

Exploring the Countermeasures for Industry-Study-Research Development of Colleges and Universities from the Perspective of Cooperative Production

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Abstract: Colleges and universities are important places to achieve knowledge innovation, promote technological development and application, and play a fundamental and strategic role in improving knowledge innovation capabilities and building an innovative country. Based on the cooperative production theory, this paper proposes the need for the government, market, society, and universities to form a sustainable cooperation mechanism for the industry-study-research development of colleges and universities by improving coordination mechanisms, providing incentive measures, promoting knowledge transfer, building cooperation platforms and other means.

Keywords: Industry-study-research mechanism; Colleges and universities; Cooperative production; Innovation

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One of the ways in which knowledge contributes to economic and social development is through the industry-study-research efficiency of colleges and universities. Therefore, it is necessary to establish a cooperative production mechanism between industry, academia, and research in universities, strengthen the transformation of scientific research achievements in universities, promote the industrialization and socialization of scientific research achievements, and provide impetus for achieving sustainable and healthy economic and social development.

1. Build a Cooperation Platform for Industry-Study-Research of Colleges and Universities

The industry-study-research mechanism needs to set up a variety of communication and exchange platforms, divide clear cooperation boundaries, and clarify the scope of cooperation, so that colleges and universities can share knowledge with enterprises anytime and anywhere through various ways.

1.1 Build public technology platform and public service platform

Firstly, in the process of promoting industry-study-research cooperation, it is necessary to build a professional public technology platform for common technologies and key technologies that promote the development of high-tech industries. Secondly, the local governments should fully perform their social management functions, strive to integrate the scientific and technological resources within their jurisdiction, promote the optimal allocation of scientific and technological resources of enterprises, universities, scientific research institutions and departments, and build a public service platform for research and development.

1.2 Establish the organization and management platform of industry-study-research

Firstly, effectively coordinate the interests of enterprises, colleges and universities as well as relevant scientific research institutions. Fully manage and coordinate the capital investment, cooperation methods and channels as well as specific details, and effectively

supervise the implementation of industry university research cooperation projects. Secondly, all parties of industry-study-research cooperation shall be organically organized to build industry-study-research alliance.

1.3 Form an industry-study-research information embedding platform

Through the information network platform, the enterprises can release their demand for products through this platform, and can also understand the research strength, application prospects, maturity of research results and other information of the colleges and universities as well as the scientific research institutions on this platform, thus to select the most appropriate object for industry-study-research cooperation.

1.4 Build an industry-study-research collaborative innovation platform

Connect the innovation chain and industry chain, focus on the key core technologies and cutting-edge common problems of the industry, build a characteristic discipline group, and generate the nonlinear utility of system superposition through in-depth cooperation and resource integration between knowledge creation subjects and technology innovation subjects, and then accelerate consummating the platform for opening and sharing of innovation resources.

2. Improve the Industry-Study-Research Coordination Mechanism of Colleges and Universities

In the industry-study-research mechanism of colleges and universities, all parties need to adhere to the principle of the unity of rights, responsibilities and interests, clarify the rules and specific ways of the rights and obligations of all parties, and strengthen the cooperation between the colleges & universities and the local governments, markets (enterprises) as well as other scientific research institutions through joint construction, integration and other ways.

2.1 Establish information disclosure system

It is necessary to establish a reasonable and standardized information disclosure system to promote and develop the industry-study-research mechanism of colleges and universities, timely and accurately disclose the relevant information and work progress of the industry-study-research cooperation, increase the mutual understanding of the parties to the industry-study-research cooperation, and form the trust relationship between the parties to the industry-study-research cooperation.

2.2 Establish communication and negotiation channels

It is necessary to establish diversified communication and negotiation channels to develop the industry-study-research of colleges and universities. By further strengthening the communication and information exchange between the industry-study-research parties, continuously improving the coordination mode of the industry university research parties, and clarifying the division of responsibilities of the industry-study-research parties, thus to improve the operation efficiency of the industry-study-research cooperation alliance and the effect of mutual knowledge transfer.

2.3 Establish a system of industry-study-research planning and adjustment with joint participation

It is necessary to establish a system of industry-study-research planning and adjustment with joint participation to develop the industry-study-research mechanism of colleges and universities, so as to ensure the scientificity and effectiveness of the implementation of relevant strategies, policy formulation and planning adjustment by the industry-study-research parties.

2.4 Establish the periodic effect evaluation and feedback system of knowledge transfer

To develop industry-study-research of colleges and universities, the periodic effect evaluation and feedback system of knowledge transfer shall be formulated to ensure that the technology and knowledge transfer can be completed on time, with quality and sufficient quantity. At the same time, it is also necessary to deal with various problems in the process of knowledge transfer in time.

3. Provide Incentive Measures for Industry-Study-Research of Colleges and Universities

In order to effectively mobilize the scientific and technological talents of colleges and universities and scientific research institutes to actively serve the technological innovation of enterprises, it is necessary to establish the internal interest driving mechanism of industry-study-research cooperation by continuously supporting and improving the incentive mechanism.

3.1 Encourage the work innovation of scientific and technological personnel

As scientific and technological progress depends on the quality of scientific and technological personnel, the field of talent training shall be broadened and the interactive integration of high-level talent training and industry-study-research cooperation shall be promoted. Encourage colleges and universities, scientific research institutions, enterprises and training institutions to jointly establish practice bases to cultivate professional technical and skilled talents.

3.2 Encourage enterprises' technological innovation

Enterprises are the main subjects of decision-making, investment, development, income and risk-taking of technological innovation. Enterprises account for a high proportion of national R&D investment, which is an important symbol of enterprises becoming the main subjects of national technological innovation. The incentive system of developed framework for enterprises plays a huge role in promoting the technological innovation of enterprises.

3.3 Encourage cooperative innovation among colleges and universities, scientific research institutes and enterprises

Firstly, through an effective management mechanism, the high efficiency and the transformation of scientific and technological achievements of scientific research institutions and the cooperation of enterprises are included in the work performance evaluation system of the managers of colleges, universities and scientific research institutions. Secondly, it is necessary to further improve the incentive mechanism, further mobilize the scientific and technological talents of colleges, universities and scientific research institutes to actively serve the technological innovation of enterprises.

4. Promote Knowledge Transfer of Industry-Study-Research of Colleges and Universities

To innovate the industry-study-research mechanism of colleges and universities, corresponding measures must be taken to strengthen the effective management of knowledge transfer in the process of production, study and research, so as to improve the effect and efficiency of knowledge transfer.

4.1 Build the organizational culture of industry-study-research alliance conducive to knowledge transfer

To build an alliance organizational culture based on mutual trust with a common vision as the goal, so that the transferred knowledge can be freely circulated and fully shared within the alliance organization.

4.2 Establish multiple ways of knowledge transfer

Firstly, build a unified knowledge base of the industry-study-research alliance, convert the transferred technical knowledge and experience achievements into words, sounds, models, etc., store them in the form of traditional documents or electronic documents to classify and manage them. Secondly, an informal communication channel among industry-study-research organizations should be formed.

4.3 Formulate an effective incentive system for knowledge transfer

In order to improve the efficiency of the innovation mechanism of industry-study-research of colleges and universities, we should fully stimulate the learning motivation of enterprise employees and strive to build a learning enterprise. Formulating an effective incentive system for knowledge transfer is the most effective way. As an enterprise, it is necessary to formulate an effective incentive system for knowledge transfer from both material and spiritual aspects, and gradually form an organizational system for knowledge transfer and sharing.

5. Conclusion

It is necessary to continuously deepen and strengthen the industry-study-research cooperation system of colleges and universities, and promote the deep integration of industry-study-research, so as to further accelerate the implementation of innovation driven development strategy and accelerate the realization of high-level scientific and technological self-reliance.

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