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Suggestions on the Development of Small and Medium-Sized Science and Technology Enterprises

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ABSTRACT

With the help of national favorable policies and combined with the characteristics of scientific and technological small and medium-sized enterprises, this paper analyzes that under the background of the continuous spread of the epidemic, China's economic development has been impacted, and some traditional industries have been greatly impacted, but some scientific and technological small and medium-sized enterprises have grown against the trend, showing strong adaptability and pressure resistance, The reason for providing strong support for comprehensively promoting epidemic prevention and control and economic development is that a number of scientific and technological small and medium-sized enterprises are good at seizing opportunities, have the courage to innovate, and embark on the high-quality development path of "specialization, innovation, characteristics and refinement".

Keywords: *Background of Epidemic Persistence, Scientific and Technological Small and Medium-Sized Enterprises, Specialization and Innovation, Development, Suggestion*

I. INTRODUCTION

The problem of difficult financing has always existed, expensive financing and slow financing is important factors that restrict the development of domestic SMEs. Enterprise financing is still dominated by indirect financing, with a low proportion of direct financing, while the capital market has released good information. The Beijing stock exchange, which has attracted much attention, proposes to cultivate a number of specialized, innovative, characteristic and refined small and medium-sized enterprises to form a benign market ecology with high enthusiasm for innovation and entrepreneurship, active participation of qualified investors and responsible return of intermediaries.

Scientific and technological small and medium-sized enterprises are both small and medium-sized enterprises and innovative enterprises. They are not only the main body of economic development, but also irreplaceable important forces to promote employment, promote economic growth and maintain social stability. It is also an important carrier of mass entrepreneurship and innovation, and its role in promoting scientific and technological innovation and opening up new fields should not be underestimated. The outbreak of New Coronavirus pneumonia will inevitably affect the development of China's economy. Some traditional industries are more affected. However, emerging industries such as intelligent manufacturing, unmanned distribution, online consumption and medical and health care show strong growth potential. Some small and medium-sized technology enterprises grew against the trend and showed strong resilience and resilience. Novel coronavirus pneumonia is a double challenge to industrial development. This is both a challenge and an opportunity. We should be good at seizing and creating opportunities to accelerate the high-quality development of science and technology-based small and medium-sized enterprises, so as to provide a strong guarantee for achieving the annual economic development goal and building an economic power in an all-round way.

The 14th five year plan for national economic and social development and the outline of long-term objectives for 2035 clearly put forward that "Implement the pilot enterprise cultivation project, cultivate a number of leading enterprises with ecological leading power and core competitiveness, promote small and medium-sized enterprises to enhance their professional advantages, and cultivate specialized, refined, characteristic and innovative 'little giant' enterprises and single champion enterprises in manufacturing industry".

China attaches great importance to guiding small and medium-sized enterprises to take the development path of "specialization, refinement, characteristics and innovation". It is reported that China has cultivated three batches of 4762.A "specialization and novelty" small giant enterprise, driving all localities to cultivate more than 40,000 provincial-level "specialization and novelty" small and medium-sized enterprises, which is put into storage for

cultivation. More than 110,000 businesses. However, although China is the country with the most complete industrial categories in the world, the problems of insufficient industrial basic capacity building are still outstanding, including insufficient basic equipment and core technical capacity, many "breakpoints" and "blocking points" in the industrial chain, lack of internationally competitive "killer" technology, and poor internal circulation mechanism of innovation from science and technology to industry. In this regard, specialized, refined, featured and innovative small and medium-sized enterprises can give full play to their own advantages, help promote the upgrading of the industrial base of small and medium-sized science and technology enterprises, realize the modernization of the industrial chain as soon as possible and accelerate the development of the real economy to high quality.

II. RESEARCH METHODS

In this research process, the literature research method is adopted: through various means of network information resources, it is based on reading and studying a large number of documents.

On this basis, such as collecting a large amount of data from CNKI to analyze the innovation of small and medium-sized enterprises, it puts forward some suggestions to accelerate the high-quality development of innovative small and medium-sized enterprises. Secondly, by combining theoretical analysis with empirical analysis, this paper puts forward that the innovation and development model of small and medium-sized enterprises should be "specialized and innovative". Taking small and medium-sized enterprises in Zhejiang Province and Jiangsu Province as examples, this paper makes an empirical analysis on the innovation and development research of small and medium-sized enterprises. Pay attention not only to the integrity of the theoretical system, but also to the practice that theory serves the innovation of small and medium-sized enterprises.

III. DISCUSSION

Liu He, Vice Premier of the State Council, said in his speech at the first meeting of the State Council Leading Group for Promoting the Development of Small and Medium-sized Enterprises that China's small and medium-sized enterprises have the typical characteristics of "56789", that is, they have contributed more than 50% of tax revenue, more than 60% of GDP, more than 70% of technological innovation, more than 80% of urban employment and more than 90% of enterprises, and are the main force of national economic and social development. As shown in Figure 1

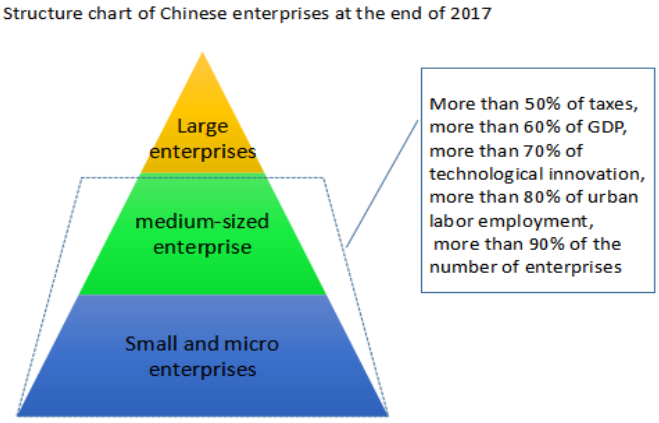

Figure I

In November, 2021, Yao Junfang published the article "Improving the Innovation and Development Ability of Small and Medium-sized Enterprises Serving by Capital Market". He pointed out that with the spread of the global epidemic, it is very important to create an environment conducive to the development of innovative small and medium-sized enterprises. On the basis of the registration system of science and technology innovation board and GEM, the North Exchange further lowered the listing standard and synchronized the pilot registration system, which broadened the realistic boundary and convenience of the registration system, made more small and medium-sized enterprises see the possibility and opportunity of listing, and further improved the ability of capital market to serve the development of innovative small and medium-sized enterprises.

3.1 Relationship between research results and related theories

The so-called "specialized and innovative" small and medium-sized enterprises refer to those that is specialized, refined, featured and innovative.

3.2 Implement the strategy of specialization and differentiation, and improve the competitiveness in the process of enhancing advantages (referred to as "specialization").

Generally speaking, small and medium-sized technology-based enterprises should take specialization as their core strategy because of their single business, small scale and few personnel. They should take the tenacity of "one centimeter wide and one kilometer deep" and aim at one direction to be specialized, sophisticated and unique, and strive to become professional giants. This is also the necessary stage and general rule for every small and medium-sized

technology-based enterprise to develop and grow. However, due to different specific types, different differentiation strategies are needed.

There are many types of small and medium-sized science and technology enterprises, such as technological innovation enterprises focusing on industrial technology, platform business enterprises focusing on the Internet, and information service enterprises focusing on science and technology intermediary services. From the growth process of small and medium-sized technology-based enterprises, the life cycle of enterprises includes seed stage, start-up stage, growth stage, expansion stage and maturity stage, and the development goals and core advantages of enterprises in each stage are different. Therefore, small and medium-sized technology-based enterprises should adopt differentiated development strategies to achieve high-quality development. By formulating differentiated strategies, they can promote the rapid development of enterprises and enhance their technological level, brand effect and market competitiveness.

For small and medium-sized technology-based enterprises with the advantage of industrial technological innovation, it is an important strategy for them to survive and develop in the fierce competition to establish a stable and close cooperative relationship with large-scale enterprises through division of labor and specialization, and to become an integral part of large-scale and centralized production system. This strategy can not only improve the level of specialization and technological advantages, but also reduce the cost of production and operation and obtain economies of scale. For some application technology innovation enterprises, it is necessary to adapt to the development trend of the Internet, promote the diversification of application scenarios, take "intelligence “as the strategy in a certain field, create a new mode of life consumption, and develop and grow in the networking of life, work, culture, entertainment, education and other aspects. In this COVID-19 epidemic prevention and control, Internet big data, artificial intelligence, digital government and other scientific and technological means have played an important role, and the demand for emerging services such as online education, online medical care and telecommuting has developed rapidly. Application technology innovation enterprises should adapt to this new trend, seize opportunities, deepen and expand "smart”, enrich new consumption formats and scenarios, and create a new smart life consumption model in the future.

3.3 Study the needs of enterprises and improve the accuracy of government support (referred to as "precision")

In the world, it is common practice to support the development of small and medium-sized enterprises, especially technology-based small and medium-sized enterprises. In recent years, China has issued a series of policies to support the development of small and medium-sized scientific and technological enterprises, which have played an important role in promoting the high-quality development of small and medium-sized scientific and technological enterprises. Especially under the epidemic situation, the central government and the provincial party committee have issued many supporting policies such as finance, taxation, social security, etc., focusing on solving the talent and capital problems faced by enterprises and helping small and medium-sized enterprises tide over the difficulties. To play the role of these support policies, the key is to pay close attention to reality and detail, constantly improve the accuracy of policy support, and really get through the difficulties and blocking points.

First, strengthen the implementation of existing support policies.

Strengthen publicity and promotion, and vigorously publicize and interpret a series of central and local policies that benefit enterprises through the information network platform, so that enterprises can better understand the policies and make good use of them. Taking the activities of "Three Innovations and Four Constructions" and "Three Guarantees, Four Helps, Six Guarantees and Five Guarantees in Place" as the starting point, we will further optimize government services, strengthen coordination and linkage between the upper and lower levels, strengthen assessment and accountability, effectively implement policies such as reducing costs, reducing burdens and increasing financial support, and accelerate the promotion of enterprises to resume production and enter the normal development track.

The second is to improve the public service level of technological innovation.

Pay equal attention to support cultivation and service promotion, and accelerate the improvement of the public service system of technological innovation. Support the construction of a number of specialized public service institutions for technological innovation of small and medium-sized enterprises, and provide services including scientific and technological information, intellectual property rights, technology and finance, law, accounting and auditing, management consulting, etc., so as to share the worries of enterprises, let enterprises concentrate on technological innovation, and provide strong service support for the development of science and technology-based small and medium-sized enterprises.

The third is to improve the accuracy of support.

Small and medium-sized science and technology enterprises have a wide range of fields and types, and they are at different stages of development, and the policy requirements of enterprise innovation and development are various. It is necessary to thoroughly study the policy needs of small and medium-sized science and technology-based enterprises, take solving their growing troubles as the guidance, and study and introduce more precise supporting policies to promote the high-quality development of small and medium-sized science and technology-based enterprises.

3.4 Shaping the core competence and improving the competitive advantage that is difficult to imitate (referred to as "characterization")

Core competence is the key factor of enterprise success. The so-called core competence refers to the unique ability of enterprises, which can stand the test of time, is malleable and is difficult for competitors to imitate. In order to develop and grow, small and medium-sized science and technology enterprises must take shaping the core competence as the direction of their efforts and the goal of their pursuit. There are four identification criteria for enterprise core competence, namely, value, scarcity, irreplaceability and difficulty in imitation. Having core

competence is not only a weapon for enterprises to effectively improve market competitiveness, but also a magic weapon to deal with various complex and changeable environments. The epidemic situation in COVID-19 has caused great impact on all kinds of enterprises. However, those enterprises with core competence have little direct impact because of their dominant position in the industrial chain and innovation chain and rigid market demand, and some even surpass the same period in operating efficiency, which fully demonstrates the importance of core competence to enterprises. Shaping the core competence of enterprises is an innovative work, which requires enterprises to make continuous efforts on the basis of clear direction.

First, be professional and refined to improve the bargaining power of the market. In this respect, Zhejiang enterprise development is a typical example. Zhejiang, based on one product in one town, one product in one county and even one product in one city, gathers many similar enterprises and makes them into world brands through innovation, which reduces production cost and transaction cost, and improves technical level and market competitiveness. The second is to improve the integration ability. Small and medium-sized science and technology enterprises have limited resources. Improving the integration ability of resources and elements through innovation is an important way to shape the core competence. For example, Jiangsu Yunmanman Company, which was established in 2013, seized the great opportunity of the Internet platform for resource integration, and created an Internet platform with cargo transportation as its core business and integration of trucks and car owners as its way. In just a few years, it completed the leap from small to large, from weak to strong, and became a well-known unicorn enterprise in China. Third, work hard on the key factors of core competence, and form core technologies and patents that are difficult to imitate and surpass. As we all know, Coca-Cola's beverage formula is its core secret, and the company has a set of strict rules in its maintenance and protection, that is, it is afraid that the beverage formula will be made public and lose its core competence. At present, the fierce competition in the field of information industry in the international market is mainly reflected in the competition between technology and patent, because leading technology is the core competence of information industry.

3.5 Adhere to the goal-oriented, develop and grow in continuous innovation (referred to as "innovation").

Small and medium-sized scientific and technological enterprises refer to small and medium-sized enterprises that rely on a certain number of scientific and technological personnel to engage in scientific and technological research and development activities, obtain independent intellectual property rights and turn them into high-tech products or services. Engaged in scientific and technological innovation is not only the essential feature of small and medium-sized scientific and technological enterprises, but also the "housekeeping skill" to gain market competitive advantage and realize sustainable development. To promote the high-quality development of small and medium-sized scientific and technological enterprises, we should first start with scientific and technological innovation.

First, encourage enterprises to adhere to innovation orientation and enhance the endurance of scientific and technological innovation.

Science and technology itself is a kind of high-risk and high-profit activity. In the process of innovation, many setbacks may be encountered, which requires lasting innovation perseverance and endurance. Well-known domestic Internet companies such as Alibaba, Xiaomi, Tencent, and foreign Internet companies such as Hewlett-Packard and Microsoft have all gone through the development process from small to large, and have also experienced many setbacks. Their persistent innovation has made them brilliant at present.

The second is to promote comprehensive innovation with scientific and technological innovation as the core and increase the multiplier effect of scientific and technological innovation.

Many small and medium-sized technology-based enterprises attach great importance to technological innovation, but they pay insufficient attention to innovation in mode, format, organization, culture and brand, which directly affects the effect of technological innovation. To promote all-round innovation with scientific and technological innovation as the core, we should analyze the direction and specific characteristics of new technology and new product innovation from the perspective of consumer and consumer demand, study the combination of various innovations to meet consumer demand, and maximize the benefits of scientific and technological innovation in integration innovation, so as to speed up the development and growth of small and medium-sized scientific and technological enterprises.

The third is to promote collaborative innovation in Industry-University-Research.

Small and medium-sized science and technology enterprises have few personnel and single professional fields, and most of them are in a certain link in the industrial chain and innovation chain. They need to combine and integrate with other innovative links with their own advantages in order to realize industrialization more accurately and quickly. Therefore, it is very important for the high-quality development of science and technology SMEs in our province to strengthen the internal and external collaboration of science and technology SMEs and promote the integration of Industry-University-Research, including strengthening the innovation collaboration with Beijing-Tianjin-Hebei.

The market serves the innovation and development ability of small and medium-sized enterprises.

It is understood that there are 81 listed companies in the first batch, covering 25 major sectors of the national economy, most of which belong to the vanguard of industry segments, which fully reflects the market positioning of the North Exchange to serve innovative SMEs.

Xu Ming, chairman of Beijing Stock Exchange, said: "The North Stock Exchange will focus on the goal of building the main position of service-oriented SMEs, actively explore the establishment of policy system, institutional system and service system to adapt to the innovation and development of SMEs, and make continuous efforts in four aspects: more tolerance, more precision, more innovation and more vitality."

Many places have put forward specific measures to improve the quantity and quality of specialized, special and new SMEs.

For example, Hubei has proposed to establish a "Little Giant" enterprise incubator, and will also increase policy support, and guide innovative elements such as technology, talents and capital to gather together with "Little Giant" enterprises to enhance their innovation power, including building a docking platform between banks and enterprises, developing exclusive financial products of "Little Giant" enterprises, and supporting eligible enterprises to go public for financing and issue bonds; Give full play to the function of the public service platform for small and medium-sized enterprises, and provide public welfare services such as policy consultation, entrepreneurial innovation, personnel training, investment and financing for enterprises; All localities are encouraged to strengthen the first purchase, promotion and application support of products of "Little Giant" enterprises specializing in specialty and novelty by giving priority to purchasing and increasing reserved shares. Chongqing launched the National Brand Promotion Plan of "Little Giant", which includes six specific actions: brand promotion training, "one-on-one" customization of corporate brand promotion plan, promotion of corporate interviews, organization of brand selection activities, construction of "Brand Chongqing" promotion platform and publication of brand promotion guide. In addition, across the country, more than 2,000 small and micro enterprise innovation demonstration bases and more than 3,000 small and medium enterprise service demonstration platforms provide support and services for the innovation and entrepreneurship of small and medium enterprises.

3.6 Significance and application value

The research on the innovation and development of small and medium-sized enterprises has always been one of the hot issues of common concern in theoretical and business circles. Focusing on the theoretical viewpoint that specialization and innovation are the driving force and source of small and medium-sized enterprises' development, and combining with the characteristics of small and medium-sized enterprises' development, this paper makes an in-depth and systematic study on why small and medium-sized enterprises should innovate, how to innovate and how to effectively innovate to promote their own development, that is, the innovation motive force, innovation strategy, innovation ability and innovation performance of small and medium-sized enterprises, so as to provide theoretical guidance for the innovation and development of small and medium-sized enterprises and decision-making basis for the government to formulate policies related to the innovation and development of small and medium-sized enterprises.

3.7 Limitations and shortcomings of the research

Many businesses executives report that most policies only stipulate the general direction, have no specific implementation standards, and need a lot of application materials, such as the evaluation standards for technology enterprises. The intermediary cost is as high as 50% of the amount of government subsidy. The existence of these gray intermediaries makes the government support small and medium-sized enterprises.

A large amount of special funds for overcoming difficulties and innovation and development are wasted, and at the same time, some high-tech SMEs with great development potential may not get the support they deserve.

Focusing on effectively reducing the pressure of rising costs of small, medium and micro enterprises, Pan Gongsheng introduced that the next step will be to strengthen cooperation between financial institutions and the government and give full play to the role of local government financing guarantee institutions. At the same time, innovate the supply chain financial service mode, and solve the capital turnover difficulties caused by accounts receivable occupied by small and medium-sized enterprises. In addition, strengthen the financial service capacity building of small, medium and micro enterprises.

Give full play to the joint efforts of finance, industry, credit and taxation departments and local governments to further boost market demand, stabilize commodity prices and reduce the operating costs of small, medium and micro enterprises. At the same time, we will promote the strengthening of loan risk sharing compensation and credit information sharing mechanism, and improve the efficiency of financial services for small and micro enterprises.

3.8 Suggestions for future research

China Small and Medium-sized Enterprises Association said that China scientifically coordinated epidemic prevention and control and economic and social development, strengthened cross-cycle adjustment of macro policies, actively responded to multiple challenges such as epidemic situation and public opinion, and the national economy generally maintained a recovery trend. However, the global epidemic spread and the recovery of the world economy slowed down. The domestic economic recovery is still unstable and unbalanced, the contradictions and difficulties faced by the smooth operation of the economy are increasing, and the development of small and medium-sized enterprises is still facing many risk challenges: the rising prices of energy and raw materials and other cost pressures on downstream industries, especially small and medium-sized enterprises, the "bottleneck" problem of chips is still outstanding, the export growth rate is slowing down, accounts receivable and inventories continue to increase, the benefits of small and micro enterprises are declining, and the enterprises' weak investment willingness, lack of development confidence and unstable market expectations need to pay close attention. Enterprise confidence needs to be boosted urgently; The epidemic situation abroad continues to spread, the recovery of major economies slows down, and the prospect of external demand is unclear; The domestic epidemic spread in many places, and the differentiation among industries, regions and enterprises intensified, which affected the process of economic recovery. In addition, the timing of the introduction of some policies was relatively concentrated and the effects were superimposed in the same direction, further increasing the downward pressure on the economy, and the market expectation was unstable. China Small and

Medium Enterprises Association pointed out that in October, the prices of bulk commodities such as energy and raw materials continued to rise, which was compounded by multiple factors such as tight shipping supply chain, rising freight, RMB appreciation and rising labor cost rigidity, which continuously pushed up the production and operation costs of small and medium-sized enterprises.

V. CONCLUSION

Under the background of the epidemic situation, the government should strengthen the policy support system of the whole government from the aspects of fund guarantee, policy implementation, open cooperation, environmental governance, etc., strive to change from passive to active, promote the high-quality development of small and medium-sized scientific and technological enterprises, and make them an important birthplace of innovation. It is necessary to grasp the "strength" of support, attach importance to guidance, and encourage enterprises to rely on their own innovation ability to tide over the crisis, so as to avoid disrupting the law of market competition.

1. Make full use of the policies supported by the government and return to the right track of enterprise development as soon as possible. Since 2020, governments at all levels have formulated and promulgated various scientific and technological innovation policies to support enterprises to resume production and accelerate development. With the existing policies, small and medium-sized scientific and technological enterprises can enjoy more policy dividends than before. These policies are highly targeted and strongly supported. Science and technology-based SMEs should fully study and study, carefully sort out the policies, highlight the key points, be targeted, actively strive for policy support, and get enterprises on the right track as soon as possible.
2. Improve basic management ability and enhance crisis response ability. Practice has proved that in the epidemic situation, the stronger the basic management ability, the stronger the pressure resistance ability. Managers of small and medium-sized science and technology enterprises should realize the importance of basic management capabilities of enterprises, such as refined management, cost management, supply chain management and so on, which are the basic functions of enterprises that have accumulated over time. In normal times, they may not see how powerful they are, but they are the ballast stones for enterprises to move forward continuously in times of crisis. Therefore, the top management of high-tech small and medium-sized enterprises should aim at the management and management problems exposed in the epidemic, accumulate from the cost structure, strategic arrangement, user demand and financing ability, build their own basic management ability from assets to technology, and spread the risks brought by the epidemic through the improvement of management ability, so as to enhance the crisis response ability.
3. Small and medium-sized science and technology enterprises can face some small and specialized needs, deeply cultivate in certain specific fields, and provide in-depth services for the upgrading of traditional industries, so as to gain opportunities to tap deeper technology application and development, and gain better market share through innovation.
4. Further reduce the comprehensive cost and enhance their competitiveness in win-win cooperation.
5. "Specialization, refinement, characteristics and innovation" is the benchmark of scientific and technological small and medium-sized enterprises. Small and medium-sized enterprises should take it as the direction, lay a good foundation, strengthen innovation and become the leader in the industry.

REFERENCES

Song Zhiping, *2018 blue book on China's enterprise reform and development*, China business press, 2019-03

Jia Hangsheng, *research on innovation and development mechanism of private small and medium-sized enterprises*, doctoral dissertation, December 2015

Li Bo, et al., *improving the innovation and development capacity of scientific and technological small and medium-sized enterprises*, Guizhou daily / May 13, 2020 / version 010

Zhang Mo, *relief and burden reduction for small, medium and micro enterprises, more favorable policies can be expected*, economic reference daily / September 8, 2021 / version 002

Yao Junfang, *capital market service, further improvement of innovation and development ability of small and medium-sized enterprises*, Xinhua Daily Telegraph / November 16, 2021 / version 003

Wu Lihua, *comprehensively improving the ability of capital market to serve small and medium-sized enterprises*, economic reference daily / November 15, 2021 / version 001

IResearch consulting, *Research Report on China's new economy industry investment under the epidemic*, 2020

Bai Xiaoming, *countermeasures for high-quality development of scientific and technological small and medium-sized enterprises under the epidemic situation*, contemporary economy, 2021 (2), 12-14

Xing rufang, *Dilemma and outlet of high-quality development of scientific and technological small and medium-sized enterprises*, scientific and technological innovation 155-156

Cai Xiaotian, *suggestions on promoting the high-quality development of scientific and technological small and medium-sized enterprises under the background of continuous epidemic*, science and Technology China, 2021 (5) 29-32

Leaves, *let specialized and new small and medium-sized enterprises thrive*, overseas edition of people's daily / October 19, 2021 / edition 005

Yan tingbiao, *accelerating the high-quality development of science and technology-based small and medium-sized enterprises*, Hebei Daily / May 6, 2020 / 007