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Comments of Innovation and Entrepreneurship Education of Chinese College Students by Using the Thinking of "Innovation Ecosystem"

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----- ABSTRACT

This paper explains the concept of innovation and innovation ecosystem, as well as the scope of other related ecosystems elaborated in social science research and literature, and uses this systematic thinking to explore the training model of innovation and entrepreneurship education for college students in Chinese colleges and universities. Innovation and entrepreneurship education is of great significance to Chinese construction of an innovative country; this paper explores the fact that colleges and universities, as the main place for the cultivation of innovative talents, should be more comprehensively studied and will play a role in building an innovative country in China with the achievements and experiences made; the training of innovative talents in colleges and universities should obtain resources from the external environment; and the processing of various resources through various ways from the perspective of the ecosystem to achieve the goal of cultivating college students to ensure the orderly operation of innovative talent training and play a role in the realization of the overall goal of talent training.

Keywords: Innovation Ecosystem; Innovation and Entrepreneurship Education for College Students; Internet Plus

I. INTRODUCTION

Innovation is a complex value creation process and a decisive force for economic development. The rapid development of emerging technologies and the deep integration of science and technology, economy and society have made a single organization face the challenge of a complex competitive environment, many industries show the characteristics of innovation uncertainty, multi-subject symbiosis and cross-integration of business formats, and the country is facing pressures such as economic growth, industrial transformation and technological change. The closed, isolated, linear innovation management paradigm can no longer adapt to the rapidly evolving management needs of organizations. The emergence of emerging technologies such as digitalization, industrial internet, artificial intelligence, and 5G technology, the rise of market trends such as the sharing economy, and the transformation of organizational models such as platform-based organizations have further triggered new thinking on the paradigm of technological innovation and management in the context of research and practice. In this context, "ecosystem", as a new paradigm, has gradually attracted the attention of theoretical research and organizational practice in the past 20 years and has become a hot topic in innovation and strategic management. Theoretically, since Moore proposed the concept of "Business Ecosystem" in 1993, Ander took the lead in developing the research of "Innovation Ecosystem" in 2006, and then to its deep integration with digital technology, platform, competition, network, value creation and value acquisition as a leading topic, and the innovation ecosystem as a hot concept. There is a consensus in the academic community on the discussion of its connotations, that is, the Alignment Structure established between multilateral and heterogeneous participants with interactive needs to achieve a common value proposition. Its conceptual essence focuses on explaining the strategic choices and innovative activities of enterprises from the perspective of complementary and interdependency.

Ecological metaphors fit the trend in biomimicry and biomimetic design to learn natural and biological (evolutionary) systems, which should be supported, despite the false analogies between biological and artificial ecosystems; but the innovation ecosystem is not an evolutionary entity, but rather a design. Papaioannou et al. (2007) noted the existential intent and teleology of innovative ecosystems distinct from natural ecosystems, as well as the recognized importance of governance. Some geographical changes in technology development activities support the view that money and intelligence are not enough to keep a region at the forefront of innovation, i.e., they suggest the

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need for a broader support structure that may have the nature of a closely linked innovation system and, in the new frontier region, is also a favorable cost structure.

II. RESEARCH METHOD

This is a qualitative study that looks at the foundation of innovation and entrepreneurship education from a systems-thinking, holistic and orderly perspective, that is, ecologically sustainable lifelong education; it provides an understanding of the role of management, education and technology in promoting human social and economic development in the 21st century. It is heuristic, and it is an educational model that adapts to the development of the era of knowledge economy that has emerged with the emergence, development and application of high and new technologies. With the goal of cultivating high-quality talents with innovation and entrepreneurship awareness, thinking, personality and ability suitable for the development of the new era. A new educational concept and model that guides and helps college students establish a sense of innovation, form innovative thinking, stimulate entrepreneurial spirit, master entrepreneurial knowledge, and improve innovation and entrepreneurship through multiple channels such as schools, governments, enterprises and society.

In this paper, a comprehensive collection of research literature on Innovation and Entrepreneurship Education at home and abroad, using literature research methods, tracking academic frontiers, to understand the latest trends, and constantly find existing problems, it lays a theoretical foundation for the construction of innovation and Entrepreneurship Education System for Chinese college students.

III. DISCUSSION

3.1 Scientific development and economic and social development are inseparable from the contribution of innovative talents.

2014 was the starting point for the emergence of innovation ecosystem research, followed by a sustained and rapid growth of literature development trends. The abrupt growth of the literature provides a knowledge base for the emergence and in-depth discussion of the main concepts of the research context. As a summary of the literature on innovation ecosystems before the sudden proliferation, Mei Liang, Chen Jin and Liu Yang established a theoretical framework of innovation ecosystems composed of core literature, theoretical foundations and research methods based on the literature foundation of "ecological systems".

The term "innovation ecosystem" has become popular in the industry, academia, and government, and it is used especially in corporate, national, or regional settings. It implies a false analogy with natural ecosystems and is, therefore, a poor foundation for the emerging innovative concepts required for multidisciplinary research and policy. Frenkel and Maital (2014) discovered an early application of "innovation" in a New York Times review article on "Ecosystems" by the former chairman of the Federal Communications Commission. Other early systems of comparison between the business environment and the ecological environment include the studies of Carroll (1988), Hannan and Freeman (1989), Moore (1993), and Schott (1998); however, these researchers may not realize that social scientists have left behind problematic ecosystem analogies; in particular, see Haynes (1971) and Jackson (2011) defining innovation ecosystems as " The functional goal of the relationships formed between complex roles or entities is to enable technology development and innovation. "Provide more context on innovation systems and their relationship to technology and economics, with participants including physical resources (capital, equipment, facilities, etc.) and human capital (faculty, students, industry researchers, industry representatives, etc.), as well as institutional entities that increase participation in ecosystems (e.g., government departments, universities, commercial companies, venture capital institutions, innovation research centers, research institutes, co-creation spaces, incubation bases, etc.).

The innovation ecosystem consists of two distinct economic fundamental research, one largely market-driven business economic activity and the other being a separate economy of basic research. What makes "innovation ecosystems" different from the concepts of early science and technology parks, technology policies, and regional innovation systems, rogers (1962) emphasize the diffusion of innovation through social systems in a more explicit systematic note, as does the use of "ecosystems" in recent publications published by Science City and Features of Innovation Clusters. Innovation ecosystem theory, which exhibits a greater focus on this linkage, enumerates among the numerous innovation actors the interactions between ecosystem constituent organizations (e.g. Feeders et al. (2010, p. 181) in the case of universities, and the innovation ecosystem emphasizes the richness and diversity of participants, and in principle, these factors lead to the actual behavior of nurturing innovative talent.

The "innovation ecosystem" in theoretical research finds that the concept of an innovation ecosystem is not sufficiently different from a national innovation system and a regional innovation system and that the concept of an "innovation ecosystem" seems to be hopeful rather than fully realized; the ecosystem for finding success in innovation is talent, researchers, entrepreneurs and promoting institutions, corporate culture, capital, and a favorable regulatory environment. Wallner and Menrad (2011) comment on the cultural aspect, pointing out that the systems thinking behind the innovation ecosystem movement are not systematic enough; in these linear representations, the socio-cultural aspect is considered to be only a factor influencing the ratio; but the direction of innovation activity is not considered as a variable, an ecosystem that interacts with innovation.

Although social institutions are more resistant to change than ever before through their members, they go from prerequisites to indicators of success, Wallner and Menrad say ecosystems are not a "mundane machine-defined inputoutput ratio." Many experts, in commonly used research, argue that as a long-term commercialization indicator (number of spin-offs, licensing revenues) that is unreliable for innovation in colleges and universities, to develop a vibrant ecosystem.

First, many of the constituent factors have a stake in the innovation game and give different values to different institutions, whether it's work, wealth, quality of life, traffic conditions, or others. Second, the system's performance is dictated less through Taylorist strategies that allow people to work faster, replace labor with capital, and ease bottlenecks in the connections between participants by constantly identifying them. Finally, success depends on the emergence of leadership, human development, the government's willingness to support innovation, and the formulation of innovation policies.

Innovation is an inexhaustible driving force for the development of human society, innovation and entrepreneurship education is of great significance to Chinese construction of an innovative country; colleges and universities, as the main place for the cultivation of innovative talents, according to the characteristics of higher education, should be more comprehensive exploration and research on the cultivation of employment-oriented innovative talents in the future, and the achievements and experience will play a role in Chinese construction of an innovative country; under the thinking of the innovation ecosystem, Chinese colleges and universities will cultivate employment-oriented innovative talents in the future. The specific training model can be considered from the following aspects:

(1) Cross-border integration of professional education and entrepreneurship education, one of the most popular words in China now is "Internet plus", the "plus" mentioned here is cross-border, reform and openness, and ultimately reshaping integration. Professional education dares to cross borders, the foundation of innovative education can be more solid; when professional education and entrepreneurship education are integrated and coordinated, the group intelligence of entrepreneurship education will be realized, and the path from research and development to the industrialization of colleges and universities will be more vertical; especially recently the Chinese government has just re-mentioned that the key point of this year's China International "Internet plus" College Students Innovation and Entrepreneurship Competition is to increase the proportion of undergraduate project finalists, emphasize the vigorous development of applied undergraduate and vocational undergraduate construction, and emphasize the improvement of the undergraduate education talent training system of colleges and universities. The education of undergraduate students needs to be more in line with the development of local economic industries, so it should more reflect the advantages and strength of the integration of undergraduate education and the service of the local industrial economy, and the type of talents cultivated is practical and applicable, focusing on the differentiation of cultivating talents, and paying attention to the integration of professional education and entrepreneurial education.

(2)With a combination, whole and orderly "innovation ecosystem" thinking to test students' professional knowledge, operational skills, analysis and handling of problems, teamwork and other abilities, display the effect of education and teaching, guide the reform of professional practice teaching, give full play to the demonstration and leading role of promoting learning and teaching by competition, and improve the current level of professional construction and talent training in Chinese higher education.

(3) Chinese institutions of higher learning should optimize the construction of the talent training system for college students, realize the input and output of resources, energy and information between them and the external environment; achieve the training goals and maintain the momentum of their development. It is necessary to ensure that the existence and development of the talent training system should be able to adapt to the environment and obtain resources from the external environment; use a systematic perspective to process various resources through a variety of ways to achieve the goal; the systematic perspective should be able to effectively organize and coordinate various relationships to ensure the orderly operation of activities as the overall goal of achieving the overall goal; the systematic perspective should be able to ensure the enthusiasm of participants and the recognition and affirmation of the public's value.

(4) China's colleges and universities should be optimized from the integrity, systematization and synergy of innovative talent training. The process of innovative talent training should be based on the quality management of the whole process. The training mode should be personalized, diversified and customized development- oriented. Aiming at a dynamic and sustainable training model for innovative talents. Promote the vertical connection and horizontal integration of talent training in colleges and universities. Build an integrated education system with organic integration, consistent style and model articulation. To further promote the new stage of China's higher education construction, and optimize the innovation ecosystem of higher education talent training reform.

IV. CONCLUSION

- 1. Only by systematically studying the problems existing in the cultivation of talents in Chinese colleges and universities. Find out the key elements of building a talent training system for innovative and entrepreneurial talents of Chinese college students. Use the systematic thinking of "innovation ecosystem" to build a talent training system for innovative and entrepreneurial talents of Chinese college students.
- 2. The construction of a talent training system for innovation and entrepreneurship in colleges and universities is an important guarantee for the cultivation of talents in Chinese colleges and universities. Talent training is not only an important part of the innovation ecosystem of universities, but also an important guarantee for the existence and development of innovative scientific and technological talents. In order to cultivate high-quality innovative and entrepreneurial talents, it is necessary to build an innovation and entrepreneurship education ecosystem for college

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students in colleges and universities from the three dimensions of the characteristics of Chinese colleges and universities, the micro environment, the mesoscopic environment and the macro environment of college students' innovation and entrepreneurship. Taking into account personal factors, family environment, school environment, social environment, etc., the guarantee strategy of innovation and entrepreneurship education ecosystem for college students in colleges and universities is proposed.

3. Chinese cultivation of innovative and entrepreneurial talents mainly focuses on the necessity of cultivating innovative and entrepreneurial talents, the construction of talent training models, and the research on the problems and countermeasures in the cultivation of innovative and entrepreneurial talents. Although a small number of scholars have conducted relevant research on the cultivation of innovative and entrepreneurial talents from the perspective of the ecosystem, most of them stay at the theoretical level in the construction of the innovation ecosystem for the cultivation of college students, lack of research combined with the actual situation of entrepreneurship, and there is currently no research on the construction of the innovation and entrepreneurship ecosystem of college students in colleges and universities from the perspective of The construction of Chinese universities. Through the three dimensions of micro environment, meso environment and macro environment, we will build an ecosystem for the cultivation of innovative talents in colleges and universities. The resulting research results will provide policy suggestions, management countermeasures and theoretical references for the government and institutions of higher learning to cultivate high-quality innovative talents, and enrich the theoretical system of talent training in colleges and universities. The environment in which college students start their own businesses is seen as a social ecosystem. Emphasize the importance of the system for the integration of college student talent training education and innovation and entrepreneurship education, broaden the research perspective on college student talent training, and enrich the theoretical system of innovative talent training in Chinese colleges and universities.

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