Research on the Development Plan for BYD New Energy Vehicles in the Qingdao Market

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Abstract： This research covers the entire area of Qingdao, including both passenger and commercial vehicle modules. The research targets local permanent residents and potential customers of commercial vehicles. It adopts a stratified and three-stage unequal probability PPS sampling method, combined with questionnaire and document research to conduct the study. Through data screening, testing and multi-dimensional analysis, it explores the current development issues of the BYD new energy market in Qingdao. The survey found that the awareness of new energy vehicles in Qingdao is relatively low. The charging facilities are not complete and the range is insufficient, which are the core consumption concerns. The demand for passenger and commercial vehicles has different focuses. Although BYD has occupied a certain market share by leveraging its own advantages, it still faces problems such as a low-end brand image and insufficient exploration of the commercial vehicle market. Based on this, this survey combines the 4P marketing theory and proposes a coordinated development strategy for the passenger and commercial vehicle modules from the dimensions of product, price, channel and promotion. Specific local suggestions are also provided to offer practical reference for BYD to deeply penetrate the Qingdao market and the local new energy industry development.

Keywords： BYD; New Energy Vehicles; Qingdao Market; Passenger and Commercial Dual Module

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Introduction

Under the deepening implementation of the "carbon neutrality" strategy and the high-quality development of the new energy vehicle industry, in 2026, Qingdao, guided by the "Smart Connected New Energy Vehicle Industry Development Action Plan (2025-2027)", accelerated the market layout of the passenger and commercial vehicle dual modules: the total output of new energy vehicles in the city reached 422,000 units in 2025, and it also planned to add over 40,000 charging piles simultaneously, providing policy and supporting measures for the expansion of the industry.

This research focuses on the passenger and commercial vehicle dual modules throughout Qingdao. Through scientific sampling and analysis of the current market situation and pain points, it provides practical reference for BYD's local layout and the development of Qingdao's new energy industry.

1 Background of the Investigation and Research Objectives

1.1 Investigation Background

1.1.1 National + Qingdao New Energy Vehicle Industry Policy Guidance

At the national level, with the deepening implementation of the "carbon neutrality" strategy, the domestic new energy vehicle industry will enter a new stage of high-quality development in 2026. The country encourages the coordinated development of passenger and commercial vehicle segments and increases policy support for the substitution of new energy commercial vehicles for traditional fuel vehicles.

At the local level, Qingdao City has set a target that the proportion of new energy vehicles in the city's market will exceed 40% by 2027. It has introduced optimization policies such as vehicle purchase subsidies and the full-scale layout of charging stations, taking into account both individual passenger vehicle consumption and the batch replacement of commercial vehicles by businesses.

1.1.2 Current Development Status of the New Energy Vehicle Market in Qingdao

In 2025, the production of new energy vehicles in Qingdao reached 422,000 units, a significant increase of 242.3% compared to the previous year, accounting for 41.3% of the city's total vehicle production. The industry as a whole is in an upward development stage. Currently, the new energy vehicle market in Qingdao shows a "strong companies, weak players" pattern. At the same time, there are still significant shortcomings in the local market, such as unbalanced charging infrastructure layout, higher density in the central urban area but fewer ultra-fast charging facilities, which have become important factors restricting the further development of the market.

1.1.3 BYD's Industry Layout and Local Development Needs in Qingdao

Yadi is a leading enterprise in China and worldwide in the field of new energy vehicles. Its sales of new energy vehicles in 2024 reached 4.25 million units (Caixin, 2025), ranking first globally and significantly outperforming Tesla's total sales of 1.789 million units for the entire year (Huarenwang, 2025)[1].

In the Qingdao market, BYD has established several 4S stores and distribution outlets. By leveraging its popular models such as Haio and Haidun, it has gained a certain user base. With the rapid development of the new energy vehicle market in Qingdao, BYD needs to conduct research to understand the characteristics of the local passenger and commercial dual-module market, in order to optimize its market layout.

1.2 Research Objectives and Survey Scope

1.2.1 Core research objective

Understand the current situation, consumer demands and associated pain points of the Qingdao commercial and passenger vehicle market; analyze the brand recognition, purchase intentions and constraints of BYD in Qingdao; based on the 4P marketing theory, propose development strategies and localization suggestions for the passenger and commercial vehicle business.

1.2.2 Research Scope

Covering the entire area of Qingdao, focusing on both transportation and business modules; the research subjects include urban permanent residents of Qingdao, individual transportation merchants, etc., taking into account different age groups, occupations, income levels, and business entity sizes, to ensure the representativeness of the samples.

1.3 Core Competitive Advantages of BYD

1.3.1 Price and cost advantage

Relying on a complete industrial chain layout, we independently produce batteries and other core components, effectively controlling costs. Passenger vehicles cover a price range of 90,000 - 400,000 yuan. The entry-level models offer high value for money, which is in line with the budget of ordinary consumers in Qingdao. For commercial vehicles, through large-scale production, the purchase cost is reduced, making them more competitive compared to similar-level new energy vehicles. They are suitable for the needs of local small and medium-sized logistics enterprises and individual merchants.

1.3.2 Technical and Performance Advantages

The core three-electric technologies independently developed by us are currently at the industry-leading level. The fifth-generation DM hybrid technology alleviates the concern about range. Passenger vehicles are suitable for various scenarios of travel, and the intelligent driving system is upgraded. For commercial vehicles, the range and loading performance meet the demands of urban logistics, are suitable for short-distance delivery scenarios, and better fit the logistics operation mode of Qingdao.

1.3.3 Corporate Culture and R&D Support

Adhering to the corporate culture concept of "Technology is King, Innovation is the Foundation", we possess core technologies that are both independent and controllable, and have a large team of R&D personnel. We attach great importance to brand building and adhere to the concept of green development, which aligns with the national "Carbon Neutrality" strategy and the industrial orientation of Qingdao. We quickly adapt to local policies and enhance the recognition of local users.

2 Research Design and Implementation

2.1 Research Plan

2.1.1 Research Objectives and Participants

The purpose of the research is to understand the current situation and consumption demands of the Qingdao commercial and passenger vehicle market, analyze the advantages and disadvantages of BYD's new energy vehicles in the local area, and provide data support for strategy formulation. The research subjects are divided into two categories: passenger vehicles (all urban residents in Qingdao); commercial vehicles (local logistics enterprises and individual transportation merchants).

2.1.2 Research Project and Methodology

The research project is implemented by decomposing the dual-module of business and product: for passenger vehicles, it focuses on consumers' basic information, market awareness, purchase intentions, vehicle preferences, and attitude towards BYD brand; for commercial vehicles, it mainly covers the basic information of business entities, operational needs, vehicle preferences, and willingness to cooperate with BYD. The research method adopts stratified + three-stage unequal probability PPS sampling method, stratified by central urban area and remote urban area, randomly selecting administrative districts, communities, and research subjects, sampling proportionally according to scale to ensure the representativeness and scientificity of the sample; through a combination of questionnaire survey and document research, the comprehensiveness and accuracy of the data are guaranteed.

2.2 Implementation of the Survey and Quality Control

2.2.1 Research organization and execution process

Form a 3-person research team and clearly define the roles: 1 person to coordinate the progress, 1 person to handle the questionnaire distribution, and 1 person to manage the data collection. Proceed with the execution in the following phases: preliminary preparation, on-site research, and final data organization. Efficiently complete the data collection task.

2.2.2 Measures for Data Quality Control

The electronic questionnaire was set with mandatory fields and a reminder for the response duration. Invalid questionnaires with a response time less than 60 seconds or duplicate answers were automatically excluded. On-site, the respondents were guided to fill out the questionnaire and it was checked immediately. Questionnaires with missing information or messy filling were deleted. Eventually, 256 valid

questionnaires were selected, which could fully meet the requirements of the research analysis.

2.3 Design of Research Tools

Specialized Survey Questionnaire Design for the Dual-Module Multiplication Method

Design a special electronic questionnaire with two modules, and the answering time should be controlled within 2 to 5 minutes. The passenger vehicle survey questionnaire covers the basic information of the respondents, their level of market awareness, and their purchase intention tendencies; the commercial vehicle survey questionnaire focuses on the basic information of the business entities, their actual operational needs, and their preferences for vehicle models, which can capture the core market demands and development pain points of the passenger and commercial vehicle modules.

3 Data Processing and Sample Analysis of the Research

3.1 Data Processing and Verification

3.1.1 Process for Screening and Handling Valid Questionnaires

After the research was completed, the data was exported from Questionnaire Star and merged. The invalid questionnaires were double-checked and excluded. Finally, 256 valid questionnaires were retained, with an effective recovery rate of 72.2%. The valid data after screening were sorted and archived in Excel format to ensure the orderly conduct of subsequent analysis work.

3.1.2 Data analysis methods and results of reliability and validity tests

A combined qualitative and quantitative analysis method was adopted: Qualitative analysis was used to sort out the current market situation, pain points and user expectations; Quantitative analysis utilized descriptive statistics and cross-analysis, and data calculations and chart generation were completed through Excel and Questionnaire Star. The reliability test showed that Cronbach's alpha = 0.64 ($>$ 0.6), indicating reliable data; The validity test confirmed that the questionnaire met the research objectives and the data was valid.

3.2 Analysis of the characteristics of the survey samples

3.2.1 The overall distribution of the sample

A total of 256 valid samples were collected, including 201 passenger vehicle samples and 55 commercial vehicle samples. Passenger vehicle samples: The gender distribution was balanced (53.3% male and 46.7% female), with the age range being 18-45 years old (75.8%). The occupations were mainly corporate employees (41.5%), and the monthly income was concentrated between 5,000 and 15,000 yuan (59.2%), which matched the characteristics of ordinary consumers in Qingdao. Commercial vehicle samples: The proportion of individual transportation merchants was the highest (54.5%), followed by logistics enterprises (31.3%). 69.8% of the business owners currently had no more than 4 vehicles, and the core operation scenario was urban short-distance delivery, which was in line with the current situation of the commercial vehicle market in Qingdao.

3.2.2 Description of Sample Characteristics Limitations

Firstly, there are limitations in the sample size. The proportion of samples related to commercial vehicles is relatively low, failing to comprehensively cover local large logistics enterprises. Secondly, the age distribution of the samples is concentrated in the range of 18-45 years old, and the proportion of samples from the middle-aged and elderly groups is relatively small, which to some extent affects the compatibility of the research conclusions with all age groups. Thirdly, the research period is limited and the market dynamics changes have not been tracked. We will optimize the sample structure and extend the research period in the future.

4 Overall Analysis of the New Energy Vehicle Market in Qingdao

4.1 Analysis of Potential Customers for New Energy Vehicles Market

4.1.1 Market awareness and its influencing factors

The overall awareness of the new energy vehicle market in Qingdao is relatively low: only 23.6% of the respondents "very well understand" it, 47.9% "understand to some extent", and 28.5% "do not understand". The main influencing factors are age, occupation, and income: the young group aged 18-35 has the highest awareness, mainly obtaining information through online platforms such as Douyin and Kuaishou; public officials and enterprise employees have a higher awareness than individual business owners and retirees; the group with a monthly income of over 8,000 yuan has a significantly higher awareness than the low-income group.

4.1.2 Factors Influencing Purchase Decisions and Core Concerns

The core purchasing decision factors are as follows: reasonable price, sufficient battery life, convenient charging, reliable quality. Passenger vehicles focus on price and battery life, while commercial vehicles pay more attention to operating costs and loading capacity. The core concerns are as follows: incomplete charging infrastructure, insufficient battery life, quality and after-sales issues.

4.1.3 Market purchase intention and consumption tendency

For passenger vehicles, 52.3% "are willing to wait and see", 27.8% "are willing to purchase", and 19.9% "are not willing"; for commercial vehicles, 48.5% "are willing to consider replacing", 32.3% "are waiting and seeing", and 19.2% "are not willing". Consumption tendency: Passenger vehicles prefer hybrid models (55.2%), small and medium-sized cars and SUVs (62.4%), with a price preference of

10-250,000 yuan; commercial vehicles prefer light trucks and mini vans (73.8%), with the core demands being a range of ≥ 200 km, strong loading capacity, and low operating costs.

4.2 Characteristics of Consumer Demand for New Energy Vehicles

4.2.1 Power type and vehicle model preference

Power type: Passenger vehicles tend to prefer hybrid power, which can alleviate range anxiety; pure electric vehicles come next, mainly suitable for short-distance commuting; other power types have extremely low recognition. Commercial vehicles prefer pure electric power, which has the advantages of low operating costs and simple maintenance; hybrid power is secondary, mostly used in long-distance logistics scenarios.

4.2.2 Core Requirements for Functionality and Experience

The core demands of passenger vehicles mainly focus on optimizing low-temperature range, enhancing charging efficiency, and achieving advanced intelligent driving capabilities, which align with the climate characteristics of Qingdao and the usage needs of young people. For commercial vehicles, the focus is on stable range, strong loading capacity, and low operating costs. At the same time, they also attach importance to the convenience of charging and after-sales service. Both types of vehicle users expect to increase the coverage of after-sales service outlets and shorten the repair cycle.

4.3 Current Status and Impact of Market Infrastructure

4.3.1 Layout and density of charging piles/charging stations

The spatial differentiation phenomenon of public charging facilities may lead to differences in the convenience of obtaining charging services among users in different regions, thereby to some extent hindering the promotion and popularization of electric vehicles. As an important new type of public infrastructure, the accessibility of public charging services can be used to measure the convenience of users obtaining charging services and evaluate the balance and fairness of the layout of public charging facilities[2].

The charging infrastructure layout in Qingdao is unbalanced and the overall density is insufficient. The coverage rate of charging piles in the central urban area is high, but there are few ultra-fast charging facilities; in the remote areas and logistics parks, charging piles are scarce. There is still a gap from the goal of achieving balanced coverage throughout the region, and the incomplete infrastructure has become a core bottleneck for market expansion.

4.3.2 The Impact of Supporting Facilities on Consumer Decisions

Many potential buyers of passenger vehicles are reluctant to purchase due to "difficulty in charging", and consumers in remote areas are more anxious. Some potential buyers of commercial vehicles also stated that the shortage of charging stations has affected their willingness to replace vehicles. The core issue is that frequent use requires convenient charging. All these factors have led to a decrease in customers' purchasing intentions.

5 Special Analysis of BYD New Energy Vehicles in the Qingdao Market

5.1 Market Awareness and Communication Channels

5.1.1 Consumers' understanding of channels and effects

Offline 4S stores, online short videos, and recommendations from relatives and friends. Offline 4S stores have the best communication effect; online short videos reach the younger group; recommendations from relatives and friends are highly credible, but have a limited dissemination range. The communication channels for commercial vehicles are limited, relying on the promotion in logistics parks and recommendations from peers. Online dissemination is insufficient and the recognition rate is low.

5.2 Core Expectations of Consumers

5.2.1 Localization requirements for passenger vehicles

Optimize low-temperature endurance to adapt to the winter climate in Qingdao; accelerate the launch of the 800V ultra-fast charging platform to shorten charging time; upgrade the intelligent experience and optimize the vehicle's infotainment system and intelligent driving; 27.8% of consumers hope to introduce exclusive purchase incentives for Qingdao.

5.2.2 Core Requirements for Commercial Vehicles

The battery life is stable, ensuring a range of ≥ 200km; it enhances the loading capacity, making it suitable for local logistics; it reduces operating costs; 43.1% of the respondents hope to improve the after-sales service network for commercial vehicles to ensure operational efficiency.

6 Development Prospects of BYD New Energy Vehicles and 4P Strategy Planning

6.1 Development strategies based on the 4P marketing theory

6.1.1 Product

Passenger vehicles: Optimize battery insulation, standardize heat pump air conditioning to improve low-temperature range; implement ultra-fast charging, advanced intelligent driving; enrich the vehicle model lineup, upgrade mid-to-high-end configurations, and shake off the

perception of being low-end. Commercial vehicles: Conduct research on local logistics needs, optimize range and loading capacity, and launch scenario-specific models; strengthen quality control and after-sales support.

6.1.2 Price

By controlling costs throughout the entire value chain and implementing tiered pricing: Passenger vehicles range from 90,000 to 400,000 yuan; the entry-level models focus on cost-effectiveness, while the mid-to-high-end models increase the premium; commercial vehicles introduce cost-effective entry-level models and offer flexible financing plans. In addition, local subsidies are implemented for trade-ins, interest-free loans, and purchase packages, etc., and exclusive activities such as local subsidies for trade-ins, interest-free loans, and purchase packages are provided. For commercial vehicles, bulk purchase discounts are also set to enhance cooperation intentions.

6.1.3 Channel

Sales channel innovation can drive collaborative innovation throughout the upstream and downstream of the industrial chain. Taking BYD as an example, it has adopted the "battery-electric separation" model, integrating battery sales with charging services, and promoting the joint optimization of cost structures by charging network operators and battery suppliers. This kind of collaboration not only enhances the competitiveness of the channel itself but also accelerates the improvement process of the new energy vehicle ecosystem[3].Online: Optimize the official APP and mini-program to provide one-stop services; promote through short videos and live streaming to reach potential customers of commercial vehicles. Offline: Establish high-end experience centers in the central urban area, accelerate channel penetration and add outlets in remote areas in the outskirts; set up exclusive channels for commercial vehicles and layout logistics parks, and equip with professional teams.Simultaneously promote the integration of online and offline, and implement localized services.

6.1.4 Promotion

Passenger vehicles: Conduct short-video science popularization and live-stream test drives targeting young groups, promoting low-temperature range and intelligent driving advantages; Implement community promotion for family users. Commercial vehicles: Participate in park promotion, collaborate with logistics associations, and offer incentives for repeat customers. General distributors promote supermarkets, jointly launch promotion activities with the government; Strengthen the construction of high-end brands to shake off the perception of low-end products.

6.2 Suggestions for Localized Development of the Qingdao Market

6.2.1 Government and enterprises jointly build charging facilities

Collaborate with the government and charging operators to participate in the planning of charging station locations, with a focus on covering remote areas and logistics parks; establish a charging service platform to provide functions such as inquiries and reservations, and promote a balanced distribution throughout the region.

6.2.2 Precise promotion in dual markets through partnerships

Passenger vehicles: Highlight the advantage of low-temperature range-extended performance during winter climate promotion, conduct winter test drives, and carry out targeted promotion for different groups. Commercial vehicles: Increase promotion efforts, participate in logistics exhibitions, introduce leasing and trade-in services to lower the entry threshold, and coordinate to build a good reputation. Pay attention to user feedback and enhance brand visibility.

7 Research Conclusions and Prospects

7.1 Core Research Findings

7.1.1 The core characteristics of the new energy vehicle market in Qingdao

Strengthen the foundation of market penetration, gradually increase the market penetration rate, but the awareness is still relatively low. The development of the business is unbalanced. There is a large growth potential in the commercial vehicle sector. The consumption demand shows a differentiated trend. Passenger cars prefer hybrid and small-sized models, focusing on low-temperature range and intelligence. Commercial vehicles prefer pure electric and light trucks, paying attention to range, loading capacity and operating costs. The lack of charging infrastructure and the decline in range at low temperatures are the core constraints.

7.1.2 The advantages and existing problems of BYD in the Qingdao market

Advantages: Leading in three-charging-system technology, outstanding cost performance, complete all-chain layout, and having a certain user base for passenger vehicles.

Problems: Deep impression of low-end brand, insufficient local adaptation of products, insufficient exploration of the commercial vehicle market, insufficient depth of local cooperation, and unbalanced layout of after-sales channels.

7.1.3 Core Differences in Consumer Demand between the Two Modules of the Multiplicative Ratio Model

Passenger vehicles are mainly owned by individuals or families, focusing on cost-effectiveness, low-temperature range, and intelligence. They prefer models priced between 90,000 and 250,000 yuan and value brand reputation. Commercial vehicles are mainly owned by logistics companies and individual merchants, focusing on range, loading capacity, and operating costs. They prefer entry-level models with high cost-effectiveness and value practicality and after-sales services.

7.2 Industry and Development Outlook for BYD

7.2.1 The development trend of new energy vehicle industry

In China, the country has set the goals of achieving carbon peak by 2030 and carbon neutrality by 2060. Transportation sector carbon emissions account for 7.5% of the total. New energy vehicles have become the core tool for reducing emissions. The government supports the industry through subsidy policies, tax incentives, and investment in charging infrastructure. In 2022, BYD announced the complete cessation of production of fuel vehicles, becoming the first global automaker to focus on pure electric (EV) and plug-in hybrid (DM) technologies, responding to the national "ban on fuel" policy orientation and accelerating the industry's transition to a low-carbon model[4].The charging facilities are gradually being improved, and full coverage is gradually being achieved; the market competition is intensifying, and core technologies and enterprises across the entire industry are dominating the market.

7.2.2 Market Selection and Localization Strategy

At the global level, expand overseas markets and enhance international influence; at the local level, implement the 4P strategy and localization suggestions, optimize product adaptation, improve channel layout, deepen local cooperation, focus on expanding the commercial vehicle market, and achieve coordinated growth of passenger and commercial businesses; strengthen the construction of high-end brands and collaborate with resources in Qingdao.

7.3 Limitations of the Research and Suggestions for Future Studies

The sample size is limited, with insufficient data for commercial vehicles and the elderly group. It fails to cover large logistics enterprises and rural markets. The research period is short, and it does not track market dynamics and policy adjustments. The research scope only covers urban areas, failing to reflect the full picture of the market. Suggestions for future research: First, expand the sample size and optimize the structure to cover large logistics enterprises and rural markets, enhancing the comprehensiveness of the conclusions. Second, extend the research period and conduct long-term tracking to promptly optimize strategies. Third, deepen specialized research, focusing on core issues such as the expansion of commercial vehicles and the adaptation to low-temperature range, and propose more targeted strategies.

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