

2014

BioTechnology

An Indian Journal

FULL PAPER

BTAIJ, 10(15), 2014 [8550-8557]

Analysis of the improved skill element model's guidance to entrepreneurship education of the university talents

Yurong Qin

Chengdu Normal University, Chengdu, 610041, (CHINA)

ABSTRACT

Skill Element Model plays an important role in guiding the entrepreneurship education of university talents. Proceeding from the perspective of university talents' own skill elements, the construction of the "pyramid model" can exert a positive influence on skills (including opportunity seeking and seizing skill, effective resource integration and utilization skill, and entrepreneurial management and implementation skill), the effective division of primary and secondary relationship of basic professional skills, and the scientific nature of the Skill Element Model construction. In the third and fourth part, this paper employs the Iceberg Model Theory to systematically expound the improvement process of Skill Element Model and emphasizes the importance of two dimensions, including talents' personality and potential. In this way, this paper gains the theoretical support for the improvement of Skill Element Model. In terms of development, the improved Skill Element Model is an important guidance to talents' entrepreneurship and can lay a solid foundation for the rapid development of the era and society.

KEYWORDS

Skill element model; Iceberg model; Talents' entrepreneurship; Improvement and extension.



INTRODUCTION

In the perspective of the development of university talents’ social entrepreneurship, skill elements are important to the make or mar of talents’ business starting. Proceeding from social development, this paper conducts an all-dimensional exploration of the current university talents’ entrepreneurial skill elements. As the transition speed of the social and economic development mode picks up, the construction of Skill Element Model is involved in more and more fields. Based on the construction process of Iceberg Model, this paper makes some improvement of the Skill Element Model in the hope of enabling the improved Skill Element Model to provide positive guidance for the entrepreneurship education of the university talents and gearing their entrepreneurial mindset and direction to the era development.

CONSTRUCTION OF THE “PYRAMID MODEL” OF UNIVERSITY STUDENTS’ ENTREPRENEURIAL SKILL ELEMENTS

Through interviews of experts, teachers and scholars, and communication with them, this paper conducts a series of model construction of skill elements of university talents’ entrepreneurship education. Among the numerous models, “pyramid model” construction is representative. It can list the abilities related to the university students’ business starting process, and scientifically analyze the internal association between different elements as well.

In the construction process of Skill Element “Pyramid” Model, this paper should first systematically study the composition elements and then come up with relevant conclusions. It can be found that the composition elements of university talents’ entrepreneurship mechanism are clearly layered, which mainly include two parts, basic entrepreneurial skills and operational entrepreneurial skills. To put it specifically, basic entrepreneurial skills include innovational thinking ability, independent problem-solving ability and independent decision-making ability^[1]; while operational entrepreneurial skills include opportunity seeking and seizing skill, effective resource integration and utilization skill, entrepreneurial management and implementation skill and basic professional skills. Please refer to Figure 1 for Skill Element “Pyramid” Model for more details.



Figure 1 : Skill Element “Pyramid” Model

University talents’ basic entrepreneurial skills

The cultivation of basic entrepreneurial skills is a prerequisite for university talents to start their business. These are critical skills for university talents to face the stress and challenges of business starting in the current social environment. In the perspective of the development and changes of current social environment, the environment for university talents to start their business has become more and more complex, thus putting forward higher requirements of the talents’ basic abilities and qualities in the entrepreneurial process. Besides, the volatile entrepreneurial environment is a huge challenge against university talents’ entrepreneurial psychology. However, the basic entrepreneurial skills expected of the university talents have been gradually expanded from the traditional observation ability and entrepreneurial analysis to a broader scope. In the new period, the basic entrepreneurial skills required of the university talents mainly include innovational thinking ability, independent problem-solving ability and independent decision-making ability. Firstly, university talents’ innovational ideas should keep up with the times, and they should equip themselves with creative thinking and constantly innovate their mindset to quickly meet the requirement of social development. Secondly, when faced with social challenges and pressures, university talents should be able to solve problems with their unique thinking, thus fully guaranteeing the formation of their innovative thinking and making their entrepreneurial activities serve the current innovational development. Thirdly, the improvement of decision-making abilities is a critical link to the entrepreneurial process. Decision-making ability means that university talents should actively study the trend of social development and accurately seize entrepreneurial opportunities to hone their entrepreneurial thinking and resolutely make effective decision-making in the current entrepreneurial environment.

University talents' operational entrepreneurial skills

Currently speaking, university students' operational entrepreneurial skills are composed of include opportunity seeking and seizing skill, effective resource integration and utilization skill, entrepreneurial management and implementation skill and basic professional skills.

Opportunity seeking and seizing skill

From the composition of Skill Element "Pyramid" Model, it can be seen that the skill is located in the top, which fully suggests the skill as an important element to lead the development direction of university talents' entrepreneurial activities. Some experts and scholars thought that to seek entrepreneurial opportunities is to explore the hidden business opportunities for development and continuously seek their resources to form business activities of certain scale. However, Joseph et al. systematically and objectively sorted the entrepreneurial activities in the perspective of the values created by the entrepreneurial process to the society. They thought that the gradual identification and expansion of the entrepreneurial process are oriented towards the social and economic development. Such entrepreneurial activities are generally called economy-oriented independent entrepreneurship. If the entrepreneurial process is formed according to the effective utilization of company's internal resources, which helps identify the entrepreneurial approach, such entrepreneurial activities are generally called intra-enterprise entrepreneurship. The third entrepreneurship style is to choose the entrepreneurial opportunities according to the trend of social development, thus making the entrepreneurial process based on certain innovational thinking. Such entrepreneurship model is called society-oriented grassroots social entrepreneurship. The fourth entrepreneurial model is to identify the entrepreneurial direction according to the traditional social development. The entrepreneurial process is rather traditional and the entrepreneurial direction lacks the support of innovational thinking. Therefore, the entrepreneurial style is usually called intra-society entrepreneurship. All the above are some experts' ideas about the definition of entrepreneurship and their scientific division of entrepreneurial models. All the entrepreneurial models require entrepreneurs to seek and seize opportunities.

University talents with the basic entrepreneurial skills can seek entrepreneurial opportunities based on the development rules of the economic field, thus constantly expanding their entrepreneurial road and making great contributions to social and economic development. Finally, they could maximize the economic value of their own entrepreneurship. During the process, the university talents can also seek and master the entrepreneurial opportunities through the above stated methods so as to contribute their share of contribution to promoting economic and social growth and meeting the requirements of social, economic and environmental development. (See Figure 2) At the same time, university talents can capture entrepreneurial opportunities based on demographic changes, policy changes and technical advances. According to researches both home and abroad, main skills related to opportunity identification and creation include information searching and obtaining skill, opportunity assessment skill and innovational skill.



Figure 2 : Four types of different entrepreneurial models

Effective resource integration and utilization skill

As an indispensable part of university talents' comprehensive skills, effective resource integration and utilization skill include the integration and management of human resources and the comprehensive utilization of material resources. Human resources management is a strategic condition for enterprises, which plays a critical role. The key to the university talents' entrepreneurship lies in the formation of strong team cohesion by focusing on human resources and gearing the overall thinking of the entrepreneurship team to the entrepreneurship development direction. As to effective integration, development and utilization of material resources, effective integration of material resources is an important source for the entrepreneurial capitals; while development and utilization of resources is to minimize the entrepreneurship cost to provide effective economic sources for the follow-up development. The organic combination of the two parts can lift the improvement of university talents operational entrepreneurial skills to a new height, thus providing a sound guarantee for the talent management and the scientific utilization of material resources^[3]. As the second important skill of the operational

entrepreneurial skills, effective resource integration and utilization skill should be regarded as a core force for university talents' entrepreneurship and development so as to meet the era requirements and impose a positive influence on social and economic development.

Entrepreneurial management and implementation skill

The construction of the university talents' entrepreneurship Skill Element "Pyramid" Model is similar to the composition of the cone-shaped food chain. Items on the top of the "pyramid model" have a higher requirement of relevant qualities and skills. The items at the bottom suggest they are some basic skills. Entrepreneurial management and implementation skill is located in the second layer at the bottom of the Skill Element "Pyramid" Model, so it is a basic skill element which all university talents should equip them within their entrepreneurship process. The enterprise management expertise decides the future development of the enterprise. In the new period, the university talents' entrepreneurial management skill mainly includes human resources management, marketing and sales management, financial management and risk management. All these aspects have a close bearing on whether the entrepreneurship process can achieve sustainable development. Based on the above discussion, it can be concluded that entrepreneurial management and implementation skill plays an important role in the construction of university talents' entrepreneurship Skill Element Model. It can also guarantee the healthy social and economic development, provide relevant theoretical support for the entrepreneurship process of university students and decide the future development and destiny of university talents' entrepreneurship.

Basic professional skills

Basic profession skills refer to the basic skills acquired by learning professional knowledge in universities, which are an important condition for university students' entrepreneurship development and a brand-new era requirement for the construction of university talents' entrepreneurship approaches. To be good at thinking and learning is not only a concrete demonstration of the basic professional skills in the entrepreneurship process, but also a fundamental condition for university talents to regard entrepreneurial opportunities in the perspective of their professional knowledge. The development of social structure has gradually formed the basic trend of scientific transition. If university talents want to start their business, they should constantly improve their understanding and research of the scientific transition of the entrepreneurship process, which can provide a powerful basis for the entrepreneurship to be on the innovational development track. In the new period, basic professional skills have gained a broader definition, and the formation of the innovational thinking has become a core part of the basic professional skills.

TABLE 1 : University talents' entrepreneurship skill elements

	Skills	Major Indexes
Basic Entrepreneurial Skills	Creativity	Creative thinking & divergent Thinking
	Problem-Solving Ability	The ability to master the essential relationship between different things, put forward the solution plans and to implement
	Decision-Making Ability	The ability to resolutely make decisions
	Opportunity Skills	Information searching and gaining skill, opportunity assessment skill and innovational skill
Operational Entrepreneurial Skills	Resources Integration Skill	Team-building skill, capital-raising skill and relationship skill
	Entrepreneurial Management Skill	Institution foundation skill, human resources management skill, marketing skill, financial management skill, risk management skill and strategic management skill
	Professional Skills	Proficient in professional field

Based on the current development situation of university talents' entrepreneurship, it is necessary to form forward-looking ideas for the formation process of basic professional skills. Faced with the new ideas about the entrepreneurship process in the new period, the construction of university talents' Skill Element Model should proceed from the professional skills and be built on a solid foundation. In this way, the university talents' entrepreneurship skill elements can be further improved, which could positively influence the entrepreneurship process. This is the foundation for the construction of university talents' entrepreneurship Skill Element Model, which enables university talents to fully respond to the new challenges posed by the social and economic development for university talents' entrepreneurship, and provide unceasing driving force for sound and rapid social and economic development. Based on the above discussion, this paper visualizes the skill elements constituting the Skill Element "Pyramid" Model. (See TABLE 1)

THE POSITIVE INFLUENCE OF ICEBERG MODEL IN THE ENTREPRENEURSHIP EDUCATION OF UNIVERSITY TALENTS

As an extension of the university talents' entrepreneurship Skill Element Model, Iceberg Model was put forward by McClelland, a famous psychologist. As is known to all, icebergs are floating on the sea with part of it above the sea and the

other part being under the sea. Therefore, only the part above the sea is visible to people's naked eyes. This part stands for the basic skill elements expected of the university talents in their entrepreneurial process, mainly including the basic professional skills, entrepreneurial management and implementation skill, effective resources integration and utilization skill, opportunity seeking and seizing skill. All these skills can be gained through different tests. Generally, in the process of university talents' entrepreneurship training process, such skills can be improved to different degrees^[4]. However, the part below the sea is invisible to the naked eyes. This part of skill elements cannot be measured accurately, which include social roles, one's own image awareness and entrepreneurship motive. In the construction and improvement process of skill elements, the part of skills should be further extended by giving effective guidance to university talents in terms of their sub-consciousness. In this way, the improvement process of Skill Element Model can reach a higher scientific standard. (See Figure 3)

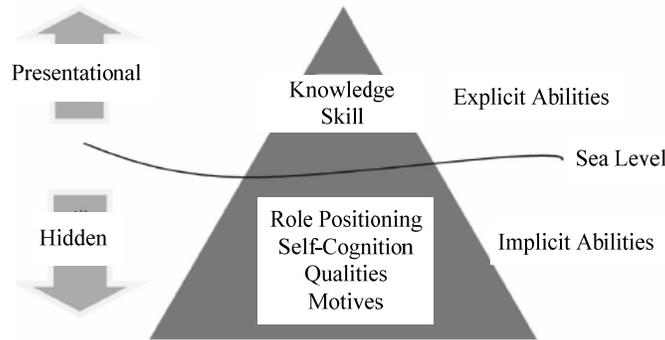


Figure 3 : Quality Iceberg Model

ESTABLISHMENT AND IMPROVEMENT OF UNIVERSITY TALENTS 'ENTREPRENEURSHIP SKILL DIMENSION MODEL

This paper scientifically constructs the university talents' entrepreneurship Skill Element Model through testing investigation methods, including interviews of the domestic famous experts and scholars for university entrepreneurship education. The investigation is conducted through questionnaires. The author actively summarizes the suggestions and advice for the construction and improvement of the model. Finally, this paper expounds the promotion function of the construction process of Iceberg Model on the construction of Skill Element Model. In the process, this paper improves relevant definitions of Skill Element Model to deepen the expansion of university talents' entrepreneurial skills. During the process of Iceberg Model construction, this paper divides the major skill elements into four dimensions, including professional knowledge, basic ability, potential abilities and personality. (See Figure 4)

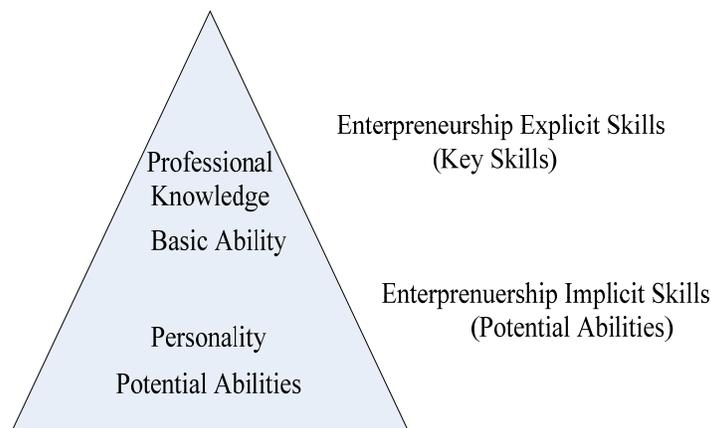


Figure 4 : University talents' entrepreneurship Four-dimensional Skill Element Model

From Figure 4, it can be seen that professional knowledge is at the top of the Iceberg Model. Based on the intuition, it can be known that professional knowledge includes the storage size of the professional knowledge and information and the amount of the professional knowledge and experiences. Basic abilities are also invisible in the construction process of the Iceberg Model, which mainly include opportunity seeking and seizing skill, resources integration and utilization skill, and entrepreneurial management and implementation skill^[5]. However, personality is an important dimension below the sea level, which mainly includes psychological qualities and sense of responsibility. Potential qualities are at the bottom of the Iceberg

Model. It refers to internal traits of university talents, which are hard to be guided and changed in the entrepreneurship training.

COMPREHENSIVE ASSESSMENT AND QUANTITATIVE CRITERIA FOR UNIVERSITY TALENTS' ENTREPRENEURSHIP SKILLS

This paper statistically analyzes people’s recognition degree of the assessment factors and the entrepreneurship skill dimensional model, and establishes the hierarchical structure of the comprehensive assessment of entrepreneurs’ comprehensive skills and the quantitative criteria of assessment factors. (See TABLE 2)

TABLE 2 : Comprehensive assessment indexes, factors and quantitative criteria of university talents' entrepreneurship skills

Assessment Indexes	Assessment Factors	Connotation and Evaluation Quantitative Criteria
Professional Knowledge	Management Knowledge	Knowledge related to enterprise operation and marketing development
	Legal Knowledge	Legal knowledge related to enterprise operation and taxation
	Industrial Background Knowledge and Professional Basic Knowledge	Basic knowledge related to entrepreneurship industrial background and professional skills
	Knowledge of Economic Policies & National Policies	A clear picture of the national and regional entrepreneurship policy and economic situation
	Marketing Ability	Effective marketing skills
Basic Abilities	Capital Operation Ability	Financial management ability
	Teamwork Ability	Close cooperation and coordination between teammates and negotiation with teammates to jointly make decisions
	Organizational & Management Ability	Enterprise foundation, human resources management, risk management and strategic management
	Learning & Reflection Ability	Good at learning new knowledge, open to novel things, immediately summarize and reflect on former experiences
Personality	Entrepreneurship Motives	Persistent and natural internship ideas, preferences, willing, desire and sense of achievements
	Entrepreneurship Qualities	Continuous and steady behavior characteristics and personality, such as upright moral characters, good faith and honesty
	Self-Cognition	Sense of responsibility, social responsibility, adherence to laws, devotion to the work, aggressive spirit, pragmatic and innovational spirit
	Values	Perseverance, independence, courage, confidence and optimism of entrepreneurship
	Resources Integration Ability	Entrepreneurship expectation, cooperation, spirit of adventure, spirit of devotion, sense of crisis and awareness of competition
Potential Abilities	Innovational Ability	Organization of enterprise’s internal and external financial, material and technical resources and realization of the effective integration and utilization of resources
	Communication, Collaboration & Interpersonal Relationship Ability	Learning ability, pioneering spirit and innovational ability
	Decision-Making Ability & Adaptability to Changes	Interpersonal relationship, integration and utilization of human resources, team-building, organization foundation ability and leadership
	Opportunity Identification	Risk decision-making of new enterprise business and quick and effective response to various changes

In TABLE 2, university talents' entrepreneurship skills (A) include four first-level assessment indexes, entrepreneurship professional knowledge (B1), entrepreneurship basic ability (B2), entrepreneurship personality (B3) and entrepreneurship potential abilities (B4). Entrepreneurship professional knowledge (B1) is decided by four assessment factors, including management knowledge, management knowledge, legal knowledge, industrial background knowledge and professional basic knowledge and knowledge of economic policies & national policies; entrepreneurship basic abilities (B2) are made up of five assessment factors, including marketing ability, capital operation ability, organizational & management ability and learning & reflection ability; entrepreneurship personality (B3) is made up of four assessment factors, including

entrepreneurship motives, entrepreneurship qualities, self-cognition and values; and the entrepreneurship potential abilities (B4) are made up of five assessment factors, including resources integration, innovation, communication, coordination and interpersonal relationship, decision-making and adaptability to changes, and opportunity identification^[6].

ENTREPRENEURSHIP TECHNICAL ASSESSMENT QUANTIZATION

In the process of university talents' business starting, the internal characteristics and potential abilities are hardest for scientific prejudice. This is also the measurement standard for the good and bad entrepreneurship qualities of university talents. Thus, in the measurement process of university talents' characteristics and internal abilities, this paper combines the method of traditional expert panel interview and entrepreneurs' self-assessment to effectively divide their grades shown as Table 3.

In the assessment quantization of entrepreneurs' internal personality characteristics and potential abilities, the assessment marks of the expert panel account for 70% and entrepreneurs' self-assessment marks account for 30%. The total quantization grade gained for various assessment factors is $f_i (i=1-8)$. Finally, the grades of various assessment factors are multiplied with their corresponding assessment weight, the results of which are added to gain the total grades of the entrepreneurs' entrepreneurship potential competency. Based on the result, the development potential of entrepreneurs to be engaged in the entrepreneurship work can be evaluated.

TABLE 3 : 10-point assessment grade criteria for the assessment factors of university talents 'entrepreneurship basic abilities

Evaluation Factor	Evaluation Content	Evaluation Rank Criteria			
		10 points	8-9 points	6-7 points	Below 6 points
Marketing Ability	Effective Marketing Skills	Very Strong	Strong	General	Weak
Capital Operation Ability	Financial Management Ability	Very Strong	Strong	General	Weak
Teamwork Ability	Close cooperation and coordination between teammates and negotiation with teammates to jointly make decisions	Very Strong	Strong	General	Weak
Organizational & Management Ability	Enterprise foundation, human resources management, risk management and strategic management	Very Strong	Strong	General	Weak
Learning & Reflection Ability	Good at learning new knowledge, open to novel things, immediately summarize and reflect on former experiences	Very Strong	Strong	General	Weak

Business basic abilities include both the part above and below the water level. By referring to TABLE 3, the entrepreneurship skill grade of entrepreneurs can be judged, and the percentage grade can be gained according to the relationship between the TABLE 3 and the percentage conversion— $f_i (i=9-13)$.

Entrepreneurship professional knowledge belongs to the surface part, which is easy to be assessed. Thus, the traditional hundred-mark system written Q&R method is adopted for the quantization assessment. The assessment hundred-mark system percentage of the assessment result can be directly gained- $f_i (i=14-17)$.

To sum up, this paper identifies the four dimensional assessment factors, including professional knowledge, basic abilities, personality and potential abilities, and establishes the measurement signs and scales; and comprehensively employs assessment methods to conduct assessment quantization of the four dimensional assessment factors of university talents' entrepreneurship skills. University entrepreneurs can gain their assessment grades of entrepreneurial skills^[7].

CONCLUSIONS

This paper studies the scientific construction process of university talents' entrepreneurship Skill Element Model and systematically expounds its guiding significance. Besides, this paper makes some improvement of the construction process of Skill Element Model. Referring to the model construction process of Iceberg Model, this paper deepens the exploration of the detailed measures to improve the Skill Element Model. The author hops that the study and exposition of this paper can exert some positive influence on the university talents 'entrepreneurship education, enables the university talents' entrepreneurship to promote social development process and provides a solid theoretical foundation for the rapid and sound economic and social development.

REFERENCES

- [1] Zhu Jinglan, Wang Lan, Wang Shuna; University Entrepreneurship Education Research. *Education and Vocation*, **20**, 97-99 (2014).
- [2] Zhang Tianhua; Research on the Construction of College Entrepreneurship Education System, *Journal of National Academy of Education Administration*, **5**, 25-30 (2014).
- [3] Chen Yudong; Entrepreneurship Education in British and American Higher Education and Its Inspirations on China's University Entrepreneurship Education—A Case Study of University of Cambridge and Stanford University, *World Agriculture*, **11**, 181-184 (2013).
- [4] Yi Kaigang; Implicit Knowledge Mining of University Entrepreneurship Education: Exploration of Theoretical Reform and Countermeasures. *Heilongjiang Researches on Higher Education*, **31(11)**, 81-84 (2013).
- [5] Xu Zhenghong; Do a Good Work of University Entrepreneurship Education to Improve the Quality of Employment, *China Higher Education*, **11**, 8-10 (2013).
- [6] Ren Zezhong; The Introduction of Collaborative Innovation Concept to Optimize University Entrepreneurship Education, *China Higher Education*, **10**, 45-47 (2013).
- [7] Shang Guangmei; Analysis of Factors Influencing Entrepreneurship Education of Higher Institutions. *Fuzhou University Journal (Philosophy and Social Science Version)*, **5**, 102-106 (2012).