

## Research on the Technological Innovation and Market Cultivation of New Energy Automobile Industry

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**Abstract:** With the emergence of energy issues, climate and environmental issues have gradually received widespread attention. Many countries have also begun to develop special plans to achieve long-term development through the development of new energy sources. For China, under the influence of the rapid upgrading of industrial institutions, the way of economic development has begun to change. Especially for the new energy automobile industry, it is extremely important to realize technological innovation and cultivate the market. Based on this article, the paper briefly describes the technological innovation and market cultivation of the new energy automobile industry, and puts forward some personal opinions for reference only.

### 1. Introduction

The current situation is gradually turning to the trend of globalization, so the situation of energy and climate is getting worse, and many countries have increased their investment in the development of new energy. Current vehicle emissions are the most important source of pollution, and the energy used is also gradually decreasing. Therefore, it is necessary to develop new energy vehicles. China's current new energy automobile industry is still in an initial stage of development, and factors such as price and market hinder the development of automobiles in the market.

### 2. The Content of Technological Innovation and the Role of Market Cultivation

First, China's key component technology research has achieved fruitful results. Especially in the field of pure electric vehicles, China's powertrain key component technology and power system integration technology have achieved breakthroughs. Second, China's industrialization of new energy vehicles and the development of the entire vehicle are progressing in an orderly manner. In the technical level of electric vehicle, China has independent intellectual property rights, and at the same time masters power system, fuel cell, pure electric and hybrid technology. Domestic enterprises have strengthened the development of serialization and achieved good results. Third, China's technical standards and access standards for new energy vehicles have gradually improved, and an effective product management system and regulations have been constructed.

The role of technological innovation in market cultivation First, it can meet the corresponding needs and promote the development of new industries. From a theoretical point of view, innovation is actually to do a good job in technology research and development and large-scale production, and to bring the research results to the market and gain consumer recognition. Therefore, in the innovation stage, we must start from the market demand and explore the potential demand in the market. From the perspective of promoting demand, technological innovation can not only meet the need to create new needs, but also translate potential needs into actual needs. Such as energy conservation and environmental protection technologies and new energy technologies. In addition, technological innovation can also be used to meet the scale of demand through technological transformation. Second, promote the development of industrial technology. With the continuous development of energy issues, it is extremely important to deal with climate change and do a good job in environmental protection. Under the influence of this development trend, strategic emerging industries represented by wind power and solar energy have begun to receive widespread attention. Coupled with the continuous maturity of key technologies, the cost has been reduced, which will

increase the market competitiveness. It can be seen from the survey that the global energy revolution represented by green and low carbon is now emerging, especially in the fields of medicine, industry and agriculture.

### **3. Technological Innovation in the New Energy Automobile Industry**

China has studied the key technologies of new energy vehicles during the Ninth Five-Year Plan period. After years of efforts, China has already established the conditions for the sustainable development of the new energy automobile industry. In addition, more capital investment has been made in technological innovation, which has led to a good trend in the development of new energy vehicles. Among the technological innovations of new energy vehicles, the most obvious is the technical research on key components. In the field of electric vehicles, China's power system integration technology has made a significant breakthrough. The level of key technologies and materials for power batteries is basically the same as in Japan and Germany. Some auto companies have also developed a series of lithium-ion battery power batteries. At present, the development speed of electric vehicles is accelerating. The permanent magnet synchronous motors and switched reluctance motors developed by China have reached the international advanced level in terms of indicators. In addition to the part technology of electric vehicles, it has already had relevant independent intellectual property rights in the vehicle technology of electric vehicles. In the fuel cell, through the cooperation between the school and the company, the prototype of the hydrogen fuel cell vehicle was successfully developed. This technology also has independent intellectual property rights. This kind of car can use hydrogen as an energy source to ensure that there is no trace of pollution to the environment, and it can reach 150 kilometers per hour at a speed of 300 kilometers per hour. At present, various technical standards related to new energy vehicles in China have gradually improved. Secondly, the current access to new energy vehicles and the gradual improvement of various technical standards, the relevant departments have refined specifications for the charging interface and related functions of electric vehicles. In this way, it is possible to technically regulate the new energy vehicles in the system, and thus better guarantee the quality of the cars. In the technological innovation, various technical alliances involving enterprises, schools and research institutes have been organized to carefully study and construct the whole vehicle manufacturing, parts production and the establishment of charging stations for new energy vehicles. At the same time, these organizations will also conduct tracking reports and research on the use of new energy vehicles, and find that problems need to be recorded and studied in a timely manner. In turn, it provides strong data and data support for technological innovation and development to ensure the sustainable development of new energy vehicles.

### **4. Policies for Technological Innovation and Market Cultivation in the New Energy Automobile Industry**

The state must continuously improve relevant government support policies and increase efforts to support the new energy automobile industry. At present, gradually reducing the purchase cost of consumers is the key and key point for the development of the new energy automobile industry market. New energy vehicles are costly in terms of technology, design, and manufacturing processes. In addition, the cost of replacing batteries later makes many consumers give up buying new energy vehicles because the cost is too high. Many developed countries have introduced a number of government support policies in the process of developing new energy automobile industry, covering the entire automobile industry chain. However, in this respect, China only focuses on demonstrating the operation of complete vehicles, and the relevant government support for the new energy automobile industry chain. There are very few policies. In order to promote the sound development of China's new energy automobile industry, the state must introduce some relevant support policies. Government departments should provide relevant financial subsidies and tax incentives related policies for the construction of new energy vehicle manufacturing enterprises, parts manufacturing enterprises, and supporting infrastructure for new energy vehicles, reduce costs,

and promote the coordinated development of new energy automobile industry.

At present, China's new energy vehicles are constrained by their own technical performance, price and related supporting facilities, resulting in many consumers' desires and appropriate quantities to purchase. Therefore, the new energy automobile industry market should carefully divide the market according to its actual situation and fully tap the hidden consumers in the market. In order to be able to seize consumers, companies should provide consumers with more concessions and subsidies, sign service contracts, and attract more consumers to buy. At present, China's new energy vehicle market can be divided into public service vehicle market, car rental market, official car market, taxi market and group car market. Among them, new energy auto companies should actively promote car rental services, use new energy vehicles in suitable regions, gradually transform consumers of rental cars into consumers who purchase new energy vehicles, and continue to expand the purchase of new energy vehicles. Scale to effectively meet the needs of the market economy.

The new energy automobile industry should respect the laws of the automobile industry market, down-to-earth, and seek development in an industry. Crossing hybrid vehicles and leapfrogging pure electric vehicles has led to a neglect of the emphasis on hybrid vehicles. However, pure electric vehicles have not been successful in the market. The emphasis on hybrid vehicles is not enough. In addition, the development of batteries, motors and electric drive technology for pure electric vehicles is not very good, which hinders the good development of China's new energy automobile industry market. According to the successful experience of foreign developed countries in the development of new energy vehicle market, if we want to develop the new energy automobile industry in China, we must respect the laws of the market, give priority to the development of hybrid technology, and strengthen the hybrid vehicle. Promote and apply to promote the rapid development of the new energy automobile industry.

In the development of the new energy automobile industry market, we cannot rely solely on government funds to supplement, and we should promote the sustainable development of China's new energy vehicle industry through relevant laws and regulations and market systems. If China's new energy automobile industry relies solely on the funding of government departments and lacks the protection of mandatory laws and regulations, it may lead to the lack of research and development power of automobile companies, and it is easy to form a result of technological monopoly. The mandatory introduction of relevant laws and regulations can clarify the responsibility of sales and production of enterprises, which will encourage enterprises to increase the research and development of the industry and enhance the innovation of technology, which will enable enterprises to produce products of good quality and low cost. Can adapt to the needs of the development of the market economy. At the same time, we must learn from and draw on the successful experience of developed countries, help government departments to formulate scientific, reasonable and effective laws and regulations, and enforce restrictive laws and regulations on the sales, production, discharge and use of traditional fuel vehicles. , especially in the laws and regulations on vehicle emissions. In this way, it is very likely to attract consumers to buy new energy vehicles, drive the market of the new energy vehicle industry and promote its development. Enterprises should strengthen the promotion of the new energy automobile industry, effectively improve the overall effect of consumer guidance, and attract consumers' purchases. New energy vehicles are innovative products of emerging industries. Although the state and the government as well as automobile companies are well known and have received the attention and support of the academic community, there are still many ordinary consumers who lack serious understanding of them. Therefore, it is urgent for government departments and automobile companies to seize the opportunity and work together to strengthen publicity and expand the scope of publicity. For example, advertising, auto exhibitions, sponsorship activities and rides, etc., should focus on promoting the role of energy-saving and environmental protection of new energy vehicles, and promote consumers to better understand the performance of new energy vehicles, so that consumers believe more. The desolation and safety performance of new energy vehicles enhance consumers' desire to buy. At the same time, in the process of publicity, we must maintain integration with

environmental protection, enhance the overall environmental awareness of the society, and invisibly strengthen the environmental awareness of consumers. Buying new energy vehicles is not only an environmentally friendly behavior, but also A responsibility of society.

## **5. Conclusion**

In summary, China's current new energy vehicle industry is still in the initial stage of development, and there is still a long way to go in terms of market and technology development. In terms of technology, the industry must complete the unification and start from the key components of new energy vehicles, thus fundamentally guaranteeing the innovation and reliability of its technology. The most important aspect of market cultivation is to focus on consumers and enhance their trust in the car and the market, so as to fundamentally grasp the users.

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