Investigation and Analysis of Entrepreneurship of Civil-engineering College Students—Take YanShan University's School of Construction and Engineering as an Example

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Abstract. College students' entrepreneurship is a process of taking college students as the main body of entrepreneurship. With the recent transformation of China and the intensification of social employment pressure, entrepreneurship has gradually become a hot choice for college students. Construction engineering is a traditional engineering specialty, which occupies an important position in many engineering colleges and universities. It is worthy for educators to discuss the characteristics and problems of construction engineering students' entrepreneurship and how to guide and solve them. Based on the school of engineering and construction of YanShan university, this paper studied the characteristics and existing problems of entrepreneurs through more than 320 questionnaires to help the development of entrepreneurship of college students.

Introduction

Countries in recent years, a series of policies to encourage college students to entrepreneurship, the students responded positively, and schools in the country dual support, the college students' entrepreneurial activities get the favor of the students, but as a new group in the business flow, the entrepreneurs often lack of entrepreneurial experience, college students the school on how to guide college students entrepreneurship is also lack of cognition. Based on the survey of college students who have started their own business in YanShan university, this paper finds out the form and content of college students' entrepreneurship, analyzes the existing problems and possible countermeasures, and gives practical guidance to college students and school authorities who start their own business.

Questionnaire Design

At home and abroad about the document of college students' entrepreneurship report \cite{1,2}, preliminary sorting out some targeted questions, according to the characteristics of the construction of YanShan university college, after consultation with teachers strict, initially formed a relatively complete questionnaire, the issuance of questionnaires, recycling and reasonable analysis, continuous improvement to perfect the questionnaire, to ensure that the questionnaire results to a representative.

Data Sources

Charge with the method of online survey together, a total sample of 320, online through questionnaire star in our business situation, a survey by the data as a whole sample statistical sample rate of college students' entrepreneurship and entrepreneurial intention, offline by player has the choice of entrepreneurial success and failure of the students, for the balance of the analysis of entrepreneurship students, entrepreneurship conflict with school related advantages and disadvantages.
Sample Statistical Results

The results of the 320 questionnaires in the sample were sorted out according to the professional distribution (Table 1) and the grade distribution (Table 2), so as to obtain more intuitive data.

<table>
<thead>
<tr>
<th>professional</th>
<th>Number of questionnaires/copies</th>
<th>Percentage /%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil engineering</td>
<td>138</td>
<td>43</td>
</tr>
<tr>
<td>Professionals in Architecture Environment</td>
<td>93</td>
<td>29</td>
</tr>
<tr>
<td>Architecture</td>
<td>32</td>
<td>10</td>
</tr>
<tr>
<td>Engineering mechanics</td>
<td>57</td>
<td>18</td>
</tr>
</tbody>
</table>

Table 2. Distribution of grade of questionnaire.

<table>
<thead>
<tr>
<th>grade</th>
<th>Number of questionnaires/copies</th>
<th>Percentage /%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>67</td>
<td>21</td>
</tr>
<tr>
<td>Sophomore</td>
<td>90</td>
<td>28</td>
</tr>
<tr>
<td>Junior</td>
<td>99</td>
<td>31</td>
</tr>
<tr>
<td>Senior</td>
<td>64</td>
<td>20</td>
</tr>
</tbody>
</table>

Contents of the Questionnaire

Based on the data sample ratio and understanding of entrepreneurship, entrepreneurship, the choice of direction, the proportion of the funding sources, internal and external motivation, entrepreneurs and grade differences in the entrepreneurial process to obtain the non-physical returns, to know what the business form, and a simple analysis of the causes of this situation, to have intention to provide some references for business people.

The Ratio of Male to Female Entrepreneurs and Their Understanding of Entrepreneurship

According to the survey, 60% of the students are interested in starting a business, among which, the proportion of male students is slightly higher than that of female students (as shown in figure 3-1). Most of the students showed interest in starting a business in the survey. 66% of them thought starting a business was entrepreneurship, and 34% thought starting a job or developing a scientific research technology was entrepreneurship (as shown in figure 3-2). If only from the perspective of the business definition of traditional college students stalls and delivery affirmation is not working, but in the Ministry of Education to implement the "national college students' innovative entrepreneurial training plan management method" in the emphasis on "interest drive, independent practice, focus on process," the principle of this rather and college students' understanding of entrepreneurship in line. Therefore, from the perspective of entrepreneurial behavior, college students' entrepreneurship should run through the whole process of entrepreneurial practice activities, from the promotion of commodities to the opening of Taobao shops are entrepreneurial. Even so, actual surveys have found that very few people actually start a business.
The Proportion of Choosing to Start a Business

The survey results showed that 63.12% of the students had the intention to start their own business. It is noteworthy that only 23.27% of the students had started their own business. A survey of students who only intended to start a business found that insufficient preparation of funds and time (accounting for more than 73%) was the main reason for not taking actual actions. Students without entrepreneurial intention (accounting for 36.88%) did not have the idea of starting a business because they did not understand the meaning and process of starting a business and the excessive risk they took[^4]. Thus, it can be seen that college students have a mentality of "hope but not reach" for entrepreneurial activities, which hinders their further development.

Choice of Entrepreneurial Direction

Is engaged in the industry to analyze, to the entrepreneurs in the wechat business industry (selling clothes shoes 9 people accounted for 42.9%, selling articles for daily use seven people accounted for 33.3%, other 5 people accounted for 23.8%) accounted for nearly 40%, favored by the contemporary college students, especially in the beginning of university students, this can be from wechat business industry competitors, are not affected by the characteristics of the site constraints explained[^5] (as shown in figure 3-3); Compared with wechat business, traditional service industry (including private tutor (57.1%), restaurant waiter (21.4%) and other 3 (21.4%)) is inferior to wechat business industry, accounting for nearly 27%. The constraint of time and place is the dominant factor. However, due to the characteristic of low risk in this direction, it is deeply popular among middle school students. I started my own brick-and-mortar stores (restaurants accounted for 25 percent, clothing stores accounted for 58.3 percent, shoe stores accounted for 7 percent, other 2 accounted for 16.7 percent, etc.), accounting for 23 percent. This direction is emerging among the graduating students, which can be attributed to the pressure of life of life and other reasons.

Venture Capital and Sources

Among the samples, those with an investment budget of less than 1000-yuan account for 48%, and those with a budget of 1000-3000-yuan account for 42% (as shown in figure 3-4). According to the
analysis from the source of funds (as shown in figure 3-5), the funds of 28 samples were from family members (53.8%), the funds of 20 samples were from students (38.5%), and only one sample was from bank loans. This shows that, in the survey sample, the initial funds to start a business to living expenses and students to raise funds, very few loans to the community. Entrepreneurs deliberately avoid risks, there is a try - and - try mentality for entrepreneurial activities, entrepreneurial mentality is not yet mature.

**Internal and External Motivation of Entrepreneurship**

Studies have shown that entrepreneurs of inner entrepreneurial intention from the demand for fame and wealth, more proportion reached 58%, and friends and choose entrepreneurship direction accounted for 19% (as shown in figure 3-6), the cognitive shortages of the situation of the selected industry and external factors of data showed that 40% were affected by their parents to choose their own business sector (as shown in figure 3-7). I didn't have a clear understanding of the industry. Nearly 27% of the entrepreneurs started their business because they felt poor \[^{[6,7]}\], and the external influence was mostly made by the entrepreneurs on the spur of the moment.

**Differences in Entrepreneurs' Grades**

The survey found that most sophomores and seniors started their own businesses (accounting for 65.4% of those who started their own businesses). Freshmen were ignorant and most of them did not have a clear understanding of entrepreneurship. In the sophomore year, some students have the energy and the guidance and help of teachers to carry out simple entrepreneurship in the places provided by the school. During the senior year, due to the unsatisfactory employment unit and the government's policy support for starting a business right after graduation, some students chose to start their own business. Compared with the freshmen, sophomore and juniors, the purpose of starting their own business is clearer (as shown in figure 3-8).

**Non-material Benefits Obtained**

In the process of entrepreneurial activities, entrepreneurs obtain a large number of non-material benefits, which is the unique value in the entrepreneurial process. For college students’ entrepreneurs themselves, these values are often more able to promote one's development. Non-material benefits include opportunity, knowledge, sense of achievement, etc. According to the survey data, 58% of entrepreneurs said that they have gained entrepreneurial experience in
entrepreneurial activities, and 12% agreed that they can enhance their sense of achievement in entrepreneurial activities (as shown in figure 3-9). In a word, the value brought to entrepreneurs by these benefits is immeasurable.

![Figure 3-8. Entrepreneur Grade Distribution.](image1)

![Figure 3-9. Non-material benefits of entrepreneurship.](image2)

**Problems in Entrepreneurship**

Based on a detailed analysis of the sample population (sample size: 138), there are three major problems in the entrepreneurial process of college students: lack of entrepreneurial experience and insufficient social relations (44 students account for 31.9%), entrepreneurial and academic conflicts (42 students account for 30.4%) and insufficient capital (52 students account for 37.7%) \[8,9\]. At the same time, there is a low correlation between entrepreneurial orientation and professional orientation.

**Conflict Between Entrepreneurship and Lack of Experience**

44 entrepreneurs (31.9%) could not choose their own industry to start their own business due to lack of experience and social relations, limited access to information, and lack of a good understanding of various industries. As a result, they were unable to choose their own industry to start their own business.

**The Contradiction Between Entrepreneurship and Insufficient Capital**

The survey found that the main obstacle for college students to start their own businesses is the lack of venture capital, including 52 students accounting for 37.7%. Among them, 54% of the start-up capital of college students is invested by their families and 38% is invested by their classmates. Bank loans only account for 2% (as shown in figure 3-5). In the sample, there is an entrepreneur engaged in wechat business who invested most of his capital in the early stage products. At the same time, college students have a single source of funds, and the amount is small, most of which are from their parents’ monthly living expenses. Because of this, their investment is limited, they will not easily choose the way of loan, and directly avoid the risk. Without fixed income and savings, college students are very vulnerable to risks.

**Contradictions Between Entrepreneurship and Academic Requirements**

According to the survey, school conflict is also one of the main obstacles to entrepreneurship, including 42 people accounting for more than 30.4% (as shown in figure 4-1). Entrepreneurship will take up a lot of time, entrepreneurs need to sacrifice learning time at the cost of entrepreneurial activities. According to the survey, 77% of entrepreneurs reported that they had missed courses due to entrepreneurial activities (as shown in Fig. 4-1 and Fig. 4-2). Secondly, due to the heavy study, the pressure of graduation and the study of many professional courses, students could not get away from starting a business. The conflict between the two shows that entrepreneurs have to weigh their own time, otherwise they may fail to achieve academic and business results.
Low Correlation Between Entrepreneurial Orientation and Professional Orientation

College students to study in college is built around their own specialty, but their professional knowledge is often because of technical equipment co., LTD., the target customer group is too narrow, and the market demand is too low, causes itself to entrepreneurship of college students can't get used to learn professional knowledge, and in other industries to carry out the business.

From entrepreneurs to choose business industry (as shown in figure 3-3), you can see that students choose entrepreneurship industry and professional correlation is low, only in the "other" individual existence, accounted for less than 10% (engaged in to enterprises draw CAD figure 2 people accounted for 40%, 1 PS production accounted for 20%, other 2 people accounted for 40%), of which the cause of this situation one type for construction institute for engineering college, take part in this type of work requires a lot of relevant knowledge, low correlation with actual life, students have no enough knowledge reserves, we can't easily. The second kind of entrepreneurial information is less, students cannot get it in time. According to the research on the direction selection of the two industries, it can be concluded that starting a business which is not related to the major will delay time and energy, and the lack of correlation between professional knowledge and the content of starting a business will be of little help to the future career. For the business related to the major, the professional knowledge can be applied, which can consolidate the knowledge learned in class and improve the individual's practical ability, which has a good promotion effect on the individual's career.

Countermeasure Analysis of College Students' Entrepreneurship

(1) Guide the Market-oriented Operation of Associations

The school can actively guide the market-oriented operation of college students' associations, so as to make use of talents from different majors and grades to pool the wisdom of the masses and exercise their abilities, and guide students from different majors to start businesses together, so as to improve the organizational structure of entrepreneurship and enhance social relations accordingly.

(2) Simplify Start-up Loan Procedures

The state has introduced various preferential policies, such as simplifying loan procedures, preferential interest rates, and appropriate credit loans, for start-up loans to college students. Therefore, colleges and universities should push and update relevant policies on innovation and entrepreneurship of college students in a timely manner, and establish start-up and loan consulting rooms for college students. At the same time, it provides more entrepreneurial practice opportunities for college students, encourages them to form their own entrepreneurial teams, and supports them to actively participate in the social practice of entrepreneurship related to their majors.

(3) Improve Policy Coordination

In 2015, the Ministry of Education issued "establish a flexible length, allow students drop out of school entrepreneurship" policy, but from the point of the survey results, when the business and academic conflict, college students in the choice between the two or more rational, most of the
students are all chose to study in don't delay to entrepreneurship, both entrepreneurship and study hard. In this regard, the school can conduct follow-up supervision on entrepreneurship, offer credit encouragement to entrepreneurial teams that succeed in entrepreneurship and meet the requirements, and add bonus points to the comprehensive test results of entrepreneurship. For college students who delay their studies because of entrepreneurship, the school should introduce detailed measures, and the policy direction of the ministry of education, so as to ensure the sustainability of students’ entrepreneurship.

(4) The Teaching Arrangement should Consider the Needs of Entrepreneurship

School authorities can set up training courses for entrepreneurship related to their majors. For example, the software they need to learn in the university can be arranged in the courses earlier, and the theoretical courses later can deepen the application of necessary software, so that the professional knowledge and specialized software they have learned can be utilized in entrepreneurial activities to strengthen the correlation between the industry and the major. Enhance students’ professional knowledge and accomplishment, link theory with practice, and enhance entrepreneurial confidence.

Conclusion

Overall, the survey results show that college students have a higher willingness to start their own businesses in school. The stronger their sense of poverty is, the more obvious their motivation for fame and wealth is, and the more likely they are to start their own businesses. Most of the entrepreneurial intention comes from the support of the family, but the students themselves lack the corresponding theoretical knowledge and practical ability. Although the entrepreneurial intention is relatively high, few of them actually put into practice, and lack of theoretical guidance for the obstacles in the entrepreneurial process. The correlation between the industry and the major is extremely low, and students lack sufficient professional theoretical knowledge and dare not choose the industry related to the major. Colleges and universities should provide educational guidance, promote the combination of students and enterprises, promote the transformation of entrepreneurial intention into entrepreneurial practice, and provide economic assistance for college students to start their own businesses, so as to enhance the enthusiasm, innovation and initiative of college students to start their own businesses. College students should constantly improve their operation, publicity and communication skills, objectively analyze the relationship between entrepreneurship and their studies, face up to the possible consequences of entrepreneurial failure, minimize entrepreneurial risks, and realize the unification of personal development and entrepreneurship under the guidance of the school.

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