The Core Competition Research of Small and Medium-sized Technology Enterprises

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Abstract. The paper based on small and medium-sized technology enterprises as the research object, Small and medium-sized technology enterprises core competition cultivation and promoted as research emphasis, analyzed their factors and problems, and establish core competition system, and basis on that, constructed small and medium-sized technology enterprises core competition training mechanism, and puts forward relevant measures.

Introduction

In recent years, China's high-tech enterprises have sustained rapid development. In 2014, the Main Business Revenue of high-tech enterprises reached ¥12.7 trillion. As the reserve army of high-tech enterprises, small and medium enterprises are playing an increasingly important role in development of science and technology and cultivating new formats. Small and medium sized enterprises are our country new economic growth point and the important impetus to transformation and upgrading. They will directly affect the future development of high-tech enterprises in our country. They are the propeller and stabilizer of the society, the most active innovation power, and the important support of the social and economic development.

The Connotation of the Core Competition of Small and Medium Technology Enterprises

The Connotation of Small and Medium Technology Enterprises

Small and medium-sized technology enterprises refer to conform to the state of small and medium-sized enterprise standard regulation. They engage in development of scientific and technological research under a certain number of technical personnel. Then they acquire the independent intellectual property rights to a high-tech products or services, in order to realize the sustainable development of enterprises. Small and medium-sized high-tech enterprises have high value-added, low pollution, low consumption, etc. These distinct characteristics are superior to ordinary small micro enterprises’. They become a new round of innovation "vanguard" for small and medium-sized technology enterprises to adapt to the new environment. And they continuously improve innovative change through the "catfish effect" stimulation of enterprise.

The Connotation of the Core Competition

Core Competition is capacity of resources which are unique and dynamic in the long-term operation. It supports enterprise to keep sustainable competitive advantage in the development of market. The core Competition is the collection of the integration of resources and various abilities. In 1990, the United States C.K. Prahalad & UK Gary Hamel (1999) pointed out that the core Competition is the accumulating knowledge organization, is the consolidated the knowledge and skills within the organization, especially how to coordinate variety of production skills and integration of different technical knowledge and skills [1].

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Characteristics of Core Competitions of Enterprises

Although the research is constantly evolving from different perspectives to modes of business on the core competitions of enterprises, what is the core competition to reach consensus. The characteristics of these aspects: one is indivisible. It is an organic integration of the core skills, technology and management capabilities of the enterprise, as well as the integration of internal team and individual core competencies. The second is uniqueness. Enterprise has alone, distinctive and unique ability, what can't be repeated in other enterprises, and difficulty imitated by competitors. It is a key factor for the enterprise to provide sustainable competitive advantage. Third, it is difficult to imitate. That only through continuous learning, exploration and creation, can't simply copy, is the enterprise long-term development to nurture and accumulation, and conceived in corporate culture, convergence deeply into the essence of enterprise, difficult to other alternatives. Fourth, it is sustainability [2]. The core competition come from skills and knowledge, which gradually be accumulated over a longer period. There is a gradual evolution process, and also need to be updated in the process of evolution, continuous, sustainable. And competitive advantage is the core competitiveness of the enterprise. Fifth, it is hard to replace. It will not be replaced by other competitor in the short term. Six is dynamic. The core competition also has the life cycle, which should be constantly innovated, developed and cultivated to maintain its heterogeneity. Seven is malleable. That is, core competition has a wide range of characteristics, which is reflected in many products or services of enterprises, not limited to a single product or service. Eight is value-added. It creates value and reduces the cost. Then it brings the extraordinary asset yield significant competitive advantage, which brings the long-term key interests. It is not the acquisition of the biggest short-term profits, but the retention of the best long-term profits.

Special Features of The Core Competition of Small and Medium-sized Technology Enterprises

The small and medium-sized technology enterprises are innovative and survival. Therefore, the core competition is to maximize the potential of human beings and take culture as the carrier to form a unique brand of enterprises through continuous learning, synergy and precipitation. Its main features: first, the enterprise has the technical achievements, the technical foundation is strong. It engages in the production or service of high-tech products, and produces products or services through high technology; Secondly, enterprises mainly focus on technological innovation, and high input of R&D expenses is about 5% of total sales revenue. Thirdly, the proportion of scientific research staff is high; Fourth, Enterprises mainly exist to research and innovation. Therefore, in the cruel market competition, they must cultivate and form their own core competition and play their own advantages for most small and medium-sized technology enterprises. Its competition depends on the following factors: (1) The core technology: technology research and development capabilities, manufacturing capabilities, quality assurance ability, staff quality (2) The advantages of professional management (industry) (3) The enterprise brand, business ability (customer relations, resource input, product marketing), technology innovation ability, low cost management. These three aspects constitute the core. At the same time, these are also an important index to evaluate the core competition of small and medium enterprises.

The Status Quo of Small and Medium-sized Technology Enterprises

Small and Medium-sized Technology Enterprises are Developing Rapidly

Preliminary estimates, at present the number of our country small and medium-sized technology enterprises is more than 30000 (Ministry of Science and Technology, 2014), which accounts for about 3% of the total number of small and medium-sized technology enterprises, and contributes more than 18% of GDP, and provides jobs above 24%, about 10% Invention patent, more than 24% new product development. As of January 2015, 57 technology SMEs listed in the "New third board" in Henan
province, which ranked the Eighth in the country and the Second in the central and western provinces. These 57 enterprises have 28 R&D institutions above the provincial level in Henan, has won 35 items in National and Henan SMEs technology innovation fund project, 742 items in patent, including 109 invention patents, for s323 Software copyright, average net income of ¥ 6.02 million.

The Government Has Increased Support for the Development of SMEs

In 2013, the technology innovation fund reach ¥ 47.36 billion for small and medium-sized technology enterprises, over 8.38% more than the previous year. In recent years, China's investment has continued to increase in innovation funds, from ¥ 1.4 billion in 2008 to ¥ 47.3 billion in 2013. And the SMEs venture capital investment guide fund project is ¥ 1 billion, accounting for 21.11% of the total budget (As Table 1)[3].

| Year | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|------|------|------|------|------|------|------|
| Amount invested (¥ billion) | 14   | 28   | 35   | 37.7 | 43.7 | 47.36 |

To promote the healthy development of small and medium-sized technology enterprises, especially small micro enterprises, the financial funds should be utilized to the guiding role in technology innovation of small and medium-sized enterprise. At the same time, the financial department issued by the central government of Henan province small and medium-sized enterprise development special funds of ¥ 188 million, mainly be used to support small and medium-sized technology enterprises, especially small micro-enterprise technology innovation, improve financing environment of the small and medium-sized enterprise, etc.

Problems Existing in Small and Medium-sized Technology Enterprises

Small and medium-sized technology enterprises are the most dynamic intermediate forces of small and medium-sized technology enterprises. Its business has a certain scientific and technological content, higher personnel quality. The company operation is flexible and efficient. It is more and more remarkable in promoting industry development and the new technology, the optimization of resources. But the small and medium-sized technology enterprises also face problems and difficulties.

The Ability to Take Risks is Limited

Scientific and technological innovation is a highly uncertain activity, and the whole process requires the continuous investment of enterprise human, material and financial resources. Due to the small size of the small and medium-sized technology enterprises, the capability of the research and development risk is very limited. This is mainly due to two reasons: One, the small and medium-sized technology enterprise are limited in capital and personnel, so they only develop a single technology in a time, difficult to have the strength in the parallel technology development or alternative technologies for research and development failure. In this way, companies can only take on the risk of R&D, rather than taking on a lot of R&D in larger companies. In fact, multiple R&D parallelism is a way to spread risk, which is not necessarily more risky than single research. Second, when science and technology innovation failure, it is difficult to find resources to compensate the project risk of failure in the limited resources. So companies will be in the adverse situation, even has the possibility of bankruptcy directly.

The Cooperation in the Production and Research is Not Good

From the nature, small and medium-sized technology enterprises are the best choice to practice the cooperation. However, the problems such as the distribution of the cooperative interests of the research, the large gap between the research achievements of universities and enterprises and the large gap between enterprises and enterprises demand, which have not resulted in high participation of
enterprises. The theory of "three spiral theory" requires that governments, enterprises and schools should intersect and call each other, so as to carry out various, multilateral and bilateral flexible communication to achieve good results. Therefore, it is difficult for enterprises to participate actively in the cooperative mode of production and research in China. Then the cooperation in production and research is not very helpful to the small and medium-sized technology enterprises in science and technology.

Lack of Innovative Talents

Talents, especially high-quality talents and innovative talents are the most important factors in the development of SMEs. The subject of scientific and technological innovation is human. Generally, it is difficult to attract high-quality creative talents due to limited resources. In addition, many small and medium-sized technology enterprise founders are science and technology personnel, but the enterprise could not have come specialized senior management personnel under limited resources. So its spending on research and development will be limited.

The Management is Disorders and Lacks Perfect Information

Small and medium-sized technology enterprises have small scale, small staff which are the advantages. On the other hand, it is lack of experience, small scale, less personnel is the lack of specialized management personnel. So general management is not standard, management system is not sound. However, the record of operation and management information is relatively short under the imperfect management system, which is detrimental to the long-term development of enterprises.

Lack of Independent Innovation Capacity

The lack of independent innovation ability has been one of the main problems in China's SMEs. In terms of patent number, only 28.9% of patent applications are patent invention, most of which are utility model and exterior design.

Suggestions and Measures

Perfect the Core Competition System

The resources of enterprises have tangible resources, human resources and intangible resources. For small and medium-sized technology enterprises, its tangible resources (fixed assets and liquid assets) are relatively weak. Its core competition mainly depends on intangible assets (brand, trademark, corporate culture and goodwill, etc.) and human resources (as Fig. 1)[4].

![System of core competition](image)

**Figure 1.** System of core competition.

Improve the System and Mechanism for the Technological Innovation Construction of a Technological Innovation System. "Enterprise as The Main Body, Market as The Orientation, Industry-university-research Combination". The government should encourage and support policy which strengthened their subject status about the small and medium-sized enterprise technology
innovation. And the government should formulate and perfect relevant fiscal, taxation and financial policies, which provide good environment for small and medium-sized enterprise technology innovation.

**Improve the Investment System for Technological Innovation.** Governments set up a special fund to support development of small and medium-sized technology enterprises, to support them to promote the technology innovation and new technology, especially technology research and achievements. At the same time, we should establish the venture capital mechanism of small and medium-sized technology enterprises, invest long-term equity in high and new technology industries with huge growth potential, and cultivate a number of high-tech enterprises.

**Establish a Small and Medium-sized enterprise Innovation and Entrepreneurship Park.** At the same time, we can set up specialized small and medium-sized enterprise industrial parks to become the incubator of high and new technology and the cradle of small and medium-sized technology enterprises. In addition to the establishment of China international business incubator, a number of small and medium-sized enterprise entrepreneurship parks can be built. At the same time, we should accelerate public technology support platform for the establishment of small and medium-sized enterprise, which provide enterprises with design, information, research and development, test, inspection, consultation and training services.

**Promote Industrial Structure Optimization and Upgrading**

Science and technology workers of science and technology enterprises are the most important strategic resources of the country. In the construction of innovation-oriented national strategy, the scientific and technological human resources with innovative consciousness and innovation ability play an important role and key role in the overall development of the country. In China as a developing country, although is a populous nation, but in the quality of human resources of science and technology, structure, incentive mechanism and so on, compared with the developed countries there is a considerable gap, especially the income level of science and technology personnel, income structure, the incentive mechanism aspects, such as enterprise culture still exist many problems, directly affect the workers work enthusiasm and creativity of science and technology, affect the establishment of an innovative country and change the way of economic growth. Take a new road to industrialization, making the economic growth based on relying on scientific and technological progress and improve the quality of the laborer, on the basis of, promote upgrading of the industrial structure, you must stick to expand the amount of talent combined with adjustment of talent structure, improving the qualities of talents, give full play to human resources advantage, stimulate the innovation of science and technology talents.

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