Research on Change Engine Model of Enterprise Management Innovation Ability Evaluation

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Abstract: At present, the market competition is becoming increasingly fierce, enterprises must innovate in order to survive and develop. Therefore, the author studies the change engine model of enterprise management innovation ability evaluation. On the basis of comparative analysis of the current typical innovation capability theories at home and abroad, from the perspective of effectiveness and operability, the constituent elements of enterprise technological innovation capability are extracted. The final result shows that technological innovation is the basis for enterprises to achieve sustainable development, and research on technological innovation is increasingly valued by governments and enterprises. Correctly analyzing and evaluating the technological innovation capability of enterprises has important practical significance for promoting technological innovation of enterprises and enhancing their competitive advantages.

1. Introduction

In order to maintain the long-term survival and development of an organization, the first need is to ensure that the organization faces a changing market environment and market demand, and has its own flexibility to respond to the market's risk resistance [1]. The improvement of risk resilience requires enterprises to have innovative capabilities and be able to adapt to complex market environments. Through the improvement of management innovation ability, the core competitiveness of enterprises is enhanced [2]. In addition, Schumpeter more categorizes innovation as the result of entrepreneurial activities. He believes that innovation is the essence of entrepreneurship. The place where entrepreneurs are different from ordinary people is that entrepreneurs can find problems and implement innovation [3]. Specifically, it refers to the ability of enterprises to meet or create market demand, enhance their competitiveness and obtain the best economic and social benefits by introducing or developing new technologies [4]. Since the reform and opening up, China's innovation ability has been greatly improved, and a few scientific research and technological innovation also occupy a place in the world. But there is no doubt that the gap between China's innovation ability and international advanced level is large [5]. Establishing enterprise technology center has become an important way for the government to encourage technological innovation, improve enterprise technological innovation system and enhance enterprise technological innovation capability. Among them, human capital includes human capital of technological innovation talents and human capital of enterprise leaders [6]. Structural capital includes innovation culture, enterprise system, knowledge management and organizational learning. Material capital includes innovation capital and equipment investment.

Lack of management innovation is the bottleneck that restricts the development of enterprises. It is embodied in how to make use of advanced technology, continuously improve and inherit scientific management, and systematically adjust the corporate cultural structure, management methods, organizational structure, business strategy and business philosophy [7]. An important reason for this difference is that there are differences in technological innovation ability among different enterprises. “The so-called technological innovation ability refers to the ability of enterprises to rely on new technologies to promote the development of enterprises” [9]. In the era of speeding competition, it is no longer the era when big fish eat small fish, but the era when fast fish eat slow fish. Speed means the influence and speaking power of competitors in peer competition. Therefore, the evaluation of enterprise innovation ability should pay more attention to the analysis

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of the speed of innovation ability from the perspective of dynamic development [10]. Since the practice of promoting the construction of enterprise technology innovation capability in China precedes the theory, the construction of enterprise technology center has always lacked effective judgment basis for improving the degree of technological innovation capability of enterprises. Therefore, this paper believes that the endogenous technological innovation capability of enterprises is mainly reflected in three aspects, namely, human capital support ability, structural capital support ability and material capital support ability.

2. The Establishment of a Transformation Engine Model for Innovation Ability Evaluation

2.1. Model research design

The core competitiveness of an enterprise is undoubtedly the ability of enterprise management innovation. At the same time, it affects organizational performance and enables the company to prosper and move forward in a dynamic environment. The purpose of designing the enterprise innovation capability evaluation index system is to reflect the level of enterprise innovation capability, how to strengthen the enterprise innovation ability and the direction of future efforts, find out the weak links of innovation ability, and propose means and methods to improve and strengthen. And formulate corresponding measures, and focus on improving. The ability of enterprise technology innovation is the core issue to ensure the vitality of the enterprise! Therefore, how to correctly analyze and evaluate the technological innovation capability of the enterprise is very important and necessary. This has important theoretical value and practical significance for enterprises to successfully carry out technological innovation, establish and maintain competitive advantages, and obtain the best economic benefits. It includes the available resources and allocation, the ability to understand the development of the industry, the ability to understand the development of technology, the structure and cultural conditions, and the ability of strategic management. Engine model constructs scientific and feasible evaluation activities of enterprise management innovation ability by using two models: test and power engine.

If the weights of experts, business managers, relevant foreign business managers and the public are 0.5, 0.2, 0.2 and 0.1 respectively, the above table will be sorted out (as shown in Table 1).

Table 1 Assessment weight obtained after sorting out

First-level indicators	Secondary indicators	Very strong	Stronger	Commonly	Weak	Weaker
Collaborative ability	research and development	0.55	0.45	0	0	0
	Exchange of Marketing Departments					
	Communication between Enterprises and Customers	0.25	0.2	0.55	0	0
	Unified Technology Platform	0	0.2	0.7	0.1	0
	Supply Chain Management in Colleges and Universities	0	0.2	0.45	0.25	0.1

2.2. Establishment of change engine model

The concept of the change engine model is mainly based on the comprehensive application of enterprise application technology, enterprise management mechanism and corporate culture. It is of great significance to conduct in-depth research on management innovation to effectively promote the core competitiveness of enterprises. In terms of strong innovation capabilities, we will continue to promote innovation capabilities and maintain comparative advantages, thereby enhancing the company's ability to innovate and achieve sustainable development. At the same time, the design of the enterprise innovation ability evaluation index system is also conducive to the government to grasp the rules of enterprise innovation activities to formulate relevant economic policies. It refers to the comprehensive evaluation of the enterprise's technological innovation capability system

under certain conditions, using certain scientific methods and based on a set of index systems that can characterize the various aspects of the company's technological innovation capabilities. Thus, the process of technological innovation capability of enterprises is determined. Emphasis is laid on the decomposition of the composition of enterprises' technological innovation capability from the perspective of strategic management. A lot of experience of technological innovation also tells us that only balanced development can enhance the ultimate technological innovation ability of enterprises. If we do not consider the matching development of various capabilities, the sustainable development of technological innovation capability of enterprises will be greatly weakened. Similarly, the evaluation index is fair and just.

3. Analysis of the Practice of Change Engine Model

3.1. Strengthen cooperation between enterprises and research institutes and universities

Research institutes and universities have strong scientific research strength, while enterprises have relatively weak scientific research strength. When the two are united, they can complement each other. According to the above methods and processes, through fuzzy evaluation, the fuzzy evaluation values of human capital support ability, structural capital support ability and material capital support ability of a certain enterprise's actual endogenous technological innovation ability can be obtained. However, there is still a lack of perfect ideas on how to cultivate the ability of enterprise management innovation. On the other hand, enterprises can analyze their own problems and promote the construction of technology centers, thus promoting the further improvement of technological innovation capabilities of enterprises. After a preliminary proposal and the construction of the basic framework, the change engine model of enterprise management innovation ability can not be applied to enterprise management work immediately. It needs repeated practice and inspection of the reform engine model.

In terms of obtaining the weights of evaluation factors, this paper adopts the opinions of senior managers, senior technicians and experts in this theoretical field. See the evaluation and calculation process below.

Table 2 Evaluation Factors of Material Capital Support Capability

Evaluation Level	Primary evaluation factors	Secondary evaluation factors
Material capital support is viable	Equipment input support capability	Advanced level of equipment
		Quantity of equipment to meet usage
		Equipment Root Reform Input
	Cost Input Support Capability	R& D input intensity
		Non-R& D input intensity
		Introducing Absorption Input Strength
		Intensity of Management Innovation Input
		Intensity of training input for technological innovators

3.2. Strengthening the strategic management of enterprise technology innovation

Accelerate the pace of establishing a modern enterprise system, and form a system with clear property rights as the core and capable of promoting technological innovation. Since the structural capital of the enterprise cannot provide a good internal environment for the function of human capital, at this time, although the enterprise has good human resources, its ability cannot be fully utilized. Analyze the data of the engine model, the proportion of indicators, etc. It is to effectively transform the research results into the ability to produce products that meet the needs. Marketing ability. It reflects the enterprise's ability to understand and grasp customer needs, and effectively conveys a high degree of customer concession value, so that enterprises can obtain higher economic benefits, and ultimately realize the value of enterprise innovation. Man is the main object of

enterprise management. Through certain management innovation, we can optimize and integrate various resources of enterprise, including customer relationship, information, capital and equipment. Good corporate culture is the source and inexhaustible motive force of enterprise innovation and development.

4. Conclusion

Through the construction of evaluation index system, this paper can guide enterprises how to improve management innovation ability. Through the evaluation index system and specific evaluation model of enterprise innovation ability constructed in this paper, the level of enterprise innovation ability can be clearly understood. Thus, it can provide strong support for enterprise leaders to make scientific decisions to enhance their innovation ability, and provide useful reference for government departments to formulate relevant policies. Ensure that enterprises are scientifically considering the balanced development of the three in the construction of technological innovation capabilities, based on material capital support, and fully manage and optimize. In order to ensure the full play of human capital support capabilities, a healthy situation of mutual development is formed, laying a foundation for the sustainable development of technological innovation capabilities. So adjust and improve the company's innovation speed and innovation strategy in a timely manner.

References

[1] Song J H, Feng S, Wang Y A. University Innovation Ability Evaluzation Based on AHP-Topsis Method. Applied Mechanics and Materials, 2014 556-562:6653-6659.

[2] Shuying W, Shuijuan Z, Bobo L. Effect of Diversity on Top Management Team to the Bank\”s Innovation Ability-based on the Nature of Ownership Perspective. Procedia Engineering, 2017 174 240-245.

[3] Li C, Xue X, Shi Y. [American Society of Civil Engineers ICCREM 2015 - Lule?, Sweden (August 11–12, 2015)] ICCREM 2015 - Study on the Building Enterprise Innovation Ability Evaluation Index.996-1001.

[4] You, Wei. Cultivation of Innovation Ability of Applied Undergraduates Basing on Own Resources. Advanced Materials Research, 2014 971-973 2553-2555.

[5] Na L I, Chunxue W, Xingquan Z. Training of Medical Students’ Innovation Ability in Vascular Neurology. Health Manpower Management, 2014 18 (1) 28-9.

[6] Gronauer B, Naehler H. TRIZ as an Amplifier for Corporate Creativity and Corporate Innovation Ability. Procedia CIRP 2016 39 185-190.

[7] Wu T, Liu X. An interval type-2 fuzzy ANP approach to evaluate enterprise technological innovation ability. Kybernetes, 2016 45 (9) 1486-1500.

[8] Li X, Zhou D. Research on comprehensive evaluation of financial innovation ability of the national-level new areas based on grey correlation. Journal of Shanghai Jiaotong University (Science), 2016 21 (2) 204-209.

[9] Zhen L, Qiang K, Ming-Sheng Z, En-An C. Evaluation and Empirical Study on Regional Technology Innovation Ability Based on TOPSIS Method. Journal of Tianjin University, 2014 602-605 53-59.

[10] Feifei X. Teaching Reform and Innovation Ability Training for Undergraduate in Closed-range Photogrammetry Course. Journal of Geomatics, 2017 42 (1) 119-122.