

Research on Enterprise Sustainable Innovation Strategy Model Based on Product Life Cycle

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Abstract To keep up with the pace of dynamic competition and create sustainable competitive advantage, enterprises must carry out innovation strategy in dynamic and competitive environment. This paper defines 14 modes of the enterprise innovation strategy which can be divided into four innovation strategy regions. The four innovation strategy area can be matched to applicable product life cycle stage. Combined the theory of product life cycle and innovation strategy theory, it puts forward enterprise innovation strategy mode based on the product life cycle.

Key words Product life cycle; Continual innovation strategy; Innovation model

1 Introduction

As the pace of technological innovation quickly accelerates, the globalization unceasingly deepens, and the boundaries of different industries gradually blur, a dynamic and competitive environment is taking shape. In this new environment, enterprises are confronted with numerous uncertainty, ambiguity and growing discontinuity in strategies in the course of operation. Meanwhile, the essence of competition is also radically changing, and the competitive environment is even featured with kind of “super-competition”. The fact that the periods of validity of all strategic action get reduced continuously stimulates the strategies to get renewed at an unprecedented speed, rendering the “sustaining competitive advantage” out of the question.^[1] The currently-established strategy shouldn't be expected to be strictly carried out in the prescribed way, thus, a continuous innovation of strategies must be achieved by enterprises.

The generalized innovation strategy focuses on studies of how to redefine the existing business model.^[2] The redefinition covers the currently- existing technology, products, services, market operation model, marketing model and other main components of enterprises' production and operation. At different stages of the development of products, the internal and external environments enterprises encounter also varies a lot. Most typically, the product life cycle is divided into establishment period, growth period, maturity period and decline period^[3].

2 Sustainable Innovation Pattern Classifications

In accordance with difference in the degree and focus of innovation, 14 innovation strategy modes can be summarized, namely, disruptive innovation, application innovation, product key innovation, platform integration and innovation, product line innovation, optimization and innovation, marketing innovation, and purchase experience innovation, value engineering innovation, function integration innovation, process innovation, value migration innovation, renewable reform innovation and merge reform innovation.

The concerns of the above innovation strategy modes are different. In addition, they also differ from each other in markets they target, the resources they invest and the risk they bear. There is a link as well as difference between them. Combined with the customer value theory, and the differences or relations between the existing products and the future products, each innovation strategy mode has correlation in logic between concerns and innovation degree. Use “innovation concern dimension” and “innovation degree dimensions” as classification coordinates to establish a two-dimensional classification quadrant model strategic innovation mode. “Product - service” is the two extremes in “innovation concern dimension”, and the “high degree of innovation—low degree of innovation” is the extreme of “Innovation degree dimensions”. It is shown in figure 1 as the two-dimensional classification quadrant model.

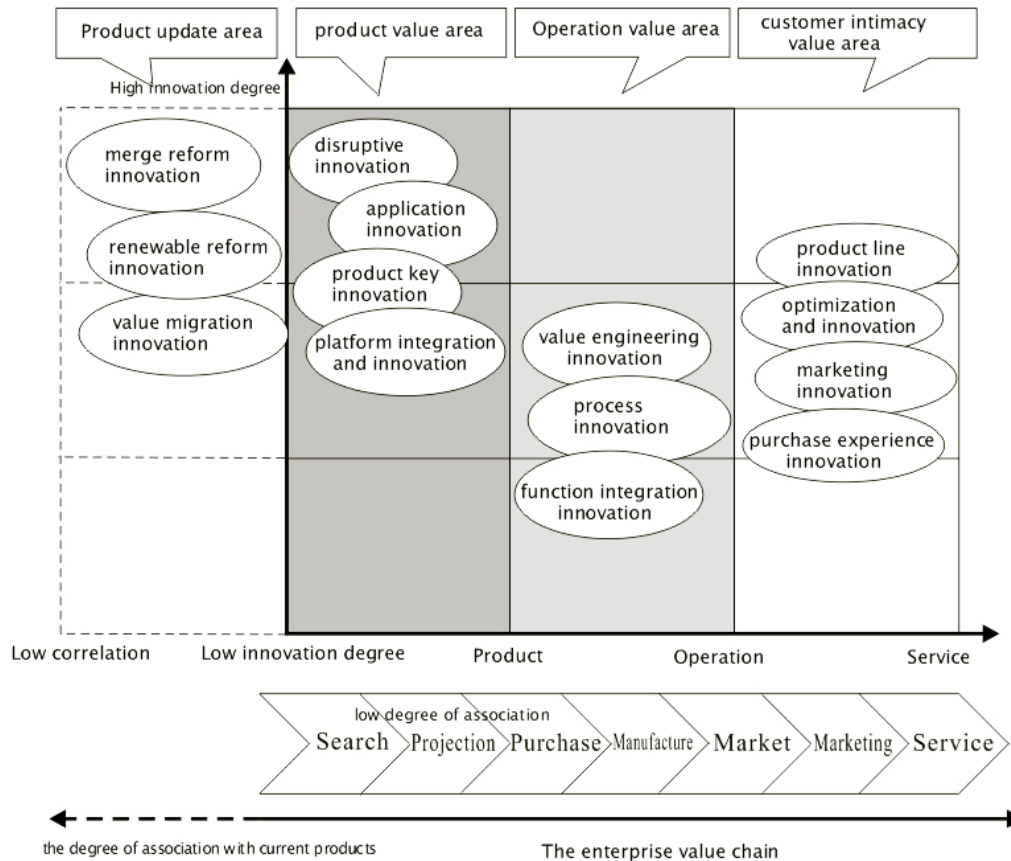


Figure 1 Innovation Strategy Pattern Classification Model

Through further analysis, we make out the respective traits of the four innovation strategy areas and conditions under which they can apply. Please see chart below.

Table 1 Induction of Innovation Strategy Region

Strategy innovation region	Product life cycle	Innovation concerns	Degree of innovation
Product value region	Stage or growth	The basic value of the products or services	High
Operation value region	mature	Enterprise production operation process	Medium
Customer value region	mature	Customer requirements and interactive process	Low
Product update region	Mature or recession	repositioning products	High

3 Factors Influenced the Choices of Enterprise Innovation Strategy Pattern

The above analysis provides reference for enterprises’ selection of innovation strategy modes. Another point is that innovation strategy also brings about an unnoticed consequence –wasting.^[4] Enterprises want to select a mode that can really help them achieve superiority to their competitors and create sustainable competitive advantage, but not to become a bottomless pit of consuming great quantities of resources or only pull away the distance between them and their competitors a little bit. Then they need to know the factors that affect their choice.

When selecting modes, enterprises should not only get familiar with the respective characteristics of different modes, but also combine their own innovation ability and the conditions of their competitors^[5], and then analyze the patterns of commercial architectures and the life management phase products belong and finally find an appropriate and effective mode.

Among all enterprises, there exists two types of commercial architectures: one is complex system architecture, also known as customized business model; The other is volume operation architecture, also known as large-scale business model.

Complex system architecture is an operation mode where large enterprises are their main clients, based on trading to cultivate good relationship, which specializes in offering counseling service, tackling complex issues and proposing personalized solution. It usually has few clients, but the transaction amount with every client is quite large. Volume operation architecture is another mode that orients many consumers, based on systematic trading. It specializes in standardized products and services of the wholesale market. This type of enterprises has many clients with whom they have a lot of transaction while the transaction amount is low, but they also endeavor in getting access to customers groups counting from tens of thousands to millions. The two architectures differ sharply from the other in the seven features of value creation as in Figure 2.

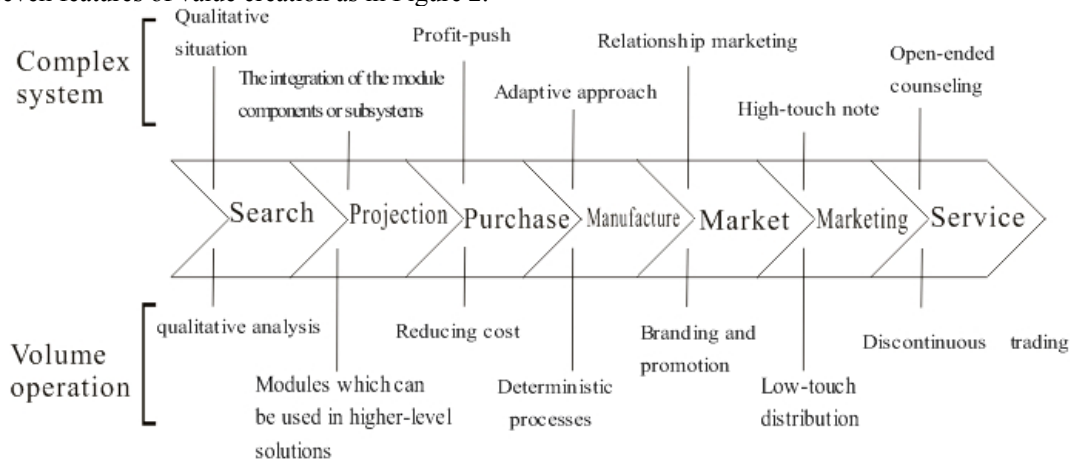


Figure 2 Features of Enterprise Value Creation in Two Kinds of Commercial Architecture

4 Enterprise Innovation Strategy Mode Choice Model

Through the above analysis, we can see that selecting a suitable and effective innovation strategy mode is quite important for enterprises to hold their dynamic competitive advantage. The procedure for selecting innovation strategy mode can be concluded into the following 5 steps as in Figure 3.

(1) The product life cycle. At this step, enterprises need to define the cycle phase in which the products or services enterprises manage are, analyze the different cost-effective strategic objectives of innovation strategy at different life cycle stages, in order to ensure that the innovation is effective and not overused. Next, analyze the environment of innovation strategy enterprises face at different stages of life cycle, including the analysis of the level of the commercialization of products. The specific degree of commercialization helps enterprises to seize the focus of innovation strategy. Focus on product and service, or on customer? Then, specify the scale of potential markets for enterprises' corresponding products or services of innovation and the amount of returns they can bring for enterprises through further analysis. Finally, enterprises can choose the mode of appropriate innovation degree for themselves.

(2) The determination of the optimal approaches of innovation strategy for every stage. Enterprises at different stages of products life cycle demand different approaches to process their innovation strategy. Therefore, these approaches should be the principal direction and focus of enterprises when they carry out the innovation. The mentioned 14 modes in the above follow this principle. In light of the analysis results at the first step, combing the trends and the drivers of markets, enterprises will find out the best approaches for different stages.

(3) The screening of the dominant innovation modes at every stage. After clarifying the approaches through which the innovation will be carried out at different stages, enterprises should begin to screen the 14 modes for the dominant innovation strategy modes that match innovation approaches of every stage.

(4) The analysis of the commercial architectures. Figure out the commercial architectures in which enterprises are, and the traits of them. Next, analyze the working conditions and implementation requirements of each dominant innovation strategy mode under the architectures they belong. Then, test

it with the innovation ability of enterprises and the conditions of their competitors. After this, make final decision on the innovation strategy modes in accordance to their product life cycle.

(5) The analysis of the innovation ability and the conditions of competitors. To prevent themselves from failing to accomplish their innovation or getting assimilated by their competitors, enterprises should pay attention to considering their innovation abilities and the conditions of competitors during the processing of the above 4 steps.

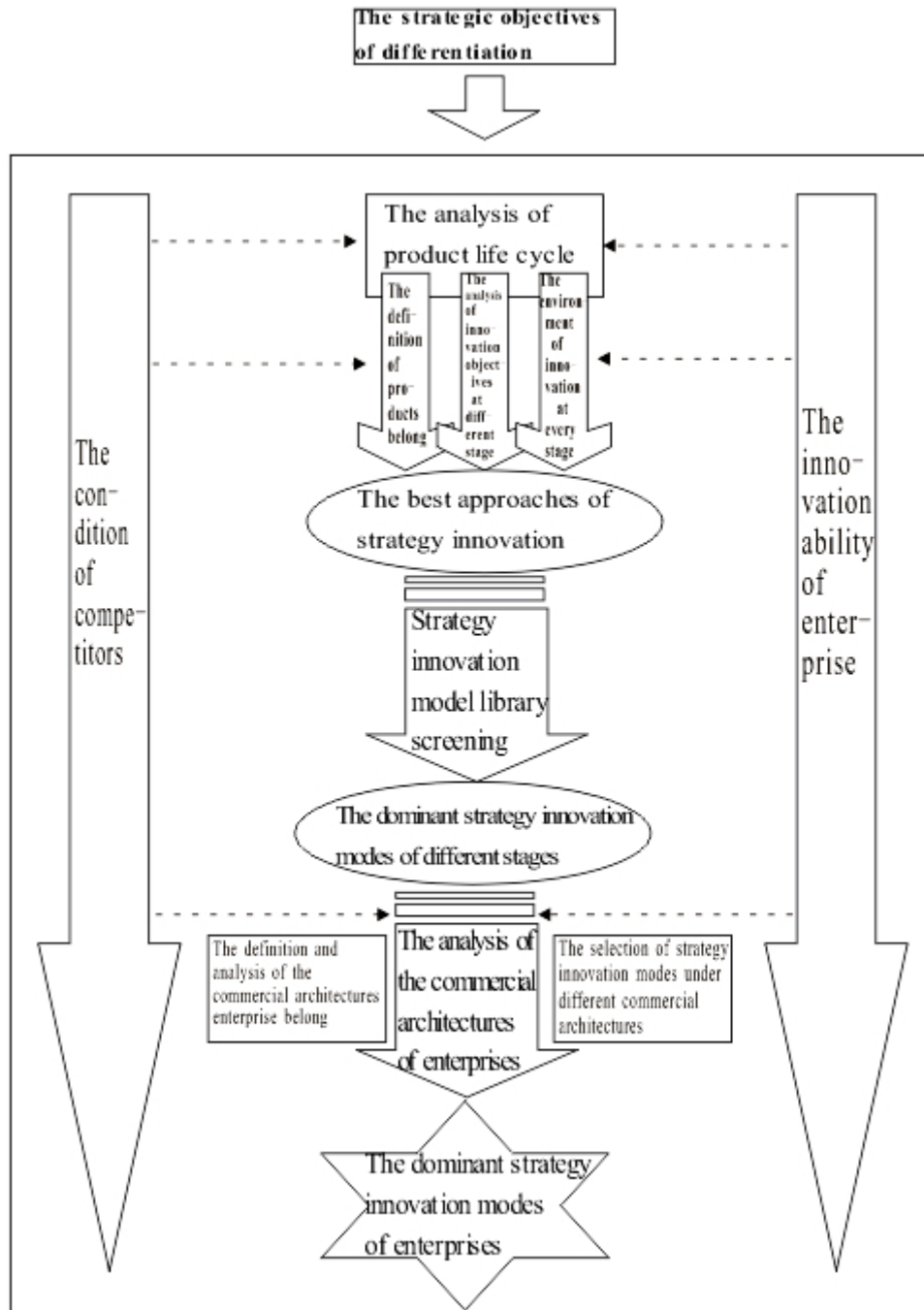


Figure 3 Enterprise Innovation Strategy Mode Choice Model

5 Conclusions

In the current market environment which progresses drastically with each passing day, Customer's demand preference is also changing fast, and enterprises are under continuously increasing pressure in

the competitive market as their originally-- created competitive advantages can easily be broken and the initial static strategies of enterprises no longer accommodate with this dynamic and intense competition environment. Therefore, enterprises must adopt innovation strategies in the dynamic competition environment. Based on life cycle theory and innovation strategy theory, this paper gives the ways, mode and selection model of corporate strategy in different stages.

References

- [1] Lu Yuanyuan. Concerning enterpriseinnovation strategy [J]. Theory Journal, 2007, (3):52-53 (In Chinese)
- [2] Feng Hailong. Study of strategy transformation based on organizational learning [J]. Science of Science and Management of S. & T, 2006, (3):169-170 (In Chinese)
- [3] Cai Li, Mao Chuanhu, Zhao Yujuan. Product cycle model [J]. Journal of Jilin University (Engineering and Technology Edition), 1999, (3):48-52 (In Chinese)
- [4] Govindarajan V. Ten rules for Strategic Innovators-from idea to execution[J]. Harvard Business Review, 2005, (5):594-608
- [5] Geoffrey Alexander Moore. Strategy and your ‘dominant hand’[J]. Business Review, 2005, (12):122-137 (In Chinese)