The pricing strategies behind New Energy Vehicles price war: Taking Tesla and XPeng as examples

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Abstract. With the acceleration of the new energy vehicle industry, many automobile companies have entered the market and formed a competitive situation. Tesla, as the leader of the initial producer of energy storage equipment and new energy vehicles, further lowered the price at the beginning of the year and had a great impact on the price war of new energy vehicles. XPeng, an AI+Internet-based intelligent car manufacturer, followed Tesla's pace in the price war. However, it can be found that XPeng’s revenue level is not up to expectations after the price reduction, while Tesla’s sales are increasing annually and its market share occupies the forefront. Therefore, the success of Tesla and the pricing strategy factors behind it can help XPeng, an emerging domestic automobile brand, find the current bottleneck and provide an important reference value for future development. This paper analyzes the development status of Tesla and XPeng and three factors affecting prices through case comparison. The study found that Tesla and XPeng differ in managerial decisions and production factors. XPeng has higher supply chain costs, no emerging battery technology, limited brand positioning, and insufficient demand. Hence, changes need to be made to enhance XPeng’s competitiveness.

Keywords: New Energy Vehicles; Pricing of strategy; Tesla; XPeng.

1. Introduction

1.1. Research Background and Motivation

In recent years, new energy vehicles (NEVs) have played an important role in alleviating urban ecological problems, reducing the use of non-renewable energy and pollution, and promoting sustainable development. With the efforts of many countries to encourage innovation and sustainable development, NEVs have gradually entered the public’s view. Focusing on China’s NEV market, the sales of NEVs have risen sharply under the previous favorable conditions of subsidy policies and regulations for car companies. Many emerging companies have joined the NEV market patterns, and the country has stepped into a new phase of accelerated NEV development. However, due to the occurrence of the black swan event of COVID-19 and the reduction of discount for NEV, automobile market consumption remained low. At the beginning of this year, Tesla China announced a noteworthy price cut for its models, initiating the first strike in the auto price war. More than 40 car companies and nearly 100 models have participated in the competition in Jilin, Shanghai, and Guangdong, resulting in a wave of price reductions that have swept through the entire automotive industry. The wide range, large rate of price reduction and deep impact far exceeded the joint price reduction of ‘North-South’ Volkswagen in 2004 and the auto-promotion during the international financial crisis in 2008. Therefore, this paper aims to study and compare factors that affect the pricing strategies of Tesla and XPeng, exploring the ability and potential problems of price cuts of automobile enterprises in the increasingly competitive NEV industry, and providing new insights for XPeng’s development in the future.

1.2. Literature Review

At present, many scholars have only conducted extensive research on Tesla or familiar local companies NIO and BYD, while not mentioning much about the emerging industry XPeng. Meanwhile, scholars studying XPeng have not gained inspiration from such a large company as Tesla. From the perspective of Tesla, the pricing factors are mainly studied from the following aspects. In
terms of corporate strategy. Tesla’s adoption of tiered pricing, skimming pricing, and penetration pricing promotes the market size [1]. The price reduction opportunities confronting Tesla, such as the establishment of local factories strategic partner firms, and the development of vertical supply chains, have also been extensively discussed by other scholars in the field of economics [2]. The implementation of preferential production side, like financial subsidies and tax incentives, has effectively reduced costs and thereby possesses the potential to lower prices. [3]. These scholars gave a detailed description of Tesla’s past pricing pattern, explaining not only issues at the management and economic levels but also the public policy impacts. However, there are few explanations for the part of Tesla’s ability to cut prices frequently within the year.

From the perspective of XPeng, current research lacks quantitative analysis because XPeng has less influence and is more forced to cut prices in response to the price cuts of large new energy vehicle enterprises. However, from the analysis of XPeng’s management and price, it can be seen that XPeng did not drop to a generally accepted price after having a large-scale production, but the product positioning was aimed at the middle and high-end market of young people from the very beginning [4], which reveals that the pricing decision of XPeng is very different from that of Tesla.

As XPeng is a newly emerging company, there is relatively little research on it. According to the existing economic policies, the future development trend needs to be further studied. Moreover, in the face of Tesla’s price and strong competition, XPeng and other domestic NEV enterprises in other segments must find their future development direction and advantages. Therefore, a more systematic comparison and theoretical analysis of the pricing strategies of Tesla and XPeng are necessary.

1.3. Research Contents and Framework

Based on the large-scale new energy vehicle price reduction, this paper provides empirical and comparative analyses of Tesla and XPeng. The pricing of the two companies is analyzed in terms of cost, product positioning, and policy factors, exposing the reasons why Tesla can fight a price war, thus providing insights for XPeng to improve its competitiveness. In this paper, the first chapter is the introduction, the second chapter is the methodology, the third chapter is the case study of Tesla, the fourth chapter is the case study of XPeng, the fifth chapter compares the cases and analyses the potential problems and solutions, and the last chapter is the conclusion.

2. Methodology

2.1. Case Study Method

This paper takes Tesla, a leader in the new energy automobile industry, and XPeng Automobile, a newly emerging niche car market in China, as case studies, and analyses the pricing factors behind the different perspectives of management and economics of each company.

2.2. Comparative Analysis Method

By comparing the production and sales strategies of Tesla and XPeng, the respective advantages and disadvantages of Tesla and XPeng can be summarized, so as to analyze the potential pricing problems and feasible measures of XPeng.

3. Overview of The Tesla Market

3.1. Tesla Historical Price Changes

Tesla China officially says that the Tesla Model 3 is now online with an 8,000 yuan limited insurance subsidy. From 14 August 2023, the starting price of the Model Y long-range version was adjusted from 313,900 yuan to 299,900 yuan, and the Model Y high-performance version was adjusted from 363,900 yuan to 349,900 yuan. Currently, the Tesla Model 3 has a starting price of
$231,900 and an insurance subsidy of $8,000, which equates to a lower starting price of $223,900. [5].

Indeed, Tesla’s selling price has been decreasing in fluctuation since it entered China. The Model 3 has had a total of six price cuts so far since it entered the Chinese market in 2019. The Model Y has had a total of three price cuts so far since its localized launch in 2021.

3.2. Tesla’s Average Sale Price, Cost and Profits

Tesla has reported first-quarter results, with net profit falling sharply after the US electric carmaker cut prices in several markets, including China and the US. Tesla achieved revenue of $23.3 billion in the three months to March, up 24% year-on-year. However, the company’s profit for the quarter fell 24% year-on-year, with a net income of $2.5 billion compared to $3.3 billion in the same period last year. While the price cuts impacted margins, they effectively increased Tesla’s sales for the quarter. In the first three months of 2023, Tesla produced 440,808 vehicles and delivered 422,875 vehicles, both company records, according to Tesla disclosures [6]. Data from the China Passenger Vehicle Association showed that the Shanghai Super factory delivered 229,322 vehicles in the first quarter, accounting for more than 54% of total deliveries in the same period.

3.3. Analysis of Tesla Pricing Strategy Influencing Factors

3.3.1. Management Strategy

With its unique vision of the automotive industry, Tesla is trying to lead a revolution in electric vehicle manufacturing and popularize NEVs in people’s lives. Therefore, the management had its own strategic and business plan from the beginning.

Tesla’s CEO, Elon Musk, said that the company must invest in its reputation first, and think about profits before scaling up [7]. Therefore, in the first phase, Tesla adopted a skimming pricing strategy to enter the market. Tesla targeted a customer base of wealthy individuals and enthusiasts interested in high-tech cars, using their enthusiasm for high-end electric sports cars to price its product and prove that the NEV’s performance was satisfactory and reliable. In the second phase, after Tesla had made high profits through its high position, Tesla decided it was time to use a penetration pricing strategy to capture market share and expand the mass market. As the previous high price positioning limited Tesla’s consumer base and domestic market share, price reduction can stimulate consumer demand for Tesla cars. The data in the overview shows that after Tesla’s frequent price cuts, NEV sales did get a significant boost despite lower profits.

During the explosive period of NEV development, despite the volatility of the black swan event, Musk still made price cuts to his primary plan. From a macroeconomic perspective, Tesla has been lowering prices in response to the possibility of economic uncertainty affecting declining sales. Against the backdrop of high inflation and recession, the average interest rate level has risen, users’ borrowing costs have become larger, and their willingness to spend on bulk purchases like cars has become lower. Hence, Tesla needs to cut prices to boost sales.

3.3.2. Production Cost

From Tesla’s repeated price reductions, it can be seen that the pricing criteria refer to production costs. Analyzed from the scale effect, with the maturity of the production and supply system, the production cost of the product is gradually reduced. The price trend of Tesla can be analogous to the price trend of a generation of Apple mobile phones. When the sales volume of a brand increases and the market share expands, the technology can be specialized, and with rich experience, the cost will be reduced.

In addition, analyzing Tesla’s supply chain, Tesla uses a large number of outsourcing models for production. Tesla has institutionalized complementary partnerships to achieve better innovation performance. This model allows Tesla to focus more on the development of core components and battery technology [7]. Starting in 2020, Tesla has been pushing to internalize the manufacturing of key components. If Tesla can create a vertically integrated supply chain with ownership of its supply
chain management. When the supply chain is fully closed, Tesla’s costs from battery to assembly will be dramatically reduced.

Outsourcing a large number of parts is still a big overhead. According to electric car dealers, in addition to its own BMS control, lightweight vehicle integration, and other core technologies, it also needs to manufacture complex exteriors, chassis, etc. A total of 16 large parts are purchased as system outsourcing, and the expenditure accounts for 47% of the total BOM cost [8].

However, Tesla’s ability to reduce prices several times at the beginning of the year stems from the lower price of lithium batteries, resulting in a steep decline in production costs. The lithium battery industry has experienced rapid development after the emergence of overcapacity, so it is favorable news for NEV producers.

3.3.3. Government Policy

Due to the Chinese government’s considerable subsidy policy at that time as well as the landing of a local factory in Shanghai, Tesla’s manufacturing cost dropped rapidly. Initially, when NEV was still an emerging industry without extensive prevalence, the country introduced a large number of support policies to promote sustainable development and boost the industry. Government subsidies have also been a major driver in massively expanding NEV market demand. In terms of subsidy policies, large subsidies are mainly provided to manufacturers, with the average subsidy amount reaching 50-60% of the retail price of the vehicle [9].

However, with slower progress on the production side of the car, the subsidy ratio has gradually slowed down in recent years. Subsidies decreased 20% from 2020, and in 2022 the NEV subsidies are regressing by 30% from the 2021 level. Tesla has also had to cut prices to meet the policy’s conditions as the policy has increased subsidy requirements. The new regulations stipulate that ‘before the subsidy of new energy passenger car sales price within 300,000 yuan’. The aforementioned factor contributed to Tesla's position as the pioneer in implementing price reductions earlier this year. [10].

4. Overview of The XPeng Market

4.1. XPeng Historical Price Changes

At the beginning of this year, XPeng officially announced that it would launch a new price system for G3i/P5/P7 for the New Year. After the price cut, the price of XPeng G3i versions will be reduced by 20,000 to 25,000 yuan, and the new price range will be 148,000 to 177,000 yuan; The price of each version of XPeng P5 will be reduced by 23,000 yuan, and the new price range will between 156,000 yuan and 203,000 yuan. Each version of XPeng P7 will be reduced by 30,000 to 36,000 yuan, and the price range will be 209,000 to 250,000 yuan after the reduction. Despite raising prices due to rising energy prices at the end of 2022, XPeng followed Tesla in cutting prices in response to market competition after the price war.

4.2. XPeng’s Average Sale Price, Cost and Profits

According to the unaudited financial results of XPeng Automobile for the second quarter of 2023, in terms of revenue, XPeng’s revenue from automobile sales for the period was 4.42 billion yuan, a decline of 36.2% year-on-year and an increase of 25.9% sequentially. In the second quarter, XPeng’s deliveries were 23,200 units, down 32.6% year-over-year and up 27.3% sequentially. XPeng’s gross margin was -3.9% in the second quarter, compared to 10.9% in the same period of 2022 and 1.7% in the first quarter of this year. It is worth mentioning that since the fourth quarter of last year, XPeng Auto’s gross profit margin has been consistently low; XPeng’s second-quarter auto gross profit margin was -8.6%, two consecutive quarters of negative gross profit, compared with 9.1% in the same period last year, and -2.5% in the first quarter of this year. [11].
4.3. Analysis of XPeng Pricing Strategy Influencing Factors

4.3.1. Management Strategy

In 2014, managers proposed to make intelligent vehicles, and in 2019, they defined them as intelligent electric vehicles. The positioning of XPeng’s products has always emphasized their intelligence, requiring them to possess the capabilities of perception, cognition, mutual learning, and environmental communication. The founder of XPeng Motors, He Xiaopeng, has repeatedly emphasized that the essence of vehicles lies in their artificial intelligence capabilities. Therefore, as an emerging automobile industry in 2014, XPeng’s product positioning is young people who have a penchant for artificial intelligence and car-machine interaction and focus on capturing a significant share of the new energy vehicle market of 150,000-300,000 in China, because occupying this burgeoning market will bring huge profits to XPeng [12]. To be the first to compete with more established car makers, XPeng’s pricing mirrors the consumption level of the general public. Managers believe that it is not necessary to build brand value through car price, intelligent experience can build brand reputation as well. XPeng’s first model, the G3, sold for only 199,800 yuan, and subsequent new models fluctuated around mid-range prices. But XPeng has also tried to price up and produce premium models. Launched the highest price model of the fully intelligent SUV G9, which is a model ready to impact the high-end. When the G9 was launched, it sold poorly because of confusing model patterns, high prices, and poor intelligent experience. Therefore, based on the initial price positioning decision, XPeng had to attract customer demand through high configuration and low price.

4.3.2. Production Cost

In the raw material stage, the power battery, as the core component, accounts for 30% to 50% of the vehicle cost. When there were only a few suppliers of core components for new energy electric vehicles that met the corresponding technical standards, the bargaining power of suppliers was enhanced due to the superiority of their products in terms of uniqueness and substitutability. However, with the battery overcapacity, the material prices gradually decline, which provides an opportunity for XPeng to reduce prices. According to the latest data released by Shanghai Steel Union, the average price of battery-grade lithium carbonate is 220,000 yuan/ton, which has fallen significantly from the high of 600,000 yuan/ton last year and is expected to fall further in the future.

In the manufacturing process, since XPeng is still a developing automobile company. XPeng relied on the OEM production of the Haima Zhengzhou Factory in the early stage of its establishment, so it had to spend a lot of manpower and material resources just to communicate with the OEM. Until later it acquired its production base and started the model of building its factory. In addition, the technical cooperation reached between XPeng and Volkswagen will also help XPeng achieve scale production. The two companies will jointly develop two new electric vehicles through technical cooperation. This means that in larger-scale supply chain procurement, upstream suppliers will also get a higher position, driving down supply chain costs.

As a result, XPeng has been able to lower prices and increase its influence even at a loss, in part because it has plans to significantly reduce costs in the future.

4.3.3. Government Policy

Government policies are mainly aimed at manufacturers. The double integral policy and new energy subsidies complement each other and, to a certain extent, have greatly compensated for XPeng’s research and development of new energy caused by the high cost, and then drive the virtuous cycle of car enterprises. The policy of Parallel Management of Average Fuel Consumption and New Energy Points of Passenger Vehicle Enterprises (‘Double Points’) has accelerated the development of the new energy automobile industry. ‘Double points’ reveal that in the production process of automobile enterprises, in addition to the positive fuel consumption points brought by the control of fuel consumption of traditional fuel vehicles, a certain proportion of new energy vehicles must be sold to obtain the corresponding new energy points. If they do not meet the requirements, they will
need to buy credits from other automakers to pay the penalty or reduce the production of conventional fuel-powered vehicles[13]. This policy has also become an important driving force to promote the rapid development of the new energy vehicle industry. Although the domestic new energy subsidy policy changed in 2023, which can only subsidize models less than 300,000 yuan, most of XPeng’s models are less than 300,000 yuan, so XPeng can still benefit from the subsidy.

5. Comparative Analysis

5.1. Results and Discussion

According to the analysis of Tesla and XPeng at the three levels of managers’ decision-making, vehicle production costs, and government policies, the main differences between the enterprises are obvious.

From the production side, Tesla’s superiority over XPeng in all production stages reflects its mature architecture. Since Tesla entered the new energy market early and had cooperative relations with component suppliers, it achieved good performance in the case of outsourcing. XPeng does not have bargaining power in the raw material stage because it is a start-up company. At the same time, because of the accumulation of experience, Tesla can achieve economies of scale, reduce the cost of bicycles, and focus on independent development of new technology and supply management. XPeng’s delivery volume is far less than Tesla’s, and it is not enough to produce cars on a large scale to drive down the price of cars. Therefore, XPeng has adopted cooperation with large companies to scale the industry.

From the perspective of managers’ strategy, Tesla establishes its brand by positioning high-end people at a high price, and then quickly penetrates the market by adapting to consumers’ demands at a low price. XPeng does not put itself in a high-end competition pattern but positions its customers in the young pursuit of science and technology, and the price of each model is moderate.

From the perspective of government subsidies, both Tesla and XPeng have benefited from government policies. In particular, the introduction of Tesla and the friendly policy of the factory in Shanghai have greatly reduced the production cost of Tesla. The government subsidy expires and the price of the subsidized vehicle needs to be less than 300,000 yuan now, which will affect the cost and pricing of the car. As a result, it also becomes one of the reasons why Tesla frequently reduced the price of Model 3, one of the most suitable vehicles in Tesla for the market. However, due to the generally low price, XPeng will not rashly raise its price due to the pressure of price war despite reducing subsidies.

5.2. Potential Problems for XPeng

As can be seen through comparison, XPeng in the price war reflects its problems mainly in the production capacity and brand positioning.

First, corporate profits have been squeezed by frequent across-the-board price cuts. Although XPeng’s response to the price war is to reduce the price to increase the delivery volume, due to the cost pressures, the profit is in a state of loss. XPeng cannot compete for market share by reducing the price of each model like Tesla. Therefore, XPeng needs a way to stay competitive in the price war and stop losses at the same time.

Second, in the early stage of entering the market, XPeng and Tesla made different decisions. Tesla managers decided to penetrate the market from high to low, while XPeng only focused on the middle markets. XPeng’s approach was to translate intelligence into brand image rather than high prices, hoping to attract the majority of new energy vehicle buyers from the bottom up. These people tended to have moderate consumption, so XPeng started at a lower price point. But it also made XPeng difficult to raise the price of the car from low to high. Therefore, if the brand price of XPeng can only be maintained at the middle and low end, the revenue will be reduced, and the development of new cars and the company will also slow down in the later stage.
5.3. Suggestions for Resolutions

Compared with Tesla, the cost problem cannot be reduced in the short run, but in the long run through cooperation scale and experience accumulation, the cost can be reduced even if the battery technology does not improve. In the price war, cars are underpriced throughout the industry. Since XPeng is already a car maker in the mid-end market, its space for price reduction will not be greater, so sales volume and other revenues appear to be more important.

1. XPeng needs to focus on Internet and software revenue and diversify its development. Software profit will be a novel profit model of ‘Internet+ new energy vehicles’. XPeng earns revenue from autonomous driving technology and software services in addition to vehicle sales. Although these revenues account for a relatively small proportion of overall operating revenue, they reflect that XPeng has a lot of space for profit growth.

2. XPeng needs to focus on how to gain irreplaceable brand share in the market. XPeng’s advantage is that its products have outstanding competitive advantages in intelligence and have formed certain differentiated features. The quality of its products is relatively high, and it has established a sound reputation among consumers. However, its shortcomings are mainly the branding that has not yet been developed and the limited consumer demand for smartness. According to J.D. Power 2023 research, the influence of price on potential customers has diminished, and the importance of the smart car experience is increasingly prominent when potential customers purchase a car. Its influence rose to 14% from 12% last year, making it the third biggest decision factor behind vehicle quality 18% and vehicle performance 16%, same as car design 14% and ahead of brand 13% and price 13% [14]. Therefore, the suggestion is to concentrate on research and development resources and core technologies to create highly intelligent new energy products and further strengthen XPeng’s three significant competitive advantages of high appearance level, cost-efficiency, and intelligence.

First, XPeng should develop its forward-looking ability to model researchers and delve into the changing trends of automobile design in the context of the intelligent era. They should conduct modeling and design from four aspects: youth, technology, difference, and aesthetics, and use the big database to analyze users’ demands to improve the design, discover the needs of users in different scenarios from the perspective of users, and grasp the industry dynamics.

Secondly, in terms of performance, it is necessary to find the optimal combination of price and functioning rather than emphasizing driving range. It is essential to reduce the energy consumption of vehicles from the R&D and design aspects before the technical barriers of existing batteries can be overcome. Also, XPeng needs to upgrade the existing models, improve the battery storage decay problem, and strengthen the testing of high-temperature and cold extreme environments to ensure outstanding quality is maintained.

Thirdly, in terms of intelligence, XPeng is currently at the L3 level of intelligence, reaching the leading level in China, and plans to achieve L5 autonomous driving in the future. At the same time, in the development of intelligent XPeng should pay attention to fit the domestic consumers and local environment. Due to the different road environments in China and the behavior of Chinese users, as well as the large differences in traffic signs both at home and abroad, XPeng needs to utilize the huge amount of big data from the Chinese scene. It will be an R&D that competes with overseas manufacturers. Moreover, XPeng is also a leader in software development. Combining intelligent software services, popular domestic apps, and electric vehicles is an issue that XPeng needs to consider in the future. In-car applications and services can be controlled using in-car hardware capabilities, such as using the steering wheel to operate the car-based game like QQ Speed or using We Sing when singing in the car with sound effects and atmosphere lights. These will enhance brand competitiveness and customer stickiness.
6. Conclusion

This paper takes Tesla and XPeng Automobile Technology Co., Ltd. as the research objects and analyses the current domestic and foreign new energy vehicle industry development status based on the theory of economic management. Through literature analysis, comparative analysis, and case analysis it achieves the following conclusions:

(1) Through the comparative analysis of Tesla and XPeng, it can be seen that managers’ decisions, production costs, and policy implementations have a significant impact on the pricing strategy of NEVs. However, the two industries have differences and similarities in three aspects. In terms of managerial strategy, Tesla’s top-down approach is better at penetrating the consumer market, while XPeng’s bottom-up approach is more difficult to apply in a price war and the brand influence is not as successful. On the production side, the cost of XPeng is higher because its supply chain is not efficient and is still in the development stage. Therefore, the impact of cost on product pricing is relatively small compared to that of industry competition. In terms of policy, both developed rapidly in the strong period of state support, but the termination of subsidies in the future will lead to cost increases, and the continued price reduction will lead to cost problems.

(2) Through the potential problems found after comparing the pricing strategies of XPeng and Tesla, combined with XPeng’s advantages, a diversification and differentiation development strategy is recommended. XPeng should focus its resources on the exploration and development of high-intelligence new energy products and adaptive software development to increase the core competitiveness of the car and establish its brand identity.

Tesla’s excellent pricing strategy behind its price war is worth exploring by domestic new energy vehicle manufacturers. It is hoped that this study will provide support to China’s new energy vehicle industry in the face of the price reduction boom. This paper focuses on the factors influencing the pricing strategy of new energy vehicles but does not analyze and put forward suggestions for improvement from the perspective of marketing tools and industry competition. In addition, the comparative analysis of relevant data with the new energy vehicle companies in the same industry is not comprehensive enough. Therefore, it is necessary to deepen the theoretical study and data collection in future work so that the knowledge and practice can be better combined and provide more in-depth insights and help for the domestic new energy vehicle industries.

References


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