The existing Problems and Countermeasures for the Collaborative Development of Universities and Local Economies in Suzhou

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Abstract. Utilizing introduced universities to actively promote local economic development is an indispensable way to achieve innovation-driven development. It can utilize the educational and scientific research resources of universities and the productive transformation advantages of local economies, coordinate key links in the innovation chain, promote the deep integration of core, basic, common technologies with industry chains, transform advanced technological accumulation in universities into innovative demands for local economies, and solve key technological problems in industrial development. It is a key measure to drive the transformation of university research and development production, and is of great significance for optimizing the scientific and technological innovation system and accelerating the creation of new kinetic energy and advantages for development. This project first analyzes and summarizes the current status of introduced universities, and investigates and analyzes typical cases. Currently, in the Suzhou region, leading enterprises take the lead, and small and medium-sized enterprises, introduced universities, and other entities deeply participate and accelerate the promotion, forming a new form of innovation clusters with deep integration of industry, academia, and research, and full of innovation and entrepreneurship vitality. Finally, combined with the current development status of Suzhou, the problems existing in the subsequent development of introduced universities are pointed out, and countermeasures to solve the problems from the perspective of the government are proposed for the existing problems.

Keywords: Introducing Universities, Local Economy, Collaborative Development

1 Introduction

The Central Committee of the Communist Party of China and the State Council, in their "Decision on Deepening Education Reform and Promoting Quality Education in an All-Round Way," clearly stated the guidelines and policies for higher education Institutions that they can collaborate with other regions based on their own unique characteristics, combining with the development needs of the regional economy. By leveraging the advantages of the introduced universities in research, discipline development, and talent cultivation, it can bring about positive impacts on the development of the local governments where these universities are established. This cooperation not only enhances the overall educational and research capabilities of the region but also contributes to the economic and social progress of the local

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communities[1-5]. The introduction of universities plays a crucial role in the development of the cities where they are located, which help optimize the local economic layout and structure, and boosts the development of local innovative technology. By providing education, research, and talent cultivation, universities contribute significantly to the economic growth and technological advancement of the region. By 2023, Suzhou has established stable cooperative relationships with numerous universities both domestically and internationally. However, there is a relative scarcity of research on the synergistic development relationship between local governments and higher education institutions, particularly regarding the forms of multi-campus education, the relationship between the government and universities, and university-community collaborations[6-9]. Local governments play a crucial role in macroeconomic regulation and need to strengthen overall planning and rational allocation of resources. To this end, the introduction of universities should be integrated into the overall planning of local socio-economic development. Local governments play a pivotal role in macroeconomic regulation and should strengthen overall planning and rational allocation of resources to integrate the introduction of universities into the overall planning of local socio-economic development. In turn, the introduced universities should actively engage with the local community, contribute ideas and suggestions for local socio-economic development, optimize and upgrade the local industrial structure, and promote economic and social progress. Many scholars have published numerous research perspectives on the advantages, disadvantages, and influencing factors of introducing universities into local economies. The majority of these studies tend to focus primarily on universities as the subject of investigation. However, there is a relative scarcity of dedicated research materials examining the fusion development of local economies and the introduction of universities. Therefore, this paper aims to analyze the problems and reasons behind the collaborative development process between Suzhou's school-enterprise partners, identify issues in the support provided by local governments and introduced universities for educational development and school-enterprise cooperation, and propose scientific and reasonable suggestions[5-10].

2 Problems of introduced universities in Suzhou

By undertaking various functions such as talent cultivation, scientific research, industry-academic-research cooperation, and more, introduced universities have become a "booster" for local economic development. However, universities introduced from other regions have also encountered various problems at different levels during their development process, which are specifically manifested in the following aspects.

2.1 The management authority of introduced universities is relatively centralized.

The construction of introduced universities cannot be separated from the support of their home campuses, which play a crucial role in their development. Since the establishment of off-campus campuses, the home campuses have provided support in terms of funding, policies, and resources. As a result, some disciplines will conduct training at the off-campus campuses. During the process of establishing off-campus campuses, introduced universities can leverage the reputation of their main campus and the accumulated experience in discipline development and scientific research reserves over the years to attract outstanding talents from both domestic and international circles to participate in the construction of the new campus. However,

satellite campuses face certain disadvantages when compared to the main campus. For instance, inconvenient transportation may create barriers in communication between teachers and students and hinder the flow of talent. The relatively unfamiliar environment of the new campus may not be as appealing to teachers and students from the main campus, making it difficult to form a strong attraction. Additionally, there may be differences in the evaluation of professional titles between the main campus and the satellite campus, which can discourage teachers from actively contributing to the construction of different campuses. Therefore, universities need to identify corresponding solutions in terms of management and education quality to stimulate the vitality of innovative education systems in off-campus campuses.

2.2 The problems exposed in the management services of local governments

At the beginning of introducing universities, the government provided various preferential policies to ensure the development of the introduced universities. However, after achieving initial results in the introduction and construction of universities, the government did not provide sufficient follow-up support and services for introducing universities. The original intention of local governments in introducing universities was to convert the performance credits achieved by the universities into only a small amount of financial support, while ignoring the potential impact of introducing universities on the spirit and cultural level of the region. The functions of local governments in areas such as financial support and supervision management still need to be improved in the construction of introducing universities.

2.3 The problems of self-development mechanism of the introduced universities

The majority of introduced universities are independent legal entities that do not aim to generate profits lead to Their existence and operation, including talent cultivation, scientific research, and contributions to local industrial development, heavily rely on support from both their parent institutions and local governments. At the initial stage of signing the cooperation agreement, the government will invest a significant amount of funds and necessary support measures to ensure the construction of the introduced universities. The government will also provide financial support to build corresponding service platforms for the universities to serve the local economic development. However, the subsequent development of the introduced universities will rely on their own construction level and technological innovation capabilities to secure continuous investment. Therefore, there is uncertainty in the operating funds and revenue of the introduced universities, resulting in significant survival pressure. If there are delays in capital turnover, their role in promoting regional innovation may be significantly reduced, which is influenced by the unpredictability of the market. Therefore, it is crucial for the introduced universities to strengthen their own development mechanisms to enhance their ability to resist risks.

3 The strategies for the collaborative development of introducing universities in Suzhou

Currently, the government of Suzhou needs to clarify its guiding, coordinating, and supervising roles in the development of introduced universities, and effectively play its role in

promoting the sustainable and stable development of these universities. Therefore, the following suggestions are proposed from the perspective of the government.

3.1 The problems of self-development mechanism of the introduced universities

During the process of introducing universities, the Suzhou government should play a leading role. The smooth progress and successful outcome of introduced universities largely depend on the government's work strategies. In order to match and coordinate the development of introduced universities and local economy the government needs to give full play to its leading role, formulate scientific and rational strategies through comprehensive consideration of policies, funds, systems and other aspects from the actual needs of the regional economy. The government should urge the introduced universities to continuously improve their own mechanisms, optimize administrative structures, enhance innovative vitality, and upgrade skill services. It is necessary to gradually establish a more advanced industry-academia-research service system, effectively cultivate applied talents, and produce talents who can better serve social and economic development. The government should take the lead in promoting cooperation among universities, local governments, and enterprises, seeking common development between universities and the local social economy. The government should also establish platforms to encourage and guide participation from all sectors of society in the talent cultivation system and scientific research service capabilities of introduced universities. Various industries can jointly promote the technological innovation and talent cultivation activities of introduced universities according to their own needs, forming a coordinated development and progress situation led by the government. This can promote the introduced universities to seek their own good construction and development, while also better improving the capacity of regional and public services. This is also the goal of coordinated development between introduced universities and regions.

3.2 Provide supporting facilities and development policies for introduced universities

The government should also consider various supporting measures and development policies required for the construction and development of introduced universities. It should restrict adverse external environments that may hinder the healthy development of these universities and fully utilize market mechanisms to increase the guidance of investment in their construction. Most campuses of introduced universities are located far away from downtown areas, resulting in incomplete supporting facilities in the surrounding areas in the short term. This has somewhat affected the recognition of the campus by the faculty and students of the introduced universities. Therefore, the government should increase efforts in planning and constructing related supporting facilities around the campus, improve the security environment in the surrounding areas, actively provide security services to faculty and students of introduced universities.

Local governments should formulate detailed goals, tasks, and safeguard measures, and actively provide support for the construction of introduced universities. It is necessary to strengthen the construction of various intermediary service organizations and collaboration organizations among universities, enterprises, and governments, and improve the effectiveness of university-enterprise integration. The government can guide and promote school-enterprise cooperation activities of introduced universities, and enhance the level of industry-academia-research cooperation between universities and enterprises by establishing cultural and creative

parks, cultural research centers, key laboratories, and teaching experimental bases. The government can encourage and guide introduced universities to establish extensive cooperation relationships with enterprises, continuously enhancing the standardization and synergy of school-enterprise cooperation through various policy supports and institutional guarantees. To establish a funding guarantee mechanism, the government can introduce enterprises to create industry-academia-research innovation platforms, and invest funds through various practical platforms, information technology platforms, and industry-academia-research projects. Significant efforts should be made to guide enterprises and society to participate in joint investments, providing various financial supports and guarantees for the construction of technology platforms.

3.3 Construct a collaborative innovation mechanism for industry-academia-research

Research institutes and universities, as one party of industry-academia-research while enterprises as the other party often operate as separate entities, the goals of research and development conducted by these two parties may differ due to the fact that research and production belong to different departments and units. The university side tends to focus on the underlying principles of research, while enterprises prioritize the practical applications of research. This situation gives universities powerful research and development capabilities, but they are disconnected from production. On the other hand, enterprises are too focused on practical production and unable to conduct deep research. The compartmentalized practical operations of both parties are not conducive to the implementation of innovation-driven development strategies. To address this issue, universities and enterprises need to collaborate and integrate their operations, fostering a more interactive and collaborative environment for innovation and research. Innovations in science and technology have given birth to industrial innovation. However, without the transformation of technological innovations into innovative products, it is impossible to achieve industrial innovation and economic growth. Therefore, the deep integration of industry, academia, and Research (IAR) is crucial for the key to industrial innovation and development. This requires the government to establish long-term and stable cooperative relationships among various innovation entities, including enterprises, research institutions, universities, and support organizations. Such relationships can foster the exchange of ideas, knowledge, and resources among these entities, enabling the efficient translation of technological advancements into commercially viable products. Additionally, it can help create a conducive environment for innovation, where risks are shared, and resources are optimized to achieve maximum impact. The government should strengthen supervision in order to improve the specialized laws and regulations for industry-university-research cooperation. In terms of operation mechanism, it should give full play to the leading role of leading enterprises, actively unite universities, research institutions, industry innovation funds and other innovation elements to carry out innovation clustering. And the government should encourage leading enterprises to establish industrial research institutes and innovation and technology centers by integrating with universities and research institutions engaged in industry-university-research cooperation. We should cultivate and gather enterprises across the upstream, midstream, and downstream of the industrial chain, and jointly promote the close integration and efficient linkage of the "effective market" and the "proactive government" to form a strong joint force to jointly promote innovation clusters. The government can encourage universities to establish special research projects on deeply integrated innovation systems for industry-university-research cooperation, and provide a

certain amount of research funding. The government can continuously adjust policy guidance based on the development process of deeply integrated innovation systems for industry-university-research cooperation, and ensure the implementation of the safeguarding and supervisory functions of rules and regulations, so as to truly integrate them into the local innovation development community. The government should formulate specific incentive measures in policy that can combine industry-university-research integrated innovation with industrial structure to promote industrial development and technological innovation. The government can also establish a tracking system for fiscal funds to monitor the reasonable use of funds. While increasing the investment in the transformation of research outcomes and strengthening the construction of bases, it should actively guide social funds to participate. It is necessary to actively implement the "partnership plan" and make comprehensive efforts from the policy, service, and resource ends to optimize the city's industrial innovation ecosystem and continuously empower innovative development.

3.4 Actively guide the introduced universities to join innovation consortiums

The deep integration of industry-university-research is a joint cooperation entity formed by various social entities representing different industries, such as enterprises, universities, and research institutions, working together to achieve common goals and obtain mutual benefits by leveraging their respective advantages to maximize overall advantages in the process. An innovation cluster is an industrial organization formed by a collection of innovative enterprises, top-tier universities, knowledge centers, and affiliated institutions. It is an innovative organization that essentially involves the emergence of new products, technologies, processes, and knowledge. The latest development form of such clusters is the innovation consortium. An innovation consortium is a government-encouraged industry-academia-research organization that is led by leading or champion enterprises within the industry. It integrates other innovative enterprises and institutions upstream and downstream in the industry chain, deeply integrates universities and research institutions, and forms close internal cooperation with relevant enterprises, universities, and research institutions in areas such as key technology breakthroughs, innovation carrier platform construction, and high-level talent aggregation. The goal is to jointly address the innovative needs of industrial development. Fig.1 illustrates the structure of the innovation consortium that Suzhou city is prioritizing.

In the process of innovation consortiums, the introduction of universities' disciplinary characteristics and talent advantages in the deep integration of industry, academia, and research provides practical needs for enterprise innovation and creation. At the same time, it fully leverages the enterprise's status and leading role as the mainstay of technological innovation. The innovation consortium is a physical organizational approach adopted by Suzhou to deepen the integration of industry, academia, and research, and promote the development of industrial innovation clusters. It serves as an important avenue for addressing cluster-based innovation and deepening the integration of industry, Academia, and research. This represents a unique path for technological innovation with Suzhou characteristics. In the deeply integrated innovation system of industry, Academia, and research, the various stakeholders pursue interests across diverse fields such as economy, culture, and education. These interests are diverse and sometimes conflicting, making it necessary to find a balance that benefits all parties involved. The government can play a pivotal role in promoting the deep integration of industry, academia, and research within the context of diverse needs and

objectives between universities and enterprises. On the enterprise side, companies are encouraged to provide effective support for teaching and research activities at universities. This involves inviting factories into the campus to establish productive training centers, ensuring a deep integration with the unique professional programs and talent cultivation efforts of the universities. This approach promotes the integration of corporate culture with higher education, fostering a closer alignment between industry and Academia. The deeply integrated innovation system of industry-academia-research can continuously provide a driving force for local innovation at the macro level, while accelerating the development of both industry and academia through deeply integrated innovative cooperation at the micro level. Sharing and co-creation are the fundamental principles that run through the entire process and remain unchanged in the process of industry-academia-research cooperation. The government needs to actively participate in the construction and development of the deeply integrated innovation system of industry-academia-research, and promptly adjust policies to ensure that the deeply integrated innovation system of industry-academia-research is truly integrated into the local innovation development community. It is necessary to build an innovation ecosystem that integrates the development of talent chains, innovation chains, and industry chains Under the premise of jointly solving problems, sharing risks, and enjoying the fruits of success.

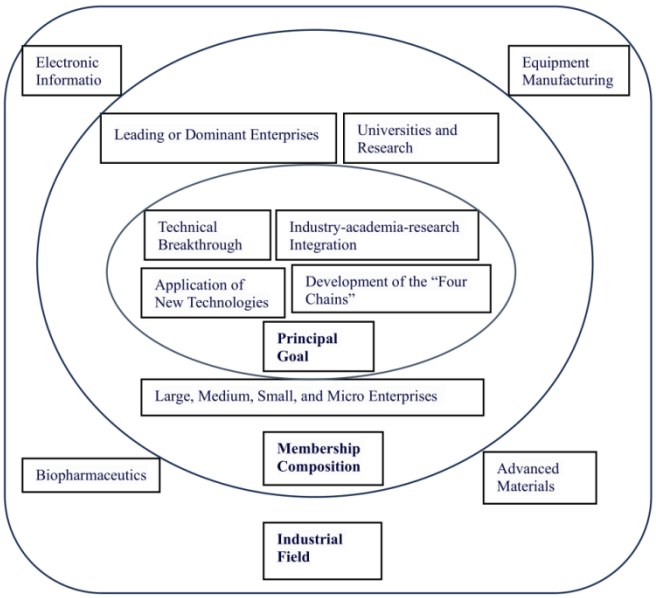

Fig.1 A schematic diagram of the key innovation consortiums being promoted in Suzhou City.

4 Conclusion

Suzhou, with its profound cultural heritage and abundant resources, has already achieved initial success in introducing universities to collaborate with the local economy. A "triple Win" situation between schools, enterprises, and the government is taking shape. By establishing horizontal connections through the introduction of a collaborative innovation

system between universities and the local economy, the core competitiveness of Suzhou's industrial clusters is being enhanced. In this new era, Suzhou must raise awareness, be bold in practice, and strive to make greater contributions to its economic construction through the introduction of a collaborative innovation system between universities and the local economy.

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References

[1] Bu J .Research on the Strategic Management of Local Universities under the Background of Comprehensive Reform of Universities[J].Higher Education Studies, 2022, 12.

[2] Gursel V , Tuncel C O , Geldimyradov S .The Effects of Universities on Local Economy: The Case Study of Bursa Uludag University (niversitelerin Yerel Ekonomiye Etkileri: Bursa Uluda niversitesi rnei)[J].Business and Economics Research Journal, 2021, 12.DOI:10.20409/berj.2021.341.

[3] Xu X , Wu Y .The Exploration and Practice of Graduation Design Teaching Mode for Architecture Majors in Local Universities under the Background of New Engineering Disciplines: Take Anhui Jianzhu University as An Example[J].Proceedings of the 2021 2nd International Conference on Education Development and Studies, 2021.DOI:10.1145/3459043.3459049.

[4] Donegan M , Feldman M .Institutional Evolution and the Collaborative Development of Technology Transfer Capabilities[J].International Regional Science Review, 2022, 45.

[5] Zhu F .Research and Practice on the Construction of First-class Business English Major in Local Colleges and Universities — Taking Taizhou University as an Example[J].Journal of Higher Education Research, 2022.DOI:10.32629/jher.v3i2.736.

[6] Wright C , Ritter L J , Gonzales C W .Cultivating a Collaborative Culture for Ensuring Sustainable Development Goals in Higher Education: An Integrative Case Study[J].Sustainability, 2022, 14.DOI:10.3390/su14031273.

[7] Malik G , Parkin J , Johnston J ,et al.Transforming Health Through Communities: An Experience From a Collaborative Online International Learning Program[J].The Journal of nursing education, 2023.

[8] Ren Z, Wang X, Su N, et al. Zhejiang's Advantages, Challenges and Countermeasures for Its Development of the Industries of the Future[C]//2022 7th International Conference on Financial Innovation and Economic Development (ICFIED 2022). Atlantis Press, 2022: 2504-2509.

[9] Wang J. Transformation and Upgrading Strategy of Professional Towns in Guangdong during the "Internet+" Period[J]. American Journal of Industrial and Business Management, 2018, 8(6): 1587-1602.

[10] Zhu X, Tao Y, Zhang X. Research on the status quo, dilemma and improvement countermeasures of digital economy development in the Yangtze River Economic Belt[J]. Scientific Journal of Intelligent Systems Research Volume, 2022, 4(5).