

The Current Situation, Bottlenecks and Countermeasures of Overseas Marketing of Chinese New Energy Vehicle Companies under the Background of ‘Double Carbon’

¹Yuan Jiaxing, ²Peng Ting and ³Zeng Yaorui,

^{1,2}Chengdu College of University of Electronic Science and Technology of China, Chengdu, Sichuan, China

²Wuhan Textile University, Wuhan, Hubei, China

Abstract: This paper examines the current situation, bottlenecks, and countermeasures regarding the overseas marketing efforts of Chinese new energy vehicle companies in the context of the "double carbon" initiative. Through comprehensive data analysis and industry insights, we examine the challenges Chinese companies face in expanding into international markets, particularly in terms of brand recognition, technological competitiveness, and policy complexity. Based on empirical evidence and theoretical frameworks, we propose strategic initiatives to address these challenges and facilitate the global expansion of Chinese new energy vehicle companies. Our findings shed light on the multifaceted dynamics shaping the internationalization efforts of Chinese automotive companies in the era of sustainability and digital transformation.

Keywords: Double carbon, current situation, overseas marketing, new energy vehicle

I. INTRODUCTION

According to the latest data, my country's production and sales of new power vehicles have ranked first in the world for eight consecutive years. It not only occupies a global leadership position in the manufacturing and sales of new power vehicles, but also is the largest export scale of new power vehicles in the world. largest country. This achievement demonstrates China's strong strength and market influence in the field of new power vehicles. Not long ago, a theme forum focusing on the trend of Chinese automobiles exploring the international market was held for the first time at the Shanghai Auto Show, titled "Exploring the International Market-The New Journey of Chinese Automobiles Going Overseas under Digital Transformation". This forum gathered industry leaders, experts, scholars, and government representatives for in-depth discussions and exchanges on how Chinese automobile companies can seize the opportunities of digital transformation and achieve overseas market expansion and international layout. At the forum, Chen Hong, director of the Trade and Investment Promotion Department of the Shanghai Council for the Promotion of International Trade, said that competition in the international market for new power vehicles continues to escalate, and Chinese car companies should seize the opportunity of the rapid development of the automotive industry and actively expand overseas markets. He emphasized the importance of seizing development and change through international layout, and put forward suggestions such as strengthening international cooperation, deepening industrial chain integration, and improving the level of technological

innovation. At the same time, he also called on government departments to provide more supportive policies and policy guidance to provide a strong guarantee for the internationalization process of Chinese automobile companies. In addition to the support from government departments, the industry is also actively exploring the way forward. Some leading new power vehicle companies have begun to increase investment and layout in overseas markets, and enhance brand influence and market competitiveness by establishing global R&D centers, production bases and sales networks. At the same time, we will strengthen cooperation with international automobile manufacturers and suppliers, promote technological innovation and product upgrades, and help China's new power vehicles go global. In the Figure 1, the sample image of the Li Xiang, a Chinese New Energy Vehicle's company product is presented.



Figure 1. The Chinese New Energy Vehicles

Currently, China has established its leading position in global new energy vehicle exports and has certain advanced technologies and advantages in intelligence and electrification. However, as Chinese automobile companies enter the international market, some deep-seated challenges have gradually emerged. Many companies have reported that with the rapid expansion of overseas markets, the complexity of corporate globalization business and management has increased significantly. At the same time, they also face the challenge of more data security and compliance scrutiny. These reviews involve information security management, quality management system, personal information protection, information security control and other aspects. As companies move toward overseas markets, their global operations and management become more complex. Differences in laws, regulations, cultural customs, market demands and other aspects in different countries and regions require enterprises to spend more energy and resources to adapt and respond. In addition, as the scale of the enterprise expands, the

management level also faces greater challenges, and more complete management systems and processes need to be established to ensure the smooth progress of the business.

On the other hand, overseas markets have increasingly higher requirements for data security and compliance. Enterprises not only need to protect their business secrets and customer information, but also need to comply with relevant laws and regulations of various countries, such as the European Union's General Data Protection Regulation (GDPR). This means that enterprises need to establish a sound information security management system and strengthen data protection and control to ensure data security and compliance. Therefore, Chinese automobile companies need to recognize the existence of these challenges and take corresponding measures to deal with them when going overseas. This includes strengthening communication and coordination with overseas partners, establishing a complete global management system, and strengthening data security and compliance management to ensure the company's sustainable development and competitive advantage in the international market.

II. THE PROPOSED METHODOLOGY

A. The Introduction of "Double Carbon" Background

Currently, China's economic and social development is moving in a green and low-carbon direction. Especially after the dual-carbon strategic goal was proposed, the urgency of reducing carbon emissions became even more prominent. The transportation sector occupies a considerable proportion of the overall carbon emissions, and the average annual growth rate of carbon emissions in this sector is relatively high, making it one of the areas with the fastest growing greenhouse gas emissions in my country. In the transportation field, carbon emissions from road transportation account for more than 80% of the total. With the increase in car ownership in my country, the new energy vehicle industry has attracted much attention. The development of the new energy vehicle industry is of great significance to promoting my country's "double carbon" goal and adapting to changes in the international energy pattern. First of all, the promotion and application of new energy vehicles can effectively reduce carbon emissions in the field of road transportation, thereby providing strong support for achieving carbon emission reduction goals. Secondly, the development of the new energy vehicle industry will help promote the upgrading and optimization of the energy structure, reduce dependence on traditional fossil energy, and thereby improve energy security and sustainability. In addition, the development of the new energy automobile industry can also drive the growth of related industrial chains and promote the upgrading and transformation of the economic structure. Globally, the new energy vehicle industry is also in a stage of rapid development, and countries have increased their support for this industry. As one of the world's largest new energy vehicle markets, China has huge development potential and market space. Therefore, accelerating the development of the new energy vehicle industry is not only in line with my country's long-term development strategy, but also helps my country maintain a favorable position in the global competition in the new energy vehicle industry.

"Double carbon" refers to the two goals of reaching carbon peak and carbon neutrality. Carbon peaking means that carbon emissions peak during a certain period and then gradually decrease, while carbon neutrality refers to a state

where carbon emissions are reduced to zero or absorbed. This concept is an important measure to deal with climate change and global warming. It aims to reduce greenhouse gas emissions and slow down the impact of climate change on the global environment to achieve sustainable development. Achieving the "double carbon" goal is crucial for countries around the world. As the problem of climate change becomes increasingly severe, all countries have stepped up their efforts to deal with climate change. In 2021, the Chinese government proposed the strategic goal of peaking carbon dioxide emissions before 2030 and achieving carbon neutrality before 2060. This is also the basic content of the "dual carbon" strategy. As one of the world's largest carbon emitters, China's realization of the "double carbon" goal is of great significance to global carbon emission reduction and climate change governance. In order to achieve the "double carbon" goal, countries need to take a series of positive measures. This includes adjusting the energy structure, improving energy utilization efficiency, promoting clean energy technology, encouraging low-carbon development and environmentally friendly production methods, and increasing efforts to build carbon sinks. At the same time, countries need to strengthen international cooperation to jointly respond to the challenges of climate change, promote the global carbon emission reduction process, and achieve the common goal of sustainable development.

B. The Current situation, Bottlenecks and Countermeasures of Overseas Marketing of Chinese New Energy Vehicle Companies

Amidst global attention on environmental conservation and sustainable development, the emergence of new energy vehicles as environmentally friendly and low-emission transportation alternatives has sparked enthusiasm in the international automotive sector. Against this backdrop, Chinese enterprises in the new energy vehicle sector have actively embraced national directives, intensifying their efforts to expand into overseas markets. However, this endeavor is not devoid of practical obstacles and complexities. Chief among these challenges is the endeavor to establish brand recognition and trust overseas. In comparison with well-known international automotive giants, Chinese new energy vehicle brands face challenges of lower visibility and consumer confidence in foreign markets. This poses significant obstacles to the cultivation of brand identity and market presence abroad. Moreover, there is a noticeable technology gap between Chinese new energy vehicle companies and their global counterparts, especially in research and development and product quality. Despite significant progress in innovation and investment, Chinese firms continue to struggle with disparities that hinder their competitiveness and expansion in international markets. Adding to these challenges are the unpredictable policy environments prevalent in overseas markets. Different levels of government support for new energy vehicles across various regions introduce uncertainties and regulatory risks, requiring continuous adaptation to changing policy dynamics.

In response to these multifaceted challenges, Chinese new energy vehicle enterprises need to implement strategic initiatives. Priority should be given to enhancing brand equity through intensified marketing efforts to increase awareness and trust. At the same time, sustained investments in research and development are essential to enhance product quality and technological capabilities. Furthermore, establishing strong

partnerships with local authorities and institutions can facilitate access to favorable policies and resources, thus reducing risks and improving operational efficiency in overseas market expansion endeavors. Amidst policy support, China vigorously promotes the development of new energy vehicles and encourages traditional automobile companies to actively explore transitioning to new energy. Over the past two years, China has implemented over twenty policies supporting new energy vehicle enterprises. The "2030 Carbon Peak Action Plan" outlines that by 2030, the market share of emerging and clean energy-powered transportation will reach approximately 40%. Benefiting from the large scale, mature supply chain, and ample funds of traditional fuel vehicle manufacturers, traditional automotive companies are accelerating their transition to new energy under the support of national policies. However, this transition is still influenced by external factors such as increased pressure from the domestic market and internal factors like rigid corporate development positioning and management ideologies. Despite opportunities, challenges abound, warranting further research into market competitiveness. The introduction of the "Dual Carbon" goal has garnered more resources and policy support for China's new energy industry. Restrictions on foreign investment in new energy vehicle companies have been lifted, making China an increasingly pivotal market for global new energy vehicle enterprises. Presently, a competitive landscape has emerged in China's new energy vehicle industry, with traditional automotive companies and new players engaging in fierce competition. Competitors within the industry serve as the most potent driving force for companies. As each enterprise strives to implement development strategies that provide them with more advantages and greater economic benefits, conflicts may arise during goal implementation, resulting in competitive phenomena within the industry. Key influencing factors include: (1) the number and scale of enterprises in the industry; (2) the degree of differentiation among competitors; and (3) barriers to exiting the industry. Analyzing the number of competitors in the industry reveals a plethora of new entrants and numerous established traditional automotive companies aggressively transitioning, intensifying competition in the new energy vehicle market. In 2022, China's retail sales of new energy vehicles reached 5.674 million units, a year-on-year increase of 90%, further stimulating competition among industry competitors. Currently, the concentration of China's new energy market is gradually increasing, with most new energy vehicle companies having similar scales, leaving ample room for competition in market share. With a wide variety of new energy vehicles available, including hybrid electric cars (HEV), plug-in hybrid electric vehicles (PHEV), extended-range electric vehicles (EREV), battery electric vehicles (BEV), fuel cell electric vehicles (FCEV), significant differences exist among companies, particularly in products developed and produced independently. The entire automotive industry is currently transitioning towards "four new modernizations", where the production of new energy vehicles has extended from simple vehicle sales to the entire industry chain's aftermarket. For instance, leveraging advanced internet technologies such as the Internet of Things, cloud computing, and big data analysis to establish a vehicle networking system. The internet and digital economy provide more possibilities for the future development of new energy vehicles, intensifying competition among industry peers. Hence, following suggestions are provided:

1. What consumers are most interested in with new energy vehicles is the development of their three core electric technologies, namely batteries, electric drive technology, and electronic control technology. Among them, battery and electric drive technologies directly affect the range and performance of new energy vehicles, while electronic control technology reflects the function and safety performance of the entire vehicle. With the expansion and opening-up of my country's automobile industry, independent brands have continuously increased their research and development efforts and firmly mastered core technologies. Corresponding product series have been launched in the passenger car and commercial vehicle markets. The competitiveness of new energy vehicles continues to improve, and production and sales continue to lead the world.

2. Controlling the cost of new energy vehicles is an urgent issue for the development of this field. At present, the manufacturing cost of batteries accounts for a significant proportion of new energy vehicles, with the cost of batteries accounting for about 30% to 50% of the total vehicle cost of pure electric vehicles. Although the government provides relevant subsidies, the price of new energy vehicles is still higher than that of the same type of conventional fuel vehicles, which has become a major obstacle to their promotion. In response to this problem, it is recommended that companies use batteries with better performance and consistent specifications to reduce R&D costs. At the same time, we should improve battery life cycle planning, increase the recycling rate of used batteries, and actively develop recycling technology for used batteries to reduce production costs.

CONCLUSION

The overseas marketing landscape for Chinese new energy vehicle companies presents both opportunities and challenges. While the industry has experienced significant growth and development, particularly in terms of technological innovation and policy support, there are still barriers that hinder the global expansion of Chinese companies. To overcome these challenges, it is imperative for companies to prioritize brand building, technological advancement, and policy adaptation. Looking ahead, future research should delve deeper into the impact of emerging market trends, regulatory frameworks, and technological advancements on the internationalization strategies of Chinese new energy vehicle companies. In addition, exploring novel approaches to address consumer preferences and market dynamics will be critical to maintaining competitive advantage and fostering sustainable growth in the global automotive market.

References

- [1] Dong, Feng, and Yajie Liu. "Policy evolution and effect evaluation of new-energy vehicle industry in China." *Resources Policy* 67 (2020): 101655.
- [2] Su, Chi-Wei, Xi Yuan, Ran Tao, and Muhammad Umar. "Can new energy vehicles help to achieve carbon neutrality targets?." *Journal of Environmental Management* 297 (2021): 113348.
- [3] Li, Jizi, Yaoyao Ku, Chunling Liu, and Yuping Zhou. "Dual credit policy: promoting new energy vehicles with battery recycling in a competitive environment?." *Journal of Cleaner Production* 243 (2020): 118456.
- [4] Sun, Chuanwang, Yanhong Zhan, and Gang Du. "Can value-added tax incentives of new energy industry

- increase firm's profitability? Evidence from financial data of China's listed companies." *Energy Economics* 86 (2020): 104654.
- [5] Li, Xue, Xiping Xiao, and Huan Guo. "A novel grey Bass extended model considering price factors for the demand forecasting of European new energy vehicles." *Neural Computing and Applications* 34, no. 14 (2022): 11521-11537.
- [6] Cai, William, Xiaogang Wu, Minghao Zhou, Yafei Liang, and Yujin Wang. "Review and development of electric motor systems and electric powertrains for new energy vehicles." *Automotive Innovation* 4 (2021): 3-22.
- [7] Wen, Huwei, Chien-Chiang Lee, and Fengxiu Zhou. "How does fiscal policy uncertainty affect corporate innovation investment? Evidence from China's new energy industry." *Energy Economics* 105 (2022): 105767.
- [8] Wang, Gang, Yuechao Chao, Yong Cao, Tieliu Jiang, Wei Han, and Zeshao Chen. "A comprehensive review of research works based on evolutionary game theory for sustainable energy development." *Energy Reports* 8 (2022): 114-136.
- [9] Zhao, Pan, Zhou Lu, Jianchun Fang, Sudharshan Reddy Paramati, and Kai Jiang. "Determinants of renewable and non-renewable energy demand in China." *Structural Change and Economic Dynamics* 54 (2020): 202-209.
- [10] Wu, Haitao, Lina Xu, Siyu Ren, Yu Hao, and Guoyao Yan. "How do energy consumption and environmental regulation affect carbon emissions in China? New evidence from a dynamic threshold panel model." *Resources Policy* 67 (2020): 101678.
- [11] Secinaro, Silvana, Valerio Brescia, Davide Calandra, and Paolo Biancone. "Employing bibliometric analysis to identify suitable business models for electric cars." *Journal of cleaner production* 264 (2020): 121503.
- [12] Wang, Yafei, Jing Liu, Zihan Zhao, Jin Ren, and Xinrui Chen. "Research on carbon emission reduction effect of China's regional digital trade under the "double carbon" target—combination of the regulatory role of industrial agglomeration and carbon emissions trading mechanism." *Journal of Cleaner Production* (2023): 137049.
- [13] Meng, Xiangyu, Mingyun Chen, Alun Gu, Xinguo Wu, Bin Liu, Jian Zhou, and Zongqiang Mao. "China's hydrogen development strategy in the context of double carbon targets." *Natural Gas Industry B* 9, no. 6 (2022): 521-547.
- [14] Yu, Xiaowei, Bin Wang, Wei Wang, Xinyang Guo, Jingzuo Han, and Xinyu Chen. "Analysis of renewable resources in Central China under the "double carbon" strategy." *Energy Reports* 8 (2022): 361-373.
- [15] Zou, Bilin, Chunhua Ju, Fuguang Bao, Ye Lai, Chonghuan Xu, and Yiwen Zhu. "Exploring an efficient evolutionary game model for the government–enterprise–public during the double carbon policy in China." *International Journal of Environmental Research and Public Health* 19, no. 8 (2022): 4607.
- [16] Pham, Hong Duc, Joseph FS Fernando, Michael Horn, Jennifer MacLeod, Nunzio Motta, William OS Doherty, Alice Payne, Ashok Kumar Nanjundan, Dmitri Golberg, and Deepak Dubal. "Multi-heteroatom doped nanocarbons for high performance double carbon potassium ion capacitor." *Electrochimica Acta* 389 (2021): 138717.