Powering Ahead: A Comprehensive Analysis of the Chinese EV market.

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Dissertation written under the supervision of

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Dissertation submitted in partial fulfillment of requirements for the MSc in Management: Specialization in Strategic Marketing, at the Universidade Católica Portuguesa, June 2nd 2025.

Abstract

English

The thesis “Powering Ahead: A Comprehensive Analysis of the Chinese EV market” by Kyan Vanessa A. Mertens aims to provide a comprehensive analysis of the current situation of the Chinese EV market. The main objectives of the research are to identify the key factors that have contributed to the industry success, the market trends that have shaped the market, and gain an overview of the outlook for the Chinese EV industry.

The data in this report consists of secondary data findings from industry and company reports, complemented by primary data findings derived from expert interviews. These interviews were conducted with industry experts with extensive knowledge and experience in the automotive industry, in China and abroad.

Findings reveal that the success of the Chinese EV industry is the result of a long-term vision supported by strategic decision-making and cooperation between various stakeholders across an industry driven by fast-evolving consumer preferences and a highly competitive environment. However, challenges such as overcapacity, intensifying price wars and global expansion challenges highlight the need for a strategic recalibration.

The thesis concludes that short-term challenges introduce uncertainty into the expansion prospects of Chinese EV brands, but the long-term outlook remains positive. The key for Chinese companies will be to build consumer trust abroad through brand development, continuous innovation, and strategic adaptation to local regulations and political climates.

Keywords relevant for this dissertation topic are: Electric Vehicles, China, New Energy Vehicles, NEV, EV, PHEV, Sustainability, Environment, Economy, Expansion

Português

A tese “Avançando com Potência: Uma Análise Abrangente do Mercado de Veículos Elétricos na China”, de Kyan Vanessa A. Mertens, analisa o cenário atual do mercado de veículos elétricos (VEs) na China. O estudo busca identificar os fatores que impulsionaram o sucesso da indústria, compreender as tendências que moldaram seu desenvolvimento e explorar as perspectivas futuras do setor.

A pesquisa combina dados secundários de relatórios de mercado e corporativos com dados primários obtidos por meio de entrevistas com especialistas da indústria automotiva, tanto na China quanto internacionalmente. Essas fontes permitiram uma análise aprofundada do ecossistema dos VEs chineses.

Os resultados mostram que o sucesso da indústria é fruto de uma visão de longo prazo, apoiada por decisões estratégicas e colaboração entre os principais atores do setor. Essa evolução ocorreu em um ambiente competitivo e dinâmico, moldado por mudanças rápidas nas preferências dos consumidores.

Contudo, o mercado enfrenta desafios como sobrecapacidade de produção, guerras de preços intensificadas e barreiras à expansão global. Esses fatores apontam para a necessidade de uma recalibração estratégica.

A conclusão destaca que, apesar das incertezas de curto prazo, o futuro da indústria de VEs na China continua promissor. O sucesso dependerá da capacidade das marcas chinesas de gerar confiança internacional, fortalecer suas marcas, inovar continuamente e se adaptar a regulamentações e contextos políticos locais.

Palavras-chave relevantes para este tema de dissertação são: Veículos Elétricos, China, Novos Veículos de Energia, NEV, VE, PHEV, Sustentabilidade, Meio Ambiente, Economia, Expansão.

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II. Acknowledgements

First, I would like to extend my gratitude to Pedro Parada for assisting me throughout this process. Next, I would like to thank Oliver Wolter, Lei Xing, Jeffrey Johnston, and Franklin Zeng for the interviews and their invaluable insights for the research conducted. Finally, to my parents, for their belief in me and for always being there, thank you.

1. Introduction

1.1 Context & Background

Growing up as the son of a car salesman, I was exposed to vehicles constantly. Experiencing different brands and the products/ experiences they offer. After living in China for my study exchange in 2024, I decided to dive into the Chinese NEV-market and do industry research for my master's thesis. During my exchange I lived in Shenzhen, the number one city for new energy vehicles in China and worldwide. The largest EV brand in the world BYD has its headquarters in Shenzhen. Currently more than 60% of its citizens owns a new energy vehicle. Earlier in 2017, Shenzhen was the first city to use fully electric buses and in 2018 also EV taxis. (Kosuke, 2024)

In recent years the global EV industry has been evolving at a fast pace, with many companies worldwide switching strategies and production to focus on (hybrid) electric vehicles. In 2018 total electric vehicle sales around the world exceeded 2 million units sold for the first time. (Irle, 2019) China was responsible for around 60% of total EV sales, with an estimated 1.2 million electric vehicles sold in 2019. (McKinsey, 2020)

5 years later in 2023, the total electric vehicle sales exceeded 14.000.000 units worldwide, with China accounting for 60% of the total sales. Furthermore, Europe and the United States of America account for 25% and 10% of the global electric car sales. This shows that 95% of the total sales of electric vehicles are concentrated in these 3 markets. (IEA, 2024)

Because of my personal background, the experiences in China and the recent growth of EVs, I decided to make an industry research dissertation. The goal is to investigate the current state of the Chinese EV industry, as well as the outlook on domestic and international scale.

1.2 Research Questions

I. What are the key factors driving the success of the Chinese EV industry?
II. How have market trends and preferences shaped the EV market?
III. What are future opportunities and implications for the Chinese EV industry growth?

1.3 Research Objectives

I. Identify the key success factors of Chinese EV brands.
II. Analyze the changing consumer preferences and market trends of the industry
III. Investigate the outlook of the Chinese EV industry

1.4 Significance of the study

The findings of this research paper contribute significantly to multiple stakeholders of the vehicle industry. It gives a perspective of the significance of China in the electric vehicle industry, as well as a better understanding of the local market. Furthermore, international brands can use the findings to adapt their strategies to better fit the Chinese market based on findings of the local brand strategies. Next, the research on the governmental policies in the market, can inform foreign governments and inspire them to apply similar policies to boost their respective industries. Finally, the findings in this paper can prove useful to those aiming to get a better understanding of Chinese consumers and their changing preferences, which in turn can help car makers tailor their products, marketing and strategies based on the changing consumer demands.

1.5 Methodology

This study adopts a qualitative research approach to analyze the key success factors of Chinese EV brands and their competitive advantages against foreign brands. A triangulation of secondary data analysis and primary research (expert interviews) will be employed to provide a comprehensive understanding of the market dynamics.

1.6 Data collection

The secondary data used in this report consists of industry reports, company reports, and news articles that allow for a comprehensive understanding of the market history and trends. The sources used for research include both international and local Chinese sources.

Primary data was gathered through semi-structured interviews with industry professionals who possess direct experience in the Chinese NEV sector. The participants include a senior executive at Volkswagen Group China, a former BMW manager and active investor in NIO, a China-based EV market analyst, and an NEV strategy consultant. This diverse set of interviewees provides a nuanced and multi-angled perspective on market dynamics, policy development, and competitive strategies within the Chinese EV landscape. Interviews were conducted until a point of thematic saturation was reached meaning no new substantial insights emerged regarding core topics such as consumer behavior, government incentives, and technology-driven differentiation.

1.7 Limitations of the secondary data

Potential challenges that could be encountered in collecting the secondary data is the reliance on solely publicly available reports, as financial decisions and investment decisions are not always made public. Furthermore, consulting reports used in this paper can lack data on specific business operations. Given the rapid evolution of the EV industry, data used in this report can become outdated due to the intense competition and changing regulations. Finally, another challenge is the gap in comparative data between annual reports of car brands. While car brands publish annual reports and key data, there can be a gap between the comparative data, due to different metrics.

1.8 Limitations of the primary data

The primary data will consist of semi-structured interviews with industry professionals. The goal is to gain insights into the competition between brands, governmental policies and consumer behavior and the state of the EV industry.

The first limitation that may be encountered is limited access to high-level executives of the top brands within the EV market. Most interviews conducted will include analysts, consultants or mid-level managers, who might not have the same strategic overview of top-level executives. Next, due to specific requirements for the interviews the sample size of participants will be limited. The small sample size could restrict the generalizability of the findings. During the interviews there might also be potential respondent bias, the insights may be influenced by company favorable answers or the respondent's role within the industry. Finally, the diversity in perspectives of the respondents can help balance the insights but will most likely not capture all viewpoints to its full extend.

In order to address these limitations, interviews were conducted with multiple experts from different companies within the industry, and market analysts. Furthermore, the paper supplements these findings with the secondary data. To validate the key findings this study will cross-reference multiple sources to ensure accurate data.

2. Literature review

International Energy Agency: Global EV Outlook 2024

The IEA assesses developments in electric mobility worldwide, with data of members of the Electric Vehicles Initiative. Relevant topics for the analysis of the Chinese EV market are the trends in electric cars, trends in electric vehicle charging, trends in the electric vehicle industry. As well as the outlook for and the general industry.

The first topic is the electric car sales, with 95% being in China, Europe or the United States. Report data also show that China alone was responsible for 60% of worldwide EV sales and leading the world in EV export. Then, the report shows that emerging markets also saw an increase in EV sales but remain low overall.

The next topic are the trends in vehicle charging. A significant trend is the number of private chargers, which is ten-to-one compared to public chargers. In 2023, over 35 million private chargers were installed compared to less than 5 million public chargers. The leader in charging infrastructure deployment is China, with 85% of the world's fast chargers and 60% of slow chargers they target full coverage of cities and highways by 2030. Alternatives are battery swapping and electric road systems to charge the vehicle while driving or reduce battery use.

Next are trends in the electric vehicle industry, with global competition increasing and profit margins decreasing. The market is dominated by BYD and Tesla with a cumulative sales share of 35%, and BYD being the largest EV brand since 2022. In China EV prices have dropped by 10% compared to 2022, specifically for compact EVs and SUVs. Furthermore, 80% of Chinese EV sales is concentrated by 30 companies, with some even remaining unprofitable such as NIO.

Finally, there is the outlook for the electric mobility industry. China is expected to surpass 50% penetration rate of EVs in 2025, which would be 10 years ahead of target. The most critical factor for the development of the Chinese EV industry will be the public charging infrastructure. Another issue is the overcapacity of battery manufacturing which already exceeds domestic needs, this decreases margins and pushes battery producers to export (IEA, 2024).

The McKinsey China Auto Consumer Insights 2024 report

The McKinsey report provides insights on the consumer behavior in the Chinese car market. The main topics of focus in the report are the shift in brand perception of traditional brand to new Chinese EV brands.

The first trend identified in the report is that consumers continue to trade up their vehicles, which causes the premium segment to grow. The premium vehicle market share has grown to 23% in 2023, mainly caused by people with vehicles under 200.000 RMB as up to 70% are likely to trade up for their next vehicle. Respondents of the survey also claimed the price competition has little effect on their purchase decision, with over 80% reporting no positive role for price competition in their purchase decision.

The second trend is the divergence in perceptions of EV and ICE brands. The brand consideration set of Chinese consumers differs according to the brands they own. Respondents that have purchased a traditional mass MNC brand, have a traditional mass MNC brand in their initial consideration set for 98% of the time. Traditional mass Chinese buyers on the other hand only have a traditional MNC brand in their consideration set about 50% of the time, while 96% of them has at least one mass Chinese brand in their initial consideration set. Chinese brands are seen as premium in the EV segment by most respondents, but not in ICE vehicles. Furthermore, Chinese EV brands seem to be able and differentiate themselves due to their smart features, rather than branding for the traditional MNC brands.

The third trend is the rising EV penetration, with a hidden concern for charging anxiety. While EV penetration in China reached 35% in 2023, lots of consumer indicated range anxiety with BEV vehicles to be their biggest concern. This is reflected in the BEV consumer segment where for the first time there is decline in EV consideration as next vehicle.

Next, there is the increase in interest for AD technology, with over 70% of respondents think of AD as an important factor for their car. In conclusion, the Chinese EV market has evolved significantly and must keep evolving to meet consumer demands by innovating and brand management (McKinsey & Company, 2024).

ICCT: How China promotes new energy vehicles: Historically, now and in the future

This presentation contains crucial data regarding government policies and incentives that have helped build the Chinese EV industry.

The document shows the four different levels of policies and strategies starting with local policies at the base, followed by central policies, industrial plans and goals, and finally national strategies and plans. Then, the research focuses on the purchase subsidies timeline from 2009 to 2022. The file also contains data on the NEV mandate that is known as the dual-credit policy and how it works specifically for companies with NEV credits and CAFC credits.

Furthermore, the research focuses on the supportive policies of charging facilities and how local policies have been implemented in Chinese cities compared to other cities around the world such as: Tokyo, Oslo, Amsterdam, Los Angeles and more.

Finally, the document looks at the next steps in the industrial development for the NEV industry from 2021-2035. The last slide contains a pyramid of steps taken by the government that have helped establish and grow the NEV industry in China (International Council on Clean Transportation, 2021).

3. Market Overview

The global passenger vehicle market reached a total of 65.3 million units sold in 2023. This number includes sales for both ICE vehicles and NEV. The total sales in 2023 grew with 11.3% compared to the previous year. However, out of the total vehicles sold, only 14 million are EVs. This means that 18 % of the total car sales were EVs, which is a 3.5 million units or 35% year-on-year increase compared to the EV sales in 2022. Around 95% of EV sales are concentrated in 3 major markets being China with 60% sales share, followed by Europe with close to 25% and finally the United States with a 10% share in sales. (IEA, 2024).

3.1 Overview of the Chinese electric vehicle market

According to an article from CarNewsChina 22.9 million of the total vehicle sales are passenger vehicle sales in 2024. Furthermore, the most recent reports on EV sales in China report close to 48% of all cars sold was electric in China, meaning that close to 11 million passenger vehicle sales in 2024 were EV. Comparing the sales numbers to the previous year 2023, where only 7.8 million EV were sold means that there has been a 41.6% increase in NEV sales in China (CPCA, 2024). In 2025, the domestic EV sales are expected to grow by close to 40%, or over 15 million units sold. The expected market penetration rate of EV is estimated to surpass 57% of total car sales, which is a 9% increase compared to 2024 (CCN, 2025).

3.2 NEV brand market share

In this part only NEV brands will be considered for comparison of respective market shares. Later in the report, there will be a comparison of market share between ICE and NEV brands. Data from CPCA shows that out of the 10 largest NEV automakers in 2024, 8 brands are Chinese, one brand is a joint-venture, and one is a foreign brand, with most of its production in China (CNEVPost, 2025). The 10 largest brands account for a total market share of 77.8% of NEV sales in China. The largest company is BYD, a NEV brand from Shenzhen. In 2024 they sold over 3.7 million NEV, which equals a 34.1% market share. The second largest market share belongs to Geely with 7.9%, followed by the only foreign brand Tesla with a market share of 6%. In fourth place is the joint-venture of SAIC-GM-Wuling, with a respective market share of 5.9%. The remaining market share belongs to other Chinese NEV brands, being Changan, LI auto, Chery, Seres, GAC Aion, and Great Wall Motors (CPCA, 2025). Out of these 10 brands only two brands produce exclusively BEV namely, Tesla and GAC Aion. The other brands offer a range from both BEV and Plug-In Hybrid Electric Vehicles (PHEV). (CNEVPost, 2025)

3.3 Historical context

Over the last 15 years the NEV market in China has evolved at a rapid pace, to become the leader in the NEV industry worldwide. The foundation was laid in 2009 with the Chinese government starting the "Ten Cities, Thousand Vehicles" program, with the government subsidizing a project for large scale testing (Zhang & Bai, 2017).

Five years later around 2014, the rise of domestic powerhouses such as BYD started, and Tesla entered the Chinese market. The following three years there were also many Chinese EV start-ups being launched, such as NIO, Xpeng and LI Auto. These brands are currently also active in foreign markets, such as Europe (McKinsey & Company, 2023).

In 2018, the EV sales in China surpassed 1 million units yearly for the first time in history (Irle, 2019). Later in 2020, Tesla opened their Gigafactory in Shanghai, which enabled them to localize production (Lambert, 2020). Furthermore, 2020 would also be the year where COVID-19 disrupts the EV-industry and world. Despite the lockdowns, the EV market was still able to grow 10% in sales compared to the previous year (CAAM, 2021).

Then, in 2022 the penetration rate of EVs in China exceeded 25% for the first time in history (IEA, 2023). BYD also became the first brand worldwide to announce that they would cease the production of ICE vehicles and would only produce NEVs (BYD, 2022).

The next year in 2023, BYD started an alleged price war by announcing two models that would be 20.000 RMB (= 2400 euros) cheaper than their predecessors (Global Times, 2024). In that same year BYD would also become the world leader in NEVs, surpassing the American brand Tesla in global NEV sales (BloombergNEF, 2024).

The next chapter will investigate the current landscape of the Chinese vehicle market, as well as investigate the consumer behavior and trends in BEVs and PHEVs.

3.4 The current market landscape

In the overview of the Chinese market, the paper discussed the vehicle market in China briefly. In this chapter the goal is to make an in-depth comparison of the ICE and NEV industries. The focus will be on the sales numbers in the last 5 years, the NEV penetration rate in the market, and the growth of BEV and PHEV.

3.4.1 Passenger vehicle market comparison (NEV vs ICE)

In 2020, the overall passenger vehicle sales in China came out to 19.3 million. The ICE vehicle sales amounted to a little over 17.9 million, or 93% of the total market. EV sales in 2020 came out to almost 1.4 million, or a little over 7% of the total sales. For the EV sales, 1 million units were BEV sales, while the other 0.4 million sales were PHEV (IEA, 2021; CAAM, 2021).

The next year in 2021, the total passenger vehicle sales amounted to nearly 21.5 million units sold, of which close to 18 million or 83.5% were ICE vehicles. The EV sales share increased to 16.5% with over 3.5 million units sold, of which 3 million were BEV and the remaining 0,5 million PHEV (IEA, 2022; CAAM, 2022).

In 2022, the total sales amounted to 23.6 million, with 17.7 million sales being ICE vehicle sales. The remaining 5.9 million sales were EV sales, with 4.4 million being BEV sales and 1.5 million PHEV sales (IEA, 2023; CAAM, 2023).

Then in 2023, the total vehicle sales were 26.1 million with 17 million ICE vehicle sales and 9.2 million EV sales. This brings the ICE market share to 65% and the EV market share to 35%, with 6.3 million BEV sales and 2.8 million PHEV sales (IEA, 2024; CEIC, 2024).

Finally in 2024, the total sales came out to 27.6 million units sold with 14.7 million ICE vehicles and 12.9 million EV sales. This increases the EV market share to 46.7%, while decreasing the ICE vehicle market share to 53.5%. Out of the 12.9 million EV sales, 6.9 million were BEV sales and 6 million were PHEV sales (IEA, 2025; MarkLines, 2025).

Thus, from these numbers the following trends can be concluded, the market share for EV has grown from 7.1% to 46.7% over the last 5 years. Furthermore, the increase of popularity for PHEV as well as the decrease in ICE market share from 93% to 53.5% market share, with the largest YoY drop in 2024 with 11.5%.

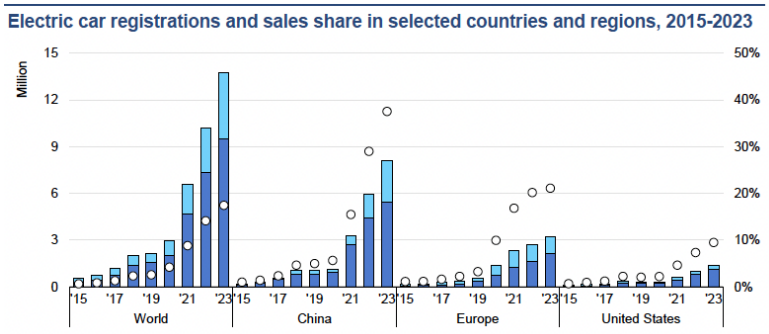

Figure 1: Electric car registrations and sales share in selected countries and regions, 2015-2023

4. Government policies

4.1 Local policies

The driver behind the rapid EV growth in China consist of a pyramid of incentives as visualized by the ICCT. One of the most important initiatives for the growth are local policies. These policies were very effective since they were specifically tailored to the needs of local needs of the larger cities, such as Shanghai and Beijing. The most important incentives were license plate incentives, road access privileges and parking incentives (ICCT, 2021).

4.2 Central policies

4.2.1 Purchasing subsidies

Next, the central policies which have had the most impact on the EV industry in China. The central policies consist of different parts, the first one being the purchase subsidies. The first EV subsidy started in 2009, when the Chinese government started a NEV subsidy program for the public fleets in pilot cities, the project aim was to develop ten new demonstration cities each year and promote a thousand NEVs in each city. In 2010, the NEV subsidy program also included the purchase of private cars (Yao et al., 2022). The government offered subsidies of up to RMB 60,000 (€7,000) for BEVs and RMB 50,000 (€6,000) (Liu & Kokko, 2013). The subsidies varied depending on the technical specifications of a vehicle such as electric range, battery size, efficiency, and battery density (ICCT, 2021). Finally in 2013, the NEV subsidy program expanded throughout the entire country

4.2.2 NEV mandate: Dual credit policy

In 2014, the government initiated discussions on a “dual credit policy” aimed at shifting the focus from consumption-side to production-side incentives (Zhou et al., 2021). Companies that produced or imported over 30.000 ICE vehicles, were required to generate NEV credits to meet the corporate fleet average fuel efficiency standards (CAFC). These NEV credits could be obtained by purchasing BEV credits from other companies or by using banked credits from your own company. Then, in case of a CAFC deficit a company had to use either banked CAFC credits or NEV credits from the company itself, or transfer CAFC credits from affiliated companies (ICCT, 2021).

4.3 Government infrastructure spending

According to the latest numbers from 2024, there were a total of 12.82 million charging points in China, which is a 49% increase from 2023 (Argus Media, 2025). Around 25% of those are public charging points, while the remaining 75% are private chargers. To put this in comparison the total public available chargers in Europe and the US combined is almost 1.1 million (EVBoosters, 2024). China leads the electric vehicle supply equipment deployment, with over 85% of the fast chargers worldwide, and around 60% of the slow chargers. The government remains focused on the development of charging infrastructure, with a target of full coverage in cities and highways by 2030 (IEA, 2024). Furthermore, the government announced its plans to build a charging network with coverage in rural areas. Focusing on large villages and towns, as well as touristic towns **(**General Office of the State Council, 2023)**.**

4.4 Reduction of government subsidies

Starting in 2016 the Chinese government reduced direct purchase subsidies for NEVs, as well as toughened the requirements to qualify for them. The battery energy density standards were also made stricter, to ensure higher battery efficiency.

By 2019, only BEVs with a range of over 250km were eligible for the central government subsidies. Local subsidies were also banned in 2019, for all purchases of NEVs, but remained intact for infrastructure support (MIIT, 2019). Later in 2020 the final subsidy adjustments were made, by capping the BEV subsidies at 22.500 RMB (3000 EUR) if they had a range over 300km. The government also capped the price eligibility at 300.000 RMB (38000 EUR) for NEVs. Important to notice is that these subsidies did not include battery swap models, like the cars NIO produces (IEA, 2020).

In late 2022, the Chinese government terminated direct consumer subsidies completely and only allowed vehicle purchase tax exemptions to remain. The NEV credit scheme however remained, to continue to push manufacturers to prioritize EV production (MIIT; MOF 2022).

5. Technological Drivers

A McKinsey & Company report on evolving preferences of Chinese auto consumers in 2024 concluded that 4 out of the 10 most important reasons to buy Chinese EV cars were related to smartification features and battery technology. In the following chapters the paper will investigate the technological reasons that give Chinese EV brands an advantage compared to traditional multinational brands. Furthermore, this chapter will also discuss the most relevant, recent inventions for the EV market in China. (McKinsey & Company, 2024)

5.1 Battery technology

The McKinsey China Auto Consumer Survey shows that 40% of the respondents prefer to buy an EV from a premium Chinese EV brand, due to better battery technology to address range anxiety of consumers (McKinsey & Company, 2024). The development of battery technology in China is related to the high amount of battery producing companies for EVs, with 6 of the 10 largest EV battery producers worldwide originating from China. The market share of these 6 companies accounted for 67.1% of the worldwide production in 2024 (SNE Research, 2025).

The two largest companies are CATL and BYD, of which the latter is also the largest EV producer worldwide. These two companies produced 55.1% of all batteries for EVs in 2024, with CATL the largest battery producer since 2017, being responsible for 37.9% of the production and BYD for 17.2% (CnEVPost, 2025). According to a report by IEA, 88% of the batteries produced in China are meant for local use, while the remaining 12% is exported making China the largest battery exporter worldwide (IEA, 2024).

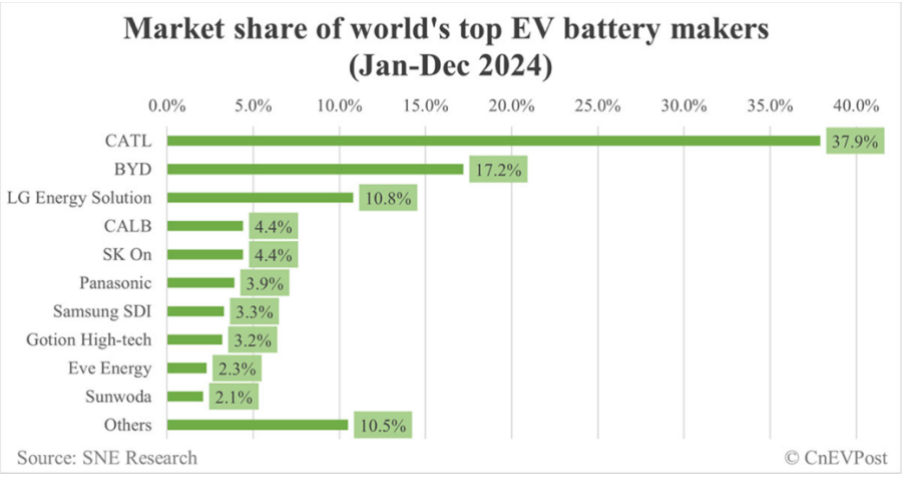

Figure 2: Market share of the world's top EV battery makers (2024)

China is the leading producer in lithium-ion batteries (LFP), with 75% of the production being produced (China Briefing, 2024). Over 60% of EVs in China use these batteries, due to their production cost being roughly 20% lower than alternatives being produced in Europe and the USA, and the batteries being safer in use (ITIF, 2024). Furthermore, the prices of the raw materials needed to produce batteries have been decreasing in 2023, due to the overmining of these resources needed. BYD and CATL also announced to be developing sodium-ion batteries, which are expected to be 20% cheaper than the current LFP batteries, if scalable. While also further improving the safety of these batteries used in EVs (IEA, 2024).

5.1.2 Research and development of batteries

The research and development of batteries is also crucial for the dominance of the worldwide battery production, with 65% of the high-impact battery research papers being produced in China (ITIF, 2024). The R&D focus is illustrated by recent announcements of BYD, offering the fastest charging in history at a speed of 2km per second of charging (BYD, 2025). Furthermore, CATL the largest battery producer announced their “Shenxing Plus” battery, which can charge to a 400km range in 10 minutes. Finally, another crucial player in China is NIO, which is also one of the leading companies in the premium EV market. NIO is known for their patented battery swapping technology, they have recently launched their “Swap Station 4.0”, which can hold up to 23 batteries and charge them. The new stations are estimated to swap a battery in 144 seconds, with a maximum of 480 swaps daily per station. Finally, NIO and CATL also created a strategic partnership to share technology and further improve battery swapping technology and battery quality of both companies (NIO, 2025).

5.2 Software and smartification

The McKinsey China Auto Consumer Survey 2024 shows that 4 out of the 10 most common reasons to buy Chinese EVs over traditional brands is related to software and smartification benefits they offer. The smartification factors regarded as most important are the AD-performance, the smart cockpit performance, the use of native EV platforms and software, and a smoother over-the-air update capability (McKinsey & Company, 2025). The same arguments were also shared during interviews, Mr. Xing said smartification, connectivity and AD to be key reasons for the competitive advantage of Chinese EV brands. Then, Mr. Xing also mentioned that Huawei, Li and Xpeng are the leaders when it comes to autonomous driving software. In another interview, Mr. Wolter mentioned that Chinese EV brands focus on improving their technology and adapt it to the local market specifically. Due to China using their own platforms such as WeChat for connectivity and Baidu as navigation platform, the local brands focus on integrating them into the software and creating a seamless ecosystem for these platforms. Furthermore, Mr. Wolter mentioned that smartification and EV intelligence would be the next crucial step in the development of the EV market.

These findings correspond with the ITIF report on "How Innovative is China in the Electric Vehicle and Battery Industries". In the paper Paul Gong, the UBS head of China auto research was quoted saying: "New EVs are more like computers with batteries on wheels. Chinese carmakers are now ahead of almost everyone else along the entire EV supply chain". The increase in total cost contribution of a vehicle shows that the cost of electronics and technology in a car amounted to around 18% in 2000. Today, the estimated cost contribution of electronics and technology compared to the total vehicle cost is over 40% and expected to grow to 45% by 2030 (ITIF, 2024).

5.2.1 R&D Investments

The advancements in technology of Chinese brands are reflected in the EU Industrial R&D Investment Scoreboard from 2023. China has 8 out of the top 15 automotive companies worldwide ranked in R&D intensity spending compared to total revenue. The largest spender Chinese automotive company spender in R&D is Nio with 21.3%, followed by Xpeng with 19.4%. Respectively in the 6^{th} and 7^{th} place worldwide, however the figures of some higher ranked companies are skewed due to them being pre revenue start-ups. Looking at the total R&D investment spent, Chinese companies 3 out of the top 5 spots, and 6 out of the top 10 spots in R&D spending (ITIF, 2024)

6. Competitive strategy analysis

6.1 Porter's Five Forces

The competition in the Chinese EV market is extremely high, due to many strong domestic players and international brands competing. While the exact number of active EV brands is hard to estimate, due to some of them having foreign-based subsidiaries. In 2023, around 300 manufacturers both domestic and international were offering EV in China (Carlton, 2023).

Due to the fast product life cycle of products, brands are pressured to release new model, integrating new features and technology at lower prices. As Mr. Xing highlighted "China moves 2 or 3 times faster than Europe or the US", which can even affect established players in the market. Another interesting view to support this is from Mr. Johnston saying: "Volkswagen will become a sub-brand of Xpeng within 10 years". This again highlights the difficulty of established automakers to remain competitive and relevant in the EV industry.

The threat of new entrants is low to moderate, due to the high capital investment and R&D costs needed to enter the market. However, tech giants such as Huawei and Xiaomi are entering the market by leveraging their brand recognition and collaborations with existing brands. These companies use their expertise in AI, software and connectivity to approach EVs in a different way (Marojevic, 2024). Xiaomi even announced an initial investment of 10 billion USD to enter the EV market (Yiguyue, 2021). However, for new companies the initial investment often is too high to compete within the market.

The bargaining power of supplier is high, due to the high cost of batteries and limited availability of earth mineral needed for the production. According to Statista, the battery accounts for 32% of the total EV costs in 2022 (Carlier, 2023). In 2023 the battery price fell with 14% compared to 2022, despite lithium carbonate prices being 50% higher than the 2015-2020 average. (IEA, 2024). The dominance of Chinese companies in the battery usage tracker for global electric vehicles is clearly visible, with the top two companies in the list being Chinese. The largest producer is CATL, has a market share of 37.9% in the worldwide EV battery production (Kang, 2025). The second largest EV battery producer by market share is BYD with a total market share of 17.2% in 2024 (Kang, 2025). Combined, these 2 companies produced over 55% of all batteries used in EVs in 2024. Furthermore, according to SNE research, out of the 10 largest EV battery producers, 6 are Chinese companies. Together these 6 companies accumulate for a little over 67% of the total battery production used in EVs around the world (SNE Research, 2025).

Within the Chinese market the bargaining power of buyers in the Chinese market is also high, due to an estimated 300 brands offering EVs in China as mentioned in the first part. Furthermore, EV brands also target different segments of the population by adjusting price, smart features and innovative technologies. While early adopters were willing to pay premium prices for EVs, the current market in China shows a preference for models that offer a great price-value ratio (Vindry, 2024). A study on consumer purchasing preference and marketing strategy of electric vehicle industry in China confirms this. The study shows that 41% of the respondents would buy a NEV because it is cheap. Furthermore, the study also concludes that EVs in the price range of 100.000 yuan and 250.000 yuan (12700 – 31500 euro) are the most popular choice. (Haifeng, Xiyuan, Zhaolei, 2021)

The fifth and final force is the threat of substitutes in the Chinese market, which is moderate to high. According to a research paper from Manchester Business School a substitute product is one that consumers see as essentially the same to another product (Fedotov, 2022). Hence, products that carry out the same purpose can be included in the list of substitutes. First, the alternative private vehicle options being ICE cars, ridesharing and non-motorized private vehicles (bikes). Second, the public transport options such as train, bus and metro. Especially in larger cities the public transport can be regarded as a substitute, due to the extensive network of connections available. According to an article in the Chinese South Morning Paper "132 cities had convenient transport available to more than 90 per cent of residents". This percentage has grown significantly since 2015, where only 37.9 per cent had convenient transport available (Bela, 2024).

7. Consumer preferences and market trends in the Chinese market

In recent years, Chinese consumers have been consistently upgrading their vehicles to more premium brands and models. According to McKinsey China Consumer Insights, the premium cars have increased their market share from 10% in 2016, to 23% in 2023 (McKinsey & Company, 2024). Data shows that the CAGR of premium car segment between 2016 and 2022 came out to 11.2%. The YoY growth from 2022 to 2023 came out to 19.4% (McKinsey & Company, 2024). Furthermore, the market share of EVs in the premium segment increased from 16% to 37% from 2021 to 2023 (McKinsey & Company, 2024). The consumers that are most likely to upgrade are those with a car priced below 200,000 RMB (~€24,000), which resonates with the launches of EV brands, since more than 40 EV models were launched with a price over 200,000 RMB in 2023 (McKinsey & Company, 2024; Mordor Intelligence, 2024).

The increase in willingness to upgrade is also related to an increased enthusiasm and confidence for new car purchases. The share of consumers looking to downgrade has decreased significantly in 2023. In 2023, merely 6% of consumers owning vehicles priced under RMB 400,000 planned to downgrade, a sharp decline from 69% in 2022 (McKinsey & Company, 2024). This aligns with rising domestic EV brand share, which reached 87% in early 2024 (S&P Global, 2024). Despite the 87% domestic EV brand share, the EV brand most Chinese consumers recognized as premium was American (Tesla) (RIWI, 2021).

Furthermore, out of the 10 most premium EV brands according to Chinese consumers, three were German and the remaining six were Chinese (McKinsey & Company, 2024). Another reason for the high domestic brand share is the relative unimportance of the brand for EVs. Consumers of EV brands attach more importance to range and charging time, the static and dynamic experience, and the fuel or maintenance cost of the vehicles rather than the trust towards a brand. However, this trend can change over time, as the EV market matures. As brands gradually offer similar performances and technology, the importance of brands may increase again (McKinsey & Company, 2024).

8. SWOT analysis of the Chinese EV Industry

Continuing the prior analysis of trends, challenges, and market situation in the Chinese EV industry the SWOT analysis below will offer a concise strategic overview of the Chinese EV market and its dynamics. Furthermore, in the appendix A there will be a visualization of the SWOT matrix. The strengths will not be discussed in detailed manner in this chapter as they have been outlined in the previous chapters.

8.1 Strengths

The first strength is the governmental support for the industry, due to the many initiatives and subsidies helped the adoption and production of EVs in China tremendously (Zhang, Bai, & Zhong, 2021).

The second strength is the industrial ecosystem companies created, especially for the production and development of batteries. BYD and CATL accounting for over 55% of global battery production (CnEVPost, 2025). This helps control cost, accelerate innovation and decrease reliance of external suppliers.

The third strength is the market scale in China, being responsible for 60% of global EV sales worldwide and close to 11 million sales domestically. This scale advantage allows vehicle manufacturers to lower costs by utilizing the economies of scale, while adapting their products to consumer demand. (IEA, 2024; McKinsey & Company, 2024)

The fourth and final strength discussed in previous chapters is the smartification and technology. Chinese EV brands excel in these domains compared to international competitors, first the connectivity and integration, Then, the battery technology, such as battery swapping. Finally, the autonomous driving technology in which Chinese brands heavily invest (McKinsey & Company, 2024; Interview with Mr. Xing, 2025).

8.2 Weaknesses

The rapid growth and development of the Chinese EV industry has resulted in significant overcapacity in the EV sector. Reports from the Wall Street Journal claim that only about 50% of the actual production capacity of Chinese automakers was used (Wall Street Journal, 2025). These factors contribute to unsustainable production levels. The overcapacity led to other issues in the EV industry, the first one being the price war between brands.

This price war started in 2023 and shows no signs of slowing down. Specifically in the EV sector both traditional and emerging brands are expected to continue cutting prices of the new models. These price cuts can be permanent or limited-time promotions; however, it is expected to change the landscape of the Chinese EV industry (Global Times, 2024). The CEO of Xpeng stated that "The period from 2025 to 2027 marks the elimination round in the automotive industry" (Wall Street Journal, 2025). Furthermore, the cutting of prices is not sustainable long-term, with the McKinsey China Auto Consumer Survey showing that over 80% of the consumers report a non-positive impact of pricing in their purchasing decision (McKinsey & Company, 2025).

Beyond pricing challenges, overcapacity has also created structural instability within the industry, due to the 300+ manufacturers active (Carlton, 2023). The lower margins make it difficult for new entrants to establish themselves or remain solvent, which often leads to forced mergers or bankruptcies (Financial Times, 2025). In turn, these forced mergers and bankruptcies lead to inefficient allocation of capital and labor redundancies (The Diplomat, 2024).

Another consequence of the overcapacity and the decrease in production capacity in the local market is the forced dependence on foreign markets to absorb these issues (South China Morning Post, 2025). While the foreign expansion offers a lot of opportunities on a global scale, there are also many challenges Chinese automakers must overcome. In the next chapter the opportunities and challenges for Chinese EV makers will be discussed, to finally write the conclusion and discuss the future of the Chinese EV industry based on the findings.

8.3 Opportunities

8.3.1 Opportunities for the expansion of the Chinese EV industry in developed markets

One of the most significant opportunities lies in the technological superiority of the Chinese battery development industry. The two biggest Chinese battery producers BYD and CATL led the global EV battery market in 2024, accounting for over 55% of all EV batteries produced worldwide (CnEVPost, 2025). Meaning they have leverage in the production scale and knowledge, as well as the resources.

The opportunity is smartification and software. Chinese brands such as Xpeng, NIO, and Huawei-backed Aito have developed advanced ADAS and intelligent cockpit technologies that are more advanced than the western legacy brands, especially regarding software integration and the use of LIDAR (McKinsey & Company, 2024; ITIF, 2024). Strategic partnerships with European or North American car producers could serve as market entry strategies. For example, the cooperation agreement between Volkswagen and Xpeng for co-developing EV software shows the potential of such alliances as mentioned by Mr. Wolter (Reuters, 2023; Mertens, 2025).

Furthermore, the European Union focuses on sustainability, electrification, and digital integration in their mobility choices, due to regulations posed by the EU. This creates an opportunity for Chinese EV producers to position themselves as green tech leaders, offering polished and well-integrated software experiences and lower-cost alternatives to legacy brands (IEA, 2024; McKinsey & Company, 2023). EU climate policies continue to accelerate EV infrastructure investments, creating opportunities for new entrants (IEA, 2024).

Chinese EV brands could also enter by supplying affordable, compact electric cars to cities aiming to phase out combustion vehicles. Large European cities like Antwerp, Amsterdam, Paris, and Oslo are moving towards low-emission zones and public fleet electrification, creating openings for high-efficiency, cost-effective vehicles from China (Electromaps, 2024).

While direct competition with established brands can be challenging due to negative brand perception of Chinese products, tariffs and politics, the most significant opportunities lie in software and technology partnerships, and premium niche positioning, which can help Chinese EV brands to build a presence and reputation in Western markets gradually.

8.3.2 Opportunities for the expansion of the Chinese EV industry in emerging markets

The biggest opportunity for Chinese EV brands is the first mover advantage in growing markets. Many countries in Southeast Asia, Africa and South America are experiencing quick growth. This opens up a window of opportunity to supply these markets that have been underserved in the past, especially in larger cities (IEA, 2024; Mordor Intelligence, 2024).

Chinese EV brands have already started entering these markets using local manufacturing facilities to enter the markets and gain market share. A great example is the BYD factory in Brazil that will have an output of 150,000 units yearly, this helps localize production to avoid tariffs and gain market entry (Reuters, 2025; South China Morning Post, 2025).

Another opportunity is offering mobility solutions for cities that lack proper infrastructure for the use of EVs. A great example is battery swapping models used in NIO cars, or vehicles with smaller battery capacities and modular charging options can be ideal in areas with unreliable electricity grids (NIO, 2025; EV Magazine, 2025). These models reduce pressure on these infrastructures and enable quicker market entry, especially in countries with limited government support for EV adoption. A report from IEA shows that BYD and Raizen are currently involved in a partnership to develop charging infrastructure in eight Brazilian cities (IEA, 2024).

Then there are the political cooperations such as the BRICS and China's Belt and Road Initiative (BRI) that have ties with many of these economies, which makes the process for Chinese automakers to set up distribution or manufacturing easier (China Briefing, 2024).

Finally, emerging markets often offer less geopolitical tensions compared to Western nations, allowing for quicker entry and less politicized market dynamics. With strategic pricing, tech adaptation, and local partnerships, Chinese EV firms have the potential to build lasting competitive advantages in these regions.

8.4 Threats

8.4.1 Threats for the expansion of the Chinese EV industry in developed markets.

As shown in the previous chapter, the overcapacity and decreasing production rate have caused negative consequences for the local EV industry. Brands like BYD, SAIC and Geely are trying to expand to foreign markets, to counter the challenges in the local market. This chapter will focus on challenges for Chinese EV brands when expanding into foreign markets.

The first threat to overcome are the trade barriers and geopolitical tensions between countries. The two most important markets outside of China for EVs are Europe and the US, with a combined market share of 35% (IEA, 2024). The European Union decided to impose a 38% tariff on Chinese EVs, to counter the state subsidies Chinese EV brands receive (World Economic Forum, 2024). Furthermore, the US have had a 100% tariff on Chinese EVs under the Biden administration (Reuters, 2025). On top of that, the US and China have been involved in an alleged trade war with overall tariffs up to 145% at its peak. Those tariffs got lowered to 30% temporarily for Chinese goods imported to America, and from 125% to 10% for American goods imported to China (CNN, 2025). The tariffs and trade war lead to uncertain future market access for Chinese EV brands trying to enter these markets. Next, the tariffs lead to higher entry costs, higher vehicle prices and reduce the profitability of the vehicles.

Another threat Chinese EV brands face in foreign developed markets is the negative brand perception, especially compared to local legacy brands. Foreign consumers are skeptical regarding the safety, quality and reliability of Chinese brands. Furthermore, surveys indicate that most potential EV buyers in Europe do not recognize Chinese brands (Reuters, 2023). Then, there is the consumer trust issue regarding data security and privacy, due to the many integrated smart features and real-time data collection. Governments are concerned that the data collected might be used for other purposes than smart features, since the cybersecurity laws in China are different (WEF, 2024).

8.4.2 Threats for the expansion of the Chinese EV Industry in emerging markets

Due to trade restrictions and entry barriers in developed markets, Chinese EV brands target emerging markets to expand their business. The main target markets are Southeast Asia, Latin America, and Africa, because of their market potential. However, these emerging markets also pose risks to the expansion for Chinese automakers, due to their economic, political and infrastructural instabilities. (IEA, 2024)

The economic instability is often reflected in volatile exchange rates, which can affect the pricing and profitability of imported EVs. The political and regulatory changes can delay or even disrupt investments of Chinese EV brands, a recent example being BYD in Brazil. The Brazilian market is the largest market for BYD outside of China, with the plan to build a factory that produced around 150.000 vehicles per year. However, this plan was delayed significantly after accusations of labor abuses by investigators. Currently, the brand is adjusting plans, in order to have a fully functional factory by the end of 2026 (Reuters, 2025).

Another challenge in emerging markets is the lack (of quality) of infrastructure to support EV adoption on large scale. In most emerging economies charging infrastructure is concentrated in capital or large cities, while rural areas remain mostly underserved. Furthermore, the electricity networks are inconsistent in their supply, which makes the daily use of EVs risky. To successfully integrate EVs in these countries, capital-intensive investments are needed to establish and grow factories and infrastructure to support the integration (IEA, 2024).

Like the EU and US markets, import barriers and protectionism make market entry more difficult in several emerging economies, such as India. In 2023, a total of 80.000 EVs were sold in India, of which 60.000 were produced by local brands (IEA, 2024). A big reason for this is the protectionism of the Indian government, with import duties up to 100% for fully built EVs. This makes the Chinese EVs less competitive on pricing, while promoting localized manufacturing (Financial Times, 2024). For example, BYD models in India start at an estimated 37.000 USD, while Indian brand Tata sells their small EV models at prices ranging from 10.000 USD to 15.000 USD, accounting for around 20% of the EV sales in India (IEA, 2024).

9. Conclusion

The aim of this dissertation was, first and foremost, to better understand the key factors that have contributed to the success of the Chinese EV industry over the years, as well as to explore its outlook on both a domestic and international scale. This was achieved through triangulated research, combining primary data from interviews and secondary data from credible sources. The study presents a comprehensive review of one of the largest and most dynamic industries in global mobility.

The findings show that the success of the Chinese EV industry is not the result of excelling in a single field, but rather the outcome of a long-term vision supported by strategic decision-making and cooperation between various stakeholders across the industry. Another crucial factor is the adaptability of Chinese EV brands, driven by fast-evolving consumer preferences and a highly competitive environment. As quoted in the interview with Mr. Johnston: "China speed is so fast you can be here today and gone tomorrow. Start running with great sneakers!"

The first key factor is the impact of the government in establishing and guiding the EV industry. In addition to creating a strategic vision, the Chinese government has fostered growth through multi-tiered support at both local and national levels. Key examples include purchase subsidies, the dual credit system to incentivize production, and infrastructure spending to facilitate industry growth and consumer adoption.

Another factor contributing to the success of the Chinese EV industry is its technological superiority. Among the most critical aspects is battery technology, with BYD and CATL not only leading the domestic market but also dominating globally. In addition, battery swapping technology, patented by NIO, provides an efficient alternative to conventional charging. Chinese EV brands are also considered frontrunners in the field of smartification. As Mr. Xing stated, "this is the next market to play into." Chinese brands are seen as leaders in software, connectivity, and ADAS, which gives them a strong competitive position.

The third key factor is the scale of the domestic market and production. Findings show that China is the largest market for both ICE and EVs, making large-scale production viable. This scale reduces manufacturing costs, and when combined with government incentives and localized supply chains, allows Chinese brands to offer competitively priced products compared to their foreign competitors.

This combination has led the Chinese EV industry to become a coordinated ecosystem with a global competitive advantage. However, several concerns must be addressed for continued dominance and sustainable growth.

The rapid growth of the industry has generated challenges that must be managed. The first is the intense competition among EV brands as the market matures. While competition drives innovation, it also puts pressure on the stability of the industry.

Next is the ongoing price war among Chinese EV brands, which is unsustainable in the long term. Continuous price reductions erode profit margins and may lead to industry consolidation or shakeouts. Lower margins also constrain investment in R&D, potentially slowing down the pace of innovation, a key competitive factor in the EV sector.

Another critical issue is production overcapacity. Current domestic production significantly exceeds demand, with only about 50% of capacity being utilized. This makes international expansion essential to relieve domestic pressure and support further industry development.

Global expansion presents both substantial opportunities and significant risks across developed and emerging markets, each presenting distinct challenges and entry pathways.

In developed markets, the most promising opportunities lie in technology partnerships with local firms, such as the collaboration between Volkswagen and Xpeng. These alliances may help Chinese brands gain access and build trust. Alternatively, Chinese EV companies may focus on branding themselves as sustainable leaders by offering EV-exclusive portfolios. In emerging markets, first-mover advantages and localized manufacturing are key strategies to gain early market share and establish long-term footholds.

Nonetheless, both markets pose risks. In developed economies, trade barriers and negative brand perception are major obstacles. In emerging markets, the lack of infrastructure and policy gaps may slow down EV adoption and limit scalability.

Overall, while short-term challenges introduce uncertainty into the expansion prospects of Chinese EV brands, the long-term outlook remains positive. The key for Chinese companies will be to build consumer trust abroad through brand development, continuous innovation, and strategic adaptation to local regulations and political climates. In the words of Mr. Xing: “Nothing is impossible in China. Whenever a ceiling is reached, they find a way to break through it.”

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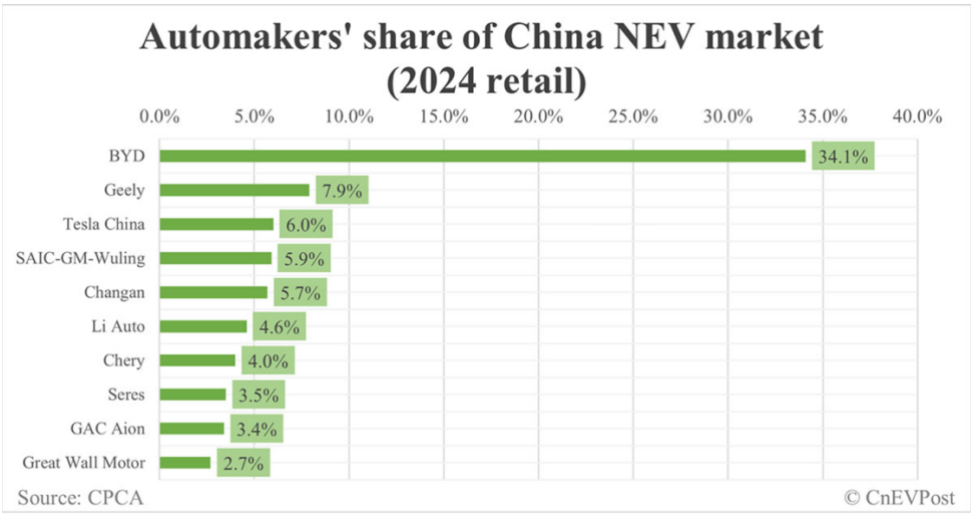
List of abbreviations

NEV: New Energy Vehicle	**EV:** Electric Vehicle
IEA: International Energy Agency	**RMB:** Renminbi (¥)
ICE: Internal Combustion Engine	**MNC:** Multinational Corporation
BEV: Battery Electric Vehicles	**PHEV:** Plug-In Hybrid Electric Vehicles
AD: Autonomous Driving	**ADAS:** Advanced Driver Assistance Systems
CAFC: Corporate Average Fuel Consumption	**YoY:** Year-over-Year
LFP: Lithium Iron Phosphate	**R&D:** Research and Development
AI: Artificial Intelligence	**CAGR:** Compound Annual Growth Rate
EU: European Union	

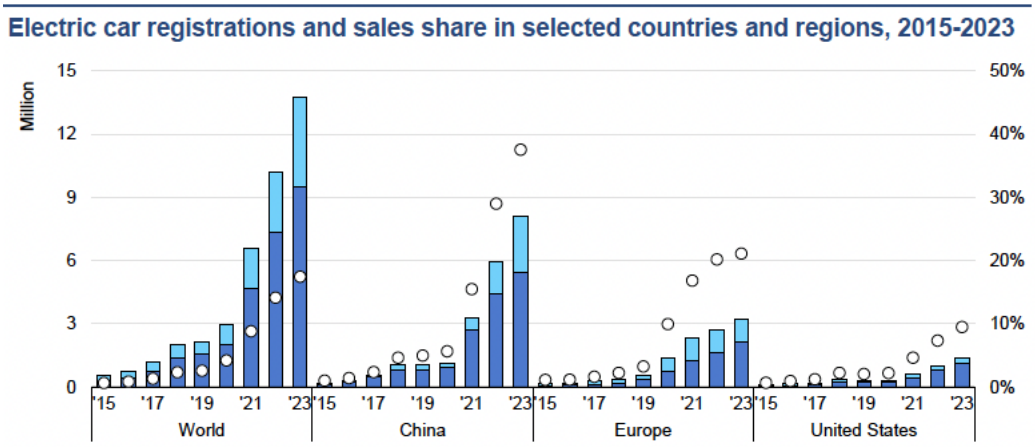
Appendix A

3.2 NEV brand market share



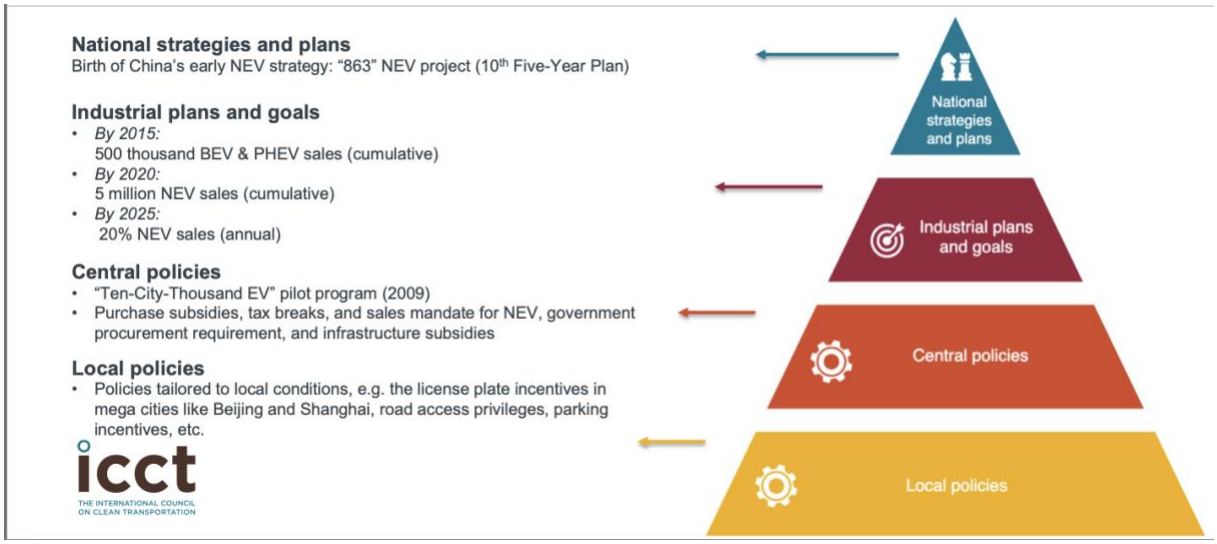
Source: CnEVPost

3.5 EV Sales Yearly + PHEV/ BEV



Dark blue = BEV // Light blue = PHEV

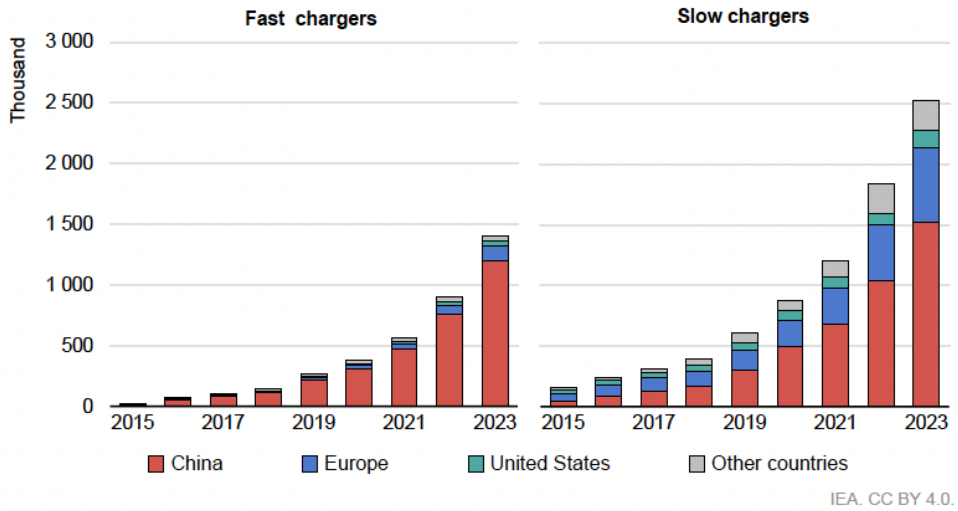
4.1 ICCT Policy Pyramid



Source: ICCT

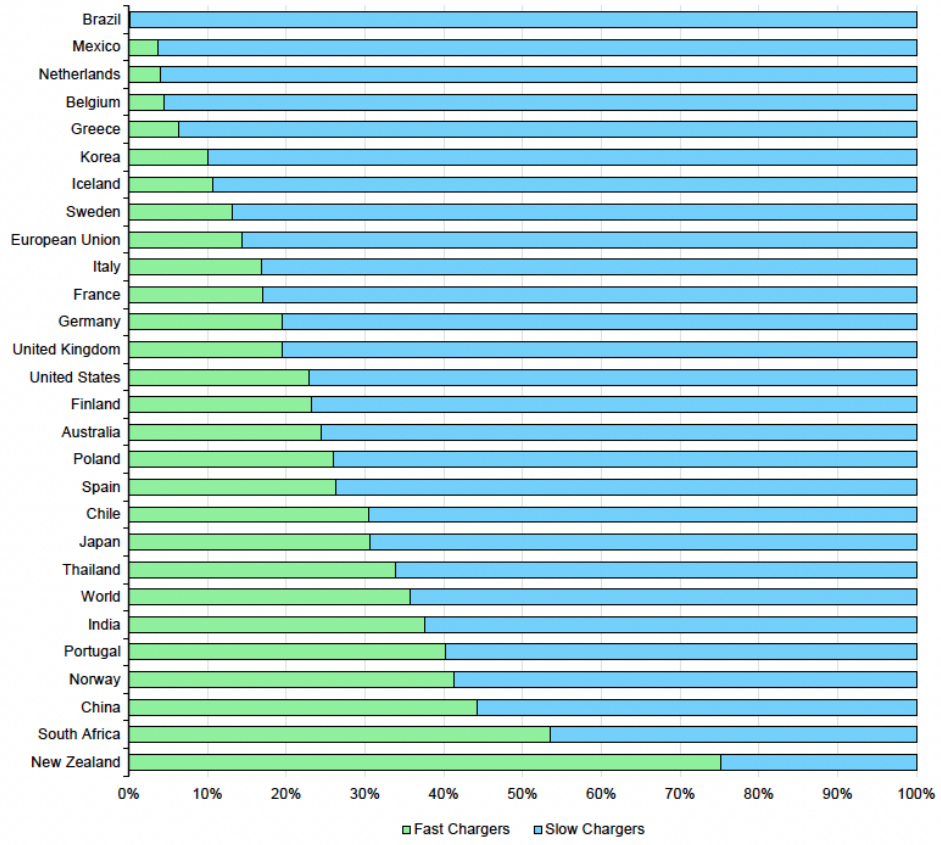
4.3 China EV charger deployment

Installed publicly accessible light-duty vehicle charging points by power rating and region, 2015-2023



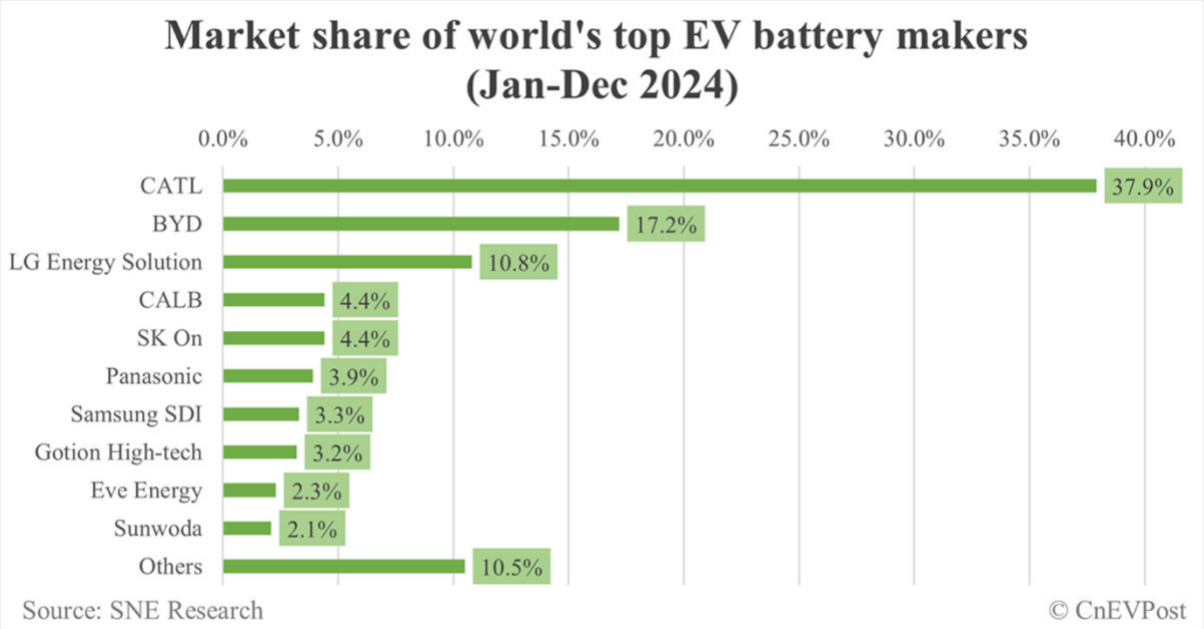
Note: Values shown represent number of charging points.
Source: IEA analysis based on country submissions.

Proportion of fast and slow public chargers in total public chargers, 2023



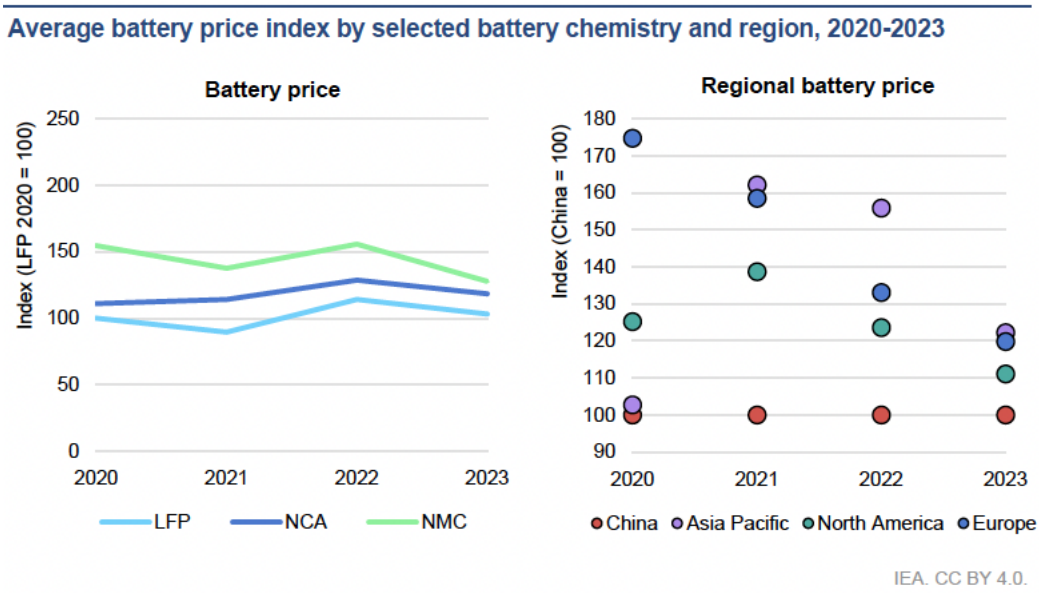
Source: IEA, 2024

5.1.1 Top 10 EV battery producers worldwide Battery prices



Source: CnEVPost

5.1.2 Battery prices



Source: IEA, 2024

5.2 R&D Investments of Automotive Firms

Table 1: Leading automotive R&D investors in the 2023 EU Industrial R&D Investment Scoreboard[150]

Company	Headquarters	R&D Investment (Millions)	R&D Intensity
Fisker	United States	€397.4	123949.0%
Lordstown	United States	€101.1	55575.0%
Nikola	United States	€256.7	538.7%
Lucid	United States	€770.2	135.0%
Rivian Automotive	United States	€1,733.6	111.5%
Nio	China	€1,409.6	21.3%
XPeng	China	€699.9	19.4%
Ferrari	Italy	€934.2	18.3%
Aston Martin	UK	€278.5	17.8%
Zhejiang Century Huatong	China	€233.7	15.6%
Li Auto	China	€897.3	14.8%
Zhejiang Leapmotor	China	€180.0	10.8%
Seres	China	€413.2	9.6%
Great Wall Motor	China	€1,634.7	9.4%
Dongfeng Motor	China	€978.0	7.9%

Source: ITIF, 2024

6. Framework: Porter's Five Forces

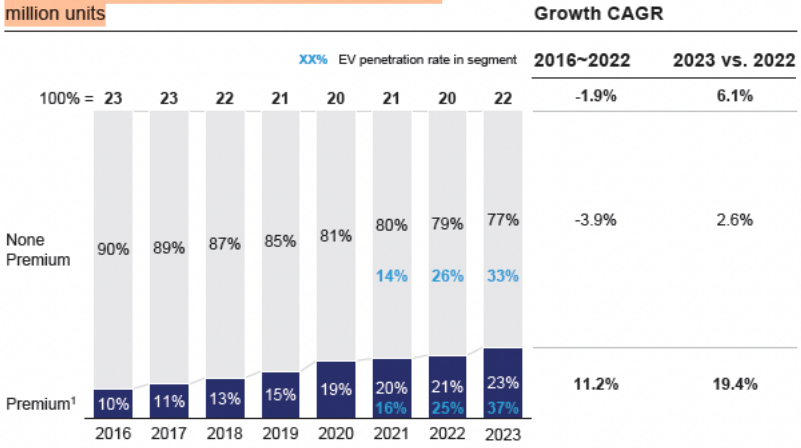
(Porter, 1985) To successfully analyze the competitive landscape of the Chinese EV market, this paper aims for a basic understanding of the industry competition. The model that will be applied in order to help understand the EV industry within China is Porter's Five Forces (Porter, 1980). The framework looks at 5 different factors that shape the market competition. The first factor is industry competition; higher competition leads to price wars and innovation. The factors affecting the first force are the number of competitors, the market growth rate and product differentiation (Porter, 2008). The second force assesses the threat of new entrants; how difficult it is to enter the market. If the entry barrier is high, existing firms are better protected from the threat of new entrants. Factors that influence this force are the required investment to enter, economies of scale, brand loyalty and government regulations affecting the easy entry into a market. (Porter, 2008). The third force is the bargaining power of the suppliers, if they are few suppliers they hold more power and can demand higher prices. Hence, more suppliers mean lower power. Other factors are the specialization of suppliers and the importance of suppliers to the industry (Hill, 2014). Then, the fourth force is the bargaining power of buyers, how much customers can influence pricing and quality within the industry. In general, higher buyer power means lower prices and improved products. Factors that affect the buyers' power are the availability of alternatives, price sensitivity of consumers and customer loyalty (Homburg & Stolzle, 2012). Finally, the fifth force is the threat of substitutes, which measures the risk of consumers switching to alternative products. The more alternatives available, the more companies need to differentiate or lower their costs (Porter, 1985).

7.1 McKinsey & Company report: Reasons for buying Chinese premium EV

Exhibit 1

In China, the premium segment of passenger vehicles continues to post double-digit growth in 2023

Passenger vehicles sales in China by segments
million units



1. Premium car definition: premium brands based on consumer perception, including traditional premium brands and emerging premium EV brands.

Source: China New Car Insurance Registration Database

McKinsey & Company

Exhibit 2

Chinese consumers' desire to upgrade their vehicle remains strong

Budget for the next car vs. price of car currently owned
% of respondents

Budget for the next car, RMB thousands

Stay in the same range | Prefer to trade up | Prefer to pay less | Highest % group

Price of car currently owned, RMB thousands

2022

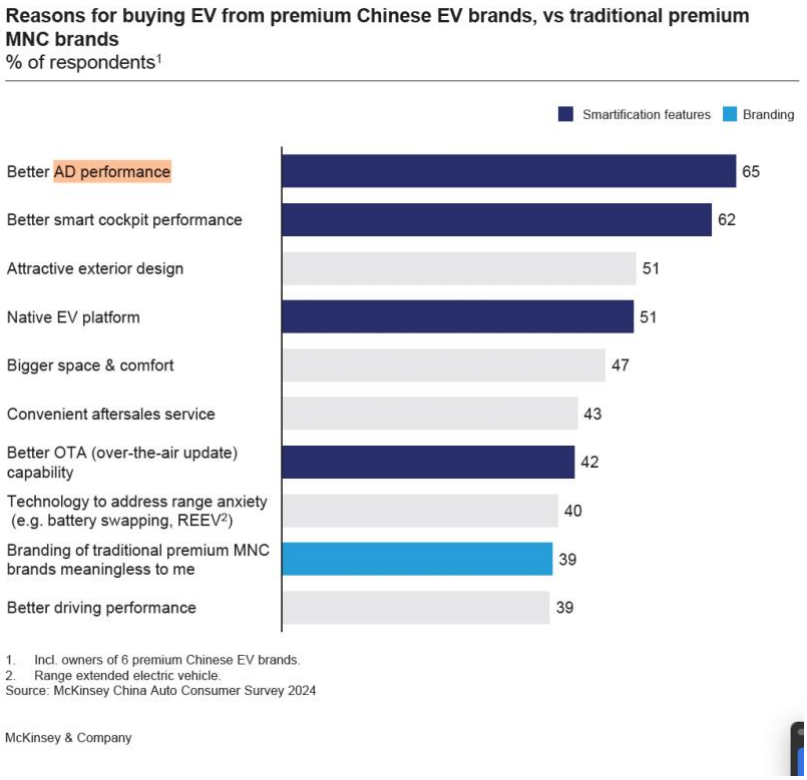
	<100	100-150	150-200	200-300	300-400	>400
<100	43%	57%	0%	0%	0%	0%
100-150	12%	34%	52%	2%	0%	0%
150-200	0%	16%	37%	44%	3%	0%
200-300	0%	0%	21%	47%	32%	0%
300-400	0%	0%	0%	20%	57%	23%
>400	0%	0%	0%	0%	10%	90%

2023

	<100	100-150	150-200	200-300	300-400	>400
<100	27%	67%	6%	1%	1%	0%
100-150	0%	46%	52%	2%	0%	0%
150-200	0%	1%	54%	45%	0%	0%
200-300	0%	0%	2%	81%	17%	0%
300-400	0%	0%	0%	3%	68%	29%
>400	0%	0%	0%	1%	7%	92%

Source: McKinsey China Auto Consumer Survey (2023&24)

McKinsey & Company



Sources: McKinsey & Company

8. SWOT Matrix

Note: This visualization was made by Chat GPT, based on research from chapter 8.

Appendix B

Interview comparison table

Theme	Lei Xing	Mr. Johnston	Oliver Wolter	Mr. Zeng
Speed of Innovation	Product refresh every 12 months, 2x or 3x faster cycles	China speed means constant change; foreign OEMs too slow	Less regulation, faster development, entrepreneurial culture	Rapid growth in recent years, aligns with others but with less specific timing details
Government Support	16 years of policies, EV subsidies, battery swap mandates	City and national subsidies; over 50% EV adoption	Indirect subsidies, cheaper electricity, license plate incentives	Acknowledges subsidies and government policy as a foundational driver
Local Supply Chains	Vertical integration, economies of scale, niche production	NEOPARK – suppliers onsite, faster production, cost saving	VW built local supply chain; now used by Chinese OEMs	Confirms strength in local manufacturing and supply chains
Smart Features	Smartification, user-centric tech, futuristic design	NIO ET9 as tech leader; AI, automation in factories	Integration with WeChat, local apps; digital ecosystems	Mentions technological advancement, aligns with others in smart features
Foreign OEMs Lagging	Foreign brands still catching up, leveraging Chinese tech	VW will become sub-brand of XPeng; already lost	Western firms now copying China; student becomes master	Recognizes foreign OEM lag; competitive edge of Chinese brands
Volkswagen Strategy	Foreign brands using Chinese tech, adapt or fail	Very critical of VW; sees decline and dependency	VW partnering with XPeng and Rivian to catch up	General mention of challenges for foreign brands, but no specific mention of VW
Consumer Preferences	Nationalism, new view on luxury, connectivity	Tech, cost, design all better in China	Flashy lights, karaoke, digital focus, fast adaptation	Mentions differences but lacks detailed consumer insight like others
Future Outlook	China to dominate locally and globally;	Foreign OEMs will collapse; China dominates	EV dominance in cities, private use over sharing	Predicts dominance of Chinese brands globally, especially

	politics is main barrier			in technology and scale
Tech Commentary	Broad policy and market analysis, competition focus	Deep dive into factory and automation innovations	Focus on user ecosystem, delayed software updates	Highlights battery and autonomous tech

Notes:

- This table is a summary of the four interview transcripts done by Chat GPT.
- The interviews were conducted on Zoom, and for 1 participant over e-mail.

Participants:

Lei Xing is an EV-industry consultant, analyst and Co-Host China EVs & More Podcast

Jeffrey Johnston is a NIO investor and ex-director and manager of BMW and Tesla

Oliver Wolter is the head of CRM and analytics at VW and has worked for FAW-VW China

Franklin Zeng worked for one of the leading Chinese EV brands in strategic digital transformation.