



Research on NIO Healthy and Sustainable Development of the Automotive Industry

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Abstract. NIO focuses on its own strengths, main user demographic and the company's basic core values and service philosophy, keeping up with Internet technology and environmental protection and seizing the new energy business opportunities. NIO takes the responsibility of promoting the healthy development of the automotive industry. It also contributes to the healthy and sustainable development of the industry. Through practical actions such as building an industry exchange platform, nurturing automotive industry talents, and setting up a car people care fund, NIO contributes to the healthy and sustainable development of the automotive industry.

Keywords: sustainable · automotive industry · NIO

1 Introduction

NIO is committed to creating an enjoyable lifestyle for users and creating a second living room for human beings by providing high-performance intelligent electric vehicles and the ultimate user experience.

In terms of charging and swapping services, NIO currently has 361 exchange stations covering 103 cities. We intend to build 700 by the end of the year, more than 4,000 exchange stations worldwide by 2025. At the same time, NIO will increase the construction of supercharging networks and destination charging posts. On the one hand, to address solve users' anxiety about mileage; on the other hand, it will break down people's doubts about the range of electric vehicles.

Among the competition with the industry, NIO is the only electric vehicle company in China that can change batteries, and provides one-touch recharge service anytime and anywhere, giving users a sense of mileage security, so that users do not have to worry about the problem of battery degradation [3].

With global warming endangering the environment, electric vehicles have zero carbon emissions and reduce environmental pollution. To fully address people's anxiety about mileage, we initially set up a generation of change stations with five batteries based on road conditions, which took ten minutes to change. Later, after a technical survey by engineers, we upgraded the second generation of change stations to be thirteen batteries, which take only three minutes to change and the whole process is automatic. NIO is now creating a way for users to refuel as efficiently as refueling.

2 Literature Review

In 2023, NIO has a market share of 35% of the industry, sales of £10 billion and profits of 42% of sales. Create NIO house as one of the main marketing models, taking advantage of flagship shops to grow the company's sales. NIO continues to research safer and smarter autonomous driving assistance technology at a higher cost, increasing real profits while keeping people safe. We expect to fully expand into overseas markets by 2024.

2.1 Mission Statement

NIO is committed to creating an enjoyable lifestyle for its users by providing high performance smart electric vehicles with the ultimate user experience, becoming friends with them, and creating a second living room for humans.

2.2 Company Ownership

NIO is a privately held limited company, primarily owned by Aaron, the founder and president. There are ten shareholders, including six investors and four employees. The largest of these (in terms of percentage ownership) are Dan, our legal advisor, and Frank, our public relations advisor [4]. Six of these have no more than forty percent ownership but are active participants in management decisions.

2.3 Company History

The goal of NIO is to influence lifestyle. In order to share happiness and develop alongside consumers, NIO wants to create a community that starts with intelligent electric automobiles. NIO was founded in May 2015 by Aaron with the aim of creating the world's first user business to reinvent the entire experience of using a car and create a second living room for humans. In 2011, Aaron started his own website for used cars, attracting investment with the software he had researched [7]. It was later listed on the New York Stock Exchange in the US to expand the market and make the country's first bike share, with the aim of creating convenience for users.

Along with the development of technology and the harm caused to people by global warming, Aaron smelled a huge business opportunity at a time when new energy vehicles were not yet emerging worldwide, so he co-founded what is now NIO with a few fellow enthusiasts. The factory was set up in Hefei and the headquarters moved to Shanghai in 2016 [10].

Initially not well received by domestic car owners, the company slowly gained acceptance in the sixth month of construction as the emerging has the same convenience as a petrol station, the ability to replenish energy quickly, and the high quality of service. The NIO House is a kind of life experience center specifically for NIO users, for example, there are independent meeting rooms available for daily meetings; there are different parent-child activities and yoga activities on holidays, and the parent-child area is equipped with excellent kindergarten teachers to accompany the children, providing some free space for parents.

2.4 Company Location and Facilities

The company's location is set at the head office in Shanghai. The head office is in Beijing and operates mainly as a company with a range of departments including technical, service, marketing, after-sales and public relations. There are dedicated 24-h online service advisors to promptly resolve problems encountered by customers. And customer service centers have been set up in various regions to provide vehicle maintenance and repair services. Research and development teams in vehicle technology and artificial intelligence have been set up for better research and development [1]. And NIO has also set up an exclusive radio station for users. To give users a better sense of NIO's sincerity, NIO has set up a quality inspection center to ensure that every vehicle sold to users is the best.

2.5 Product/Services

For NIO's products, safety is the first element of production. We use an all-aluminum body achieve the world's first figures; a dual motor 4WD model to provide multiple driving modes to cope with different roads; set up NOMI human-machine voice technology so that the user is not alone while driving and provides the ability to control the vehicle's interior; install LIDAR and millimeter wave radar to provide a clearer view of road in case of automatic driving and to ensure the safety of the users. In order to create a second living room, the vehicle is equipped with an automatic remote-controlled foot rest and leg rest in the passenger seat, which we call the 'Queen's Co-Driver', providing users with a relaxing massage device; regarding the audio setup, it is equipped with a professional sound card audio system offering different theatre modes. While the driver is in control of the vehicle, breaking the original traditional car navigation technology, providing a head-up display, HUD display, while ensuring navigation guidance directions [8], provides a safe yet convenient mode for the user. This technology was developed to reduce environmental pollution in vehicle. It is currently the most advanced air purification technology, ensuring that the air inside the car is always fresh.

2.6 NIO Services

NIO offers a rechargeable and upgradeable energy model, providing users with free charging piles, free mobility scooters, free driving, self-built power exchange stations and one-touch power charging, reducing their anxiety about mileage and the pain of charging. Users have the flexibility to rent the battery according to their actual situation instead of buying the whole car [9]. This allows users to upgrade to a larger kilometer battery by adding 50% to the monthly battery rental fee when they have higher mileage requirements.

2.7 Important Products/Services Features and Competitive Comparison

Our most important product is our similarly priced ET7. The biggest difference between them compared to the Tesla Model S is the cruising range, where the ET7 can reach a thousand kilometers compared to the Model S's seven hundred and eighty kilometers.



Fig. 1. Nio ET7 Model (Photo Credit: Google)

The quick charge time for the ET7 is only 40 min, while that for the Model S is one hour. The biggest difference with Tesla is that we can place an order at any time with the mobile phone app and enter the exchange station to change the battery, so that not only is the energy replenished in time, but also the user does not have to worry about the battery decaying due to many years of driving. One of the quickest and most economical methods to cut costs, lower glasshouse gas emissions, generate jobs, and meet rising energy demand is to use energy more efficiently. NIO has installed a two-motor four-wheel drive system in the vehicle system. While ensuring driver safety, it offers road modes to cope with different scenarios [2]. It is understood that the Model S, despite its twin motors, does not achieve anti-skid mode well in snowy scenarios (Fig. 1).

NIO Service offers owners a hassle-free service. The first owner of IEVE is automatically entitled to three free lifetime warranties, free lifetime roadside assistance and free connected car service, which eliminates all worries about using the car, as well as free lifetime battery replacement service. Tesla's service policy is that the best service is unobtrusive.

It is extremely close to the user's life, creating not only driving convenience for the user, but also bringing more accessibility to the user's life. For example, if you are returning home at night and the road is too dark after parking, the headlights will be illuminated for a customised period of time until the user returns home. As well as the air suspension, it is easy for the elderly and children to get out of the car and some road conditions to switch the suspension.

NIO offers a professional used car appraisal team and a dedicated website for the sale of used electric cars. NIO has always been a leader in the electric car industry because of

the ability to replace the battery and keep the kilometers forever. Tesla guarantees that the battery can be replaced once in 50,000 km, but users are faced with a battery that decays year on year and does not work to its initial operating range, which is the main reason why Tesla does not retain its value [5].

2.8 Customer Service/Follow-Up Service

2.8.1 Customer Service

I believe that our staff cannot be limited to our company's products and need to get to grips with other brands, as users are also not just considering one of our cars, so we need to empathize with them. Initially, we will invite users to test drive our cars, including our company fridge stickers. Because we offer an NIO user experience center, we have products for everyday life on the app about NIO life, all of which can be redeemed with points. The source of many points lies in the ripples between owners. When old owners let new owners buy a car, we give the old owner 10,000 points, and the same goes for new owners. These points can be exchanged for drinks at the NIO house and for Life exchange products.

2.8.2 Follow up Services

Now NIO has gradually grown to Europe, Switzerland and Norway as well as Germany. The app is available in all regions, as well as on the official NIO website, and when you buy a car, NIO provides you with a professional advisor to solve any problems you may have with your car. Our company has established a corporate philosophy of being friends with our customers, so we have also set up a winery to give them a free bottle of wine as a holiday gift. Each salesperson prepares a good supply of wine before the holidays and, in addition to the wine and good wishes, asks questions about the use of the vehicle in order to solve any problems they may be experiencing. Every event held at the NIO house is promptly reminded by a message in the app.

2.9 Market Analysis/Industry Analysis

Positive impact: Coal, oil and gas as well as large and medium-sized hydropower are considered conventional energy sources, while solar, wind, modern biomass, geothermal and ocean energy as well as nuclear and hydrogen energy are considered as new energy sources.

In order to protect the environment and reduce exhaust pollution, the use of new energy sources as a means of transport is promoted by the state as technology advances and the concept of sustainable development is established.

Negative impact: For some third and fourth tier cities, the overall balance of power fuel supply and demand in the region is tight and coal power companies are still having a difficult time operating. This has resulted in our sales being kept low.

Therefore, in response to the current market situation, our company will focus on the first and second tier cities, which have an adequate supply of energy and a higher level of people's. Global demand for new energy is currently growing by 4.6%, while CO₂

emissions are decreasing by 4.8%. Most importantly, we are using a marketing plan for power exchange, which will reduce the wastefulness of batteries.

2.10 Promotion (Advertising)

Our company will advertise on other car websites as the ability to switch is an emerging model and many internet car reviewers will help us promote our word-of-mouth strategy to drive their traffic. Periodically we will attend car shows to drive our publicity. Brochures are printed for each product so that every customer who comes into the shop can have a better understanding.

2.11 Marketing Strategy

NIO broke away from the original traditional corporate marketing strategy by producing an initial product, a £1.49 million supercar. The launch of the EP9 succeeded in capturing the attention of those in the automotive industry and established a premium brand position in people's minds. Subsequently, IEVE has been using the ripple model, between new and existing owners, but this model has required constant investment costs to establish, and these high costs have really achieved the goal of being friends with and looking out for the user. The user is made to feel that they are buying not just a car, but their happiness.

Specifically, users can increase the value and ranking of NIO by purchasing products through the app, developing other users, improving efficiency, community promotion and special contributions to increase point rewards. In this way NIO intends to achieve a breakthrough from traditional car companies by operating on users, which our company considers to be an internet-based operation mindset. Because we mainly make high-end products, but to integrate into the market environment, we have launched medium-priced products to compete with other brands [6]. Our company first analyses the needs of the user, as the company's products as well as prices and configurations are transparent in the advertisement, which I think will give the user a sense of trust in us. All NIO models break away from the fixed configuration of the original model and are personalized to create a unique car for the user by choosing the configuration according to their needs.

3 Conclusion

Unlike traditional car companies, all our shops are operated entirely on a direct model. Whether in shop or online, when a user successfully registers for the APP, a salesperson is in charge so that follow-up questions can be dealt with promptly.. Users can personalize their orders directly with the APP, as there is a state subsidy and a budget for the finance package, so they can place their orders directly after they have been matched with sales. For maintaining our sales team, equity is issued over time on a time basis for each year in the company, and as the company's stock rises, employees can exchange it for. We regularly conduct different exams to provide in-depth training for our sales staff and are paid to travel to different cities. And our six insurance policies, which are among the highest in the electric vehicle industry, employees are paid well in their future retirement. Ten percent of the pricing of the vehicle for each vehicle that is sold.

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