Research on the Construction of the University Innovation and Entrepreneurship Education Ecosystem Based on Combination of Computer and Engineering

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Abstract. Computer technology develops rapidly, computer management systems have brought better development to college education. In the era that students are encouraged to innovate and start businesses, computer systems have greatly promoted the development of college innovation and entrepreneurship education. This article mainly analyzes and studies the construction of the ecosystem and its application in college students' innovation and entrepreneurship education.

Keywords: Big Data Technology, Data Mining, Management Platform

1. Introduction
In recent years, Computer technology can be seen everywhere in people's lives. We can't explore social development trends unilaterally or probabilistically, but use computer technology to analyze the actual trend of society. Computer technology is developing in many industries, including the construction of an innovation and entrepreneurship education ecosystem in the university education system.

2. The status of college students' innovation and entrepreneurship in my country

2.1. Innovation and entrepreneurship education for college students
Nowadays, the employment problem of college students is getting more and more difficult, but the nature of college students is still students, they belong to a disadvantaged group, and they do not have enough funds and experience to start their own businesses. At this time, they are faced with an embarrassing situation: it is harder to get a job and start a business. Colleges should carry out education courses for students' innovation and entrepreneurship, so that they can cultivate their employment outlook [1].

2.2. The course of undergraduate entrepreneurship education
Preferential policies for undergraduate entrepreneurship in my country began in 2011. Among them, the tax incentives have greatly reduced the pressure on college students when they are employed. Because of the lack of understanding of the society, many students are at a loss in the early stage of starting a business. Tax reduction and exemption have reduced the burden of students. With the
increase of college students, covering the current students can better enable college students to start their own careers in advance and avoid being lost after graduation [2]. The online application method is more convenient for college students. It can be said that the implementation of preferential policies for college students will better serve college students, so that college students are no longer just flowers in the greenhouse.

3. Analysis of the key limiting factors of innovation and entrepreneurship education

Innovation and entrepreneurship education in universities is an ecosystem, rooted in the ecosystem of interaction and influence between the internal factors of universities and the external factors of society. As shown in Figure 1: The campus environment is the micro-environment on which innovation and entrepreneurship education depends. In this micro-environment, there are five limiting factors, namely W1 curriculum factor, W2 teacher-student factor, W3 organization factor, W4 platform factor, and W5 campus culture factor. Institutions of higher learning cannot be isolated from society. They must absorb development nutrition, information and policy support from society, and at the same time realize their own value by delivering human resources to society and contributing intellectual results. In the social macro environment, there are also five restrictive factors that promote and restrict the survival and development of college students’ entrepreneurial education. They are H1 corporate factor, H2 entrepreneurial policy factor, H3 public platform factor, H4 industrial environment factor, and H5 regional cultural factor [3].

The ten limiting factors in the micro-environment and macro-environment of entrepreneurship education work together and influence each other to form the social ecosystem on which entrepreneurship education depends on its development and growth.

![Figure 1](image-url)

**Figure 1.** The limiting factors of the innovation and entrepreneurship education ecosystem

Curriculum factor: In colleges and universities, we need to build a curriculum system to achieve the goal of education. This is a big matter about positioning and the allocation of teaching resources, and it is the most direct limiting factor that affects development.

Teacher-student factor: Professional teachers must not only have professional knowledge, but also have certain experience. The teacher has a kind of interest, enthusiasm and perseverance in this work. The quality of teachers will affect the interest of students, which also determines the speed and efficiency of the promotion of education courses [4].
Organization factor: refers to whether colleges and universities have formed an organizational system that is conducive to the development of innovation and entrepreneurship education and empowered to establish special innovation and entrepreneurship education management institutions and student associations, including whether innovation and entrepreneurship education is included in the school development plan, and whether the school’s main leadership is responsible for effective mobilization. The innovation and entrepreneurship education working mechanism jointly participated by the whole school management and teaching departments, whether to establish a special entrepreneurship college or innovation and entrepreneurship center that closely cooperates with the educational administration department, and whether to formulate a teaching management system that encourages all teachers to participate in innovation and entrepreneurship education and supports teachers and students in innovation and entrepreneurship Wait.

Entrepreneurship platform factor: This work is different from general course teaching. It has strong practicality and needs to have more connections with enterprises, incubation centers, science and technology parks, communities, institutions, etc. Therefore, can it provide special educational resources? Become a condition for the effective development of innovation and entrepreneurship education. If it is just traditional teaching, from classroom to classroom, then the teaching effect will be greatly affected [5].

Campus cultural factors: the school’s historical inheritance, the school’s positioning, the direction of the school’s teaching reform and the campus atmosphere, and the organization of extracurricular activities have formed the campus cultural factors that influence entrepreneurship. The development of entrepreneurship education is not only constrained by various restrictive factors within the school, but also affected by various factors outside the campus and in the social environment. Enterprise factors, entrepreneurial policy factors, public platform factors, industrial environment factors, regional cultural factors, etc. determine whether entrepreneurship education in the campus "micro environment" has a good social ecosystem.

Enterprise factor: Mainly refers to the status and level of liaison and networking between universities and alumni companies, companies around universities, industry associations, etc. The corporate factor is active in campus teaching, competition guidance, and project development, which can not only promote classroom teaching, but also promote social services in colleges and universities, and guide and encourage teachers and students to participate in entrepreneurial practice activities [6].

Entrepreneurship policy factor: Entrepreneurship policy is the general term for a series of policy measures formulated by the central and local governments to reduce barriers to entrepreneurship and promote entrepreneurial activities. Entrepreneurship and employment are inseparable. The pressure of employment has made entrepreneurship more and more valued and supported.

Public platform factor: Universities are rooted in communities and localities, and the innovation and entrepreneurship activities of teachers and students in universities are inseparable from the support of communities and localities. The public platform provided by the government and the community includes not only the effective public services provided by the government in the areas of business opening, incubation, business growth, finance, and technical services, but also the business service platforms provided by enterprises and parks in terms of finance, law, and entrepreneurship consulting.

Regional cultural factor: The evaluation of entrepreneurial behavior and entrepreneurial value forms an entrepreneurial cultural factor. A positive entrepreneurial culture affirms the value of entrepreneurship and tolerates the failure of entrepreneurship. Entrepreneurs have a higher social status in their living environment. A negative entrepreneurial culture restricts people's innovative spirit and entrepreneurial behavior, and requires people to follow the rules and follow the same steps. People hold a mentality of suspicion, suppression, jealousy, and even hatred towards entrepreneurs, while accusing and ridiculing entrepreneurial failures. Active entrepreneurial cultures such as "Silicon Valley Culture" and "Yongjia Culture" encourage people to devote themselves to entrepreneurship and practice boldly. As a value orientation, it is natural to guide students on campus to choose entrepreneurship and love entrepreneurship. For example, the emergence of a group of world-class
entrepreneurs from Stanford University is the result of the "Silicon Valley entrepreneurial culture". On the contrary, in the northeast and central and western regions of our country, the negative concepts left over from the planned economy era, the hierarchical concepts of traditional cultural sergeants, workers, farmers, and business, and the small peasants' consciousness of being wealthy and poor, all severely penalize the obstacles to entrepreneurship [7]. The promotion of the spirit and the development of entrepreneurial activities restrict the benign development of entrepreneurial education in these regions, which in turn affects the formation of a good entrepreneurial environment, and ultimately leads to a decline in the dynamics of endogenous economic growth, and further widens the gap between the rich and the poor and the regional gap [8].

4. **Construction of an ecosystem model for innovation and entrepreneurship education**

With reference to the practical results of innovation and entrepreneurship education at home and abroad and scholars' theoretical summaries and academic research on the innovation and entrepreneurship education ecosystem, this paper constructs the model of the innovation and entrepreneurship ecosystem in our country's universities as follows (Figure 2).

![Ecosystem of Innovation and Entrepreneurship Education in Universities](image)

**Figure 2.** Ecosystem of Innovation and Entrepreneurship Education in Universities

As shown in Figure 2, although innovation and entrepreneurship education is implemented in colleges and universities, only if it is deeply rooted in the social ecosystem can it flourish and show extraordinary vitality. At the same time, the social macro-environment and the university micro-environment are themselves two interactive and mutual feedback systems. Colleges and universities implement innovation and entrepreneurship education, import entrepreneurial market signals, entrepreneurial culture, and corporate policies, and set up entrepreneurship courses to cultivate students’ entrepreneurial awareness and improve their entrepreneurial capabilities, provide innovative and entrepreneurial services to the society, and export innovative and entrepreneurial talents and partners. A new entrepreneurial culture adapted to the market economy. Entrepreneurial talents who are keen on innovation and entrepreneurship will provide new impetus for the sustainable development of the economy and society, technological innovation, and social employment. At the same time, they will create new types of social capital through innovative and entrepreneurial
activities and promote the evolution of social concepts in a modern market-oriented direction. Create a culture of innovation and entrepreneurship [9,10].

5. Conclusion
At present, it is difficult for college students to find jobs. The state and colleges have established entrepreneurial fund organizations for college students. This can encourage college students to apply professional knowledge and national policies to boldly innovate and start businesses. At the same time, through entrepreneurship, college students can not only transform what they have learned into actual productivity, but also exercise their abilities. This can promote the sustainable development of the country’s economy, and then move on to an innovative development path.

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