promotes

social development. At the same time, these scientific research results can meet the actual needs of enterprises. Secondly, they should increase the intensity of talent training curriculum optimization, reform related curriculum systems, and ensure the scientific nature of student training curriculum systems. They should also emphasize practical ability on the basis of theoretical education, so that the talent team truly meets the needs of the enterprise.

#### **4.2.2 Improve the External Policy Guarantee Mechanism and the Fund Support Mechanism**

Governments need to establish relevant supporting policies and systems, and pay full attention to supporting the integration of production and education. In the school-enterprise cooperation, the local government is the basis to formulate a school-enterprise cooperation mechanism, and stipulate the specific detailed procedures for the development and implementation of relevant practical courses and scientific research projects, so that each process can be supported and supervised. In terms of financial support, while popularizing relevant policies, they should also provide preferential policies for enterprises participating in multi-cooperative education, such as tax incentives, project funding incentives.

For colleges and universities, the fund to be invested need to be formulated according to the actual conditions of different colleges and universities, and the amount of the fund to be invested needs to meet the actual needs of the colleges and universities. There must be a thorough and complete capital chain supervision mechanism to ensure that the project funds are implemented in real practice.

### **5. Conclusion**

Against the background of new economy, the social and economic forms and industrial structures are constantly changing. The participation of industries in multi-cooperative education is a necessary way for universities, enterprises, and governments to keep up with the development of the times. It is necessary to deeply explore the dynamic mechanism of industry participation in multi-cooperative education against the background of new economy, study the status quo and problems of the industry's participation in multi-cooperative education mechanism, and propose targeted strategies to the existing difficulties and problems. According to the research and analysis, there are two main ways which are establishing a guarantee mechanism for the interests of schools and enterprises and improving the external policy guarantee mechanism and the fund support mechanism.

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