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# RESEARCH ON THE DEVELOPMENT STRATEGY OF INNOVATIVE SMES IN JIANGSU PROVINCE

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## Research Background

### Overview of Innovative SMEs in an International Context

From the perspective of the world economic development trend, since the beginning of the 21st century, global science and technology innovation has entered an unprecedentedly active period. A new round of technological revolution and industrial transformation is reshaping the global innovation landscape and reshaping the global economic structure. Countries are looking for breakthroughs in technological innovation and seize the opportunities for future economic development. The emergence of new technologies has enabled technology-based enterprises to occupy the market in just 5-10 years, and those with low technology content will find it difficult to survive in the market competition.

From the perspective of the law of human industrial development, since the mid-18th century, it has experienced three revolutions in the steam, electrical and information ages. Now, human beings have quietly entered the fourth industrial revolution era represented by artificial intelligence, robotics, Internet of Things, clean energy, quantum information technology, virtual reality and biotechnology. Every industrial revolution is accomplished with the participation of enterprises. Whoever can seize the opportunities and take advantage of the situation will have the opportunity to become the tide of the times. No matter what industry, regardless of the size of the enterprise, the level of science and technology and the ability to innovate are the key to the survival and development of the enterprise, and the core competitiveness of the enterprise.

Innovative SMEs are companies that survive on innovation and achieve sustainable development. Through innovation, we can achieve effective allocation of enterprise resources, form a good governance structure and high-performance operation practices. Innovative SMEs, as the mainstay of innovation, have become an important foundation for national economic growth and regional economic development, resisting economic crises, promoting economic development, increasing export earnings, providing social services, narrowing urban-rural gaps

and regional development gaps, and promoting social full employment. In terms of aspect, it plays an increasingly important role. Many of the world's most innovative companies are full of innovative ideas, from far-sighted companies to legendary figures, proving the transformative power of innovative SMEs in the new era.

**Overview of China Innovative SMEs**

Now, China's innovation is getting more and more attention from all walks of life around the world. China's national innovation capability is constantly improving, and its influence in global industrial competition and international trade of products is increasing. *The National Innovation Index Report (2015)* released by the China Academy of Science and Technology

Development Strategy shows that China's innovation index has risen from 38th in 2000 to 18th in 2014. According to the *Global Innovation Index* jointly published by the World Intellectual Property Organization and other organizations, China ranks 25th among the 128 major countries in the world and is the first middle-income economy among the top 25.
It has been reported that Chinese companies dominate the 44 industries in the domestic market where foreign competition is open to competition. Some foreign media even believe that some practices of Chinese companies, especially IT companies, are being imitated and studied by US companies in Silicon Valley. In the fields of digital economy and network economy, China has begun to lead the world. Different scholars or research institutions have different descriptions and understandings of the characteristics of Chinese innovation. For example, *The Oxford Handbook of Innovation* believes that China's innovation is based on development-oriented innovation rather than research; Kroeber believes that Chinese-style innovation achieves 90% of its functions at 60%, and is an efficient one. Innovation; McKinsey believes that Chinese-style innovation is characterized by customer-centric innovation and efficiency-driven innovation; the UK National Science and Technology Foundation believes that China can quickly digest the world's best ideas and technologies, quickly experiment and improve itself. Research, quality and products are a fast-following innovation, and so on. If we return to the definition of Schumpeter in the 1930s, innovation is essentially a change in the production function. This change has promoted China's economic development and industrial competitiveness, leading to increasing attention to China's innovation activities.

**Overview of Innovative SMEs in China and Jiangsu Province**

Generally speaking, Chinese SMEs refer to enterprises with less than 2,000 employees, or sales of less than 300 million Yuan, or assets of less than 400 million Yuan (Yang, 2006). Of the 42 million SMEs in China, only 120,000 are innovative, accounting for about 3% of the total number of SMEs, but they have contributed more than 50% of innovation to the country (Zhu, 2008). The industries involved include biomedicine, new energy, new materials, mobile internet, and information technology. China's booming high-tech industries are largely supported by these

innovative SMEs. The contribution of SMEs to economic growth and employment has long been recognized by all walks of life, and innovative SMEs should receive special attention.

SMEs are an important force in Jiangsu's economic and social development. The Jiangsu Provincial Government has always attached great importance to the development of SMEs and has successively issued a series of policy measures to promote the innovative development of SMEs. By the end of 2014, Jiangsu Province's industrial and commercial departments had registered 1.77 million SMEs, and more than 70,000 SMEs. The contribution of SMEs to the province's high-tech industries reached 60%, and more than 70% of the province's innovations were created by SMEs. The Jiangsu Provincial Government has refined and actualized the SME policy and created about 100 SME public technology service platforms to help SMEs innovate, make up for information, technology, market and capital shortcomings, and develop a number of new ones to meet market demand. product. In the process of continuous high-quality transformation, Jiangsu SMEs have created 2000 invisible champions in the market segment, no longer relying on low-end cheap products, but relying on first-class technology to become an indispensable part of the world industrial chain. In 2019, 17 innovative SMEs in Jiangsu ranked among the first batch of “Little Giants” in the country, ranking first in the country. Of course, there are still many innovative SMEs facing difficulties, such as the technical advantages are not obvious, the enterprise benefits are difficult to improve in a short period of time, and the technology conversion rate is not high enough.

**Innovative SMEs in Jiangsu Province Urgently Need to Seek Practical Development Strategies**

General Secretary Xi Jinping of the Chinese National Leader pointed out that enterprises are the mainstay of innovation and a new force for innovation and creativity. It also emphasizes that enterprises should be promoted to become the main body of technological innovation decision-making, research and development investment, scientific research organization and transformation of results, and cultivate a group of innovative leading enterprises with outstanding core technical capabilities and strong integration and innovation capabilities. Innovative SMEs in Jiangsu Province are on the road of development and groping for the side. Although the current construction of innovative SMEs in Jiangsu has made some progress, compared with developed cities, the development status of innovative SMEs in Jiangsu is not optimistic. In general, the innovative innovation capability of innovative SMEs in Jiangsu is insufficient, and the transformation of scientific and technological achievements cannot keep pace with development. At the same time, due to the high development requirements of innovative SMEs, innovation itself contains high-risk, high-confidence and other characteristics. It is common for innovative SMEs to be “successful after success and inertia after innovation”. Many innovative SMEs can only achieve short-term development, show strong vulnerability in the face of complex and volatile external environment, and have poor anti-crisis ability. The fundamental reason is that innovative SMEs have not found a viable development strategy in their development.

## Problem Statement

At present, Jiangsu's economic aggregate GDP ranks second in the country. Jiangsu has been one of China's most economically and culturally developed provinces since ancient times. It has ranked first in per capita GDP for many years, and its regional development and livelihood index (DLI) ranks first in the provinces. Jiangsu Province is also the only province under the jurisdiction of 13 cities that have entered the top 100 national economic aggregates.

Economic development has entered a new normal period, but the ability to innovate in science and technology is not strong. Many industries are still at the low-end of the global value chain, and some key core technologies are subject to human conditions and have not changed fundamentally. In order to realize the need of innovation-driven development strategy, Jiangsu Province urgently needs to cultivate a group of innovative SMEs that have core competitiveness and keep it emerging. Overall, the development of innovative SMEs in Jiangsu Province faces three major problems. First, there are insufficient conditions, such as poor innovation awareness, weak ability, and lack of innovative talents. The lack of innovation enthusiasm of enterprises depends on the traditional economic growth mode and the development mode of the original enterprises. Second, the scarcity of innovative talents is the biggest weakness of the development of innovative SMEs in Jiangsu. The complex environment of an enterprise itself is not conducive to the research of scientific research personnel, and the enterprise lacks effective incentive policies for the cultivation and use of talents. The talent incentives of SMEs are mainly manifested by material incentives, which weaken the incentive effect of spiritual incentives on employees and to some extent suppress the enthusiasm of employees, resulting in mismatch between incentives and needs, causing dissatisfaction among employees. In the implementation of incentive policies, there is no effective means of protection, making the salary increase the only incentive. In the short term, the incentive effect is obvious, but the long-term effect is not satisfactory. In addition, because the measurement standards of innovation results are difficult to quantify, time-consuming, large-scale investment, and slow results, it will lead to mismatch between assessment standards and incentive policies between different departments, and it is impossible to achieve true fair equivalence between work and returns. The third is the lack of investment in innovation funds; the innovative innovation capacity of innovative SMEs in Jiangsu Province is relatively insufficient; the transformation of scientific and technological achievements cannot keep pace with the development. At the same time, due to the high development requirements of innovative SMEs in Jiangsu Province; the conversion rate of innovation results is not high; the period of acceptance by the market is longer; the investment of innovative SMEs in Jiangsu Province is mostly prudent. The emergence of these problems will have a major obstacle to the development and development of innovative SMEs in Jiangsu Province.

What is the connotation of the development strategy of innovative SMEs in Jiangsu Province; what are the influencing factors; and how it plays a role in the formation of development strategies; how to choose the strategy of sustainable development of innovative SMEs in Jiangsu Province. These problems are urgently needed to be resolved.

## Research Question

At present, China's economy has shifted from a high-speed growth stage to a high-quality development stage, and is in the historical intersection of the new round of scientific and technological revolution and industrial transformation in the world and the transformation of China's development mode. It faces both a rare historical opportunity and a severe challenge of widening the gap. Chinese-style innovation as a whole is still in the process of gradual catch-up. The historical experience of Germany, the United States, Japan and other countries shows that from the introduction of imitation to independent innovation is a process of upgrading the national science and technology innovation capability and achieving the catch-up, and this process is difficult to overcome. In this process, China's innovation also faces many important challenges. Innovative SMEs in Jiangsu Province are different from ordinary enterprises, and their development has unique characteristics. Based on the above analysis, the questions to be studied in this study are as follows:

1. What are the factors that influence the formation of innovative SME development strategies, and what role do they play in the basic process of strategic formation?
2. The impact of innovation awareness, innovation resources, innovation behavior, and corporate performance on the development strategy of innovative SMEs in Jiangsu? What is its role in the corporate development strategy?
3. How to construct a strategic model of Jiangsu's innovative SME development strategy structure and test and evaluate the model? How to test the hypothesis through data analysis and find out the impact of various factors on the development strategy of the enterprise?

## Operational Definition

### Definition of Innovative SMEs

Innovative SMEs are guided by continuous innovation. Accumulate, apply, and reorganize all resources inside and outside the enterprise to continuously carry out various innovations, successfully respond to the opportunities and challenges brought about by environmental changes, and thus create new value to survive and develop. This definition includes the following connotations:

(1) Innovative SMEs can be enterprises of any size or nature;
(2) Innovative SMEs can be any one or more innovations;
(3) The core competence of innovative SMEs is innovation capability;
(4) The innovation of innovative SMEs is based on the premise of the creation of innovative ideas.
(5) The successful implementation of innovation requires more special resources and the recombination of such resources;
(6) Innovative SMEs create new values through innovation, thereby promoting better survival and development of enterprises;

(7) The process of developing innovative SMEs is a process of interacting with the environment and adapting to the environment again and again.

**Concept of innovative SMEs**

In domestic research, Xu Hong proposed the concept of innovative SMEs in the *Classification of SMEs and Its Significance* (2005). The concept is mainly corresponding to traditional SMEs and production-oriented production enterprises. He pointed out: Innovative SMEs refer to enterprises engaged in research, development, production and operation of products that conform to national industrial policies, technical policies, intellectual property rights, and have certain technological content and technologically innovative products.

**Enterprise Development Strategy**

The enterprise development strategy is a general term for various strategies of the enterprise, and is a theoretical system on how the enterprise develops. The development strategy is a major choice, planning and strategy for the direction, development speed and quality, development point and development capability of the enterprise in a certain period of time. Corporate strategy can help companies guide long-term development, clarify development goals, identify development points, and determine the development capabilities that companies need. The real purpose of the strategy is to solve the development problems of the enterprise and realize the rapid, healthy and sustainable development of the enterprise.

**Table 2-1 Foreign research on the concept of innovative SMEs and the inductive classification of related literature**

| English | Characteristic | Benchmark | Related literature |
|---|---|---|---|
| Innovative SMEs | SMEs with relatively high technological innovation achievements | Input-output indicators for innovative activities such as new product achievements, patents, number of | Kim et al. (1993), Khan and Manopichetwat-tana (1989), Baldwin and Johnson (1996) mixed with Innovating SMEs concepts, Flor and Oltra (2004) |
| Technology - based SMEs | SMEs that maintain relatively high technical capabilities and pursue competitive advantages | Input indicators such as R&D funds and manpower ratios for technical capabilities, | Granstrand (1998), Giudici and Paleari (2000) also use the Technology - intensive SMEs concept |
| New Technology-based SMEs | Newly-created technology-intensive SMEs for the commercialization of new technologies developed by universities and research | Means of technical capacity and number of years of entrepreneurship | ADL (1977), Bollinger et al. (1983), Storey and ther (1998), Schumpeter (1939) also use the expression of Technology-based New Venture, Kazanjian |

| | | | |
|---|---|---|---|
| Hi-tech SMEs | All SMEs involved in high-tech competition | R&D investment proportion, technical manpower ratio and SMEs participating in the initial competition | Shearman and Burrell (1988), Butchart (1987), Storey and Tether (1998) also use the concept of High-technology-based firm. Hung et al. (2003) |
| Matured technology-based SMEs | Smaller, smaller, innovative SMEs than start-ups | Technological innovations and practitioners measured by indicators such as | Also using Long-lived, highly innovative small firm or Serial innovator concepts, Hicks and Hegde (2005), Traditional dynamic small firms or Long- |
| Innovation type SMEs | Implementing differentiated strategy for SMEs with technological | Emphasis on technological capabilities, | Miles et al. (1978), Miller and Friesen (1984), MiUer (1988), Kim and Lim (1988) |

**Technology-based SMEs**

Technology-based SMEs refer to SMEs that pursue competitive advantage based on superior technological capabilities (Granstrand, 1998).

Since technology-based SMEs are also based on investment indicators such as R&D manpower or R&D investment ratio, and output indicators such as patents and new products. There is no significant difference in operational aspects from the above-mentioned innovative SMEs. Giudici and Paleari (2000) pointed out that companies with at least one of the following characteristics among SMEs belonging to the high-tech industry can be called technology-intensive SMEs: display products with technological innovation in the market, and sales account for R&D investment. With a proportion of more than 10%, more than 30% of employees have received higher education, enter small-scale innovative SME parks or entrepreneurship and cultivation centers, and work with important research institutions or universities to have a leading position in relevant departments.

**High-technology-based SMEs**

High-technology-based SMEs, meaning SMEs that compete with higher technology sectors than other industry R&D investment rates or technology personnel (Shearman and Burrell, 1988, Butchart, 1987)

Hung et al. (2003) used a high-technology-based firm in the study of high-tech industries such as IC, computer, optoelectronics, telecommunications, and precision instruments in Taiwan.

**Long- lived Innovative SMEs**

In terms of characteristics, it is longer than the average startup enterprise and the company size continue to be small (Hicks and Hegde 2005). It refers to SMEs that can continue to create innovative results such as patents and publicity statistics rather than the start-up period. There are many cases in which new technology-based SMEs that can be developed into large enterprises

through the initial marketization of products have different market sizes and become specialized technology suppliers. Tether (1997) refers to this type of SME as a SME based on the new target market expertise. Kim (1997) found that SMEs in developing countries are specialized in long-term pursuit of technology in developed countries, and they are called traditional dynamic small firm or long-evolved technology-based firms. Mature technology-based firm is specialized in the narrow target market and is based on new technology. Some SMEs centered on developing countries have matured into innovative SMEs as they age.

**Innovative Strategic SMEs**

Innovative strategic SMEs are SMEs that implement differentiated strategies with technological innovation, or SMEs that have a high proportion of innovation strategies at the strategic level of the enterprise. The type of strategy of the enterprise emerges from the pre-event symbol and the post-class classification. In many studies, the corporate strategy of pursuing innovation appears. Miles et al. (1978) divided the strategic types of enterprises into defensive, exploratory, analytical and reactive types by means of ex ante analysis. The second type of exploration is to develop new products with technological innovation and open up new markets, namely innovative ones. Among the 10 corporate strategy types that Miller and Friesen (1984) derived by post-classification, the adaptive type 2 (Sib) and target market innovation strategies have similar characteristics.

**Relevance Hypothesis of Each Element of Innovation Consciousness and Innovation Behavior**

Innovative awareness will affect the behavioral patterns and behavioral outcomes of innovative SMEs in Jiangsu Province. Chen Rongrong (2007) proposed that the innovation object system is the goal of the innovative ideology system. Xiang Gang (2009) proposed that innovation requires not only the input of manpower and material resources, but not the accumulation of material, but also the need to innovate ideas to navigate.

Innovation consciousness is the forerunner of enterprise innovation activities, the starting point of all innovations, and determines the survival of enterprises. Without the guidance of ideology, technological innovation, mechanism innovation, and management innovation cannot play a role. Behind the innovation activities is the concept. The spirit of innovation is the general term for the spiritual qualities of the main body engaged in innovative activities, and is an important factor in the development and realization of innovation. Whether it is the decisive factor in whether innovation and innovation are successful. Chen Yuhua, Liu Guojiang (2009).

Innovative awareness is the source of innovation, and it leads all innovation activities of the enterprise. Innovative awareness is the premise for companies to engage in various innovations. Companies with a strong sense of innovation often have a high level of innovation, so they can continue to grow in value. Tian Bo (2008).

Innovative SMEs in Jiangsu Province should have a strong sense of innovation. With this sense of innovation, companies will actively capture new opportunities and carry out innovative activities. The values and beliefs of innovative SMEs in Jiangsu Province can support innovation. Innovation culture is the driving force for technological innovation of enterprises. Enterprise innovation culture plays an intrinsic and intangible role in promoting technological innovation of enterprises by influencing corporate managers and employees' values, thinking methods and behaviors. Businesses encourage risk-taking to have a significant impact on business innovation. Cai Fan (2007).

Based on the above analysis, it can be inferred that the higher the awareness of innovation, the more conducive to the emergence and success of innovative behavior, and thus improve corporate performance. Therefore, the following assumptions are made:

H1a: The higher the awareness of innovation, the better the technological innovation effect of enterprises;

H1b: The higher the awareness of innovation, the better the innovation effect of enterprise products;

H1c: The higher the awareness of innovation, the better the innovation effect of the enterprise market.

H1d: The higher the awareness of innovation, the better the innovation of enterprise management.

H1e: The higher the awareness of innovation, the better the innovation of corporate organization.

H1f: The higher the awareness of innovation, the better the company's performance.

**Relevance Hypothesis of Each Element of Innovation Resources and Innovation Behavior**

Because innovative talents and innovation funds work together as a resource element, researchers often combine them for analysis. Therefore, this article also discusses these two elements together with the assumptions of the relevance of innovative behavior.

Innovation resources are mainly manifested in the integration of talent resources and capital resources. All innovative resources can achieve continuous innovation. The realization of the innovation object system requires an innovative resource system to provide resource guarantee. Angle, Harold L, j Manz, Charles C, vande Ven, Andrew H. (1985) have shown that the lack of resources tends to be an obstacle to the smooth development of innovation activities, making it difficult to sustain. Maidique, Modesto A. (1983)|, Chen, Gilad; Ployhart, Robert E. m (2001) and others argue that the key to determining the success of technological innovation lies in the availability of adequate resources. Semadeni, Matthew & Anderson, Brians (2010), Tripsas, Mary (1998) also proposed that companies accumulating rich and innovative resources will help to enhance the innovation ability of enterprises, and the solid foundation for innovative behavior, especially technological innovation.

Innovation funds are the financial foundation for innovation. Innovation funds are needed at all stages of R&D, testing, production, industrialization, and marketization. Hochradel, Rebecca, Longjamye, Johnson, and Cooper (2010) have found that the financial foundation of innovation

has a positive effect on the improvement of technological innovation capabilities. One of the important reasons for the failure of innovation stems from the shortage of innovation funds. Funding is required to support each stage of research and development, testing, production, industrialization, and marketization.

Human resources are the guarantee of innovation. In particular, human resources is a key factor in enterprise innovation and a source of core innovation capability and vitality for innovative SMEs in Jiangsu Province. (Jeffreyc, Ganeshk (2010), Cooper (2010), Maidique, Modesto A. and Hayes, Robert H. (1985) and others suggest that innovative talents are important factors influencing the successful realization of technological innovation and product renewal. Talents are technological innovation activities. The core of technological innovations has an extremely important impact on the success of technological innovation. The talents required for technological innovation activities are multi-faceted. The discovery and grasp of innovation opportunities requires high-quality leaders. Research and development activities require high quality of the technical talents. The transformation of development results requires high-quality employees. Successful city development requires quality marketing talents. The lack of talent is one of the important factors restricting technological innovation of enterprises (Huang Pinqi, 2002).

Based on the above analysis, the following assumptions are made:

H2a: The better the company's innovative talents, the better the technological innovation effect:

H2b: The better the company's innovative talents, the better the product innovation effect;

H2c: The better the company's innovative talents, the better the market innovation effect;

H2d: The better the company's innovative talents, the better the management innovation effect.

H2e: The better the company's innovative talents, the better the organizational innovation.

H2f: The better the company's innovative talents, the better the company's performance.

H3a: The better the investment in enterprise innovation funds, the better the technological innovation effect:

H3b: The better the investment in enterprise innovation funds, the better the product innovation effect;

H3c; the better the investment in enterprise innovation funds, the better the market innovation effect;

H3c: The better the investment in enterprise innovation funds, the better the management innovation effect.

H3e: The better the investment in enterprise innovation funds, the better the organizational innovation effect.

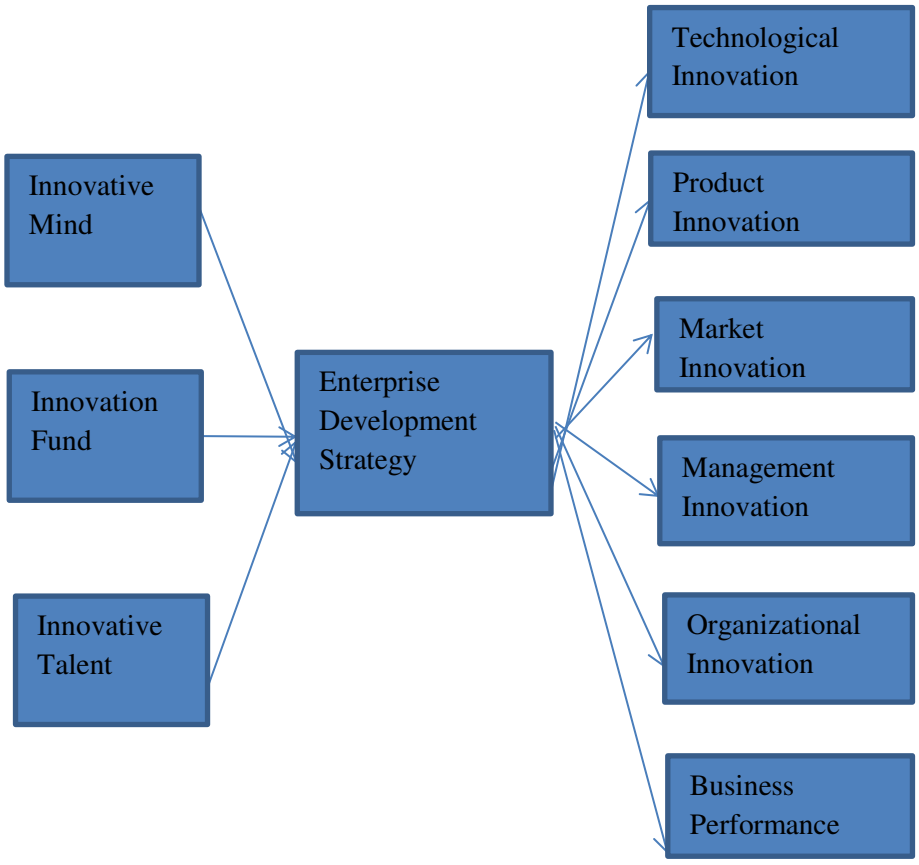
H3f: The better the investment in enterprise innovation funds, the better the company's performance.

**Research Framework for the Development Strategy of Innovative SMEs in Jiangsu Province Based on the Mechanism of Influencing Factors**

The formation of different development strategies for innovative SMEs in Jiangsu Province stems from factors such as innovation awareness, innovation resources, innovation behavior, and corporate performance. It also includes the role of innovation, innovation, and innovative talents in innovation. The role of various innovations in corporate performance and the different combinations of various influencing factors further form a differentiated development strategy for innovative enterprises. Therefore, the strategic choice of innovative SMEs in Jiangsu Province is more diversified in the development process.

Based on the above assumptions of the relationship between the various influencing factors, the research framework of the development strategy of innovative SMEs in Jiangsu Province is constructed. As shown in Figure 2-1.

**Figure 2-1 Research framework for the development strategy of innovative SMEs in Jiangsu Province**




Source: Statistics of this study

This chapter defines the connotation of enterprise development strategy theory, innovative SMEs, and the development of innovative SMEs in Jiangsu Province, and summarizes and analyzes its characteristics. On this basis, the paper analyzes the meaning and characteristics of the development strategy of innovative SMEs in Jiangsu Province, and proposes that the

dependent variable formed by the innovation enterprise development strategy is innovative behavior (technical innovation, product innovation, market innovation, management innovation, organization). Innovation, corporate performance), independent variables are innovation awareness, innovative talents, and innovation funds. The definition of variables and the relationship between variables and development strategies have been deeply studied and discussed. And the theoretical hypothesis is put forward for the relationship between various influencing factors. Based on this, a research framework for the development strategy of innovative SMEs in Jiangsu Province based on the influencing factors was constructed.

## Research Design

### Overview of Research Design

(1) This article uses the quantitative research method (Qualitative R. M.). Structural equation models and survey methods were used in quantitative studies.
This paper uses the theory of enterprise development strategy to conduct theoretical research on the connotation, influencing factors and theoretical assumptions of the development strategy of innovative SMEs in Jiangsu Province, and the conceptual model of the development strategy. On the basis of theoretical research, the actual data was obtained by questionnaire survey of the innovative SMEs in Jiangsu Province, and the structural hypothesis was used to empirically test the theoretical hypothesis.
(2) The method of data collection is questionnaire survey and interview method. Objectively measure the data obtained. Through the design of questionnaires, a sample survey of innovative SMEs in Jiangsu Province was conducted to obtain first-hand data. Through in-depth interviews with managers and employees of typical SMEs in Jiangsu Province, we will understand the relevant development status of innovative SMEs in Jiangsu Province. The data and data obtained by the above two channels are jointly used as the basis and support for the research of the thesis. The sampling method is random sampling.
(3) The survey method in this paper uses a cross-sectional study. The time of this study was limited, basically staying in the horizontal study, and did not conduct longitudinal research.
(4) The deductive method is the core. Review the theory, make assumptions, verify, and confirm hypotheses. Through the deductive method, the empirical analysis of the development strategy of specific enterprises is carried out, and the combination of general to special, from special to general is realized. This paper studies the final principles of the development strategy of innovative SMEs in Jiangsu Province.

## Population, Sampling and Unit of Analysis

### Samples Analyzed in This Paper

The samples analyzed in this paper are mainly from innovative SMEs in Jiangsu Province. Since the author is the deputy secretary-general of the Jiangsu Small and Medium Enterprises

Association, the author has passed the strength of the association members, and the research enterprises are basically spread throughout Jiangsu Province, including: Nanjing, Suzhou, Changzhou, Wuxi, Yangzhou, Zhenjiang, Nantong, Taizhou, Yancheng, Huai'an, Suqian, Xuzhou, and Lianyungang. Therefore, the survey data basically covers the entire province of Jiangsu, and it is beneficial for the research of innovative SMEs in Jiangsu. At the same time, through the definition of innovative SMEs, the companies sampled in this study are selected in the list of innovative SMEs.

### Questionnaire Collection Object

After the paper identifies the list of research companies, based on the needs of the research, there are three types of objects selected in the enterprise to complete the questionnaire: The first category is the senior managers of the enterprise, who can have relatively accurate thinking about all variables of enterprise innovation. Judging. The second category is the middle managers of the company, including the heads of the human resources department of the company. They have a deep understanding of innovation consciousness, innovative talents and organizational innovation; the heads of the technical departments of the enterprises, they are interested in technological innovation. Product innovation can also have relatively accurate and effective answers; the heads of the financial departments of the company, they can accurately fill out the questionnaires on issues related to innovation funds and corporate performance; the heads of the marketing department of the company, they are innovative in the market. Related issues have their own opinions; the third category is the technical backbone of the enterprise, they are the first-line innovation force, and their opinions are worth studying. Based on the needs of the thesis research, this paper surveyed 26 enterprises, each of which took 15 employees and a total of 390 respondents.

## Validity and Reliability Test

### Validity Test

The scale factor of the development strategy of innovative SMEs in Jiangsu Province in this paper is to review and analyze domestic and foreign literatures and related theoretical research. Based on the pre-test, the factors of latent variables and their explicit variables are determined. After expert discussion, the scale with the best factor structure was finally obtained. Although the number of relevant empirical studies is small, the research framework is relatively mature, and has a good theoretical basis for core variables such as innovation consciousness, innovation resources, innovation behavior, and enterprise performance, and has been tested and verified many times. Thus the scale has a high content validity.

Therefore, the validity test of this paper mainly includes two aspects: convergence validity and difference validity. Validation factor analysis was used and the test was performed by comparing the chi-squared differences between the unrestricted model and the restricted model.

(1) Convergence validity

In this paper, AMOS12.0 is used as an analytical tool for confirmatory factor analysis. The calculation results are summarized in Table 3.10. From the overall test results, the model fit is generally good. The chi-square value x2=996.091 (degree of freedom DF=674, p=0.061), which did not reach a significant level; the chi-square degree of freedom ratio was 2.962, less than 3; RMSEA=0.065, less than 0.08; GFI=0.936, 0.922; NNFI=0.961, CFI=0.993, both reached the 0.90 standard.

As shown in Table 3-10, the parameters of each measurement parameter are also estimated to be generally good, and the factor load is between 0.66 and 0.92. The load of the other measurement indicators is not included except that the nine reference indicators are set to 1. The critical ratio (CR*) of the (standardized parameter estimation) is greater than 1.96, and the parameters of each measurement index reach 0.05 significant level; there is no large standard error. It indicates that the explanatory variable's ability to interpret the latent variable meets the requirements can effectively reflect the construct (latent variable) it is to measure, and has good convergence validity.

**Table 3-10 Summary of model parameter estimates**

| Explicit variabl | Latent variable | Standardized parameter estimate | Standard Error (S.E.) | Critical Ratio (C.R.) | P |
|---|---|---|---|---|---|
| Xl | Innovative Mind | .804 | .065 | 16.174 | *** |
| X2 | Innovative Mind | .837 | .058 | 17.031 | *** |
| X3 | Innovative Mind | .755 | .065 | 14.657 | *** |
| X4 | Innovative Mind | .859 | | | |
| X5 | Innovative talent | .694 | | | |
| X6 | Innovative talent | .747 | .084 | 12.187 | *** |
| X7 | Innovative talent | .792 | .085 | .12.462 | *** |
| X8 | Innovation fund | .877 | .094 | 12.756 | *** |
| X9 | Innovation fund | .740 | | | |
| X10 | Technological | .917 | | | |
| X11 | Technological | .883 | .044 | 21.946 | *** |
| X12 | Technological | .770 | .056 | 16.260 | *** |
| X13 | Product Innovation | .758 | .061 | 14.225 | *** |
| X14 | Product Innovation | .836 | .065 | 15.685 | *** |
| X15 | Product Innovation | .790 | | | |
| X16 | Market innovation | .757 | .095 | 12.777 | *** |
| Xl7 | Market innovation | .764 | .104 | 14.735 | *** |
| Xl8 | Market innovation | .719 | | | |

| | | | | | |
|---|---|---|---|---|---|
| Xl9 | Market innovation | .680 | .069 | 17.114 | *** |
| X20 | Management | .727 | .077 | 13.519 | *** |
| X21 | Management | .782 | .073 | 13.635 | *** |
| X22 | Management | .779 | | | |
| X23 | Management | .869 | .069 | 15.494 | *** |
| X24 | Organizational | .792 | | | |
| X25 | Organizational | .708 | .071 | 12.325 | *** |
| X26 | Organizational | .796 | .073 | 14.240 | *** |
| X27 | Organizational | .759 | .081 | 13.387 | *** |
| X28 | Business Performance | .888 | | | |
| X29 | Business Performance | .887 | .047 | 21.922 | *** |
| X30 | Business Performance | .871 | .051 | 21.323 | *** |

Source: Statistics of this study

(2) Differential validity

As shown in the following table, there is a significant difference between the unrestricted model of each latent variable and the chi-square value of the restricted model. The significance test probability value P of the chi-square value difference amount is less than 0.05. It shows that the measurement models have high discriminate validity.

**Table 3-11 Differential validity test**

| Latent variable | Degree of freedom difference | Chi-square value difference | P |
|---|---|---|---|
| Innovative consciousness ←→ innovative talent | 1 | 21.032 | .000 |
| Innovation awareness ←→ Innovation funds | 1 | 15.278 | .004 |
| Innovation awareness ←→ Technological innovation | 1 | 4.799 | .028 |
| Innovation awareness ←→ Product innovation | 1 | 24.287 | .000 |
| Innovation awareness ←→ City Yang innovation | 1 | 2.473 | .049 |
| Innovation awareness ←→ Management innovation | 1 | 3.753 | .043 |
| Innovative awareness ←→ Organizational innovation | 1 | 8.479 | .004 |
| Innovative awareness ←→ corporate performance | 1 | 5.009 | .025 |
| Innovative Talent ←→ Innovation Fund | 1 | 10.472 | .001 |
| Innovative talent ←→ Technological innovation | 1 | 3.987 | .034 |
| Innovative Talent ←→ Product Innovation | 1 | 5,321 | .023 |
| Innovative Talent ←→ Market Innovation | 1 | 3.728 | .039 |

| | | | |
|---|---|---|---|
| Innovative Talent ←→ Management Innovation | 1 | 8.613 | .006 |
| Innovative Talent ←→ Organizational Innovation | 1 | 3.869 | .040 |
| Innovative Talent ←→ Corporate Performance | 1 | 9.015 | .003 |
| Innovation Fund ←→ Technology Innovation | 1 | 10.132 | .001 |
| Innovation Fund ←→ Product Innovation | 1 | 3.367 | .045 |
| Innovation Fund ←→ Market Innovation | 1 | 5.047 | .029 |
| Innovation Fund ←→ Management Innovation | 1 | 6.001 | .014 |
| Innovation Fund ←→ Organizational Innovation | 1 | 9.68 | .002 |
| Innovation Fund ←→ Enterprise Performance | 1 | 7.002 | .009 |
| Technological Innovation ←→ Product Innovation | 1 | 3.004 | .050 |
| Technological Innovation ←→ Market Innovation | 1 | 4.108 | .042 |
| Technological Innovation ←→ Management Innovation | 1 | 4.046 | .030 |
| Technological Innovation ←→ Organizational Innovation | 1 | 6.137 | .011 |
| Technological Innovation ←→ Corporate Performance | 1 | 10.474 | .001 |
| Product Innovation ←→ Market Innovation | 1 | 6.29 | .014 |
| Product Innovation ←→ Management Innovation | 1 | 6.05 | .018 |
| Product Innovation ←→ Organizational Innovation | 1 | 4.448 | .029 |
| Product Innovation ←→ Enterprise Performance | 1 | 6.138 | .013 |
| Market Innovation ←→ Management Innovation | 1 | 6.596 | .020 |
| Market Innovation ←→ Organizational Innovation | 1 | 4.435 | ,031 |
| Market Innovation ←→ Corporate Performance | I | 5.952 | ..016 |
| Management Innovation ←→ Organizational Innovation | 1 | 6.037 | .015 |
| Management Innovation ←→ Corporate Performance | 1 | 5.972 | .024 |
| Organizational Innovation ←→ Corporate Performance | 1 | 4.531 | .046 |

**Reliability Test**

The reliability test is the internal consistency test of the scale. Reflects the extent to which the indicator variable is actually measured for the potential traits it wants to measure. The greater the

reliability, the higher the degree to which the observed variables used to explain a latent variable has a covariance.

(1) Individual item reliability ($0.5<R^2<1$)

The reliability check of the observed variable can be measured from the squared ($R^2$) value of the multivariate correlation coefficient of the indicator variable. If the value of $R^2$ is significant, the higher the value, the more the variation indicating that the indicator variable can be explained by its latent variable and the representative variable has good reliability. $R^2$ is equal to (normalized λ value, which is the normalized regression coefficient of the latent variable to the index variable) the square of the factor load.

(2) Combined reliability coefficient (Pc>0.6)

Combination reliability is also known as construction reliability. In the factor analysis, the Cronbach's alpha coefficient is usually used as the reliability coefficient of the model's latent variables to test its internal consistency. In the SEM analysis, the combination reliability is used as a reliability indicator to test the latent variables to evaluate the degree of consistency of the potential construction indicators, that is, the extent to which all measurement indicators share the construct of the factor. Verify the level of internal consistency between observed variables for each potential variable. The combined reliability is preferably above 0.6.

(3) Average variance extracted (Pv >0.5)

The mean variance derivation value of the latent variable indicates the extent to which the latent variable can account for the variation of the indicator variable compared to the magnitude of the variation in the measurement error. If the value is above 0.50, it means that the indicator variable can effectively reflect its latent variable, which has good reliability and validity.

The individual reliability coefficients are directly output by the AMOS 12.0 program running report, and the combined reliability and average variance extraction are calculated using the execution program attached to AMOS 12.0.

The estimated values of the three reliability indicators are shown in Table 3-12. According to the data in the table, except for the reliability coefficients of the two indicators x6 and xl9, the coefficients are 0.4816 and 0.4624, which are slightly lower than 0.5. The reliability coefficient R2 of each of the other indicators exceeds 0.5, which basically reaches the standard. The combined reliability coefficient values of all potential variables are above 0.6, and the average variance extraction values are all above 0.5, which all meet the adaptation criteria. This indicates that the measurement model has good reliability.

**Table 3-12 Reliability checklists for each variable**

| Potential Variable | Observation variable | Reliability coefficient | Measurement error | Combination reliability | Average variance extraction |
|---|---|---|---|---|---|
| innovative Mind | X1 | 0.6464 | 0.3536 | 0.8873 | 0.6637 |
| | X2 | 0.7006 | 0.2994 | | |
| | X3 | 0.5700 | 0.4300 | | |
| | X4 | 0.7379 | 0.2621 | | |

| | | | | | |
|---|---|---|---|---|---|
| Innovative Talent | X5 | 0.4816 | 0.5184 | 0.7890 | 0.5556 |
| | X6 | 0.5580 | 0.4420 | | |
| | X7 | 0.6273 | 0.3727 | | |
| Innovation Fund | X8 | 0.7691 | 0.2309 | 0.7928 | 0.6584 |
| | X9 | 0.5476 | 0.4524 | | |
| Process Innovation | X10 | 0.8409 | 0.1591 | 0.8936 | 0.7378 |
| | X11 | 0.7797 | 0.2203 | | |
| | X12 | 0.5929 | 0.4071 | | |
| Product Innovation | X13 | 0.5746 | 0.4254 | 0.8375 | 0.6325 |
| | X14 | 0.6989 | 0.3011 | | |
| | X15 | 0.6241 | 0.3759 | | |
| Market Innovation | X16 | 0.5731 | 0.4270 | 0.8206 | 0.5340 |
| | X17 | 0.5837 | 0.4163 | | |
| | X18 | 0.5170 | 0.4830 | | |
| | X19 | 0.4624 | 0.5376 | | |
| Management Innovation | X20 | 0.5282 | 0.4715 | 0.8693 | 0.6255 |
| | X21 | 0.6115 | 0.3885 | | |
| | X22 | 0.6068 | 0.3932 | | |
| | X23 | 0.7552 | 0.2448 | | |
| Organizational Innovation | X24 | 0.6273 | 0.3727 | 0.8489 | 0.5846 |
| | X25 | 0.5013 | 0.4987 | | |
| | X26 | 0.6336 | 0.3664 | | |
| | X27 | 0.5761 | 0.4240 | | |
| Business Performance | X28 | 0.7885 | 0.2115 | 0.9131 | 0.7780 |
| | X29 | 0.7868 | 0.2132 | | |
| | X30 | 0.7586 | 0.2414 | | |

The above analysis shows that the measurement model has good validity and reliability.

## Data Analysis Methods

### Descriptive Statistical Analysis of Data

Through statistical analysis of the acquired data, the sample enterprises are informed about the industry, organizational form, ownership nature, age, scale, turnover, and development stage.

(1) Industry distribution of sample companies

Among the sample enterprises, processing and manufacturing accounted for 38.5%, and electronic information industry: 32.6°/. The general service industry accounted for 12.4%, and the emerging industry accounted for 16.5%.

**Table 3-13 Industry distribution of sample enterprises**

| Industry | Processing | Electronic | Service | Emerging |
|---|---|---|---|---|
| Proportion (%) | 38.5% | 32.6% | 12.4% | 16.5% |

Source: Statistics of this study

(2) Distribution of the nature of sample companies

The nature of sample companies is shown in Table 3-11. State-owned enterprises account for 22.4%, foreign-funded enterprises account for 19.1%, partnership enterprises account for 38.8%, and private enterprises account for 19.7%.

**Table 3-14 Nature distribution of sample companies**

| Nature of business | State-owned and state-owned holding | Foreign | Partnership | Private |
|---|---|---|---|---|
| Proportion (%) | 22.4% | 19.1% | 38.8% | 19.7% |

Source: Statistics of this study

(3) Distribution of years of sample enterprises

Enterprises with a standing period of less than 2 years accounted for 9.65%; 2-5 years accounted for 17.54°/; 5-10 years accounted for 24.72%: 10-20 years, the most, accounting for 26.32%; 20-30 years, accounting for 4.39% 303% for 30-50 years; 7.02% for 50 years or more

**Table 3-15 Years distribution of sample enterprises**

| Year of | <2 | 2-5 | 5-10 | 10-20 | 20-30 | 30-50 | >50 |
|---|---|---|---|---|---|---|---|
| Proportion (%) | 9.65% | 17.54% | 24.72% | 26.32% | 4.39% | 10.53% | 7.02% |

Source: Statistics of this study

(4) Size distribution of sample enterprises

From the perspective of the number of employees, 24.17% of 100 employees and below, 23.30% of enterprises with 100-300 people, 10.68% of enterprises with 300-500 people, 20.39% of enterprises with 500-1000 people, and 1000-1500 people. The number of enterprises is 5.83%, and that of 1,500-2,000 people is 15.53%.

**Table 3-16 Size distribution of sample enterprises**

| Number of employees | <100 | 100-300 | 300-500 | 500-1000 | 1000- | >1500 |
|---|---|---|---|---|---|---|
| Proportion (%) | 24.27% | 23.30% | 10.68% | 20.39% | 5.83% | 15.53% |

Source: Statistics of this study

(5) From the perspective of the company's turnover, most of the 50 million-100 million enterprises accounted for 30.43% of the total sample surveyed; followed by 30-500 million, accounting for 21.74%: the number of enterprises below 10 million accounted for 17.39% The number of enterprises with a scale of 10-30 million accounts for 16.30%; the enterprises with 100 million to 200 million account for 3.26%, the enterprises with 200-300 million accounts for 6.52%; the enterprises with 300-300 million account for 4.35%.

**Table 3-17 Turnover distribution of sample companies**

| Turnover (million) | <10 | 10-30 | 30-50 | 50-100 | 100-200 | 200-300 | 300-400 |
|---|---|---|---|---|---|---|---|
| Proportion (%) | 17.39% | 16.30% | 21.74% | 30.43% | 3.26% | 6.52% | 4.35% |

Source: Statistics of this study

(6) Distribution of the development stage of the sample enterprise

Among the sample companies collected, 2.68% were in the creative stage; 0.89% in the technology development stage: 2.68% in the product development stage; 20.54% in the market development stage; 73.2P/% in the mature stage The sample companies are at a mature stage, followed by the market development stage; there are fewer sample companies in the technology development stage, product development and creative stage.

**Table 3-18 Development distribution of sample enterprises**

| Development Stage | Creative stage | Technology development stage | Product development stage | Market expansion stage | Maturity stage |
|---|---|---|---|---|---|
| Proportion (%) | 2.68% | 0.89% | 2.68% | 20.54% | 73.21% |

Source: Statistics of this study

## Difference Analysis of Sample Data

The difference analysis of the sample data is to verify the validity of the acquired data. The research on the formation mechanism of the development strategy of innovative SMEs in Jiangsu Province is an overall research process for the development mode with innovation as the core, rather than for different stages of development, so it should not be separated for analysis. However, because the characteristics of the sample are dispersive, in order to analyze the sample and combine it as a whole, the variance analysis of the sample survey data is performed according to the industry category, the enterprise year, the enterprise scale, and the stage of the enterprise, and whether the sample mean value is significant. Sexual differences to test whether the sample measures can be combined.

(1) Variance homogeneity test

The purpose of analysis of variance is to determine the mean difference of different types of samples, as shown in Table 3.16. The results of the homogeneity test of the evaluation values of the measurement indicators of sample companies in different industries, different natures, different years, different scales and different stages of development indicate that the significant probability of the Levene statistic of the two years of the indicators of xl2 and x20 is < Except for 0.05 (reaching the level of significance), the probability of significance of all other indicators was greater than 0.05. Through the homogeneity test of variance, it is shown that the data values of each measure variable of the sample have homogeneity of variance. The homogeneity test of variance is the basis of one-way analysis of variance.

**Table 3-19 Variance homogeneity test**

| Measurement standard | Product | | Business life | | Turnover | | Development stage | | Nature of business | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Statistics | Significant | Statistics | Significant | Statistics | Significant | Statistics | Significant | Statistics | Significant |
| X1 | 0.289 | *0.834* | *0.63* | *0.835* | 1.605 | *,178* | .S58 | 0.465 | 0.334 | 0.801 |
| X2 | 1.353 | 0.261 | 0.684 | *0.663* | 1.009 | 0.406 | 0.81 | 0.491 | 0.6 | 0.617 |
| X3 | 1.181 | 0.32 | 。978 | 0.444 | 1.951 | 0.107 | *0.867* | 0.461 | 0.45 | 0.718 |
| X4 | 1.135 | 0.338 | 0.948 | 0.464 | 1.111 | 0.355 | 1.068 | 0.366 | 2.609 | 0.055 |
| X5 | 0.413 | 0.744 | 0.812 | 0.563 | 0.667 | 0.616 | 1.553 | 0.205 | 0.993 | 0.399 |
| X6 | 1.893 | 0.135 | 0.493 | 0.813 | 1.719 | 0.151 | 1.091 | 0.356 | 0.638 | 0.592 |
| X7 | 2.114 | 0.103 | 2.163 | ,052 | 0.735 | 0.57 | 0.474 | 0.701 | 1.379 | 0.253 |
| X8 | 0.549 | 0.65 | 0.785 | 0.583 | 2.357 | 0.058 | 0.649 | 0.585 | 1.598 | 0.194 |
| X9 | 0.622 | 0.602 | 0.6 | 0.729 | 0.704 | 0.591 | 0.261 | 0.854 | 2.445 | 0.068 |
| Xl0 | 0.277 | 0.842 | *0.857* | 0.529 | 0.71 | 0.587 | 1.051 | •373 | 1.464 | 0.228 |
| X11 | 0.867 | 0.46 | *0.962* | 0.455 | 1.449 | 0.223 | 1.456 | 0.231 | 1.034 | 0.38 |
| X12 | 0.171 | 0.916 | 2.624 | 0.021 | 0.676 | 0.61 | 0.643 | 0.589 | 0.832 | *0.479* |
| Xl3 | 0.281 | 0.839 | 0.86 | 0.527 | 2.569 | 0.042 | 0.949 | 0.42 | 1.415 | 0.242 |
| Xi4 | 0.884 | 0.452 | 2.143 | 0.054 | 2.342 | 0.06 | 0.85 | 0.469 | 2.287 | 0.083 |
| Xl5 | 0.456 | 0.713 | 1.176 | 0.325 | 0.666 | 0.617 | 0.516 | 0.672 | 0.249 | 0.862 |
| Xi6 | 0.54 | 0.656 | 1.558 | 0.167 | 1.031 | 0.395 | 0.628 | 0.599 | 1.44 | 0.235 |
| Xl7 | 0.22 | 0.87 | 1.69 | 0.12 | 0.15 | 0.96 | •895 | •446 | 0.40 | *•750* |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 6 | 8 | 9 | 8 | 6 | | | | 4 | |
| Xls | 2.244 | 0.087 | 1.615 | 0.15 | 0.909 | 0.462 | U21 | 0.344 | 1.256 | 0.293 |
| X!9 | 0.518 | 0.671 | 1.429 | 0.211 | 1.067 | 0.376 | 0.946 | 0.421 | 0.231 | 0.875 |
| X20 | 1.006 | 0.393 | 2.49 | 0.027 | 0.762 | 0.552 | 0.102 | 0.959 | 0.292 | 0.831 |
| X21 | 1.437 | 0.236 | 1.176 | 0.325 | 0.62 | 0.649 | 1.771 | 0.157 | 0.695 | 0.557 |
| X22 | 1.276 | 0.286 | 1.175 | 0.325 | 0.156 | ,960 | 1.581 | 0.198 | 0.882 | 0.453 |
| X23 | 1.07 | 0.365 | 0.24 | 0.962 | 0.906 | 0.463 | 0.096 | 0.962 | 0.494 | 0.687 |
| X24 | 0.317 | 0.813 | 1.323 | 0.253 | 0.268 | 0.898 | 0.683 | 0.564 | 0.484 | 0.694 |
| X25 | 1.145 | 0.334 | *1,393* | *0.224* | *U92* | ,319 | 0.713 | 0.547 | 0.41 | 0.746 |
| X26 | 2.153 | 0.098 | 0.939 | 0.471 | 1.419 | ,233 | U74 | 0.323 | 0.565 | 0.639 |
| X27 | 0.456 | 0.713 | 1.598 | 0.155 | 1.007 | 0.407 | 0.206 | 0.892 | 0.511 | 0.676 |
| X28 | 0.963 | 0.413 | 1.173 | 0.326 | 1.511 | 0.204 | 1.442 | 0.234 | 0.633 | 0.595 |
| X29 | 0.835 | 0.478 | 1.058 | 0.393 | 0.589 | 0.671 | 0.512 | 0.675 | 0.675 | 0.797 |
| X30 | 0.982 | 0.404 | 0.927 | 0.479 | 0.66 | 0.33 | 1.777 | 0.156 | 0.909 | 0.439 |

Source: Statistics of this study

(2) One-Way ANOVA

The results of variance analysis show that, as shown in Table 3.17, the F significant rate of each index of different industries, different natures, different years, different scales, and different stages of development is greater than 0.05, and the value of each measurement index of different background sample enterprises is basically There are no significant differences and a combined analysis can be performed.

**Table 3-20 One-way analyses of variance.**

| Measurement standa | Industry | | Years | | Turnover | | Development stage | | Nature of business | |
|---|---|---|---|---|---|---|---|---|---|---|
| | F | Sign | F | Sign | F | Sign | F | Sign | F | Sign |

| rd | | ifica nt | | ifica nt | | ifica nt | | ifica nt | | ifica nt |
|---|---|---|---|---|---|---|---|---|---|---|
| Xl | 0.25 3 | 0.85 9 | 1.09 1 | 0.37 3 | 0.98 5 | 0.43 9 | 2.27 7 | 0.06 6 | 1.079 | 0.36 1 |
| X2 | 1.11 | 0.34 8 | 0.54 | 0.77 7 | 1.34 4 | 0.24 4 | 2.01 4 | 0.09 8 | 0.713 | 0.54 6 |
| X3 | 0.41 7 | 0.74 1 | 0.84 3 | 0.54 | 0.80 5 | 0.56 8 | 1128 | 0.08 2 | 1.508 | 0.21 7 |
| X4 | 0.11 4 | 0.95 1 | ,698 | 0.65 2 | 0.59 0 | 0.73 7 | 1.54 5 | 0.19 4 | 0.848 | 0.47 1 |
| X5 | 0.06 6 | 0.97 8 | 0.89 1 | 0.50 4 | l.OO 1 | 0.42 8 | 1.98 4 | 0.10 2 | 0.681 | 0.56 5 |
| X6 | 0.24 3 | 0.86 6 | 1.19 4 | 0.31 5 | 0.83 7 | 0.54 4 | 1.02 8 | 0.39 6 | 0.45 | 0.71 8 |
| X7 | 0.15 3 | 0.92 7 | U53 | 0.33 7 | 1.39 9 | 0.22 2 | 2.11 4 | 0.08 4 | 1.158 | 0.32 9 |
| X8 | 0.82 2 | 0.48 5 | 1.39 3 | 0.22 4 | 1.42 9 | 0.21 | 1.78 3 | 0.13 7 | 0.131 | 0.94 1 |
| X9 | 1.30 5 | 0.27 7 | 0.67 7 | 0.66 8 | 1.19 6 | 0.31 4 | 1.67 3 | 0.16 1 | 0.366 | 0.77 8 |
| Xlo | 1.42 4 | 0.24 | 0.59 1 | 0.73 7 | 1.49 4 | 0.18 7 | 2.01 6 | 0.09 7 | 0.342 | 0.79 5 |
| Xl1 | 0.99 | 0.40 1 | 0.83 2 | 0.54 7 | 1.04 2 | 0.40 3 | 0.78 2 | 0.53 9 | 0.339 | 0.79 7 |
| Xi2 | 0.62 3 | 0.60 2 | 0.81 1 | 0.56 4 | 1.68 7 | 0.13 1 | 0.83 3 | 0.50 7 | 1.09 | 0.35 6 |
| Xl3 | 0.00 9 | 0.99 9 | 1.06 | 0.39 1 | 1.58 1 | 0.16 | 1.14 8 | 0.33 8 | 0.136 | 0.93 9 |
| X!4 | 0.25 7 | 0.85 6 | 0.46 | 0.83 6 | 1.36 3 | 0.23 6 | 0.99 7 | 0.41 2 | 0.542 | 0.65 5 |
| X]5 | 0.83 3 | 0.47 8 | 0.30 6 | 0.93 3 | 0.83 9 | 0.54 3 | 1.59 2 | 0.18 2 | 0.245 | 0.86 5 |
| Xl6 | 0.20 6 | 0.89 2 | 0.69 9 | 0.65 1 | 1.29 9 | '.264 | 1.77 8 | 0.13 8 | 0.331 | 0.80 3 |
| Xl7 | 1.51 6 | 0.21 4 | 0.11 6 | 0.99 4 | 1.82 2 | 0.10 2 | 1.74 9 | 0.14 5 | 2.433 | 0.06 9 |
| Xl8 | 0.89 8 | ,445 | 0.16 3 | 0.98 6 | 0.89 2 | 0.50 4 | 1.74 6 | 0.14 5 | 0.303 | 0.82 3 |
| Xl9 | 0.29 | 0.83 | 0.76 | 0.59 | 0.32 | 0.92 | 3.74 | 0.00 | 0.194 | 0.9 |

| | 2 | 1 | 5 | 9 | 4 | 3 | 2 | 7 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X20 | 1.061 | 0.369 | 1.42 | 0.214 | 1.306 | 0.261 | 2.131 | 0.082 | 0.762 | 0.518 |
| X21 | 0.531 | 0.662 | 0.747 | 0.613 | 0.337 | 0.916 | 2.179 | 0.076 | 1.158 | 0.329 |
| X22 | 0.577 | 0.631 | 0.255 | 0.956 | 1.274 | 0.276 | 2.292 | 0.064 | 0.358 | 0.783 |
| X23 | 0.242 | 0.867 | 0.398 | *0.879* | 0.735 | 0.623 | 4.365 | 0.003 | 0.314 | 0.815 |
| X24 | 1.039 | 0.378 | 0.651 | 0.689 | 0.579 | 0.746 | 1.89 | 0.117 | 0.41 | 0.746 |
| X25 | 0.558 | 0.644 | 0.377 | 0.892 | 0.354 | 0.906 | 2.433 | 0.052 | 0.583 | 0.627 |
| X26 | 0.148 | 0.931 | 0.674 | 0.671 | 0.41 | 0.871 | 2.434 | 0.052 | 1.451 | 0.232 |
| X27 | 0.231 | 0.874 | 0.475 | 0.826 | 0.36 | 0.903 | 1.625 | 0.173 | 1.524 | 0.212 |
| X28 | 2.331 | 0.078 | 0.753 | 0.608 | 1.096 | 0.37 | 1.712 | 0.153 | 1.254 | 0.294 |
| X29 | 0.927 | 0.43 | 1.388 | 0.226 | U69 | 0.329 | 0.88 | 0.479 | 1.604 | 0.193 |
| X30 | 0.793 | 0.501 | 0.959 | 0.457 | 1.455 | 0.201 | 0.763 | 0.552 | 1.966 | 0.123 |

Source: Statistics of this study

## Results

Process analysis based on the formation of corporate development strategies. Combined with the characteristics of innovative SMEs, this paper summarizes the key influencing factors of the development strategy of innovative SMEs, including: innovation awareness, innovation resources, innovation behavior, and enterprise performance.

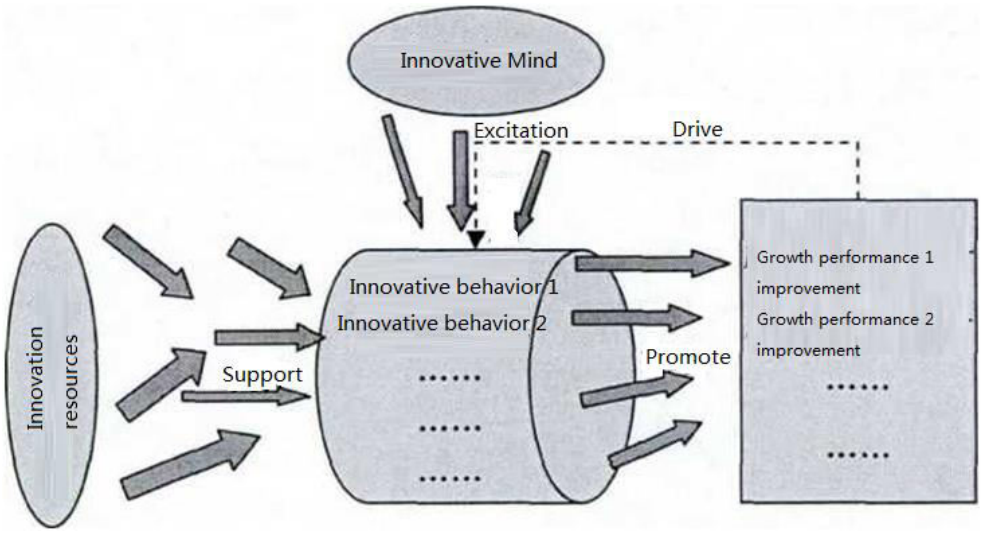
Innovation consciousness, innovation resources and other aspects as the influencing factors and basic conditions of innovation activities, promote the continuous innovation of enterprises. The cultivation of innovative consciousness, the acquisition of resources, and the smooth progress of various innovative activities and the resulting performance will ultimately lead to the formation of various development strategies for innovative SMEs. The different development strategies of innovative SMEs are based on the intricate relationship between the inherent components of innovation, innovation resources, innovation behavior, and corporate performance. It is the role of different combinations of influencing factors. Therefore, no matter what kind of development strategy, the enterprise must be in a specific environment. Under the guidance of innovation

consciousness, applying the innovative resources possessed by the company to carry out appropriate innovation activities and produce certain performances will form a corporate development strategy.

Innovative performance enables the company to have a source of further development, thereby promoting continuous innovation. Only continuous innovation is the fundamental way for the sustainable growth of corporate economic efficiency and the enhancement of corporate value and sustainable development. The ultimate goal of business development is to achieve business performance. Different performances determine different development strategies, so that innovative SME development strategies can be presented in many types. Therefore, the implementation of different development strategies will produce different levels of performance. The combined effects of these different outcomes for innovative SMEs form a company-specific development trajectory. Therefore, the development of innovative SMEs can also be understood as the process of adopting various development strategies with innovation behavior as the core to achieve development performance.

Based on the above analysis, the basic framework of the formation process of innovative SME development strategy is obtained, as shown in Figure 4-2. The direction of the arrows in the figure indicates the difference in the direction of influence between the factors, and the thickness in the figure represents the degree of influence between the factors.

**Figure 4-2 Schematic diagram of the formation process of innovative SME development strategy**




Source: Statistics of this study

### 4.2.3 Discussions

(1) Innovative consciousness stimulates innovative behaviors from different directions. There is a difference in the degree of support for innovation behavior in innovation behavior.

Innovative awareness is the common source of innovation for the development strategies of innovative SMEs, and the spiritual leadership for the formation of differentiated strategies. The

diversity of corporate entities determines the difference in innovation consciousness. What kind of consciousness will give the company a corresponding development direction. The sense of innovation in the enterprise determines whether the company can continuously seek opportunities for innovation and when and where the company will innovate. Appropriate means should be used to promote the development of enterprises, thereby guiding the development direction and trajectory of enterprises, and promoting the formation of different development strategies of enterprises.

(2) Innovation resources support innovation behaviors from different directions; there are differences in the degree of support for innovation behaviors.

The innovative resource element is an important cornerstone for the formation of various innovative SME development strategies. The difference in the formation of strategy depends more on the type, quantity, quality and time-space combination characteristics of resources. The quantity and quality of resources invested in enterprise innovation activities are important factors in determining the success of innovation. Therefore, resources are also the conditions and basis for the formation of strategy. More importantly, different resources will make the formation process of the strategy different from the outcome. Even the same kind of resources, their quantity and quality are different, and their effects on the development of specific enterprises are different. This will lead to the formation of different development strategies.

## Research Objective 2

Clarify the role of each influencing factor in the development of innovative SME development strategies and the different development strategies that innovative SMEs can choose.

**Analysis**

(1) The mechanism of influence of innovation consciousness on formulating development strategies

The sense of innovation has a huge driving influence on the development strategy of innovative SMEs. Driven by innovation consciousness, it means that the sense of innovation of enterprises is the source of the development strategy of innovative SMEs, and the spiritual command of the formation of differentiated strategies. Enterprises are embarking on a road of innovation that is full of dangers and dangers, and then explores and develops innovative SMEs. It is driven by a huge source of innovation consciousness. The driving role of innovation consciousness in the formation of development strategy is mainly reflected in:

(I) Leading the development strategy from the spiritual and cultural level

Innovation is the soul of the enterprise, and innovation consciousness is the soul of innovation. For innovative SMEs with innovation as the core feature, the innovative consciousness of entrepreneurs and employees is the soul of enterprise innovation. Innovative awareness stimulates and enriches the corporate spiritual culture, and comprehensively enhances the enterprise's innovative spirit, entrepreneurial spirit, learning spirit, entrepreneurial spirit, thinking

spirit and pioneering spirit, while innovation consciousness is the soul and essence of these spirits. The sense of innovation enriches the multi-faceted and multi-level content of the corporate spiritual culture and forms an inexhaustible motive force for exploring the development strategy of innovative SMEs.

(II) Guide and optimize the innovation strategy

A strong sense of innovation is the driving force behind the inspiration and innovation strategy. With a strong sense of innovation, companies can identify opportunities, capture opportunities, raise innovative resources, eliminate risks, and build development strategies. However, in order to realize this development strategy, enterprises must carry out strategic adjustments with a high degree of consciousness, ensure the coordination and balance of all aspects, and always maintain the optimal strategy for achieving enterprise development in the adjustment process.

Throughout the successful innovative SMEs at home and abroad, although their respective achievements are very different, one thing is the same: all successful enterprises are developing a pioneering innovation strategy and successfully implementing them under the strong sense of innovation. This guides the direction and trajectory of the company.

(2) The mechanism of influence of innovation resources on development strategy

The innovative resource element is an important foundation for the formation of various innovative SME development strategies. The difference in the formation of strategy depends more on the type, quantity, quality and time-space combination characteristics of resources.

(I) The coordination and balance of innovation resources is the basis for the formation of development strategies.

Resource security and coordination are prerequisites for the formation of a strategy. Innovation resources mainly include: innovative talents, innovative funds, information, equipment and so on. Since equipment and information can be reflected through capital investment, in order to reduce the complexity of analysis, the innovative SME resources of this paper are classified as innovative talents and innovation funds. Resources are the basis for the survival and development of innovative SMEs. Resources enable innovation to realize the potential for realization. Innovation can only be achieved if the company provides the physical capital and human resources necessary for innovation without compromise. Innovation must be based on resources. Therefore, what type of development strategy is chosen to a large extent is based on the balance and coordination of resources and other aspects.

(II) Resources are important factors that influence the differentiation of development strategies.

The diversity of resources is a prerequisite for the formation of specific strategies for the development of innovative SMEs. The type, quantity, quality, time and space combination characteristics of different resources, different resources and their combinations largely determine the differences in the development strategy. It can lead to different processes and outcomes. Even the same kind of resources, their quantity and quality are different, and their effects on the development of specific enterprises are different. This will lead to the formation of different development strategies.

(III) Innovative talents play a central role in the formation of development strategies.

Innovative talents are the source of innovative innovation and vitality of innovative SMEs. The development of innovative SMEs, the factor that plays a decisive core strength is talent. Innovation requires companies to have keen insight, accurate judgment and learning ability. And this depends on innovative talents with innovative thinking and competence. The high-quality innovative talent group is the basis for the competition between the enterprise and the competitors, and it is the fundamental guarantee for the development of the enterprise to overcome the dangers.

(IV) The scale of innovative talents is a prerequisite for the formation of corporate development strategies.

The scale of innovative talents is expressed as the total size and density of innovative talents. The former is the total amount of innovative talents owned by enterprises, and the latter is the proportion of innovative talents among employees. Innovative talents with considerable scale, high quality and reasonable density are the primary conditions for challenging high-risk development strategies in a fiercely competitive environment. It enables companies to choose a favorable development strategy in a competitive and competitive manner.

(V) The structure of innovative talents has an important impact on the differences in corporate development strategies.

The structure of innovative talents usually shows the structure of professional structure, title structure, and academic structure. For the formation of enterprise development strategy, the key is the knowledge and ability structure of innovative talents. In particular, the breadth, depth, and trait structure of talent knowledge must match the development strategy of the enterprise. In the field of product design innovation, there are a number of high-quality design talents, which are the basis for the development strategy of the company to take product innovation as the leading strategy; while the development strategy led by technological innovation needs to be supported by high-quality technical and technical personnel and skilled workers; Taking the management innovation-led development strategy, it is necessary to have a group of talents with complex knowledge and ability, both technical and proficient management. With a certain number of top leaders in this profession, it is a magic weapon to challenge high-risk development strategies in a fiercely competitive environment. It can be seen that the optimization of innovative talent structure affects the development direction and strategy of the enterprise, and is the decisive factor for the sustainable development of innovative SMEs.

(VI) Innovation funds play a supporting role in the formation of development strategies

Innovation funds are the internal fundamentals for the formation of differentiated development strategies. Sustained high investment is a necessary condition for the development of innovative SMEs. The adequacy of capital investment and how it is distributed will have an important impact on the direction and process of enterprise innovation and other activities, and then determine the development strategy of the company. The impact of innovation funds on the formation of corporate development strategies is mainly reflected by the scale, intensity and investment and financing channels of capital investment.

(VII) The scale and intensity of capital investment are the basic factors affecting the development strategy.

Funding is the premise of an enterprise's innovative activities and runs through the entire process of innovation. Innovation means high risk and high investment. The development of innovative SMEs requires sufficient capital guarantee for enterprises. While ensuring the realization of innovation, funds must also ensure the normal operation of various production and operation activities. In-house R&D and the purchase of patents and advanced equipment, manufacturing costs, and marketing expenses all require funding. Among them, technological innovation requires especially the support of a large amount of funds. The sufficient scale of the capital investment of enterprises and the intensity of investment in innovation activities, such as the proportion of R&D expenses to total sales of enterprises and the cost of scientific research per capita, have an important impact on the direction and progress of innovation and development of enterprises. This has become an important factor in advancing or hindering the optimization of corporate development strategy choices.

(VIII) Investment and financing channels are important factors influencing the formation of sustainable development strategies.

If the investment and financing channels are unblocked, the support of venture capital and the opportunity to enter the GEM will be provided, which will provide a continuous and sufficient source of funds for high-risk high-tech development. The company has the conditions to choose the industry-leading development strategy of new products and new industrial art development. On the other hand, if the investment and financing channels are not smooth, and there are good external development market opportunities and internal technical conditions, funds will become an insurmountable obstacle to the formation and free choice of corporate development strategies.

(3) The mechanism of influence of innovation behavior on development strategy

Innovative behavior is a key achievement factor for the development of innovative SMEs, and it is also a key element for the formation of various development strategies. Innovative SMEs rely on innovation for survival and development, and innovation is the source of its life. The key to the formation of the core strategy of the enterprise lies in the innovation of the enterprise. All the activities of the innovative SMEs are based on the difference of innovation behaviors.

(I) Analysis of the impact of innovation behavior on development strategy

1. The key to the impact of innovative behavior on development strategies.

Innovation is the soul of innovative SMEs and the key to the survival and development of innovative SMEs. Innovation is achieved through innovative behavior. Therefore, innovative behavior is a key factor in the development of innovative SMEs. The development strategy of innovative SMEs is the process of enterprise development or value growth by accumulating, applying and reorganizing internal and external resources of the enterprise under the influence of the environment and taking innovation as the guiding ideology. It can be seen that the strategy of innovative SME development must focus on innovation activities, and on this basis, a series of actions are carried out, and innovation activities are a collection of innovative behaviors. Therefore, the strategy of the development of innovative SMEs can also be expressed as the

process and trajectory of innovation and activity to drive innovation activities to achieve enterprise development or value growth.

2. The difference in innovation behavior has a major impact on the development of development strategy

There are obvious differences in the existing innovation behaviors of enterprises. Existing innovation behaviors are generally dominated by a certain kind of innovation behavior, and other innovation behaviors are auxiliary, and various innovation behaviors complement each other. The differences in leading innovation behaviors form the differences in existing innovation behaviors of enterprises and have a major impact on the formation of development strategies.

3. Internal advantages accumulate impact.

In the long-term production and operation activities, the company has formed the advantages of enterprise innovation behavior: or new product development has achieved; or the craft is higher; or the market development is leading peers, or the organization management is excellent. The dominant innovation behavior advantage stems from the innovation knowledge and ability to accumulate advantages. This accumulation of advantages has an important impact on the direction of enterprise development strategy selection. When the enterprise develops along the development strategy of the existing dominant behavior direction, the internal accumulation advantage becomes a powerful driving force for development; on the contrary, if the original dominant behavior direction needs to be changed under the new situation, the inherent dominant accumulation rigidity of the original dominant behavior will become Powerful obstacles promote the choice of new strategic elements and their effects, which in turn affects the formation of new corporate development strategies.

4. Structural rigidity effects.

Enterprise-led innovation behavior is not isolated, it is bound to be deeply integrated into the enterprise structure, including personnel quality structure, technical structure, organizational structure, that is, the formation of a leading innovation behavior characteristics and serve the enterprise structure, through inheritance and accumulation, the formation of enterprise structure characteristics, It is the invisible force that affects the formation of the new development strategy of enterprises. When enterprises follow the development of the development strategy that has led the direction of creative behavior, the existing structure becomes a strong support for development, on the other hand, if the new situation needs to change the original leading behavior direction, the rigidity of the existing structure will become a powerful obstacle, affecting the new enterprise development strategy reasonable choice.

(2) The role of innovative behavior

According to Schumpeter's division, innovations are grouped into the following categories: (1) Using a new product; (2) Using a new production method; (3) Opening up a new market; (4) Plundering Or a new source of supply for controlling raw or semi-finished products; (5) Implementing a new organization for any industry. Fu Jiaji believes that technological innovation is the integration and distribution of enterprise resource strips by entrepreneurs in order to obtain economic benefits, explore market opportunities. This will promote the formation of efficient,

low-cost operating systems and the acquisition of new organizations, new products, new markets, and new sources of supply.

## Conclusion

### Enhance the Collaborative Management Capability of Corporate Strategy

The role of collaborative management capability is to form a benign interaction between the elements through various linkages. The purpose is to achieve a balance of the development of each element, thereby achieving the systemic effect of innovation and development (Chen Jin et al., 2005). The development process of innovative SMEs in Jiangsu Province needs to achieve effective coupling between strategies and synergy of various strategies. Therefore, enhancing the collaborative management capability of enterprises is an inevitable requirement for achieving coordinated development of various strategies. Mainly reflected in three aspects:

(I) Synergy between the dominant strategy and the secondary strategy: In the development of innovative SMEs in Jiangsu Province, in addition to the core leading strategy, there are other secondary strategies for the billet. By achieving coordination among various strategies, we will prevent the formation of one-sidedness, so as to give full play to the effectiveness of each strategy and form a pattern of mutual promotion and balanced development.

(II) Synergies between leading strategies at each stage. The development of innovative SMEs in Jiangsu Province is a long-term process, and the guiding principles should be consistent between different stages of strategy. The development strategies of each stage must not only be connected to each other, but also achieve the bonding of strategic effects, maximize the overall development utility, and make the enterprise development in an optimal state.

(III) Synergies between various influencing factors of the strategy. The first is the resource element. There are usually commonalities among the various resource elements of the development strategy of innovative SMEs in Jiangsu Province. How to realize the rational distribution and effective use of resources among various strategies and promote the free flow of resources is an important issue that needs to pay attention to promoting the effective implementation of the strategy and the healthy development of the enterprise. The second is the efficiency factor. In the implementation of the strategy, we should not only focus on the maximization of the efficiency of the single strategy, but also consider the overall efficiency generated by the combination of other strategies.

Innovative SMEs in Jiangsu Province should establish a strategic synergy management mechanism and improve relevant regulations and systems. The specific implementation requires people to complete. Therefore, the idea of synergy needs to be instilled in every employee. Not only do we need to be guided by synergy in practical work, but we must put synergy at the forefront in ideology.

## Limitations and Prospects

Based on a large number of investigations, this study has obtained some meaningful conclusions through qualitative analysis and quantitative analysis. In theory and method, we have made some efforts. In particular, it is not cumbersome to collect and repeatedly verify data through different ways and methods, so that there is some innovation in the research conclusions. However, due to limitations in time and ability, this study also has some limitations, and a lot of research is needed to further explore, test and develop. There are mainly the following aspects:

First of all, in terms of data collection, the sample size and sample size of this survey are not large enough, and there is a large room for improvement in the research sample. Secondly, the influencing factors of the formation of innovative enterprise development strategies only verify the main aspects, and some factors have not been considered. Some important innovation-related indicator data lack statistical channels, so the indicator system established in this paper is inevitably incomplete and has certain limitations. This paper is a study of the general rules of the development strategy of all innovative SMEs in Jiangsu Province, which may mask some differences. Therefore, the comparative study on the differences in the factors affecting the development strategies of innovative SMEs in Jiangsu Province in different economic stages, different regions, different industries, different scales and different natures remains to be further explored.

Based on the realization of the free and reasonable choice of development strategy and its effective implementation, this chapter puts forward some suggestions for the form and choice of the development strategy of innovative SMEs in Jiangsu Province from the perspective of the company's own perspective, strategic characteristics and the impact of the environment on strategy. Including the whole process view of adhering to strategic choices, aggregating various resources, establishing a dynamic transformation mechanism for strategies, strengthening risk prevention and avoidance in strategy implementation, and enhancing the ability of enterprises to coordinate strategic management.

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