

A Work Project, presented as part of the requirements for the Award of a Master's degree in Management from the Nova School of Business and Economics.

Paradigm shift in the automotive market: How will premium brands deal with the innumerous challenges they will face?

Current strategy overview

Pedro Miguel Maia Jacinto

Student Number 25839

Work project carried out under the supervision of:

Professor José Miguel dos Santos Hortas Pita

Abstract

This work project focuses on the analysis of the automotive industry, more specifically, the premium segment. This assessment includes, not only the current outlook of the market, but also the future challenges that the industry will face.

The motivation for this research lies in the key point in time which the market is, and in figuring out how brands can keep up with the revolutionary technological changes and challenges. Although the premium sector may seem a specific piece of the automotive industry, it appears like the one that not only can push forward the premium segment needs and desires but also the one that can better surpass future technological drivers and challenges and, in the end, influence the market as a whole.

The automotive industry faces an unprecedented transformation, as such, there is the need to look at the current strategies, anticipate future changes, and elaborate a new strategy able to accommodate all challenges. The trends covered range from new engines to autonomous driving, connectivity, and new mobility solutions. In order to understand the current panorama and the main challenges the industry faces, the group started by conducting intensive secondary data research as well as expert interviews.

The final goal of the Work Project is to develop a set of recommendations for premium brands to stay relevant in this industry.

Keywords

Automotive industry, Strategy, Premium segment, Mobility, Connectivity, Autonomous driving, Electric vehicles, Internal Combustion Engine vehicles, Strategy, OEM, Luxury, Supercars, Performance, Challenges, Regulations, Policies, Partnerships

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Paradigm shift in the automotive market: How will premium brands deal with the innumerous challenges they will face? An analysis of their strategy, main challenges, and a strategic roadmap to maintain relevance

Market Research Field Lab Group Members: Diogo Figueiredo #29021 | Luís Lopes #29022 | Pedro Jacinto #25839 Academic Advisor: José Miguel dos Santos Hortas Pita



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Glossary



ACES - Autonomous Driving, Connectivity, Electrification

and Smart Mobility (also referred to as "new growth areas")

All-electrics – Companies like that only manufacture electric vehicles

CAGR – Compound Annual Growth Rate

CG – Center of Gravity

DCU – Domain Control Unit

ECU – Electronic Control Unit

Established OEMs/ Brands – Automakers that have been in the market prior to trends discussed (Mercedes, BMW, ...) **Euro5** – Group of European countries composed by France, Germany, Italy, Spain and United Kingdom

EV – Electric Vehicle

E/E - Electrical and electronic

Generation Y – People born between the early 1980s and the first half of the 1990s (also known as Millennials)

Generation Z - People born between the second half of
the 1990s and late 2000s
ICE – Internal Combustion Engine
IoT – Internet of Things
MaaS – Mobility as a Service
M&As – Mergers and Acquisitions
OEM – Original Equipment Manufacturer
Risk Modelling – Mathematical model used to understand
the probability of a risk event occurring
SUV – Sport Utility Vehicle
SW – Software
Tech giants – Large technological firms (Amazon,
Alphabet, Facebook, among others)
V2X – Vehicle To Everything



To address the Work Project topic, *Paradigm shift in the automotive market: How will premium brands deal with the innumerous challenges they will face? An analysis of their strategy, main challenges, and a strategic roadmap to maintain relevance, the team adopted the SCQA framework. This framework was followed to ensure a clear and structured reasoning, starting with the current panorama of the premium market, followed by an analysis of the challenges and doubts that arise from that assessment, and, finally, the development of a set of key recommendations that will answer the questions raised.*

For this market research, the team utilized **qualitative and quantitative research methods** to strengthen the value of the recommendations and the construction of the storyline. The **qualitative research** was based on **secondary data and expert interviews**. The interviews were constructed following the topics that were covered in the project. To provide insightful, diverse perspectives on the different themes, the interviewees worked for different premium brands and had different areas of expertise. As Yin (2014, p.90) mentions: "case study interviews are of an open-ended nature, in which you can ask key respondents about the facts of a matter as well as their opinions about events. (...) Such persons not only provide the case study investigator with insights into a matter but also can suggest sources of corroboratory or contrary evidence – and also initiate the access to such sources". In what regards **secondary data** (both qualitative and quantitative), it comprehends academic and non-academic articles, books, consultancy reports, and news articles that generate valuable insights regarding the topic in question.

After conducting the expert interviews and evaluating secondary data research, the team constructed a **survey** (quantitative research) according to the information gathered, combined with the overall structure of the study. This survey's main goal was to retrieve data from consumers and analyze all the challenges and trends covered in this project, bringing new insights to the industry.

To comprehend the environment around the automotive industry with a special focus on the premium car sector and its potential growth, the team performed a **PESTLE analysis** to assess the Political, Economic, Social, Technological, Legal, and Environmental aspects of the ecosystem. This framework, firstly introduced by Aguilar (1967), is meant to describe the opportunities and impact of the beforementioned six macro forces in the projected business model. Finally, **Porter's Five Forces analysis**, created by Porter, M (1979), was performed to evaluate the present industry structure and its competitive environment. This provided a deeper understanding of the market players and allowed OEMs to understand how these five forces can be used to build a strong corporate strategy.

Disclaimer



Work Project Structure	The automotive market is witnessing several structural changes. Consequently, in order to have a complete and relevant analysis of the premium vehicle segment, the project required the inclusion of a wide array of areas that will play a significant role in the future of this industry. For that reason, instead of choosing to be exhaustive in the research of a limited number of subjects, the team decided to accommodate all the main subjects that could have an impact within the segment. Therefore, given the topic broadness at hand as well as its overlapping areas it was not possible to be mutually exclusive . Bearing the aforementioned in mind, the team decided to adopt SCQA framework to deliver a structured and clear storyline to this project.
Main Limitations	The first limitation of this project was the survey's lack of geographical coverage . Despite team efforts to reach international clients, 95% of the responses came from the national market. The high number of topics examined determined the need to evaluate a comprehensive range of secondary data making it more complex to extract the intended information . Furthermore, the constant industry turmoil (specifically since the start of the pandemic), allied with the everchanging OEM's strategies, made the monitoring of information increasingly difficult.
Further Research Directions	 Cybersecurity and software architectures were not taken into account in this Work Project. Their technical complexity together with a less relevant role in the industry inhibited the team from including them in this study. Nonetheless, with increasing connectivity and the arrival of full autonomous driving, their importance will grow significantly. Financial services were also disregarded as, in most cases, these are not controlled by automakers. With the shift to a service-oriented industry, its relevance may be worth reassessing. Considering that most OEMs turned to batteries as the main propeller of electrification and disregarded fuel-cell for the time being, the team decided not to include this topic in the Work Project. Although the potential of hydrogen-powered vehicles is still untapped, they may become an attractive solution in the near future. For the reasons listed above, the named issues should be considered for further research on this topic.

Overall Agenda – Structure and Questions



Sections	Chapters	Research Questions
Context	0. Motivations and Scope	 Why is the premium car segment relevant for OEMs and what is the scope of this project? 1. History of the automotive industry: How was the inception of the premium segment in this market? 2. What were the motivations to conduct this project? 3. What is the scope of the Work Project?
	1. Realities of the premium segment	 Which characteristics of the auto industry have a considerable importance for premium segment? 1. How can consolidation affect premium brands? 2. Why does customer service have an exceptional importance for the segment? 3. What is the role of customization in upper-end vehicles?
	2. Emerging Trends	 What are the main trends in the automotive industry that demand a strategy shift? 1. How are firms dealing with the challenge of electrification? 2. How is technology/software shaping the industry? (technology aboard, infotainment, digital cockpit) 3. Are new competitors changing market dynamics?
Analysis	3. Environmental Concerns	How will environmental awareness modify the development of premium brands?1. Will regulation be the main driver of change in the foreseeable future?2. How will brands deal with the increasing pressure to become eco-friendly?
	4. Mobility	Why is it important to pay attention to other mobility solutions?1. Is Smart Mobility the future of the auto industry?2. What opportunities will autonomous driving bring to the premium segment?
	5. Revenue streams	How will new products and digital solutions shape revenue streams?1. What will be the sales panorama in the next few years?2. How will trends affect the aftermarket structure?
Recommendations	6. Path to success	What are the main actions that premium brands can take to stay relevant in the industry?







Automotive development has been accelerating over the decades and, in the last 30 years, this revolution has become even more preeminent.

The resilience displayed by premium brands in the Covid-19 pandemic highlighted the importance of higher segment vehicles for OEMs.





	Why is the premium car segment relevant for OEMs and what is the scope of this project?		Methodology
Chapter 0. Motivations and Scope	0.1. History of the automotive industry: How was the inception of the premium segment in this market?	-	Secondary data: Jardine Motors Group, TitleMax, History, Sharp Magazine,
	 0.2. What were the motivations to conduct this project? > What is the relevance of the premium segment in the auto industry? > Why is it important for firms to have more information regarding this segment? 		Supercars, Autocar UK, BMWBLOG, TheSupercarBlog, McKinsey, European Commission, Euro NCAP,
	 0.3. What is the scope of the Work Project? Within the whole market, which segments will be addressed in this Work Project? What is the relevant time frame and geographic coverage of this study? PESTLE Analysis: What are the main factors that affect premium brands' performance? 		CMS Law, UN Environment, PESTLE Analysis, Business Insider, Atwal 2009, Bartikowski 2017, Brunello 2015, Bloomberg, Cox Automotive
		-	Literature Review: Pestle Analysis

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Context 0.1 Inception 0.2 0.3 Analysis I Analysis II Recommendations

NOVA

The birth of the luxury transportation dates back to the 16th century

The automotive sector has witnessed several changes, especially in the last 30 years

Beginning of Luxury Transportation



1600's

 Appearance of the first charets in Europe only available to noble families and royalty





1886

First car built by Carl Benz

1888

• First electric car introduced by Andreas Flocken

1913

 Beginning of mass production (Ford Model T)

1920's

- GM introduced model diversification and price gaps
- GM creates the concept of planned obsolescence



Innovation Driven by

Stagnation

1930's

• Stylish and aerodynamic designs

1950's

- Comfort and safety
 innovations
- Engine power and speed **1960's**
- Gas prices rise
- First supercar of the modern era (Lamborghini Miura)

1970's-1980's

Technological innovations





1990's

- First car with a GPS device
- First modern electric car (GM EV1)

2000's

- Rise of the SUV in the US
- Boom of driver assist features 2010's
- Autopilot is introduced
- Luxury brands start to prioritize electric cars
- New brands (electric-focused) enter the market



Context 0.1 0.2 Motivations 0.3 Analysis I Analysis I Recommendations



The premium segment presented positive results even during a severe economic recession

Faced with unmatched challenges it is time to reshape strategies and plan the future



Context 0.2 Motivations 0.3 Analysis I Analysis II Recommendations 0.1



The share of profits flowing from premium brands displays their importance for OEMs

In the last decade, this segment has presented growth in revenue and volume of sales



Although sales volume is underwhelming, when compared to other segments, premium brands represent a large slide of the total profit in the industry 40% 13% are equivalent to of the total volume of of the total profits automotive sales of automotive sales Growth of the premium segment between 2009 and 2017

12% growth in **revenue** CAGR **9%** growth in **volume of sales** CAGR

The main reasons behind these growth rates are:

- Multiplication of premium vehicle offers
- > Increasing consumer wealth in key geographical regions
- > Set of **different available features** aimed at appealing to diverse consumers within the premium segment

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Recommendations Context 0.2 0.3 Scope Analysis I Analysis II 0.1

The premium segment comprehends luxury vehicles, performance cars and SUV's

The next 15 years will be critical to the strategies of premium brands

The increasing number of car models changed the panorama of segmentation, so there are vehicles that fit in more than one category. To simplify the distinction, the group developed a segmentation based on Euro NCAP classification

Car segments according to the European Commission (based on size and weight)

Segmentation done by the group (based on size, design, price and performance)

> Microcar

> A-segment (Mini cars)

- B-segment (Small cars)
- C-segment (Small family cars)
- > D-segment (Large family cars) **Compact Executive)**
- > E-segment (Mid-size luxury)
- > F-segment (Full Size luxury)
- S-Segment (Sports Coupés)
- > M-segment (Multi purpose vehicles)
- > J-segment (SUV's)

Standard Vehicles ✓ Microcar

OUT OF SCOPE

- ✓ Mini cars (A-segment) ✓ Small cars (B-segment)
- ✓ Small family cars (C-segment)
- purpose vehicles ✓ Multi Minivans (M-segment)

×

✓ Standard SUV's (J-segment)

IN SCOPE

> Luxury Vehicles

- ✓ Luxury compact (D-segment)
- ✓ Mid-size Luxury (E-segment)
- ✓ Full-size Luxury (F-segment)
- > Performance Cars
 - ✓ Sports Cars (S-segment)
 - ✓ Sports Sedan (E-segment and Fsegment)
 - ✓ Supercar (S-segment)

> SUV's

✓ Premium SUV's (J-segment)

Geographic Coverage of the premium segments under study



Figure 3: World map containing the countries that are more relevant to the premium segment. Euro Area, UK, USA, China, Japan and South Korea.

Portugal was the main source of primary data in this Work Project. However, to have a more consistent and broader perspective on the industry, the project will also have secondary data from other relevant markets in the premium automotive industry.



Considering the changes that are happening in the segment, and the emission targets that will be into place in 2030 and 2035, we have decided that the most appropriate time span of the **Project would be 15 years.**



Themes not covered in this Work Project:









Cybersecurity Software architectures

Hydrogen (Fuel-cell)



Financial services

0.3 Scope > Analysis I

Analysis II Recommendations



Premium segment includes various subsegments

0.2

0.1

There are numerous models from different brands that target each individual category



In this Work Project, "premium" is defined as the segment of the car industry that is focused on design, comfort, performance, quality of construction and that offers a driving and riding experience that other OEMs cannot match. The premium vehicles are categorized in Luxury, Performance Cars and Premium SUV's

0.1 0.2

0.3 Scope Analysis I

Analysis II Recommendations



PESTLE analysis signal that the main setbacks may arise from the Political, Legal and Environmental spectrums

Despite some challenges, the premium car sector shows signs of viability and growth

Political

- Qualification for tax credits when buying electric vehicles
- Governments' pledge with Paris Agreement
- Policies to ban certain cars have been implemented in some cities around the world
- Eco-friendly policies are hurting the combustion engine industry

Technological

- Always on the forefront of the latest technology assets
- Competition amongst brands to deliver the latest technology
- Threat/Opportunity of autonomous driving
- Increase on **safety features** thanks to **connectivity**

Economic

- Higher resistance to recessions than other segments
- Economic trends indicate steady growth in sales of both premium and electric vehicles
- Highly consolidated market translates into economies of scale for most of the brands

Social

- **Higher quality of life** due to higher comfort and less CO₂ emissions
- Complying with Sustainable
 Development Goals
- Status that comes with ownership
- Increase in the number of millionaires and their individual fortunes

Legal

- Necessity of being up to date with latest patents
- Respecting new environmental regulations and rules
- Protection through IP rights
- Increase of speed radars on the roads and freeways may generate a small disinterest in driving faster cars

Environmental

- Reduction of CO₂ emissions
- Reduction of emissions of other Green House gases
- Brands are now more than ever striving for recognition as ecofriendly
- Premium brands are shifting their priorities towards the use of ecofriendly materials

The macroeconomic environment analysis established the guidelines upon which the topics under study were chosen.









Analysis

The Automotive market is witnessing unprecedented structural shifts. Prior to COVID-19, the industry landscape and the way of selling vehicles were already changing. The pandemic only brought more uncertainty to the already unforeseeable future of the market. Moreover, electrification and the adoption of innovative technologies are distressing OEMs. Meanwhile, the threat of new competitors proves to be an ever-growing concern.

Besides the financial and social difficulties raised by the pandemic, other issues have been raised, and the time to act up on them is now. New demand needs, technological advances and policies are shaping the automotive industry, and no one wishes to stay behind.





In order to provide a comprehensive overview of the premium segment, the team divided the survey and interviews by the topics covered in our Work Project. As such, the results of these two research methods will be shown in the different chapters.



	Which characteristics of the auto industry have a considerable importance for premium segment?			Methodology
Chapter 1. Realities of the premium segment	 1.1. How can consolidation affect premium brands? What is the panorama of consolidation in the automotive market? Why is there a pressure to consolidate in this industry? How did Covid-19 affect this trend? All considered, what are the advantages and disadvantages for the premium segment? 1.2. Why does customer service have an exceptional importance for the segment? What are the characteristics of the premium buyer? Why should brands continue t invest in customer service? How can we describe the customer journey in this segment? 	D	•	Primary data: Surveys and Expert Interviews Secondary data: Deloitte, BCG, CounterPoint, Focus2move, KPMG, ACEA, WEF, Accenture, Nielsen, PWC, Gartner, Google, Refinitiv, Euler Hermes, Cox Automotive, Porsche, Mercedes, Rolls Royce
	1.3. What is the role of customization in upper-end vehicles?Does personalization have a future in the automotive industry?		•	Literature Review: SCQA framework

1.1 Consolidation

Analysis II

Recommendations



Market Consolidation has been a trend in the automotive market

Analysis I

The new challenges that OEM face, may present different ways to cooperate with other sectors

1.2

In the auto industry market consolidation includes several types of agreements

- > Despite the general idea that consolidation means only acquisitions, in the automotive industry this is not the case.
- > Historically, in this sector, consolidation included cross-supply of powertrains, manufacturing joint-ventures, shared platforms, and R&D partnerships.

1.3

- In recent years, automotive companies are increasingly looking at alliances in specific components. The reason to favor strategic alliances and partnerships in the future is that, given all the transformation and challenges in the industry, these types of agreements allow OEM to have more flexibility and choose the most strategic partner for each element of the car.
- In addition, the ACES (Autonomous Driving, Connectivity, Electrification and Smart Mobility) trends in the automotive market, allied with the increasing market capitalization of technological firms signal us to a future of cross-sector alliances.



The tendency for cross-sector alliances will continue to grow due to the increasing use of technology

1.3

1.2

OEM are avoiding huge investments and using deals as a shortcut to innovation, scale, and growth

1.1 Consolidation



In the last ten years, ACES partnerships saw an unprecedented increase, with a special focus on electrification and mobility

Recommendations



Figure 5: Number of ACES partnerships in the last decade. *Projection Source: McKinsey

Analysis II

Taking into account the new trends in the automotive market (Autonomous driving, Connectivity, Electrification and Smart Mobility):

- Over the last decades the industry witnessed an increasing trend for cross-sector alliances and partnerships
- Auto tech deals are being utilized by automotive groups to develop new business models and find new revenue streams in a faster way (In 2010 auto tech deals represented 8,5% of industry deal volume, in the first half of 2019 this value was 18,4% - 2,2x higher)

Context

Analysis I

ΝΟν

 Context
 Analysis I
 1.1 Consolidation
 1.2
 1.3
 2
 Analysis II
 Recommendations

NOVA SCHOOL OF

The characteristics of this industry, allied with the new landscape, demand the maintenance of consolidation

An increasing need for investment with declining profit margins pose a huge obstacle to the industry







Analysis I1.11.2 Customer Service

Analysis II

Recommendations



Premium car buyers have special characteristics that differentiate them from standard clients

The importance of customer service has been growing in every industry and the automotive is no exception

1.3

2

Premium Buyer profile	In the recent years, the importance of customer service has been highlighted in different industries			
 > High purchasing power > Well informed customer > Well informed treatment 	81% of marketers consider customer service as the main challenge for firms Before the pandemic 74% of companies were expecting to increase customer service budgets 6x - 7x €			
 Car as a status symbol Attention to detail Especially value customization Driven by emotional triggers Quality and performance as a goal 	86% of buyers are willing to pay more for a great customer experience A positive emotional relationship with a customer can make his/her value rise from 27% to 103% (50% on average) (50%)			
60%	The car industry is no exception in what concerns the importance of customer service			
2x More importance to design More importance to design On average OU 70 of their time is spent focused on the car (Searching, test-driving, customizing)	 Providing good customer service is crucial for car brands and dealers to create loyalty. Consumers expect car brands to engage with them beyond the point of sale. A 5% of clients stick with a car brand or a dealership if they get a good customer service 			
3x More likely to believe that the car reflects who they are 40% Of the time is spent on the deal (negotiation and paperwork)	 According to Mercedes US, the likelihood of an existing customer buying a new vehicle was 29% with satisfied customers but 86% with delighted customers. According to Mercedes US, the likelihood of an existing customer buying a new vehicle was 29% of buyers after purchasing a car place high value in good after-care and maintenance services 			

Analysis I > 1.2 Customer Service Analysis II **Recommendations** Context 1.1 1.3 <u>v 0 v</u> The complexity of the customer journey is increasing with omnichannel usage Firms need to leverage the information available to improve the ability to capture and retain clients **Research / Consideration Decision / Purchase Awareness** This step concludes the first part of the customer In this stage, consumers actively search car models and brands The beginning of customer journey: A customer journey: Clients make the decision of buying a in different channels (Omnichannel). The search involves a realizes that she/he wants to buy a new car. specific car model that suits their demands. blend of branded content and third-party reviews. **Purchase Triggers Channels Used Finalizing the deal** Need more Social Media Visit to the **m** Price Routine upgrade <u>étè</u> Friends & Family ΤV space negotiation dealership New Tecnology New car Newspapers and magazines **Dealerships** OEM and 3rd DEIVI and 5 party websites Fill the ||| |-× Car available model / Test drive contract customization 54% 97% 66% 8 out 10 63% 69% Of premium clients Of clients surveyed do online Of clients surveyed believe that Clients need to see, Of the customers Of premium car owners actively pay attention research on the car they want luxury brands should provide consider themselves and test drive the car want minimal to innovations in to buy, before visiting the test-drives without the need of car enthusiasts paperwork going to the dealership Brands and dealerships need to focus on **customer** During their research, buyers of high-end cars are mostly Premium customers are more driven by want experience at this stage. Premium buyers can be influenced by their friends and industry experts. The main than need and are **more emotional** than easily swayed by the dealer relationship and characteristics assessed at this stage are the car design, car standard clients. As such, TV ads, social media, shopping experience. They can be persuaded until features, type of engine, extras, models of vehicles, brand of friends, online articles or car magazines can the last minute based on a **positive or negative** the car and the drivability of the car. enable them to want a new car model and experience. Customers expect differentiated Websites that offer the option of configurating the car, allied initiate their customer journey. treatment and a tailor-made experience. with new ways of test driving it, are imperative for customers.

> 1.2 Customer Service 1.1

Analysis II

Recommendations



The purchase stage is not the end of the customer journey

A delighted customer will be more loyal and valuable for a premium brand

Service

Analysis I

The service starts in the delivery of the car and includes the maintenance until the owner decides to buy a new vehicle.



important tool, not only to **retain customers**, but also to capture new clients. Premium customers that buy used cars and perform maintenance at OEM garages, may feel compelled to buy a car at that dealership if they get a good service. This stage is also very important to build a strong customer relationship and, consequently, create loyalty.

Customers of the premium car segment are **highly** active online after the purchase and service, since it plays into the status symbol aspect of their buy. Studies show that referred customers have a higher value and are more loyal than the average client. As such, firms need to ensure that they understand the needs of these type of clients and that they exceed their expectations to create customer delight.

1.3

Advocacy

Final stage that portraits the level of satisfaction

of the client during or after his customer journey.

2

4x

The importance of the customer journey for the premium clients cannot be overlooked

- > Every step in the customer journey must be evaluated carefully to ensure that, in each stage, all the client expectations are exceeded.
- > Customer journey is increasingly becoming more complex and fragmented with the switch between online and offline channels.
- > To ensure a seamless customer journey the **balance** between high tech and high touch it's mandatory for OEM and dealerships.

89% Of consumers stop doing business with a firm after experiencing poor customer service

63%

Of the clients are more willing to share their data if they truly value the service of a firm







What are the main trends in the automotive industry that demand a

	strategy shift?
	 2.1. How are firms dealing with the challenge of electrification? What created the push for electrification? Why are consumers doubting EVs despite their potential and OEMs' commitments? Currently what are main limitations of EVs?
Chapter 2. Emerging Market Trends	 2.2. How is technology/software shaping the industry? (technology aboard, infotainment, digital cockpit) Why is technology extraordinarily important in the premium segment? How can connectivity propel automotive innovation? Why can technology be a demanding problem for premium vehicle manufacturing?
	2.3. Are new competitors changing market dynamics?

- > How did Tesla open the door for new entrants in the automotive industry?
- What are the strengths and weaknesses of new entrants relative to established premium OEMs?

Methodology

 Primary data: Surveys and Expert Interviews

- Secondary data: IEA, EV Volumes, Deloitte, Autocar, McKinsey, INSIDEEVs, Zainuri et al., 2019, Financial Times, Volkswagen, Oliver Wyman, WardsAuto, Business Insider, Wollshlaeger, et al., 2015, Statista, IHS Markit, Jabil, Design Council, AutoCar, The NY Times, Chen & Perez, 2018, Clayton Christensen, Yahoo! Finance, The Driven, Forbes
- Literature Review: SCQA framework, Porter's Five Forces