

Theoretical Analysis and Realization Mechanisms of College Students' Entrepreneurial Pathways: An Analysis Based on Human Capital, Organizational Learning, and Innovation Education

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Abstract: This paper constructs a theoretical analysis framework based on human capital, organizational learning and innovation education, and analyzes how the college students' entrepreneurial team can use their own knowledge resources, endowments and skills to create more value for the entrepreneurial enterprises, which is the core problem to be solved in the entrepreneurial process. Whether the entrepreneurial team of college students can integrate the knowledge resources among members and create more value, and whether it can create, disseminate, and use new knowledge, is the decisive factor for the success of college students' entrepreneurship.

Keywords: College student entrepreneurship; Human capital; Organizational learning; Innovation education

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1. Theoretical analysis of human capital in college student entrepreneurship and its realization mechanisms

1.1. Internal dynamics of college student entrepreneurial teams based on entrepreneurial competence

In the entrepreneurial process of college students' entrepreneurial teams, through original work within the enterprise team and interaction with the outside, the entrepreneurial team further enhances its entrepreneurial ability to achieve entrepreneurial success.

The internal dynamic mechanism of the academic entrepreneurial team focuses on the analysis of its ability to enhance entrepreneurship, including the role of external influence, internal coordination

among members of entrepreneurial ability, and organizational optimization in the process of improving entrepreneurial ability. In the internal dynamic mechanism of college students' entrepreneurship based on entrepreneurial ability, the coordination of team members is the key to the improvement of entrepreneurial ability, but it also needs the structure of entrepreneurial ability within the team and the influence of organizational optimization ^[1]. It is worth noting that organizational optimization provides an organizational guarantee for the improvement of entrepreneurial ability within the entrepreneurial team and the synergy of entrepreneurial ability.

1.1.1. The progress and renewal of entrepreneurial ability

Entrepreneurial ability is the unique knowledge and skills accumulated by enterprises through learning in the long-term production process and embedded in the human resources and organizational resources of enterprises. Its growth process is the knowledge learning process in the enterprise, and organizational learning is the basis for the accumulation of entrepreneurial ability.

1.1.2. Internal synergy of entrepreneurial ability

In the process of improving the entrepreneurial ability of college students' entrepreneurial teams, members of the organization are required to cooperate through sharing. The integration and coordination among team members will further promote the coordinated development among members and further enhance the entrepreneurial ability of enterprises ^[2]. The key to the synergy of entrepreneurial ability in college students' entrepreneurial teams is the interaction among members. The integration of entrepreneurial ability of members in different teams forms the overall entrepreneurial ability of entrepreneurial enterprises.

1.1.3. Organizational optimization

In the process of college students' entrepreneurship, the cohesion of team members needs to be paid attention to, and the internal organization optimization and incentive compatibility construction of entrepreneurial teams can better solve the problem of team members' loss. In the process of development, entrepreneurial enterprises can strengthen the common goal of entrepreneurial teams by building an open and learning organizational structure, and improve the common skills and knowledge accumulation of entrepreneurial members through integration, so as to improve the entrepreneurial ability of entrepreneurial teams.

It is worth noting that the organizational optimization of college students' entrepreneurial enterprises needs to be carried out dynamically and continuously. Considering the changes in the external environment faced by entrepreneurial enterprises, their internal needs to be adjusted. The adjustment is not only reflected in the optimization of organizational structure and organizational form, but also needs to consider the optimization of collaboration among team members ^[3]. In this regard, the organizational optimization of college students' entrepreneurial teams needs to adapt to external changes.

1.2. Innovative effects of the internal dynamic mechanism of college student entrepreneurial teams

The innovative effects of the internal dynamic mechanism of college student entrepreneurial teams are primarily manifested as Aggregation Effects, Learning Effects, and Synergistic Co-evolution Effects.

1.2.1. Aggregation effect of college student entrepreneurial teams

The aggregation effect of college students' entrepreneurial teams is mainly manifested as: effective cooperation between entrepreneurial team members can achieve economies of scale and reduce corresponding risks ^[4].

The process of improving entrepreneurial ability based on the internal interaction of college students' entrepreneurial teams can effectively gather the advantages within the team and realize the effective allocation of internal resources. The members of the team interact with each other to improve their entrepreneurial ability through collaboration. In addition, in the process of interaction between the internal members of the entrepreneurial enterprise, collaborative cooperation can effectively give full play to the respective advantages of the internal members, improve the efficiency of the overall entrepreneurial enterprise, and realize the improvement of the overall entrepreneurial ability of the entrepreneurial team.

1.2.2. Learning effect of college student entrepreneurial teams

The learning effect of college students' entrepreneurial teams is mainly manifested in reducing learning costs and organizational learning to achieve the speed effect of organizational learning.

(1) Reduce the cost of learning

Based on their own knowledge and technical ability, college students' entrepreneurial enterprises can cope with the external environment. Through organizational learning, they can effectively improve their own knowledge and technology accumulation, and then form core competitiveness. It should be noted that in the process of learning, it is necessary to distinguish the role of explicit knowledge and tacit knowledge. Explicit knowledge can be realized through organizational behavior, but the sharing and cooperation of tacit knowledge among entrepreneurial teams need to be realized through mutual learning among members ^[5]. The key is the integration of core competencies, which strengthens the competitive advantage of the overall sustainable development of entrepreneurial enterprises and consolidates the core entrepreneurial capabilities of entrepreneurial enterprises.

(2) Organizational learning in the process of entrepreneurial capability innovation

The entrepreneurial team of college students can also obtain each other's core expertise through 'learning by doing', so as to make up for their own weak links, and can also be used as a tool for organizational learning and internalization of new entrepreneurial capabilities, especially when this knowledge is tacit knowledge, which requires extensive common consultation and practice to transform into knowledge accumulation effectively. In this case, traditional knowledge transfer is not enough, and it is slow and difficult to rely on independent development. Collaboration within the entrepreneurial team of college students can provide an effective mechanism for the transfer or transmission of tacit technical knowledge. Through close contact between different organizations and face-to-face communication and exchange between personnel, an appropriate development system can be formed, so that the team can obtain knowledge and know-how that are difficult to obtain through external market transactions.

(3) Speed effect of learning

The speed of learning is very important. The change of relative position between team members is the most obvious in the integration and accumulation of entrepreneurial ability of college students' entrepreneurial team, because the learning speed of different entrepreneurial members is different.

2. Theoretical analysis of organizational learning in college student entrepreneurship and its realization mechanisms

2.1. Process analysis of internal organizational learning in college student entrepreneurial teams based on knowledge sharing

For the organizational learning within the entrepreneurial team of college students, knowledge sharing is the core, which reflects that personal knowledge and organizational knowledge are shared by other members of the organization through various sharing means ^[6]. Furthermore, the ability of the entrepreneurial team is improved.

Knowledge sharing among the members of the entrepreneurial team, through mutual learning, integration, improvement, and other processes, enhances the original professional skills on the basis of integration, forming new entrepreneurial competitiveness.

Knowledge sharing includes the distinction between tacit knowledge and explicit knowledge, as well as the learning of entrepreneurial core competence among the main bodies, internal teams and teams within the entrepreneurial enterprise.

According to the difference between tacit knowledge and explicit knowledge, the SECI model based on the mutual transformation of explicit knowledge and tacit knowledge includes the explicitation, integration and internalization of creative knowledge.

The individual's tacit knowledge forms the organization's tacit knowledge and the organization's explicit knowledge through socialization and externalization. This process is actually the process of knowledge sharing.

Through knowledge sharing, individual knowledge is transformed into organizational knowledge, and tacit knowledge and explicit knowledge interact to rise from a lower level to a higher level dynamically. The tacit knowledge flow process, in its essence, is the tacit knowledge in the enterprise from the acquisition, generation, sharing, innovation, and utilization to the knowledge mining of the whole process of knowledge integration.

According to the concept of spiral knowledge creation, knowledge is constantly moving upward in the organization, moving from the individual level to the group and organization level, and then spiraling up to the organizational level through knowledge connection. Knowledge connection provides support for enterprises to create potential sharing results and becomes the key to their knowledge acquisition.

The key to the success of college students' entrepreneurial enterprises lies in creating an environment for knowledge sharing, movement and expansion ^[7]. Knowledge connection occurs in formal and informal relationships between individuals and groups, and provides the basis for transforming personal knowledge into organizational knowledge. With knowledge connection, new knowledge can develop better.

2.2. Synergistic effects of internal organizational learning in college student entrepreneurial teams

The knowledge sharing within the entrepreneurial enterprise of college students is a process of mutual transformation and coordination of explicit and tacit knowledge of individuals and teams in the entrepreneurial enterprise. The purpose is to obtain the entrepreneurial ability of the target enterprise.

Knowledge sharing mainly improves the core competence of knowledge transferors and knowledge acquirers through knowledge transfer, absorption, integration and application. Through the integration of internal and external knowledge resources of start-ups, the synergy of knowledge sharing within start-ups

makes the overall benefits of organizational learning, utilization and creation of knowledge greater than the sum of the independent components.

Based on the above analysis, the collaborative process of knowledge sharing within and outside the entrepreneurial team of college students is mainly divided into three levels.

2.2.1. Collaboration between college students' entrepreneurial team and external knowledge sharing

College students' entrepreneurship is an open and complex system. The entrepreneurial team cooperates with the outside world to enhance knowledge exchange and sharing, forming a partnership that affects each other in order to achieve the goal of common improvement.

The knowledge sharing collaboration within the entrepreneurial team organization is the basis of knowledge sharing collaboration. The internal coordination of the entrepreneurial team has a promoting effect on the internal coordination of the enterprise organization. On this basis, the enterprise effectively integrates internal and external knowledge resources on the basis of organizational learning, consolidates and develops the core competence of the enterprise.

2.2.2. The synergy of knowledge sharing within the organization during the evolution of college students' entrepreneurial team

It is necessary to pay attention to the tacit knowledge acquired by the knowledge subjects at all levels of the college students' entrepreneurial team through externalization. Through the internal learning and integration of the entrepreneurial team, the explicitness of tacit knowledge within the organization can be realized, and the entrepreneurial ability can be improved.

2.2.3. Collaboration of knowledge sharing and enterprise core competence

The focus of college students' entrepreneurial team organizational learning is to learn and create knowledge. By learning and internalizing the tacit knowledge and skills of the target enterprise, it can obtain the improvement of its core competence. Through knowledge sharing, the team can learn and absorb the entrepreneurial team members.

3. Theoretical analysis of innovation education cultivation for college student entrepreneurship and its realization mechanisms

China attaches great importance to college students' entrepreneurship education, and has provided all-round support for college students' entrepreneurship education from the aspects of policy, school-enterprise cooperation, and practical practice. In 2015, the State Council issued the "Implementation Opinions on Deepening the Reform of Innovation and Entrepreneurship Education in Colleges and Universities," clearly pointing out that deepening the reform of innovation and entrepreneurship education in colleges and universities is an urgent need for the country to implement the innovation-driven development strategy and promote the upgrading of economic quality and efficiency^[8]. Promoting the reform of entrepreneurship education for college students can not only effectively promote economic and social development, but also effectively optimize the talent training mode in colleges and universities, improve the quality of education and teaching, cultivate the innovative spirit of college students, and truly realize high-quality employment

through independent entrepreneurship. Combined with the current implementation path of entrepreneurship education for college students, it includes multi-oriented policy support, resource sharing among various subjects, and strengthening close cooperation between schools and enterprises.

3.1. Multi-faceted guiding policy support

At present, a series of policy supports to promote entrepreneurship education has been actively carried out^[9]. At the same time, combined with the reality of college students' self-employment, oriented policy support needs to clarify further the specific functions of coordination and guidance in the process of college students' entrepreneurship, so as to enhance college students' entrepreneurial willingness and confidence. Through the establishment of supporting facilities to improve the management and service institutions to enhance college students' entrepreneurship-related services, through training or related policy guidance and other forms, can be combined with enterprises and other market players to participate in, combined with the mutual needs of college students entrepreneurs and enterprises, through effective ways to implement the necessary help and policy support for college students' entrepreneurship.

Financing policy is an important supporting policy in entrepreneurship education policy. It is necessary to further improve the relevant policies of the financing support system for college students' entrepreneurship. National special fund support is the main aspect of the current policy^[10]. Special fund support can help college students entrepreneurs quickly solve the dilemma of previous funds. At the same time, it is worth noting that it is also necessary to consider the social market financing of college students' entrepreneurship, fully mobilize the participation of relevant financial institutions and enterprises, market-oriented use of resources, and give full consideration to entrepreneurial risks and entrepreneurial costs, on the basis of the maximum degree of financing support for college students' entrepreneurship.

3.2. Resource sharing among various stakeholders

The main bodies involved in the overall entrepreneurship education of college students include management and service policy departments, universities, social capital parties, social partners, and college students and entrepreneurs. Resource sharing can be realized by organizing and carrying out theoretical research on entrepreneurial practice, cooperation and docking of financing intentions, and social docking of entrepreneurial intentions. Among them, for the sharing of entrepreneurship education resources, it can be shared through the network platform, which can serve college students' entrepreneurs and entrepreneurship teaching, realize the expansion of practical teaching, as well as the innovation of entrepreneurship teaching methods, and improve the quality of entrepreneurship training. Entrepreneurial college students can strengthen the communication, docking and cooperation of college students' practical entrepreneurship projects through professional courses and innovative entrepreneurship education resources, combined with external corporate social resources, so as to realize resource sharing and complementary advantages.

The teaching team in the university entrepreneurship education system is also the key to the coordinated development of entrepreneurship education. It takes serving entrepreneurship and connecting with society as the main entry point, integrates, guides college students' entrepreneurial talents, comprehensively carries out entrepreneurial activity support, and deeply discusses the support and connection of entrepreneurial project resources, promotes the in-depth communication between talents and social enterprise resources, and improves college students' entrepreneurial ability in an all-round way.

3.3. Strengthening close university-industry cooperation

Adequate social resources also play an important role in providing high-quality entrepreneurship education in colleges and universities, and the high-quality entrepreneurial talents provided by entrepreneurship education in colleges and universities are also very important for social and economic development. The two sides promote each other and develop together to form a virtuous cycle of development.

The school-enterprise cooperation methods in entrepreneurship education include enterprise consulting, project cooperation management, etc., which can empower entrepreneurship education in colleges and universities. This requires cooperation between the two sides, the active participation of entrepreneurship teachers and the guidance of business leaders, as well as in-depth communication on this basis.

Through the organization form of college students' entrepreneurship center, it can effectively promote college students' entrepreneurship education and related expansion work, including the establishment of entrepreneurial associations, entrepreneurial teams, virtual operation companies and other forms of organizations, emphasizing personalized development, stimulating the active participation of entrepreneurial college students, establishing student associations, focusing on a certain professional field, considering the introduction of enterprise needs, solving specific practical problems of enterprises, transforming into demand-driven entrepreneurial associations, and turning good teams into entrepreneurial companies, which effectively becomes the implementation way of entrepreneurship education.

It can also adopt the mode of school-enterprise cooperation and coordination, with universities and enterprises as the main body, talent training as the core, complementary advantages and long-term cooperation as the strategic alliance relationship, so as to realize the cooperative education of school-enterprise cooperation. Both schools and enterprises can carry out long-term and in-depth cooperation in many aspects, such as personnel training, practical training courses, training system, enterprise empowerment, training and counseling, so as to promote the formation of a talent training community with complementary advantages, professional co-construction and win-win interests between schools and enterprises. This model can effectively promote the in-depth cooperation between universities and industry enterprises.

3.4. Optimizing entrepreneurship education training models

In optimizing the training mode of entrepreneurship education, the setting of innovation and entrepreneurship-related courses must identify the concept orientation. It is necessary to set up innovation and entrepreneurship education courses based on education to cultivate the entrepreneurial spirit of college students, focus on establishing advanced ideas of innovation and entrepreneurship, strengthen the main consciousness of students' innovation and entrepreneurship education, carry out innovation and entrepreneurship education according to the characteristics of different majors, optimize the curriculum structure, reasonably arrange the proportion of professional courses in innovation and entrepreneurship teaching, and pay more attention to the organic combination of theory and practice. In classroom teaching, we should not only have basic theoretical scientific research, but also properly follow up the current frontier practice, actively cultivate the enthusiasm of entrepreneurial students, encourage college students to carry out active learning, strengthen the construction of interdisciplinary platform, optimize the allocation of resources, make the professional advantages of various disciplines complement each other, collide with each other, promote independent learning, promote continuous innovation and teamwork awareness, improve practical

ability, and integrate teaching resources. At the same time, it is necessary to extend the teaching in the classroom to practice. Through the independent choice of students, different disciplines can apply theoretical knowledge to practice through the research, discussion and investigation of projects, so as to stimulate their entrepreneurial enthusiasm, further cultivate their team spirit, focus on the innovation of thinking mode, and improve the comprehensive quality of college students' entrepreneurship.

Secondly, it is necessary to focus on further enriching the level of the entrepreneurship education curriculum system, and to build a comprehensive and multi-level entrepreneurship education curriculum system, including entrepreneurship knowledge, entrepreneurship ability, and related entrepreneurship practice and cases. Through the rational design and formulation of a typical and personalized entrepreneurial talent training plan, the entrepreneurship teaching system will be updated as a whole. We actively innovate and reform the existing classroom teaching mode, draw lessons from the new teaching mode such as 'flipped classroom', adopt various innovative teaching methods, realize the two-way interaction of the teaching process, emphasize guidance and inspiration, focus on the problem-solving teaching mode, and guide the entrepreneurial students to be good at discovering and asking questions step by step.

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References

- [1] Chen M, Li J, Ding C, 2023, Exploration of the "One Center, Three Synergies" Talent Cultivation System for Intelligent Construction Majors: Taking Inner Mongolia University of Science and Technology as an Example. *Higher Architectural Education*, 2023(03): 39–44.
- [2] Wu BC, 2023, Exploring Pathways for Constructing University Employment Guidance Systems: Taking Teacher Training Majors in Third-Tier City Second-Tier Universities as an Example. *Sichuan Labor Security*, 2023(04): 90–91.
- [3] Deng RH, 2022, Analysis of Guangdong's Science and Engineering Education Reform Policies Based on Educational Mechanism Theory. *Higher Education Exploration*, 2022(04): 106–112.
- [4] Xu Q, Sun L, 2024, Practical Plan for Industry-University-Research-Innovation Integration, Industry-Education Integration, and Integrated Bachelor's-Doctoral Cultivation. *China Multimedia and Network Teaching Journal (First Half-monthly)*, 2024(02): 170–173.
- [5] Li ZT, Zhang HY, Zhang XL, 2023, Difficulties and Optimization Strategies in University Innovation and Entrepreneurship Education Reform. *Shanxi Youth*, 2023(21): 29–31.
- [6] Zhao CH, 2023, Reform of University Talent Cultivation Models in the Context of Interdisciplinary Integration. *New Curriculum Research*, 2023(30): 86–88.

- [7] Jiang PB, 2022, Reflection on the Current Situation and Path Improvement of University Innovation and Entrepreneurship Education Reform. *Journal of Anhui University of Technology (Social Sciences Edition)*, 2022(03): 103–107.
- [8] Feng HM, Jia J, Pei S, 2024, Research and Practice on Innovation and Entrepreneurship Education Reform Based on Enhancing College Students' Employability. *Marketing World*, 2024(05): 116–118.
- [9] Sun FC, Li XX, Yang T, 2022, Application and Practice of TRIZ Theory in Innovation and Entrepreneurship Education. *Science and Technology Entrepreneurship Monthly*, 2022(11): 110–112.
- [10] Li TT, 2022, Research on the Application Strategy of Employment and Entrepreneurship Education in Career Guidance. *Vitality*, 2022(20): 99–101.

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