Research on the Core Competence Enhancement of Smes under the Theory of Design-Driven Innovation

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Abstract: SMEs as an important part of a country must actively innovate technology and boost innovative development to enhance their core competence. In this article, an analysis has been given about the relationship between the theory of design-driven innovation and the core competence of SMEs. The core competence enhancement of SMEs is carefully investigated and proposed with relevant suggestions and strategies, for the purpose of effectively enhancing innovative capability and core competence.

1. Introduction

Design-driven innovation is the primary impetus behind the sustainable development of a country, and also an important core for the development of businesses. Enterprises must evolve under pressure of competition from multiple sources. The importance of small and medium-sized enterprises (SMEs) representing an integral part in the growth of national economy is self-evident. Their innovative capability and core competence can be enhanced only by introducing the innovation model based on strategic heights and directions, and making use of natural advantages.

2. Exploring the Relationship between the Theory of Design-Driven Innovation and the Core Competence Enhancement of Smes

2.1 Theory of Design-Driven Innovation as the Primary Impetus Behind the Core Competence Enhancement of Smes

The theory of design-driven innovation aims to introduce new conditions and factors of production into the production system, break through the old equilibrium and innovate a new equilibrium to facilitate development and growth of the economy. Core competence is the driving force and key factor of business growth. The social and economic integration and globalization trends result in an increasingly fierce and complex environment for the survival of SMEs[1]. As products are upgrading and the product lifecycle is being shortened, an enterprise must continuously innovate its technologies and skills to have the strong competitive power and survive in the market environment. In this regard, the theory of design-driven innovation plays an important role because it enables enterprises to effectively apply innovation, realize the two-way complementarity of design institutional innovation and technological advances, improve the mechanism of innovative technology and raise basic efficiency for core competence enhancement.

2.2 Theory of Design-Driven Innovation as the Need of Smes for the Optimization of Resource Distribution

The primary substantive purpose of business survival and development is the profit maximization, but the key to successful profit making lies in the optimization of resource distribution. It is essential for enhancing competitive advantages, achieving good returns and stimulating sustainable development. The president of a brand business ever pointed out that talent is the most important factor in business growth, followed by product sales. Indeed, maximizing the talent advantage can push forward innovation, thus being a core idea that must be unswervingly adhered to by high-tech enterprises. According to the requirements of the knowledge economy,

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some American enterprises attach importance to talent activation and development, highlight the role of talent management, and invest in talent training. In this way, high technology can advance quickly, and the level of knowledge economy is improved. It can reflect the important relationship between the theory of design-driven innovation and SEMs' optimization of resource distribution as well as the key function.

2.3 Theory of Design-Driven Innovation as the Need of Smes to Enhance Overall Strength and Boost Economic Development

Over 95% of registered companies in China are SMEs, which play an important role in the development of our national economy. The reason why the innovation theory can spread and achieve breakthrough is that it can create an innovative environment by virtue of the knowledge network and the development of communication technologies, thereby building information and knowledge barriers. Today's competition among nations is no longer the military competition only, but more often than not the competition of comprehensive national power and economic competition. Chinese companies, not quite competitive yet, obviously lag behind some developed countries, without any manufacturing SMEs in real sense that go global. Therefore, they must be further developed during the development of our national economy. In particular, the design-driven innovation of SMEs should be continuously improved to ensure quality and balanced development domestically and enhance competitive power internationally.

3. Suggestions for the Core Competence Enhancement of Smes under the Theory of Design-Driven Innovation

3.1 An Incentive Mechanism of Innovative Technology Being Established to Spur Innovation

The technological innovation mechanism must be actively established by SMEs under the theory of design-driven innovation, in order to successfully enhance core competence and improve technological innovation. Incentives constituting an important part of such a mechanism may be divided as government incentive, enterprise incentive, market incentive and IP (intellectual property) incentive. Different forms of incentives play different roles in the innovation mechanism. Enterprise incentive must be dominant, IP and market incentives are the basis of innovation, and government incentive is a supplement. The enterprise incentive spurs technological innovation of an enterprise by the policy of internal promotion or distribution, etc. [2]. The IP incentive stimulates technological innovation by protecting proprietary rights, patent rights and relevant benefit rights. The market incentive, inspiring technological innovation of an enterprise by utilizing the interaction between competitive and price, through automatic organization and spontaneous stimulation, is the main external driver due to its high efficiency and low cost. Both enterprise and IP incentives are the intrinsic motivations for technological innovation[3]. The government incentive, not an incentive external to the market, aims to properly reward technological innovation for optimal efficiency. To be specific, the government plays a guiding role by participating in some investment and procurement, so that enterprises can be linked more with research institutions and universities to carry out R&D and breakthrough activities of innovative technologies. SMEs are supported with these incentives for technological innovation, thus boosting their growth at the source.

3.2 An Industry Cluster Being Built to Increase Cooperation Efficiency

An industry cluster comprises institutes and companies at a concentrated geographic location, along with associated competing companies. It can both boost cooperation of the industry and research institutes to some extent and constantly increase overall independent innovation capabilities of cluster enterprises through competition and cooperation. SMEs must change their traditional business philosophy for core competence enhancement, improve and optimize the traditional industry by technological transformation and innovation, and thus forming a high-tech industry cluster. At this point, cooperation becomes important. However, due to weakness, it is difficult for some SMEs to establish the long-term cooperation with research institutes. Under the

cluster model, they can quickly become stronger and exchange and cooperate with research institutes for effective development of new products and achievement of technological breakthroughs. The industry cluster can effectively promote cooperation and competition, and achieve sharing among different participants and domains. In a sense, enterprises in the cluster are engaged in complementary, identical or similar economic activities. Most of them are producers competing with each other [4]. The division of labor and collaboration among different enterprises become more clearly defined. Through competition and learning from each other, not only can the industry cluster be effectively expanded, but also the knowledge of production and operation may be spread to spur continuous innovation and stimulate development. Enterprises may encounter difficulties to achieve technological innovation independently, so it is necessary to cooperate with other competing enterprises and share the information and knowledge within the industry cluster. This kind of cooperation and competition among enterprises can both prevent excessive competition and provide incentives for technological innovation. Under the theory of design-driven innovation, an industry cluster may enter into the stages of dynamic circulative communication, cooperative competition and sharing driven by information technology, guided by target groups, and supported with cultural organization, in order to maximize the core competence of SMEs.

3.3 A Correct Innovation Strategy Being Selected to Strengthen the Strategic Importance

The key to the core competence enhancement of SMEs lies in the technological innovation, with focus on the strategy of technological innovation. It is a common issue for Chinese enterprises in the course of development. The strategy of technological innovation can nudge innovation in the right direction and enable enterprises to form their distinctive core competence. This reflects the importance of technological innovation strategy. Under the theory of design-driven innovation, SMEs need to clarify and plan their innovation missions if they want to be strong enough to compete with their peers in the market. SMEs may draft the strategy of technological innovation by collaborative innovation and joint innovation. First of all, the strategy of collaborative innovation involves collaboration between enterprise and research institute, enterprise and university, and different enterprises [5]. This strategy incorporates several types of collaboration: collaboration between enterprise and research institute, where the research institute provides main technological innovation, and the enterprise applies the technology to production or other aspects; and collaboration between enterprise and owner, which enables technology combinations, and cooperation with owners or inventors of technological innovation. Secondly, with regard to the strategy of joint innovation, an enterprise may consider both collaborative innovation and can joint innovation. The joint technological development refers to the joint development of technology by enterprises through spontaneous or government-led combinations to build up industry clusters. Joint development covers technology items such as production technology, production equipment, raw material and modification of production processes, as well as development of new products and transformation of old products. An enterprise alone is not capable of technological innovation, so it is necessary to develop the industrial groups to enhance core competence.

3.4 A Sound Management Mechanism Being Improved to Innovate Research Findings

In order to maximize core competence enhancement of SMEs, corresponding measures must be taken to support and encourage technological innovation, and relevant provisions, regulations and laws must be enacted to provide important guarantees for their innovative technologies. Hence, under the theory of design-driven innovation, they should be pushed forward from the following three aspects. Firstly, financial priorities should be given to enterprise innovation. The government should formulate and implement various preferential policies to encourage and support innovation by enterprises, increase investment, continually improve and optimize the taxation system, reduce and exempt taxations on industrial parks and enterprises, establish sound incentive policy, and reward those outstanding research staff and organizations to stimulate their innovation [6]. Secondly, a special enterprise management authority should be established for the routine management of SMEs of various economic types from all industries, and the direction and help of SMEs, so that enterprises can successfully solve their own multifaceted problems, such as technology, capital and

human resources, etc., frame their policies on corporate reform and technological innovation, and carry out technological innovation activities smoothly[7]. Thirdly, the scientific research mechanism is reformed. Currently, the scientific research mechanism can influence the output heavily. The government and enterprises should increase rewards, with special attention to collective rewards, avoiding bureaucracy and improper academic thoughts, and actively building up a mechanism consistent with the development patterns of scientific and technological knowledge and economic system. The rewards to researchers should not be given solely by the government, but mostly from the profits generated by the market or research results. Researchers should be respected and given more benefits to stimulate their enthusiasm for research and et more findings.

4. Conclusions

In summary, during the development of a market economy, the core competence enhancement is an important need of SMEs that must be supported with corporate innovation. Under the theory of design-driven innovation, SMEs should choose the directions and measures for the innovation strategy according to their own development situation, ensuring the effective corporate innovation. SMEs still need continuous innovation and bolster up the growth of national economy to a greater extent.

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