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Obstacles, Path Selection and Countermeasures of Transformation from Giant Enterprise Innovation to Mass Innovation

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Contents

Key words: giant enterprise innovation, mass innovation, path, obstacle.

1. Introduction

At the 2014 Summer Davos Forum Chinese Premier Li Keqiang said, "As long as we vigorously break all constraints on individual and enterprise innovation and form a new situation of "everyone innovation" and "everyone innovation", China's development can reach a new level." (Ma. 2014). A healthy and dynamic economy usually has a relatively complete system and policy to promote entrepreneurship and innovation, a relatively flexible system and mechanism, a relatively strong innovation culture atmosphere and a relatively rich reserve of innovative talents. At present, China is facing the embarrassing situation that on the one hand, it has the most innovative companies in the world, on the other hand, 99% of enterprises have not applied for patents. China should seize the opportunity of comprehensively deepening reform and launching the 13th five year plan, create and improve the institutional policy environment and talent culture environment to promote the transformation from giant enterprise innovation to mass innovation, build an innovation country where everyone wants to innovate, everyone dares to innovate and everyone can innovate, and really embark on the path of innovation driven development.

2. Theoretical drive

Innovation is the inexhaustible power and important performance of human civilization progress. Since Schumpeter put forward the concept of innovation in the early 20th century, after more than a century of development, innovation theory has been constantly enriched and developed. Comb the development pulse of innovation theory, explore the development trend of innovation theory, and provide theoretical basis for this study. The main features of innovation include: the transformation from closed innovation to open innovation; innovation system evolves into innovation ecosystem construction; from attaching importance to external incubation to the overall development of internal incubation; opening the era of comprehensive innovation management.

For most of the 20th century, enterprises have been pursuing that only by highly controlling technological innovation can they truly realize technological confidentiality, technological monopoly and technological monopoly. This mode is called "closed innovation". Xerox PARC was a typical example of this innovative model. In the late twentieth century, with the continuous

expansion of external knowledge and technology, the increasing availability of venture capital, the shortening of product life cycle, the accelerating speed of technology updating, the increasing production capacity of suppliers, the erosion of closed innovation, the continuous breaking of the boundaries of enterprises, and the frequent exchange of internal and external innovation resources and activities, benign interaction, mutual benefit, open innovation model gradually formed. Open innovation calls for more and more people to participate in innovation activities.

After the concept of innovation system was put forward, the upsurge of industrial innovation system and cluster innovation system research appeared successively, accompanied by the deepening of regional innovation system and national innovation system research. Inspired by the open innovation theory research and practice exploration, the concept of innovation ecosystem was put forward. Innovation ecosystem emphasizes dynamic evolution, vitality, symbiosis and common prosperity of innovation elements (Zeng. 2013). Mass innovation provides a source for the construction of innovation ecosystem.

External incubators have effectively integrated international and domestic innovation resources, absorbed high-end innovation teams, and promoted the establishment and rapid development of regional enterprises. However, external incubation is often used for emerging technology companies, and the innovation management of traditional giant and medium-sized enterprises may need to tap the potential from within (Zhu & Xuan. 2001). The theory of internal incubation should come out from time to time. After three stages of in-vitro fertilization, internal incubation and in-vitro growth, a batch of subsidiaries will stand out, and the parent company will get rich profit returns, while effectively attracting talents and supporting innovation. Both internal and external incubation effectively promote mass innovation.

The innovation management practice of Japanese excellent enterprises ushers in a new era of comprehensive innovation management: the content of innovation will no longer simply stay at the technical level, and the organization, system, culture, strategy and market need timely innovation; the main body of innovation will expand to all stakeholders inside and outside the enterprise, including employees, suppliers, customers, competitors and government and other service departments; innovation activities it will break through the concept of time and space, and make full time, regional and process innovation inevitable. In a word, the characteristics of the era of all-round innovation are everyone innovation, everything innovation, everywhere innovation and always innovation (Xu. 2006). This is also the ideal realm of mass innovation.

3. Reality call

The 16th National Congress of 2003 emphasized the importance of science and technology as the primary productive force, and paid attention to improving the quality and efficiency of economic growth by relying on scientific and technological progress and improving the quality of workers. In 2006, the national science and Technology Conference and the 17th National Congress of the Communist Party of China clearly proposed to establish an innovation system with enterprises as the main body, market as the guide and the combination of production, learning and research. In 2012, the 18th National Congress of the Communist Party of China proposed to implement the innovation driven development strategy, placing scientific and technological innovation at the core of national development. Over the past 10 years, China has made fruitful achievements in basic research, advanced high-tech research and application technology research and development: the permafrost railway with the highest altitude and the longest line in the world has been opened to traffic, "Tianhe-1" supercomputer's measured operation speed ranks first in the world, and the cold atomic weight sub storage technology has realized the entanglement exchange with storage and readout functions for the first time in the world The IPS cells are as versatile as the embryonic stem cells. The 65 nanometer medium etcher developed by ourselves is proved to be 35% - 50% higher than the chip output of the most advanced equipment in the world, and the cost is reduced by 30% - 35%. TD-SCDMA and TD-LTE-Advanced technical proposals have successively become the International 3G, 4G standards and international standards the output of scientific papers (SCI) has increased in both quantity and quality. The number of papers ranked second in the world, the number of highly cited papers ranked fourth in the world, and the number of domestic invention patent applications and authorizations ranked first and second in the world, accounting for 37.9% and 22.3% of the global total. More gratifying is the rapid rise of a giant number of technology-based enterprises. Huawei, ZTE, aerospace science and technology, aerospace science and technology industry, Zoomlion Heavy Industry, Sany Heavy Industry, Dongfang Electric, Haier, TCL, Geely, BYD, Lenovo, SMIC, etc. not only promote the rapid transformation from "made in China" to "created in China", but also go abroad to let China's wisdom shine on the world (Zhao. 2012).

However, we should fully see the gap and deficiency between China's innovation ability and performance and those of the world's developed countries: according to the national innovation

index report 2018 released by China Academy of science and technology development strategy, China's comprehensive innovation ability (self-assessment) ranks 17th in the world and has not yet entered the world's first echelon (Ding. 2014). At the same time, the national innovation blue book: China's innovation development report (2014), jointly organized by Tsinghua University Technology Innovation Research Center and Social Science Literature Publishing House, also pointed out that the total level of Chinese tripartite patents and the number of patents per thousand R & D personnel were relatively low, respectively 6.18% and 1.95% of Japan's. In addition, according to the 2016 report on patent activities and economic benefits of Industrial Enterprises above Designated Size issued by the planning and Development Department of the State Intellectual Property Office, only one quarter of the 379000 Industrial Enterprises above Designated Size have patent activities, and 24.9% of the industrial enterprises above Designated Size have valid patents. Moreover, the industries and regions are too concentrated. The top five industries are still electrical machinery and equipment manufacturing, general equipment manufacturing, special equipment manufacturing, computer, communication and other electronic equipment manufacturing, chemical raw materials and chemical products manufacturing, accounting for 50.7% of the industrial enterprises above the scale of patent authorization, and the enterprises with the most patent authorization are still Jiangsu, Zhejiang, Guangdong, Shandong and Anhui account for 59.3% of the total.

On the one hand, we have ZTE Huawei, the top three patent application company in the world, on the other hand, we have to face the embarrassing situation that less than 1% of enterprises have applied for patents. How to solve this problem and truly embark on the path of innovation driven development is the practical significance of this study.

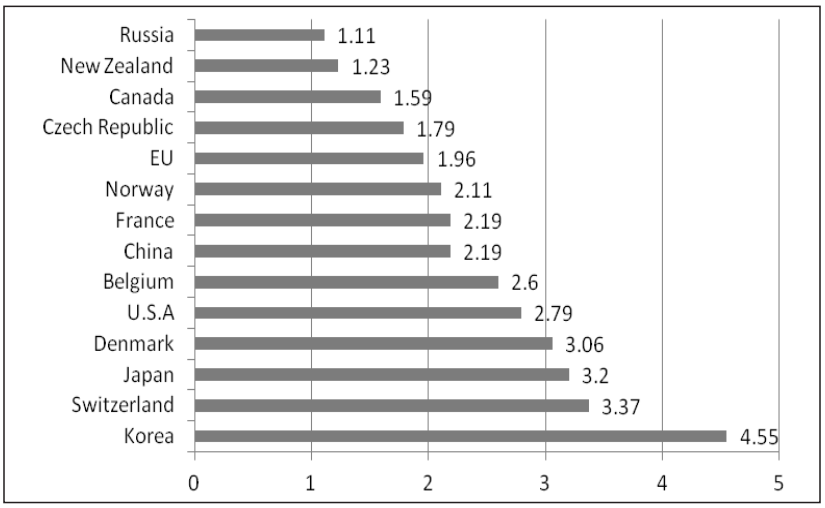
4. Major obstacles

Achieving the transformation from giant enterprise innovation to mass innovation requires us to make a fuss around and rely on giant enterprises, but this transformation cannot be achieved by the power of giant enterprises alone. As Edmund Phelps, a professor at Columbia University, a 2006 Nobel laureate in economics, said, to promote giant-scale mass innovation, China will face four major challenges: institutional policies, institutions, culture, and talent (Edmund. 2014). It is also necessary to gather the wisdom and strength of the whole society under the leadership of governments at all levels to form a joint force, work together to break through obstacles and successfully transform.

4.1 Institutional policy obstacles

Promoting the transformation of giant enterprise innovation to mass innovation requires us to seek innovative breakthroughs from financial and taxation systems, financial systems, legal systems, and talent systems. First of all, although we have been increasing the amount of financial science and technology allocations, it still accounts for a small proportion of GDP and total national fiscal expenditure. The absolute value of its investment is still far from the world's major science and technology countries. It is not ahead of other countries in the "BRIC" that are catching up. In 2018, China's R & D funding investment intensity reached 2.19%. The intensity of R & D investment has exceeded 2% for four consecutive years, and it has continued to rise. From an international point of view, the intensity of China's R & D investment has exceeded the average level of 1.96% of the 28 EU countries, reaching the level of R & D expenditures of medium-developed countries, but there is still a gap compared with the level of 2.5% -4% in some developed countries (Fig 1).

Fig 1 Comparison of R & D expenditure intensity of major countries in 2018



Data source: Compilation of R&D expenditure characteristics of China's science and technology statistics report

Secondly, our science and technology financial system is not complete enough. The most typical is that the pledge financing of trademark rights is still small in terms of the total number and the total amount. On the one hand, the design of our intellectual property financing pledge system started late, on the other hand, the supporting system is not in place. For example, there are still many areas that need to be improved in terms of intellectual property value

assessment, risk prevention, and local government incentives. The "Government Procurement Law" also lacks a rigid system specification for independent innovation products of government procurement enterprises. The fourth revision of the "Patent Law" is yet to be completed; finally, the long-term implementation of the talent appointment system, selection system, and appointment system has not changed the weird circle of academic history, eligibility, age, and even relationship.

4.2 **Institutional obstacles**

Although China is increasing the reform of the system and mechanism of science and technology innovation, the shortcomings of the government-based science and technology system that has been formed for a long time still exist. Major scientific and technological decisions lack transparency and effective supervision. Some democratic procedures have only come to an end and are still said by a few leaders. The allocation of scientific and technological resources is participated by multiple departments such as the Ministry of Science and Technology, the State Intellectual Property Office, the Ministry of Finance, etc., forming multiple management and lacking overall arrangements; the incentives for science and technology innovation at various levels and departments are not enough to effectively encourage the majority of science and technology workers Passion for innovation.

As far as companies are concerned, the amount of "one reward and two rewards" received by service inventors for their service inventions are still low. The Regulations for the Implementation of the Patent Law stipulate that the minimum bonus for an invention patent is not less than 2,000 yuan; the minimum bonus for a utility model patent or design patent is not less than 500 yuan. After the implementation of the invention, the annual profits from the implementation of the invention or utility model patent shall be no less than 2% after taxation or the profits from the implementation of the design patent shall be no less than 0.2% after taxation to pay the invention as compensation. After the state-owned enterprises and institutions license other enterprises or individuals to exploit their patents, they shall withdraw not less than 10% of the royalties collected as remuneration to pay to the inventors or designers. Many institutions and companies often issue according to the minimum requirements of the detailed rules or even lower than the standard, it is difficult to effectively stimulate the enthusiasm of the scientific and technological workers for innovation; the scientific and technological review lacks a reasonable index system, scientific evaluation methods, and real data support, and lacks fairness.

The last is also the most serious is that the inadequate supervision mechanism for scientific research funding has led to the serious loss of valuable and limited scientific and technological resources, which has resulted from a lot of corruption in the scientific and technological field in the past two years.

4.3 **Cultural barrier**

For a long time, the lack of an intellectual property culture that "respects knowledge, respects labor, respects creation, advocates innovation, and abides by the law" is another major obstacle to transformation. The cultural literacy of intellectual property in the Chinese public is still very low: the awareness rate of intellectual property laws is not high. According to a survey by the Tsinghua University Media Lab, the highest awareness rate of patent law is 45.9% in all intellectual property legal systems. Followed by copyright law and trademark law, with the proportions of 35.6% and 30.2%, respectively, and the selection rate of geographical indications and unfair competition laws is only 9.3% and 8.2%; the awareness of intellectual property rights is relatively weak, only 15.6% The public understands that intellectual property is a property right; intellectual property behaviors are not standardized, 25.4% of Internet users can correctly use copyright works on the Internet, and 25.8% of the public is firmly opposed to various pirated works and consciously resists pirated works. In addition, the idea of "everything is good but only reading high" formed in the feudal society of China has guided the non-mathematics to study hard and only succeeded in their careers. This has giant restricted the public, especially the passion of young people for entrepreneurship.

4.4 **Barriers to talent shortage**

Finally, the most important obstacle is the shortage of talents. As the Chinese are familiar with "Qian Xuesen's Question", China's higher education has failed to effectively cultivate outstanding creative talents, while general innovative entrepreneurial talents have failed to play a role in social production practice and stand out. According to the latest statistics from the World Bank, China has a relatively low percentage of researchers and technicians per million people. Not only does it have a giant gap with high-income countries, it also has no advantage compared with some middle-income countries. Moreover, Chinese universities have been using the same model to cultivate talents for a long time. Although the national college graduates innovated up to 8.2 million again in 2018, this uniform training model has created employment difficulties for graduates, although China has already begun Trying to classify colleges and

universities, the construction of application-oriented universities is still in the ascendant, but how to build them still has a long way to go.

5. Transformation path

From giant enterprise innovation to mass innovation, there is no successful paradigm reference abroad. Combined with China's national innovation reality, based on the resources owned by China's giant enterprises, mega brands, broad heading, high coverage, big platforms, transformation path should be closely around and closely rely on giant enterprises to expand. Through the gathering, incubation, guidance, promotion and encouragement of innovation by giant enterprises, innovation of small and micro enterprises, industrial cluster innovation, industry-university-research innovation and grassroots innovation, truly realize innovation for all and take the road of sustainable development driven by innovation.

5.1 Gather innovation of small and medium-sized enterprises

In China, industrial enterprises above the scale include oversize enterprises, giant enterprises, medium-sized enterprises, small enterprises. Among them, super giant enterprises and giant enterprises have experienced the baptism of competition in the long development process, they already has a strong sense of innovation, ability and resources. Medium and small businesses tend to develop more quickly. Although they play an extremely important role in increasing employment, promoting growth and maintaining social stability, the urgency and initiative of their innovation is insufficient. At present, the focus of the transformation work is to focus on the development and improvement of innovation capacity of medium-sized enterprises and small enterprises. Relying on and focusing on the computer, communications and other electronic equipment manufacturing, instrumentation manufacturing, pharmaceutical manufacturing, special equipment manufacturing, electrical machinery and equipment manufacturing and other fields of giant enterprises or enterprises, with giant enterprises as the leader, we should build a network path for collaborative innovation and a common vision, a group of small and medium-sized enterprises will be gathered to form a cluster of innovative satellite enterprises through participation, exchanges, transactions, cooperation, mutual assistance and sharing, so as to enhance the innovation capacity of small and medium-sized enterprises (Edmund. 2014).

5.2 Incubate small and micro enterprise innovation

Encourage giant enterprises or giant enterprises to actively explore the construction of various forms of internal incubators, encourage employees to come up with innovative ideas. A panel of experts within the organization evaluates and screens these innovative ideas, provide angel investment and management assistance to excellent innovation ideas and entrepreneurial practices. Companies still retain employee status for entrepreneurs, even if the business fails, you can still go back to work, relieve the worries of employees. As the employee company grows, it leaves the company, become a fully independent enterprise, It only has the stock relationship link with the original enterprise. It operates through an incubation mechanism that encourages, supports and rewards innovation. Those big companies will breed lots of innovative small and micro businesses, and help and support the development of these small and micro enterprises, become the new big business. The new behemoths will follow such internal incubators, second and third generation small and micro enterprises will be propagated again (Meng. 2014). Life gives birth to all things, society as a whole would benefit from such a geometric split.

5.3 Leading industrial cluster innovation

There are many well-known industrial clusters in coastal and inland China, they may be attracted by historical factors, regional governments or regional advantages, to gather in a particular space to produce specialized products with advantages or characteristics. But facing the opportunities and challenges brought by international industrial transfer, they are in urgent need of transformation and upgrading, and need someone to stand up and lead them to transform from industrial clusters to innovation clusters. And this person is often the core enterprise in these industrial clusters, the leading enterprise (Wu & Shen. 2014). They shoulder the mission of continuously pushing the industry to the higher end of the value chain. It is good at grasping the industrial development trend in time and has the courage to meet the opportunities and challenges brought by international industrial transfer, strive to find and take the lead in breaking through the path of industrial cluster development lock, lead the enterprises in the cluster to "match, arm wrestling". Seeking higher quality integration of technology and economy, it will create a new high ground for regional innovation, and lead and promote regional innovation.

5.4 **Promote collaborative innovation among industry-university-research**

The innovation of industry-university-research cooperation is not a new topic. However, the depth and breadth of the combination of production, study and research are not ideal in many places in China. To solve the trust, financial and mode difficulties in the collaborative innovation of enterprises, universities and research institutes, and improve the level of collaborative innovation of enterprises, universities and research institutes, it is necessary to give full play to the main role of technological innovation of enterprises, especially giant enterprises. Giant enterprises are usually the leading enterprises and core enterprises in some industries or regions. Compared with other small and medium-sized enterprises, they usually have richer innovation resources, stronger innovation awareness and stronger innovation capacity. Shoulder heavier responsibility for innovation and encounter more complex innovation problems (Wang. 2009). Therefore, giant enterprises should not only base on the practical needs of the technical problems plaguing the current production, but also keep an eye on the cutting-edge industrial technology to seize the opportunities of the transformation and development of China's higher education. To meet the needs of local universities to build application-oriented universities, we have taken the initiative to organize universities and research institutions to jointly build high-level R&D platforms, tackle key industrial and technological problems, undertake major national research projects, and establish high-tech enterprises. Giant enterprises should constantly cultivate the characteristics of collaborative innovation of industry-university-research, and constantly deepen the level of collaborative innovation of industry-university-research.

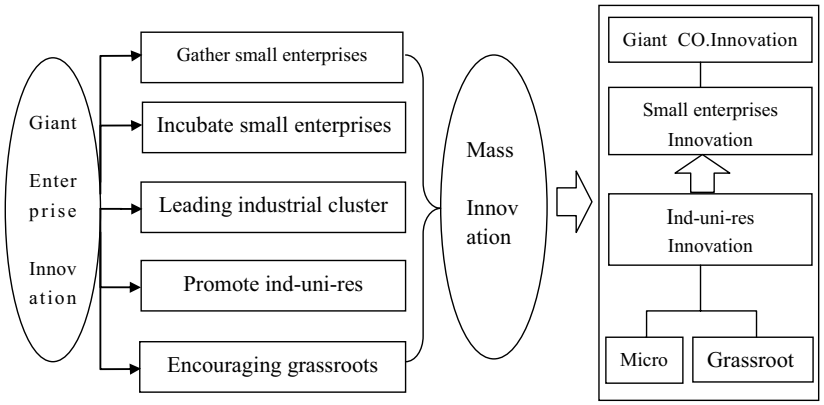
5.5 **Encouraging grassroots innovation**

Finally, we need to encourage and stimulate grassroots innovation. Grassroots wisdom is an important ingredient in China's innovation and development. We often find that many ideas of technological innovation, institutional innovation and management innovation at the macro, medium and micro levels come from the grassroots, which is called "the master is in the folk". We should respect the wisdom of the grassroots, but also stimulate grassroots innovation. Giant enterprises should not only cooperate with the government to design the system to promote grassroots entrepreneurship and innovation, because they are more aware of the needs at the beginning of entrepreneurship and innovation than the government. At the same time, we need to provide enough funds to set up the entrepreneurial dream fund to support grassroots entrepreneurship and innovation and make up for the lack of government financial resources.

In addition, giant enterprises can also actively use various media to continuously carry out their own entrepreneurship and innovation story series, which is not only a publicity of their own image, but also can encourage and stimulate the enthusiasm of countless grassroots innovation; Regular and non-regular entrepreneurship and innovation courses and training and problem solving, to help and guide grassroots innovation (He. 2012).

Through the above transformation path design, efforts should be made to realize an organic system of nationwide innovation that runs through the whole economic chain, with the innovation of giant enterprises as the leader, the innovation of small and medium-sized enterprises as the main body, the innovation of enterprises, universities and research institutes as the pillar, and the innovation of small and micro enterprises and grassroots as the cornerstone (Fig 2).

Fig 2　Transformation path chart of innovation from giant enterprises to mass innovation



Data source: author made

6. Countermeasures and Suggestions

6.1 Comprehensively deepening economic reforms

We are supposed to tightly seizing the opportunity of comprehensively deepening reforms carried out by China, comprehensively carding and speeding up the process of improving some system, policies, laws and regulations such as Fiscal and Tax policy, Investment and Financing System, Venture Capital System, Innovation Of Insurance System, Government Procurement System, Intellectual Property Protection and Equity Incentive that could promote innovation and development of small and medium-sized enterprises, promote establishment and development of small and micro enterprises, promote coordinated development of Industry-

University-Research, promote entrepreneurship development of grassroots people. We should explore and establish a systematic and unified tax preferences system which is industry-based and combined with base tax relief, tax reduction and preferential rate, and motivate small and medium-sized enterprises to increase investment in research and development.

We will constantly improve the venture capital and independent innovation insurance system for high tech enterprises and small and medium-sized enterprises, accelerate the development of science and technology finance, focus on building Science and technology insurance company and science and technology bank and finance supermarket of science and technology small and micro enterprises that are Characteristic and Influential, and centralized display of intellectual property pledge financing, intellectual property trust and other financial products which are served for the entrepreneurship and innovation of small and medium-sized enterprises and small and micro enterprises (Lu. 2013).

We also need to actively introduce credit rating agencies and credit agencies, and to accelerate the process the construction of credit systems for small and medium-sized enterprises and small and micro enterprises which are entrepreneurial and innovative. We must make very attempt to solve the problems of "with knowledge and without assets" happened in Entrepreneurship and innovation development of small and medium-sized enterprises and small and micro enterprises.

We will reform and improve the system and policy of government procurement of independent innovative products, constantly revise the catalogue of independent innovation products purchased by the government, appropriately increase the proportion of independent innovative products or services purchased by the government in GDP, and give full play to the important role of government procurement in promoting technological innovation.

We are required to continuously strengthen the guiding function of national industrial technology policy, to timely introduce the state's major industrial policies and launch national Directory of guidance for industrial restructuring, to effectively Guide Industrial Technology Research and development, to achieve the upgrade of industrial technology, and to promote the optimization of industrial structure.

6.2 **Accelerate innovation in scientific and technological mechanisms**

We should seize the opportunity that the central government to the local governments intensively launch the 13th Five-Year Plan which hit the 2020 target, and accelerate processing the innovation of science and technology innovation power mechanism, science and technology

innovation transmission mechanism, science and technology innovation synergy mechanism, science and technology investment and financing mechanism, science and technology achievement transformation mechanism.

We should adhere to market pressure as the first driving force for innovation, further straighten out the relationship between government and market, further streamline administration and institute decentralization, and give full play to the market's guiding action of technological research and development, route choice, factor price, innovation factor allocation, and we are supposed to be brave enough to break through the current dependence of industrial project, land finance, low factor cast and external technology and markets in fiscal and taxation system, completely transform the traditional industrial factor-driven development model into innovation-driven development model from a higher level way, build and perfect the government-induced and market pressure-driven innovation mechanism.

We should strengthen industrial planning and scientific and technological planning from country to local, deploy innovation chain around industry chain, and lead scientific and technological innovation in all respects, and improve the supporting mechanism of government at all levels for basic, strategic, cutting-edge scientific issues and common technology research, serve the region to start businesses and innovate, and develop and carry out a road map plan of encouraging innovation in small and medium-sized enterprises and start-up in small and micro enterprises, intensify efforts to nurture and nurture enterprises in their seed and start-up stages to help them develop and expand, and further explore collaborative innovation mechanism of Industry-University-Research, eliminating "isolated island phenomenon" in science and technology innovation, and actively develop the technology market, perfect the mechanism for the transfer of scientific and technological achievements and expand the channels for the transfer of innovative achievements.

We are required to strengthen the research and supervision of the incentive mechanism of scientific and technological innovation, and correct the policy deviation in time.

6.3 **Create a cultural atmosphere of entrepreneurship and innovation**

To realize the transformation from big enterprise innovation to giant-scale mass entrepreneurship and innovation and to follow the road of enriching the people and empowering the province(city, province, country) through pioneering work and innovation, we must make full use of various means of transmission and integrate all kinds of communication resources, roundly and three-dimensional propaganda and cultivate a culture of entrepreneurship and

innovation that respects knowledge, respects creativity, focus on innovation, bravely takes risks and failure, and we should change the Chinese society's long-held view of official rank standard, adhering to conventionality and being satisfied with a small wealth, and change the current abnormal social phenomena that young people all want to take the civil service exam, cultivate a relaxed culture atmosphere of entrepreneurship and innovation.

We will focus on increasing the entrepreneurial and innovative willingness of returnees from overseas study, college and secondary school graduates, enterprise shunting and surplus personnel, and land-lost farmers in the process of urbanization, and blow the charge horn of the Chinese nation's national innovation.

6.4 **Promoting the cultivation of innovative talents in Universities**

We should seize the great opportunity of local universities of building applied university and transforming and developing higher education. We need to Start from the transformation of the talent training mode of contemporary university students and learn from the experience of building entrepreneurial universities and applied technique universities in western developed countries, based on the reality of local industrial development, guided by the needs of local economic and social development and by means of cooperation between schools and enterprises and integration of production and teaching. we should construct a cultivation system and evaluation index system of practice and innovation ability that combined with experiment teaching, extra-curricular scientific and technological innovation and social entrepreneurship practice training, and practically enhance the entrepreneurial innovation ability of those future new and main force of entrepreneurship and innovation, influence and drive the overall improvement of the entrepreneurial and innovative ability of the whole society. In addition, government departments at all levels should make full use of the "hundred, thousand, Ten thousand" talent project, do a good job in the introduction of all types of talent to assist the public to innovate.

7. Conclusions

Through theoretical deduction and practical research and statistical analysis, the urgent task of China's national innovation system is to realize the transformation from giant enterprise innovation to mass innovation as soon as possible. However, this process is subject to the influence of lagging institutional policies, institutional mechanism construction, traditional

culture and limited innovation ability. From the perspective of giant enterprises, this paper puts forward a variety of transformation path and a countermeasure system to speed up the transformation. On the one hand, future research will focus on specific path measures and deepening countermeasures, on the other hand, it will focus on the construction of a quantifiable giant-scale social evaluation index system of mass innovation.

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