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Adapting 4S Stores for the New Energy Vehicle Revolution

Jianlun Ma[1, *]

[1] The W. A. Franke College of Business, Northern Arizona University, Flagstaff, United State
*Corresponding author: jm5349@nau.edu

Abstract:

The new energy vehicle market has brought unprecedented challenges and new opportunities to traditional 4S stores. This paper studies how 4S stores adapt to the arrival of new energy vehicles, and analyzes how market changes, consumer preferences and government policies on the environment and high technology affect 4S stores. This paper also studies how 4S stores can remain competitive in the new energy vehicle era. Based on the above analysis, this paper believes that 4S stores should build online platforms through digital transformation as a way to safely sell new energy vehicles, and adopt new service technologies such as virtual exhibition halls and artificial reality as a means to improve purchasing experience. At the same time, 4S stores should work with new energy automobile manufacturers to develop the transfer of mixed main business and direct sales model to ensure its core level. At the same time, knowledge update and continuous innovation in the service process stage and business grade are the only way for 4S stores to keep up with the changes in the market demand for new energy vehicles. Through these tactical adjustments, 4S stores can not only overcome the threat brought by the emergence of new energy vehicles, but also take advantage of the new opportunities brought by this transformation to redefine their role in the automotive industry and guide the development of the future industry.

Keywords: New energy vehicles; 4S stores; Market adaptation; Digital transformation; Strategic adjustments.

1. Introduction

The arrival of new energy vehicles (NEVs) is disrupting the automotive industry, forcing car dealers to rethink traditional sales and service models – in particular, the 4S stores (sales, service, spare parts, and surveys) – and their corresponding business and marketing strategies. This paper provides an overview of the challenges and opportunities that the traditional 4S stores are facing in the rising tide of NEVs, with a view to exploring ways for them to be updated to ensure relevance and to maintain their competitiveness.

Because of global environmental issues and technological advancements, the automotive industry is changing rapidly with the shift towards NEVs. Since governments of various countries put forward stricter requirements for reducing emissions and provide subsidies to stimulate consumers' purchases of NEVs, the market of NEV has been continuously expanding. Nowadays, the top brands of traditional 4S stores built their business mainly on ICE vehicles, which is forced to re-examine their business models.

According to Zhang et al. , their study explores the future penetration of electric vehicles in Beijing's market and its effects on energy consumption and CO2 emissions. The study indicates that significant policy support and technological advancements are crucial for a higher market share of EVs by 2030 [1]. According to Huo and Wang, they projected the future sales and vehicle stock in China, emphasizing the increasing importance of private light-duty passenger vehicles, which includes NEVs, due to evolving economic conditions and policy interventions. According to Gong et al., their paper reviews the development of NEVs in China, highlighting the slow progress despite numerous policy initiatives aimed at promoting these vehicles [2]. According to Ma et al., their research quantifies the effectiveness of various government incentives [3]. They found that restricting internal combustion engine vehicles significantly promotes NEV sales [4]. According to Jiang, et al., their study examines the role of consumer attention, as measured by search indexes, on the sales volume of NEVs. The study finds that consumer interest has a significant positive impact on NEV sales, highlighting the importance of public perception [5]. According to Pei and Li, their paper introduces a novel model for forecasting the sales volume of NEVs, emphasizing the need for robust predictive models due to the quarterly fluctuations in NEV sales [6]. According to Ding, the study uses advanced predictive analytics (LSTM model) to forecast

NEV sales, underscoring the critical role of accurate sales forecasting in strategic planning for both government and industry [7]. According to Wang and Liu, the research predicts the sales of NEVs based on various economic scenarios, including subsidy reductions and the implementation of carbon credits, highlighting the economic factors influencing NEV adoption [8]. According to Ding, the study advanced predictive analytics using the Long Short-Term Memory (LSTM) model are employed to forecast the sales of new energy vehicles (NEVs) in China. This approach highlights the critical role of accurate sales forecasting in strategic planning for both government and industry, emphasizing that precise predictions are vital for resource allocation and policy formulation to support the NEV market. The study underscores how technological advancements in predictive analytics can provide deep insights into market trends, thus aiding stakeholders in making informed decisions [9]. The research by Wang and Liu "Sales Forecasting of New Energy Vehicles in China: under the Subsidy Recession and Carbon Credits" explores the potential impacts of economic scenarios, such as subsidy reductions and the implementation of carbon credits, on NEV adoption. Their analysis predicts the sales of NEVs under these changing economic conditions, highlighting the significant influence of fiscal policies and economic incentives on consumer purchasing behaviors and overall market dynamics for NEVs in China. The study suggests that understanding these economic factors is crucial for policymakers and industry leaders to adapt strategies that effectively support the transition towards sustainable automotive solutions.

This study will discuss the challenges and opportunities of the traditional 4S store in the background of popularity of new energy vehicles, and explore the strategy of 4S store to cope with market change to keep its competitiveness. The specific content include: Mechanism analysis: Focusing on the government incentives and consumer trends to 4S store. Change in consumption preferences: Specifically for the new energy automobile, consumers' concern go beyond to the environmental aspects and high-tech functions.

Competitive pattern: Direct sales competition mainly represents the behavior that manufacturers take initiative to sell and service automobiles to customers, and traditional sales channels will be challenged. New energy vehicles impact: Specifically for the 4S store OM (Operation Mode), its traditional sales mode, service maintenance, spare parts supply and display will be impacted. Based on the above analysis, this study will provide strategic adaptation and innovative directions of 4S store, and further help it to stand out in the era of new energy vehicles.

2. Development Situation

2.1 Market Dynamics

Demand for new energy vehicles (NEVs) is growing significantly, driven by a combination of government incentives and changing consumer preferences. In Europe and Asia, a flood of incentives, including generous subsidies, tax breaks and other policies that extend economic benefits, is stimulating consumer interest and accelerating the adoption of new energy vehicles. Governments and private companies have also committed to investing heavily in the development of extensive NEV charging infrastructure to improve user accessibility and convenience. Although the strong expansion of the new energy vehicle market has brought considerable challenges, it also provides a lot of opportunities for traditional auto retailers, especially the old 4S stores. These 4S stores stand on the cusp of transformation, ready to adapt and take advantage of the changing dynamics of the automotive industry."

2.2 Consumer Preferences

First, as modern consumers become more environmentally conscious and technology-conscious, their expectations of vehicle functionality have changed dramatically. Today, they seek cars that not only prioritize environmental sustainability, but also come equipped with cutting-edge technology. This includes enhanced connectivity, seamless integration with digital lifestyles, and advanced autonomous driving features that guarantee a safer and more efficient driving experience. According to Dave Lachasse's article titled "Survey Finds 53% of Americans prefer Gasoline-powered cars over electric Cars," published on November 29, 2022, a survey of 1,006 U.S. adults shows that the preference for internal combustion engine vehicles continues to be strong, with 52.9% of respondents preferring them. Electric vehicles accounted for 33.8 percent of respondents. While internal combustion engines still hold a significant share, the impact of electric vehicles is undoubtedly growing, challenging the dominance of traditional engines in the market. In addition, there has been a substantial shift in the consumer buying experience. The digital age has opened up a preference for online shopping, even affecting car purchases. Modern consumers are increasingly familiar with and gravitate toward digital interfaces and simplified online transactions. The shift highlights a mismatch with the traditional car sales model, with 4S shops today still relying heavily on face-to-face interaction and person-to-person negotiations. This traditional approach is becoming increasingly out of step with the preferences and expectations of contemporary buyers, demonstrating the urgent need for the automotive retail industry to adapt to these changing consumer preferences [10].

2.3 Competitive Pressures

The emergence of the direct selling model has brought great challenges to the traditional 4S stores, making them face more and more competitive pressure. Companies like Tesla are pioneers of this approach, bypassing traditional dealer networks and selling directly to consumers. With fewer than 10 retail stores and only a handful of showrooms dedicated to direct sales, Tesla's strategy not only aligns with the convenience and efficiency that today's consumers prefer, but also dramatically disrupts the existing dealer-based sales model. Lailin Tomara's research report "Market Share of integrated automobile 4S Stores in China 2016-2022", published on January 3, 2024, vividly illustrates this shift. The survey results show that the market share of 4S stores in China's automotive aftermarket has decreased significantly, from 54% in 2016 to 43% in 2022. This trend is particularly noteworthy considering the less than ideal economic conditions in China during this period, which shows that the decline in the market share of 4S stores cannot be attributed to economic factors alone. On the contrary, the emergence of electric vehicles is a key factor leading to the decline in the market share of 4s stores. Electric vehicles typically utilize direct sales channels, with less demand for traditional services. The evolution of automotive technology and consumer buying habits has fundamentally changed the traditional automotive retail landscape, indicating that the revolutionary era of 4S stores is rapidly coming [11].

3. Impact of NEVs on 4S Stores

With the growth of new energy vehicle (NEV) business, the 4S business model consisting of sales, service, spare parts and showrooms is bound to be greatly affected. First, due to the increase in digital requirements, new energy vehicles (nev) will lead to a reduction in fuel vehicle sales, greatly reducing the importance of physical negotiations in 4S stores, 4S stores will grow exponentially by 2022, and electric vehicle sales will exceed 10 million. The share of electric vehicles in total sales has more than tripled in three years, from around 4% in 2020 to 14% in 2022. This means that in the future, 4S stores will need to further digitalize their online platforms and enhance in-store sales capabilities.

Secondly, in terms of maintenance, new energy vehicles generally require fewer garage repairs than internal combustion engine vehicles because they require less maintenance. Therefore, if dealers want to maintain profit margins on accessories, 4S stores will need to repackage the services they offer in-store and be prepared to train showroom employees on new technologies to serve NEVs. New energy vehicles are fundamentally different from internal combustion engine vehicles in structure and function.

In addition, in terms of spare parts, the moving parts of new energy vehicles are less than that of internal combustion engine vehicles, and the mechanical structure is not complex, which will reduce the spare parts profits of 4S stores, so suppliers need to re-plan the spare parts inventory management layout and adjust the supply chain logistics. For the showroom, it is more important to understand the content, ways and reasons for people to buy new energy vehicles. It is necessary to conduct targeted surveys and questionnaires on buyers of new energy vehicles in order to prepare services and formulate precise marketing strategies.

Finally, in fact, for consumers, from the dealer, directly operated store system to the agent system, it seems to only change the deposit delivery object, the others are the same, but from the dealer's point of view, the source of profit has been greatly compressed, and the operating risk, in addition to a small amount of capital costs, almost no change. And because customer information and usage processes are nearly transparent to Oems, after-sales service blocks, In addition to implementing the same, but also little marketing space, for example, the original 4 The s store or the direct management store will also have a customer service department specializing in the form of telephone reminding users of maintenance time, and will be replaced by a car in the future machine maintenance or repair reminders, because your car has run many kilometers, the car system will be updated in real time, but also very accurate, so the demand for 4S stores will be less and less [12].

4. Strategic Adaptations for 4S Stores

In order to overcome these challenges faced by new energy vehicles (nev), 4S stores need to make some strategic adjustments. In the sales department, online platforms must be developed to support robust and safe sales of new energy vehicles. In the service sector, I think the first step is to adopt new technologies such as virtual showrooms and augmented reality (AR) to enhance professional purchasing experience. In the service sector, new technologies such as virtual showrooms and augmented reality (AR) should be adopted to enhance the professional purchasing experience, second remote diagnostics and mobile service units should be adopted to support the service model innovation required for NEVs, and third employees need to receive continuous investment in training to enable them to master NEV technology and communicate with customers in a digital-first environment. Operational sustainability is an important aspect to consider during the innovation process, which can appeal to environmentally sensitive NEV consumers. In addition, 4S stores can also cooperate with new energy automobile manufacturers

and cooperate with existing new energy automobile manufacturers to become authorized service centers, which can make the traditional service role coexist with the direct sales model and retain the role of 4S stores in the emerging automobile market. In the era of traditional fuel vehicles, manufacturers and consumers are squeezed by dealers, especially for consumers, many of the consumption in 4S stores are invisible and mandatory consumption, which is one of the important sources of income for traditional 4S stores, and it is deeply offensive to many consumers, but because the vast majority of consumers do not understand its routine. So can only passively accept the unreasonable price. However, in the era of electric vehicles, the structure of the automobile product itself is relatively simple, and it does not require too much technical expertise in maintenance, so most people choose to buy electric vehicles in order to simplify the process of buying a car and subsequent maintenance and repair of the car. Therefore, in the end, 4S stores should also strengthen the norms of sales prices, look at new energy vehicle brands more openly, give up the traditional idea of once and for all, and precipitate the core competitiveness of users and organizations through bold trial and error, which is a very important strategic choice. Finally, with the continuous development of electric vehicles, their delivery, after-sales and other businesses have also taken shape. In the face of such a situation, I think it is necessary for 4S stores to reposition their relations with manufacturers, supply chains and partners. The ability model of internal iteration of human resources, the optimization of the group's organizational structure, etc., among which, the improvement of a more fault-tolerant corporate culture and employee incentive training mechanism, as well as external expert consultant and diagnosis are very important safeguard measures and components.

5. Conclusion

With the emergence of new energy vehicles (nev), the automotive industry has undergone revolutionary changes, and traditional 4S stores are facing great challenges while also facing opportunities for vigorous development. To remain competitive, these institutions must adopt cutting-edge technologies and align their services with the changing needs of increasingly environmentally conscious and tech-savvy consumers. The rise of new energy vehicles requires a transformation in the way 4S stores operate, from integrating advanced diagnostic tools for electric vehicles to providing an enhanced customer experience that reflects the digital age. In addition, 4S stores can leverage their deep expertise in vehicle repair and customer service through innovative business models. This could include forming partnerships with NEV manufacturers to become authorized service centers, or expanding their product range to include fast charging stations and electric vehicle customization services. This shift also presents an opportunity for them to upgrade their sales strategy, perhaps by integrating virtual reality showrooms and digital sales platforms to appeal to a broader, more tech-inclined audience. However, if 4S stores cannot adapt to these rapid changes, they may lose market relevance and competitiveness. The dynamic changes in the automotive industry, marking a rapid move towards sustainable and intelligent mobility solutions, require 4S stores to not only keep pace, but also anticipate future trends to maintain their trajectory.

References

[1] Zhang Q, Ou X, Yan X, et al. Electric vehicle market penetration and impacts on energy consumption and CO2 emission in the future: Beijing case[J]. Energies, 2017, 10(2): 228.

[2] Huo H, Wang M. Modeling future vehicle sales and stock in China[J]. Energy Policy, 2012, 43: 17-29.

[3] Gong H, Wang M Q, Wang H. New energy vehicles in China: policies, demonstration, and progress[J]. Mitigation and Adaptation Strategies for Global Change, 2013, 18: 207-228.

[4] Ma S C, Fan Y, Feng L. An evaluation of government incentives for new energy vehicles in China focusing on vehicle purchasing restrictions[J]. Energy Policy, 2017, 110: 609-618.

[5] Jiang Z, Long Y, Zhang L. How Does the Consumers' Attention Affect the Sale Volumes of New Energy Vehicles: Evidence From China's Market[J]. Frontiers In Energy Research, 2021, 9: 782992.

[6] Pei L L, Li Q. Forecasting quarterly sales volume of the new energy vehicles industry in China using a data grouping approach-based nonlinear grey Bernoulli model[J]. Sustainability, 2019, 11(5): 1247.

[7] Ding Z. Sales Forecast of New Energy Vehicles in China Based on LSTM Model[J]. Frontiers in Business, Economics and Management, 2023, 10(3): 47-49.

[8] Han WANG, Ying-qi LIU. Sales Forecasting of New Energy Vehicles in China: under the Subsidy Recession and Carbon Credits[J]. DEStech Transactions on Computer Science and Engineering, 2018.

[9] Ding Z. Sales Forecast of New Energy Vehicles in China Based on LSTM Model[J]. Frontiers in Business, Economics and Management, 2023, 10(3): 47-49.

[10] RND Repairer Driven News. Survey finds 53% of Americans prefer gasoline-powered vehicles to EVs, Retrived from: https://www.repairerdrivennews.com/2022/11/29/survey-finds-53-of-americans-prefer-gasoline-powered-vehicles-to-evs/

[11] Automotive Industry Price Analysis, Service Light up. Retrived from: https://www.statista.com/statistics/989954/china-market-share-of-4s-shops-in-automotive-aftermarket/

[12] IEA50. Electric Vehicles. Retrieved from: https://www.iea.org/energy-system/transport/electric-vehicles