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A research on the improving path of college students' entrepreneurial ability

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ABSTRACT

This paper aims to investigate the causes leading to the gap between real effect and expected targets of college students' entrepreneurship in China, and lay a entrepreneurship foundation for the entrepreneurship team. In this paper, the entrepreneurial ability of college students was studied based on objective and psychological characteristics of venture. And entrepreneurship quality and professional quality of college students were analyzed. Entrepreneurship team functions in five dimensions: communication, management, cooperation, organization and service. The enterprise performance was evaluated based on competitive, financial and market performance. Then the corresponding relations among entrepreneurial ability, team functions, all factors relating to enterprise performance, dimensions and performance are revealed through empirical research; influences of social network support and investment on entrepreneurship are validated.

KEYWORDS

College students; Entrepreneurial ability; Improving path; Entrepreneurship education.



RESEARCH BACKGROUND

With the rapid economic growth and social progress, talents with innovative spirit and entrepreneurial ability are increasingly needed in order to constantly deepen economic restructuring and realize the stable transition from old enterprises to new ones. Recently, many college students choose to make entrepreneurship, but it remains to be a great challenge. According to the statistics, the success rate of entrepreneurship is lower than 30%, even much lower than common enterprise. Nonetheless, numerous private entrepreneurs in China succeed given the unfavorable external environment, lack of fund and insufficient policy support. The key to success lies in their internal entrepreneurship spirit which results from the constant enrichment and improvement of personal entrepreneurial ability. Thus, excellent entrepreneurship quality and ability are indispensable if college students attempt to succeed in venture.

Most of previous literatures focus on the phenomenon and problems on entrepreneurship education of college students, especially entrepreneurial ability. However, rare systematical theoretical research and analysis on college students' entrepreneurship have been conducted. Based on the phenomenon abovementioned, in the paper, the concept and connotation of college students' entrepreneurial ability were described from the view of entrepreneurship education in China. Key factors relating to entrepreneurial ability were obtained, and the corresponding relations among them were found out through empirical research. Finally, this research provides relevant theoretical support and policy suggestions to improve college students' entrepreneurial ability.

LITERATURE REVIEW

The scholars in western countries conducted early researches on entrepreneurship and entrepreneurial ability and achieved lots of theoretical results in terms of economics, psychology, management science and sociology. For instance, Markman and Baron^[1] proposed an individual entrepreneurship matching model and pointed out that the more the individual characteristics match to the requirements for the entrepreneur, the more likely to be succeed. Roth (1966)^[2] put forward that people's perception concerning their control capability over things in life directly influences their understanding about major events, attitudes towards life and action features in work. Casson (1982)^[3] thought that the successful entrepreneurs are characterized by risk-taking ability, innovation, the ability of coping with market changes, as well as cooperation and innovative skills on enterprise management. Jean-Baptiste (2001)^[4] believed that a successful entrepreneur has a good judgment, willpower, extensive knowledge, and excellent management skills. According to Schumpeter, entrepreneurs need to make innovations and innovatively combine various production factors. Drucker (2007)^[5] pointed out that entrepreneurial ability and spirit can be learned and cultivated. Stevenson et al. (1989)^[6] thought that the focus of entrepreneurship is virtually management. Baron and Markman (2000)^[7] held that successful entrepreneurs are able to effectively utilize social relations and resources. Bruderl & Preisendorfer (1998)^[8] described that entrepreneurs with management experiences can enable an emerging enterprise to better survive in the first three years. Politis (2008)^[9] discussed the impacts of entrepreneurship experience on results variables such as overcoming new shortfalls, causal attributions, and attitudes towards failure. Martin & Smith (2010)^[10] explained that previous entrepreneurship knowledge and continuous learning play important roles in improving entrepreneurial ability; they constructed a concept model concerning four factors which are experience, learning, knowledge and enterprise performance. Holt (1997)^[11] compared differences in entrepreneurship caused by varied cultures and values between Chinese entrepreneurs and their counterparts in USA based on a research of over 200 Chinese and American entrepreneurs either.

Chinese scholars have paid increasing attention to entrepreneurship education as well as theory and practice on improving entrepreneurial ability in recent years. For instance, Tang Jing and Jiang Yanfu (2008)^[12] thought that entrepreneurship is a concept involving two orders and six dimensions. The first order describes abilities of opportunity identification and development in addition to management ability; the second order consists of strategic ability, social relationship and commitment ability; besides, they verified the reliability and effectiveness of the concept on entrepreneurial ability through an empirical study. Feng Jie (2010)^[13] analyzed the qualities that entrepreneurs should have, including thinking, professional quality, physical fitness and entrepreneurship. Huang Junling (2011)^[14] constructed a model of entrepreneurship factors for talents and put forth that entrepreneurial ability and entrepreneurship quality are the most important among various factors. Yu Lan (2011)^[15] analyzed that personal quality plays the most significant role among various influences through the index system of entrepreneurship influences and analytic hierarchy process. Ling Zhixiong (2012)^[16] analyzed the constraints on the success of college students' entrepreneurship based on the McKinsey 7-S model system and concluded that it is essential to improve technology core competitiveness of venture. Mang Jun (2012)^[17] described the entrepreneurial model as a process which varies according to the learning curve of entrepreneurs and external circumstance changes. Xiao Lu and Fan Ming (2013)^[18] revealed that the strong survival motivation is one of the most important reasons leading to low success rate of college students' venture. Zhou Chun and Wang Feng (2013)^[19] proposed that college students are challenged by many obstacles in venture, such as weak awareness of venture, insufficient abilities and skills as well as unfavorable environment. Xiang Hui and Lei Jiasu (2014)^[20] established the ISO model related to generalized entrepreneurial attitudes, personal background and entrepreneurial intention by conducting a research on how entrepreneurship education impacts college students' entrepreneurial intention. Wang Hui (2014)^[21] described that policy support for entrepreneurship greatly impacts college students' venture. Gao Guijuan and Su Yang (2014)^[22] discovered that the entrepreneurial ability varies among college students in different disciplines and universities; however, the influence of

entrepreneurship education on entrepreneurial ability is less obvious. Wu Chengcheng (2014)^[23] studied the impact of entrepreneurial motivation on entrepreneurial ability based on the Multidimensional-Multi attribution Causality Scale and questionnaires on entrepreneurial motivation and entrepreneurial ability; it indicated that attributions and entrepreneurial motivation of college students significantly influence their entrepreneurial ability.

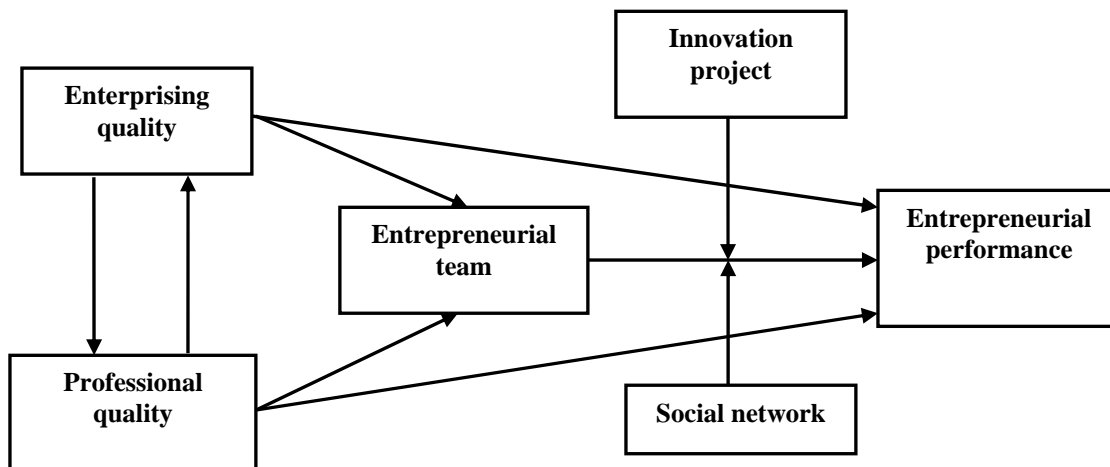
To sum up, concerning venture, the scholars world widely focus on different qualities and abilities in research, however a systematic summary of comprehensive abilities has rarely been conducted. It is difficult to find effective approaches to facilitate the success of entrepreneurs. Moreover, researches on improving entrepreneurial ability of entrepreneurs have rarely been reported. Influences proposed by existing researches on entrepreneurial ability show less quantitative, intuitive and visual standards.

MODEL CONSTRUCTION AND RESEARCH HYPOTHESIS

Chen constructed a structure model that classifies entrepreneurial ability into five factors which are market, innovation, management, risk-taking and financial control based on the existing theories. Man *et al.* divided entrepreneurial ability into six dimensions: the abilities of opportunity identification and development, relation concept, organization, strategy and commitment. According to De Noble's view, entrepreneurial ability contains six dimensions^[24]: skills on management of risk and uncertainty, innovation and product development, the management of social relations, opportunity identification handling and allocating key resources, and creating and maintaining an innovative culture. Tang Jing and Jiang Yanfu put forth that the dimension model of entrepreneurial ability can be constructed based on six indexes which refer to the abilities of opportunity identification, opportunity development, organization and management strategy, relation, and commitment.

According to the literatures abovementioned, existing researches on entrepreneurial ability constitution models and later practice, the dimensions selected by those models are not comprehensive. Improvement of college students' entrepreneurial ability has been few studied. There is little research on the improvement of college students' entrepreneurship and entrepreneurial ability. This paper mainly studies college students' individual entrepreneurial ability and the entrepreneurship factors. Meanwhile, the influences of their interaction on entrepreneurship performance are analyzed. Furthermore, the influence of objective factors such as entrepreneurship project and social network support on entrepreneurship performance is studied. Finally, analysis dimensions of college students' entrepreneurial ability, and quality, as well as professional quality are put forward. Intermediary variables such as entrepreneurship team and performance which directly influence entrepreneurial ability are introduced except for adjusting variable-social network. Firstly, the paper discusses the way how entrepreneurial ability influences the final entrepreneurship performance through entrepreneurship team; then, the relationship among various factors concerning entrepreneurial ability and the influence degree are analyzed; at last, the intermediary and adjusting functions of entrepreneurship team and social network are analyzed respectively. The following entrepreneurial ability and performance model (Figure 1) is constructed based on the above research methods existing literatures and relevant theories.

TABLE 1: Entrepreneurial ability-performance model



College students' entrepreneurial ability is analyzed based on entrepreneurship quality and professional quality. Entrepreneurship team and social network presents intermediary and adjusting variable respectively. Then, the influence of personal factors on entrepreneurship performance is discussed and hypotheses are proposed as follows,

Hypothesis 1: Entrepreneurial ability significantly influences entrepreneurship performance.

Hypothesis 2: Entrepreneurship team acts as intermediary variable between entrepreneurial ability and entrepreneurship performance to some extent.

Hypothesis 3: Entrepreneurship project and social network support serve as adjusting variables to some degree in the influence route of entrepreneurial ability on entrepreneurship performance.

RESEARCH METHODS

Samples and data acquisition

This paper is conducted based on a pre-investigation on a certain science and technology pioneer park, and enlightenment pioneer park. A total of 150 questionnaires were distributed. The authors collected 124 ones, including 94 effective ones. The return rate was 82.7%. The reliability and validity of the survey scale were assessed after the data sorting and input. To improve the accurateness and effectiveness of the scale as much as possible, the dimensions of entrepreneurial ability theory were revised according to the data analysis.

Questionnaires were distributed and the data collected in Hefei, Nanjing, Shanghai, Wenzhou and other regions successively according to the revised scale. A total of 950 copies were distributed. Among which, 776 ones were collected, including 705 effective ones, showing a return rate of 81.7%. Following sample interviews indicated that the reasons why some questionnaires were not returned lies in that questions were too many to be answered and some people were not willing to participate in this activity.

Questionnaire design

Based on the above hypotheses, the reasonable variable and dimensions are acquired. Then, the research scale on college students' entrepreneurship was designed based on the principle of questions which should be concise, accurate without misleading, sensitive and ambiguous. The structural research questionnaire was designed according to Likert scale. The corresponding data were collected through the subjective measurement. In the research, the results of the subjective and objective measurement show strong positive correlation. Thus, using the subjective measurement index is feasible if objective data are unavailable. Subjective measurement is also effective if the design of questionnaire is scientific and the research procedure is performed rational.^{25 26} on this basis, an empirical study was conducted through the path analysis model: 1) choosing variables and establishing a causal model; 2) testing hypothesis; 3) estimating parameters; 4) evaluating the causal model.

Variables measurement and verification of the reliability and validity

Data acquisition in this paper was conducted in four stages so as to avoid homology variance. Two dimensions of entrepreneurial ability refer to professional quality and entrepreneurship quality: the former includes theoretical knowledge, practice ability and learning ability and the later consist of innovation ability, entrepreneurship spirit, entrepreneurial intention, diligence, perseverance, responsibility and tenacity. Respective reliability coefficient is tested through Reliability Coefficient Alpha.

The two dimensions subscales of entrepreneurial ability is greater than 0.7. Considering the large number of questions involving each dimension, the reliability coefficient for the scale of professional quality and entrepreneurship quality is acceptable.

The validity analysis scales refer to the relevant scales in two Works: The construction of the universality scale for Chinese entrepreneurs by Wu Yihui, in College of Management, National Taiwan University and The research on relations among shared values of senior management team, conflict process and enterprise performance, a doctoral dissertation by Fang Haiying in South China University of Technology. Due to the research length limits, this paper no longer list tables.

The two comparison abstract tables show that the freedom difference between the two models is 1. Both Chi-square difference and the significance test probability reach a significant level (0.05). Thus, the discriminating validity of the two potential dimensions is satisfactory.

EMPIRICAL RESULTS

The whole theory model and fitting results

The reliability and validity of variables in the research sample are in an acceptable level. Then, the comprehensive interaction among these variables were analyzed by applying SEM. Using the statistical tool (AMOS20.0), path analysis result based on investigation data is obtained. Entrepreneurship quality and professional quality of college students influence entrepreneurship performance through functioning in the entrepreneurship team. And entrepreneurship team and social network serve as support and adjustment factors.

In the model, the direct influences of entrepreneurship quality, professional quality on entrepreneurship performance corresponds to the hypothesis 1; the function the intermediary variable between entrepreneurial ability and entrepreneurship performance in entrepreneurship team corresponds to the hypothesis 2; the mediation role of mediation variables corresponds to the hypothesis 3. The model inspects two mediation variables: social network support and investment

In this paper, independent variables are professional quality and entrepreneurship quality; while intermediary variables refer to team communication, management, cooperation, organization and service. Relevant data analysis is shown in the TABLE 2.

The result indicates that independent variables have significant effect on intermediary variables: the entrepreneurial ability of entrepreneurs significantly affects the function of the entrepreneurship team. Compared to the professional quality, the entrepreneurship team function is more in the influence path of entrepreneurship quality on entrepreneurship performance. All of the indexes mentioned are basically within acceptable limits. And every structural equation model has a high fitting degree.

TABLE 2 : Path analysis of the theoretical model

			Estimate	S.E.	C.R.	P	Label
Team (Communication)	<---	Professional Quality	0.307	0.232	1.323	0.186	
Team (Management)	<---	Professional Quality	0.207	0.136	1.522	0.128	
Team (Cooperation)	<---	Professional Quality	0.095	0.027	3.481	***	
Team (Organize)	<---	Professional Quality	0.465	0.436	1.067	0.287	
Team (Service)	<---	Professional Quality	0.368	0.336	1.095	0.274	
Financial Performance	<---	Professional Quality	0.386	0.254	1.520	0.129	
Market Performance	<---	Professional Quality	0.402	0.243	1.654	0.099	
Competitive Performance	<---	Professional Quality	0.346	0.224	1.545	0.123	
Team (Communication)	<---	Entrepreneurship Quality	0.203	0.056	3.660	***	
Team (Management)	<---	Entrepreneurship Quality	0.863	0.063	13.728	***	
Team (Cooperation)	<---	Entrepreneurship Quality	0.582	0.04	14.713	***	
Team (Organize)	<---	Entrepreneurship Quality	0.564	0.05	11.190	***	
Team (Service)	<---	Entrepreneurship Quality	0.207	0.054	3.841	***	
Financial Performance	<---	Entrepreneurship Quality	0.846	0.432	1.958	0.051	
Market Performance	<---	Entrepreneurship Quality	0.903	0.503	1.795	0.073	
Competitive Performance	<---	Entrepreneurship Quality	0.784	0.386	2.031	0.043	
Financial Performance	<---	Team (Communication)	0.693	0.382	1.814	0.070	
Market Performance	<---	Team (Communication)	4.168	1.128	3.697	***	
Competitive Performance	<---	Team (Communication)	2.253	0.639	3.528	***	
Financial Performance	<---	Team (Management)	6.284	1.699	3.699	***	
Market Performance	<---	Team (Management)	4.998	1.341	3.726	***	
Competitive Performance	<---	Team (Management)	1.577	0.472	3.341	***	
Financial Performance	<---	Team (Cooperation)	0.847	0.432	1.961	0.050	
Market Performance	<---	Team (Cooperation)	0.654	0.047	13.864	***	
Competitive Performance	<---	Team (Cooperation)	0.739	0.042	17.455	***	
Financial Performance	<---	Team (Organize)	0.622	0.04	15.378	***	
Market Performance	<---	Team (Organize)	0.25	0.071	3.521	0.000	
Competitive Performance	<---	Team (Organize)	0.744	0.044	16.735	***	
Financial Performance	<---	Team (Service)	0.436	0.239	1.824	0.069	
Market Performance	<---	Team (Service)	0.584	0.325	1.797	0.073	
Competitive Performance	<---	Team (Service)	0.25	0.071	3.527	***	

Test results of hypotheses

In this paper, the independent variable is entrepreneurial ability while the dependent variable refers to enterprise performance. TABLE 1 shows the path analysis of the theoretical model through Amos20.0 by considering the independent, intermediary and dependent variable. The results in the lines 6 to 8 and 14 to 16 reveal the influencing coefficient and significance of the independent variable to the dependent variable.

The table presents that the path coefficient of professional quality and entrepreneurship quality on financial, market and competitive performance of the enterprise are positives. Hypothesis 1 is not validated and tenable. The influence of the independent variable on enterprise performance is likely to be insignificant when entrepreneurship team, significantly correlated with the independent variable, is introduced. Professional quality, as an independent variable, remains significantly and positively correlated with team cooperation which is an intermediary variable. And entrepreneurship quality, as an independent variable has a significant influence on team communication, management, cooperation, organization and service. It shows that entrepreneurship team totally serves as the intermediary in the influence path of entrepreneurial ability for enterprise performance. Hence, hypothesis 2 is validated, and tenable. The difference ($P(99.86, 89.42) = 0.221 > 0.05$) is calculated through analysis of the models of high and low social relation group. The success probability of entrepreneurship is higher when entrepreneurs receive more supports of social network. The regulation effects of investment projects and social network support in the model are comprehensively considered. It is assumed that hypothesis 3 is validated, and is tenable.

CONCLUSION AND IMPLICATIONS

In this paper, entrepreneurial ability factors are put forward from the perspective of objective and psychological characteristics. The relations among influence path of entrepreneurial ability on enterprise performance and relations are verified through theoretical and empirical study. The conclusion is as follows: entrepreneurial ability contains various dimensions, and plays a decisive role in the success of entrepreneurship; moreover it influences entrepreneurship performance through team functions; social network support and investment in entrepreneurship project serve as the adjusting role in the research model; the influence mechanism of entrepreneurial ability for entrepreneurship performance, by relying on entrepreneurship quality and professional quality, entrepreneurial ability finally impacts entrepreneurship performance through functions of entrepreneurship team characterized by different resources.

This paper Theoretically enriches understanding of people about entrepreneurial ability and lays the theoretical foundation for the research on relations among entrepreneurship dimensions horizontally and vertically; a path model of transforming entrepreneurs' entrepreneurial ability to performance is put forward; the relation theory regarding enterprise management and performance is further enriched; the paper provides the reference and theoretical guidance for innovation and entrepreneurship education for college students to some extent. Moreover, the result practically helps students form the idea which advocates entrepreneurship and making entrepreneurship by enhancing specialty education. This paper is conducive to improve college students' entrepreneurial ability through entrepreneurship practice and taking the entrepreneurship team as a platform. Besides, it lays a foundation for college students' career planning and entrepreneurship through professional learning and entrepreneurship education.

This paper also shows shortcomings as follows: section data is used and there is a lack of continuous tracking investigation; second, owing to the research is not performed in large areas, sample data collected are limited; third, dimension division in elements scales is relatively simple without conducting random sampling investigation, so this may cause deviation of the final result. The universality of this research has to be promoted. In addition, increasing industry classification, enlarging sample data and research areas are expected to be made in further research.

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