



# RESEARCH PROPOSAL

FOR THE CLIENT BRIEF PROPOSED BY TESLA.

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Module - ST3188

Word Limit - 2991 Excluding: (Executive summary, Table of content, Appendix)

## **Executive Summary**

The research proposal has been created as a response to the client brief given by Tesla. Tesla is a sustainable energy company which aims to transition the world to electric mobility by making electric vehicles. The given client brief included background information about Tesla, its Business objectives and aims of conducting the research, suggested designs, sample size and analysis techniques, with the budget and timescale.

This research proposal consists,

- Introduction including more details about Tesla, summarizing Tesla's Business objectives and research aims.
- About the EV market and Tesla's market position in it
- Market Decision and Research Problems in order to identify what information needs to be obtained
- Literature Review – Information regarding prior similar researchers that had been conducted
- Research Approach - How the defined information will be obtained from the market
- Research Design – More technical information regarding obtaining data
- Expected data collection method explaining its benefits over other method
- How the collected data will be analyzed to gain insights'
- Further suggestions of the research
- Expected Budget
- Questionnaire

Focus group discussions, projective techniques are expected to conduct in order to obtain primary qualitative data, where as an online survey and a face-to-face survey are expected to conduct with three different population segments to obtain primary quantitative data. Cluster analysis as per suggested in the client brief and cross tabulation methods will be used to analyze data

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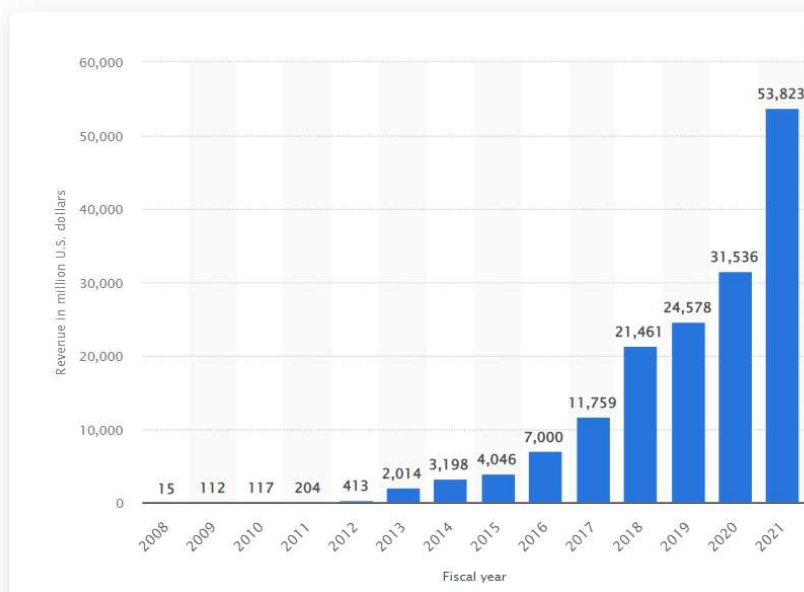
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## A. 0 Introduction

Tesla, formed in 2003, is an automotive, sustainable energy company which designs, manufactures electric vehicles, energy generation and storage systems, led by billionaire Elon Musk. The company has more than 400 stores in more than 35 countries. Revenue growth of the company is as follows.

### Tesla's revenue from FY 2008 to FY 2021

*(in million U.S. dollars)*



Source : (Carlier, 2022)

In 2020 Tesla's market capitalization was able to surpass Volkswagen, Daimler, BMW, Toyota and "became the world's most valuable automaker by market capitalization" (Tesla, Inc 2019). Tesla was able to provide over 936,000 units of global deliveries in 2021. 'Model 3 car was awarded the all-time-best-selling plug-in electric car in the world, was able to be the first electric car to sell 1 million cars' (Tesla, Inc 2019). mlt also states that Model S, Model X, 3, Model 3Y were Tesla's best produced electric vehicles and is willing to introduce Roadster (second generation), Tesla Cyber Truck and more sedans, small SUVs in the future. **Tesla aims to transition the world to electric mobility by making electric vehicles.**

### **A.1 Business Objectives**

1. Accelerate the transition to electric cars globally while acquiring a bigger market share than its competitors.
2. To retain the existing customers and acquire new customers in the long run.
3. Diversify Tesla's existing product range and to utilize its research and development budget.

### **A.2 Research Aims**

1. To understand the brand perceptions among motorists of different manufactures to assist with customer acquisition and retention.
2. To understand drivers' attitudes (Ex -maximum willingness to pay), expectations (Ex -perceived driving range limits on a single battery charge) about electric cars.
3. To determine the market potential for new product lines and evolving trends in consumer appetites.

## **B.0 Business Context**

Starting from cars, the EV market is now focusing on different segments such as Trucks, Lorries, and Busses etc. EVs is a solution for Air Pollution (Matteo & Borlaug, 2022).

“Between Q2 of 2021 and 2022, the percentage of households who owned and bought another EV increased from 48% to 65.3%” (Insider, 2022). Also ‘The US government is making it cheaper for people to buy EVs, with President’s Inflation Reduction Act giving buyers up to \$4000 for a used EV’(Levin, 2022).

According to (Govind Bhutada Graphics/Design: , Bhutada, & Graphics & Design Zack Aboulazm, 2022) ,the EV market dependents can be categorized as :

1. Internal Factors
2. External Factors

### **B.01 Internal Factors**

These inter-linked factors have been controlled by the manufacturing companies, such as:

1. Price of the Vehicle and Battery
2. Driving Range and other performances
3. Charging Time Duration and many more
4. New features like Autopilot mode

Initially, those were challenging for the manufacturers as to satisfy customers with qualities of gasoline vehicles. Nevertheless, companies could handle them eventually.

Car	Range On One Full Charge	Estimated Base Price
Lucid Air	520 miles (837 km)	\$170,500
Tesla Model S	405 miles (652 km)	\$106,190
Tesla Model 3	358 miles (576 km)	\$59,440
Mercedes EQS	350 miles (563 km)	\$103,360
Tesla Model X	348 miles (560 km)	\$122,440
Tesla Model Y	330 miles (531 km)	\$67,440
Hummer EV	329 miles (529 km)	\$110,295
BMW iX	324 miles (521 km)	\$84,195
Ford F-150 Lightning	320 miles (515 km)	\$74,169
Rivian R1S	316 miles (509 km)	\$70,000

Source : (Govind Bhutada Graphics/Design: , Bhutada, & Graphics & Design Zack Aboulazm, 2022)

## B.02 External Factors

These are not under manufacturers' direct control. Fuel prices, consumer characteristics, availability of charging stations are some examples. Lack of fast charging points has become a great challenge. People would not intend to purchase EVs if there are no sufficient stations to charge the vehicles. Identifying this as an opportunity, Tesla implemented charging stations on their own (only for Tesla vehicles), which ultimately helped in a high magnitude to dominate the market over the competitors. Most of the Electric Car owners face this problem as these cars were limited only for people who have a garage at home. According to (Coffman, M., Bernstein, P., & Wee, S. (2015) ),the market is focusing more on providing Working place charging, adding more public charging solutions, and faster charging facilities as solutions.

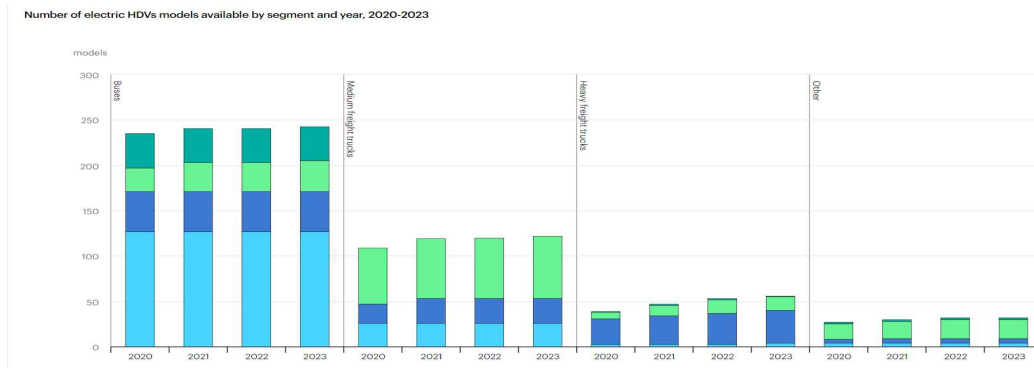
## B.03 Weaknesses of Tesla

According to (*What are the pros and cons of Tesla's Service Model?*(2022),[Video]. YouTube/ (CNBC, 2022)) one of the unique facts of Tesla is that it does not depend on external Motor dealers and service centers as almost all the other manufacturers where these stuff are owned and operated separately from brand itself, which has been fired back to them. It further states that as of February 2022, Tesla had only 148 service centers in the US), while Ford had 3143 dealerships. So this has become a weakness and also a threat to Tesla as competitors such as Toyota, Nissan, BMW are strong in this aspect. Also as customers continue to complain about long wait times, lack of loner cars, difficulties in getting appointments, late appointments, having to travel miles to reach the nearest service centers when a mobile ranger fails to fix a problem, difficulties in getting vehicle parts, affect **customer retention** significantly. (Iea, 2021) states that limited manufacturing capacity is also a weakness of Tesla. Though the brand name is known world widely, Tesla has not established its market globally compared to its competitors such as Toyota, BMW, which is a major challenge for

tesla in **customer acquisition**. This report more reveals that Tesla models are expensive for average incomers, and Tesla is mainly for people who have higher income level

### B.04 Future of Electric Heavy Duty Vehicle models (HDV)

From light duty vehicles, now the market has started to move towards Heavy Duty Electric Vehicles (HDVs). This transformation makes a huge step in reducing Air Pollution. According to (Iea, 2021). HDV market is the emerging EV sector as the market is focusing more on Buses, Trucks, Containers etc. It also states that Driving Range has become the key characteristic of this HDVs as these vehicles are not used for short distant drives. Also expanding Zero Emission HDVs has also been identified as a future trend which is really helpful in achieving one of Tesla's business objectives .The following graph shows the demand for main HDV segments in the last years



### A.3 Marketing Decision Problems

1. Should Tesla give authority to external Motor Dealers and Service Centers to repair and service its customers' vehicles?
2. Should we reduce the prices of future vehicles and if so how the features of them need to be changed?
3. Should Tesla accelerate manufacturing Electric Heavy Duty Model vehicles?

### A.4 Marketing Research Problems

1. Understand whether the brand perception of Tesla do match with its services, and service center facilities provided to its customers.
2. Determine attitudes that consumers hold currently on EV modules of Tesla, and what changes of features do present and potential consumers mainly expect in future EVs
3. Determine the unique aspects and expectations that customers do focus in HDVs, compared to normal EVs.

(Information which are required to answer these questions will be collected from the research)



## B.1 Literature Review

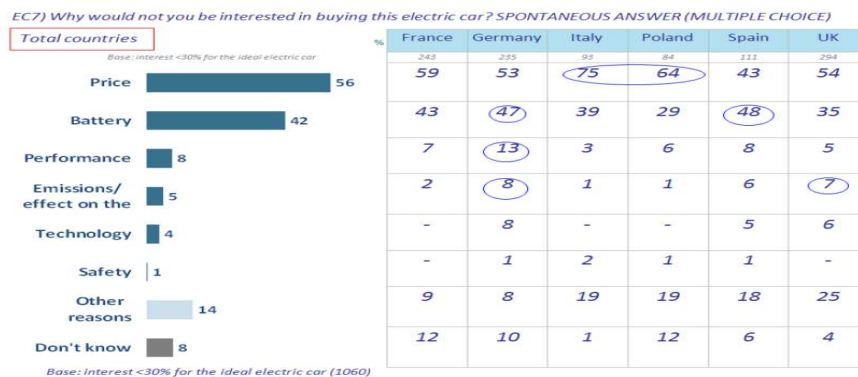
Brand Perception on Service Center Facilities –

(Izogo, 2015) states that this can be measured on, **Timely availability of resources, customer care quality, shorter waiting time**. “Some of these antecedents are related to automotive repair services” (Izogo, 2015). As per (*What are the pros and cons of Tesla's Service Model?*(2022),[Video]. YouTube/ (CNBC, 2022)), Tesla is weak on these aspects, which affect its Brand Perception on the quality of service.

Expectations and Attitudes –

(Thiel, Alemanno, Scarcella, Zubaryeva, & Pasaoglu, 2012) reveals that these factors are based on **price, charging facilities, driving range of EVs**, where the pricing of the vehicle is dependent on variables such as **product quality, unique features compared to other vehicle models** etc. (Anabtawi, 2020).

According to (Bigerna & Micheli, 2018) the common opinion is that EVs are expensive. It states that in terms of charging facilities, customers are not satisfied in **Re- Charge time** as it's not a problem in conventional cars, also people are expecting EV manufactures to come up with a solution on **Re-Charging ability at home** without need of a garage. Longer **driving range and** is also expected. (Bigerna & Micheli, 2018) also states that these attitudes and expectations depend on Age and the Level of Familiarity with EVs and **Education on ecofriendliness**.



Source : (Thiel, Alemanno, Scarcella, Zubaryeva, & Pasaoglu, 2012)

Heavy Duty Electric Vehicles –

According to (Geotab, 2020), ‘**range, charging time, carrying capacity** have been the main challenges for HDV manufacturers’. As HDVs like busses, trucks are used for long distant trips, a higher driving range is required. Compared to light duty vehicles, HDVs require a larger battery capacity, so they take more time to charge. (Geotab, 2020) mentions “Most eTrucks will take well

over two hours to fully recharge on the fastest available charging systems, and some vehicles will have to plug in overnight to fully recharge a drained battery”. So implementing efficient depot charging facilities would be a financial benefit for users because it’s a low power charging method. So the trucks can be re-charged when off shift. Carrying capacity has become a challenge as HDVs weigh more, can’t carry a lot as Diesel Trucks

## **C.0 Research Approach**

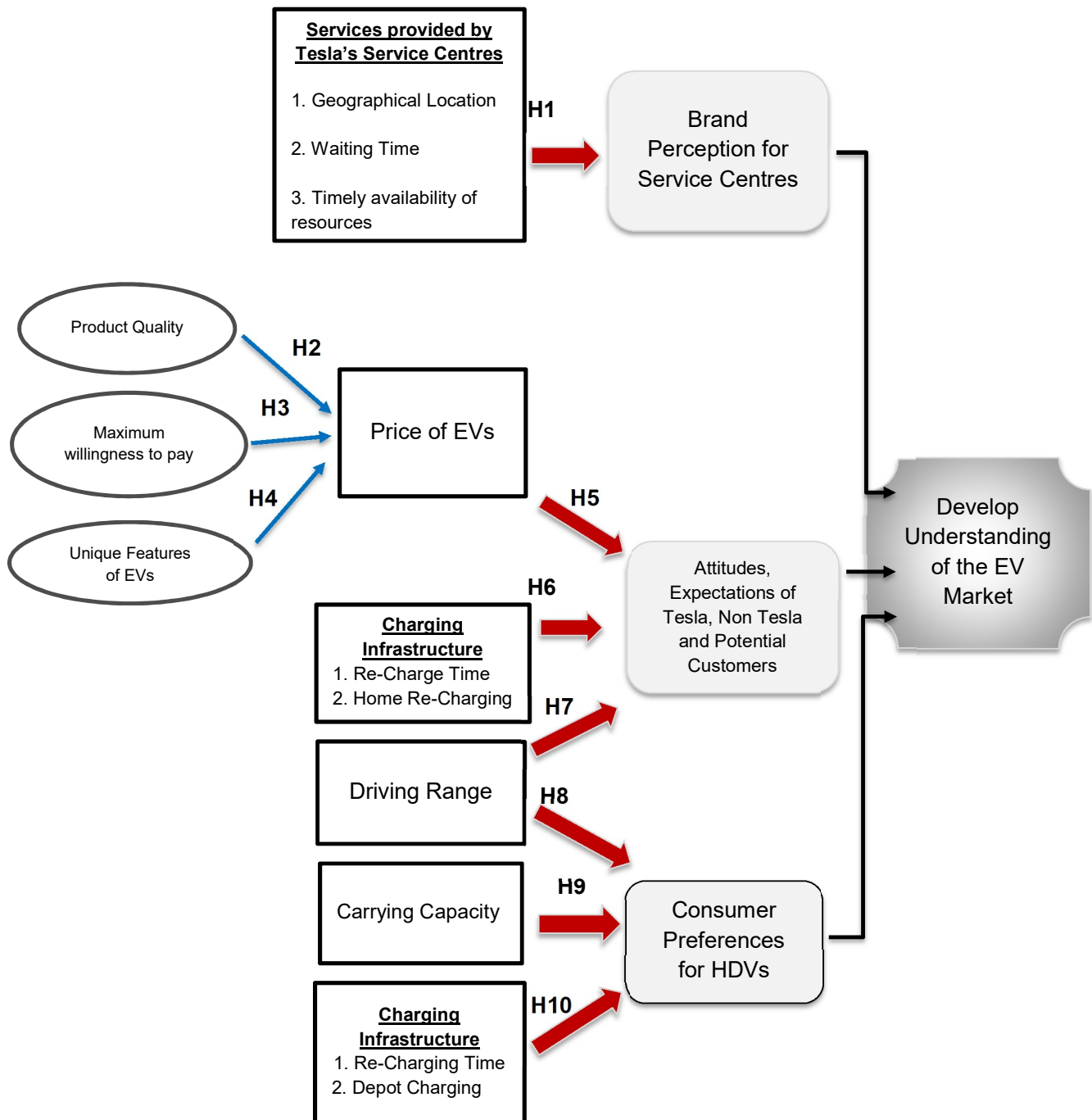
### **C.1 Research Questions**

1. Do services provided by Tesla's Service Centres have a significant impact on its Brand Perception for Service Centres?
2. How does product quality impact on determining the Price for EVs
3. How does maximum Willingness to pay impact on Price of EVs
4. Does 'unique features of EVs' have a significant impact on their Prices?

When determining attitudes, expectations of Tesla, Non Tesla and Potential Customers,

5. How 'does price of EVs' impact
6. Does charging infrastructure facilities have a significant impact on it?
7. Does 'driving range' have a significant impact on it
  
8. How does driving range impact on consumer preferences for HDVs
9. How does carrying capacity impact on consumer preferences for HDVs?
10. Do Infrastructure facilities have a significant impact on Consumer Preferences for HDVs?

## C.2 Analytical Model



### **C.3 HYPOTHESIS**

**H1:** Services provided by Tesla's Service Centres has a significant impact on its Brand Perception for Service Centres

**H2:** Product Quality has a positive impact on determining the Price for EVs

**H3:** Maximum Willingness to pay has a significant impact on Price of EVs

**H4:** Unique Features of EVs have a significant impact on their Prices.

When determining attitudes, expectations of Tesla, Non Tesla and Potential Customers,

**H5:** Price of EVs has a significant impact

**H6:** Charging Infrastructure facilities has a significant impact

**H7:** Driving Range has a significant impact

**H8 :** Driving Range has a positive impact on Consumer Preferences for HDVs

**H9:** Carrying Capacity has a positive impact on Consumer Preferences for HDVs

**H10:** Charging Infrastructure facilities has a significant impact on Consumer Preferences for HDVs

## D.0 Research Design

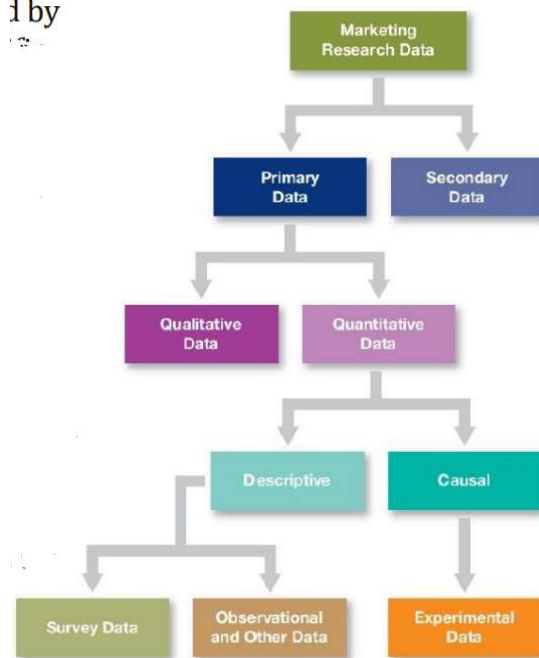
“It details the procedures necessary for obtaining the information needed to structure or to solve marketing research problems” (Malhotra, Nunan & Birks, 2017)

As we aim on identifying variables which are difficult to measure in a quantifiable manner, an **exploratory research** would be a good fit. Also this process is more preferable as it's more flexible, unstructured. So attitudes, expectations and brand perception that Tesla, Non Tesla and potential customers do hold can be measured

As we wish to generalize the findings of this research to a larger population, a more representative, larger samples need to be drawn. Understanding clearly defined population segments (Tesla, non – Tesla and potential customers) and testing above mentioned hypotheses, measuring variables in the analytical model also need to be done, a **conclusive research** is preferable. Multi- Cross sectional research will be conduct as multiple samples are expected to draw.

## E.0 Field Work

d by



## E.1 Primary Data Collection

### Qualitative –

**Focus Group** Discussions for Tesla Customers and **Projective Techniques** for Non- Tesla and potential customers are expected to conduct using **access panels**. In Focus Group Discussions, as participants can reflect their feelings, experiences and especially as facial, non-verbal expressions of the participants can be captured during discussions, this method suits when identifying brand perception for Tesla's Service Centers and Attitudes, Expectations of Tesla Customers towards the brand. Projective Techniques are helpful to identify underlying attitudes, expectations which are operating at a subconscious level of Non- Tesla and potential customers. So disadvantages of surveys such as participants' unwillingness to provide sensitive, personal can be achieved. Participants will be selected through screening processes, and all the participants will be rewarded a discount for their next vehicle service.

### **: Quantitative: Survey Data**

Considering the time, cost and requirement of achieving large number of accurate responses, **online web surveys** will be used to collect quantitative primary data.

Tesla Customers will be reached-out using the **customer database**, and the link to the web survey will be sent via personal emails (Please note that this is not an email – survey). QR code as discounts for next- recharging will be given as a reward if participants complete successfully

Government census statistics of each country will be used in order to reach out non Tesla, potential customers. **The purpose of the research and the company behind it will not be revealed to the public (Non Tesla, Potential Customers).** The ability to use graphics, images and other stimuli strategies, use of skip patterns, logic checks to check the validity of the responses can be done more efficiently compared to other methods. As this is a self-administered technique, biases when recording responses can be achieved. Free entrance for upcoming EV motor shows will be given as a reward for all the participants who complete successfully

**Suitable Competitor Customers – Customers who use EVs not manufactured by Tesla**

**Customers who do not use EVs.**

**Assumption – The government of each selected country focuses on EV adoption in their country.**

Data collection for HDVs:

**Personal interviews** will be conducted with top level managers of logistic companies in the USA. The ability to ask complex questions, to maintain a high response rate, to obtain high quality data are the main advantages of this method. Though this costs, it would be worthwhile as the sample size is low and HDV is an emerging product line.

And the respective logistic companies will be published as contributors for the global transition of electric vehicles on Tesla’s advertisements, articles etc.

**Assumption – In phase 1 of launching HDVs, Tesla will only concern about the USA market**

## **E.2 Secondary Data Collection – Literature Review, Business Context**



## F.0 Sampling Design

### F.1 Target Population

Sampling elements of the study would be,

1. People who are financially able to afford a vehicle
2. Heavy duty vehicle users in the USA

Whereas the sampling units would be,

1. People who have an yearly income level of more than USD 35,000
2. Top level managers of logistics companies in the USA.

As Tesla is a multinational company, also as income level has been a constraint for the research, the extent for this research will be people in 75 countries which has the highest level of GDP per capita.

### F.2 Sampling Frame

Existing Tesla customers will be contacted through the **customer data base**.

As per the business context, the adoption of EVs is being conducted in most of the countries, it is easy to build a sampling frame using government census statistics of each according to income levels. Managers of logistics companies will be contacted through contacting the respective companies.

### F.3 Sampling Technique

Tesla Customers, Non Tesla and potential Customers

**Systematic Sampling** will be used to create samples. The ordering of the population will be done according to income levels, using the customer database and local census statistics. So the samples will be more representative. As per (Malhotra, Nunan & Birks, 2017) "when the ordering of the elements is related to the characteristic of interest, systematic sampling increases the representativeness of the sample". It also mentions that this technique is more reliable, employed in online surveys frequently. This technique is inexpensive, less time consuming compared to simple random sampling (SRS), whereas stratified sampling also needs SRS in order to create stratum. Statistical inferences can be done as this is a probability sampling method.

#### Logistics Company Owners

Judgmental Sampling will be used as this technique is representative, appropriate of the population of interest (Malhotra, Nunan & Birks, 2017) states that "Judgemental samples are frequently used in business-to-business marketing research projects, given that in many projects the target population is relatively small". This is used as the researcher has more control compared to other techniques as well.

### **F.4 Sample Size**

Sample size is expected to consist of 5000 Tesla customers, 2500 Non Tesla customers, 1500 potential customers and logistics 50 company managers with an incidence rate of 0.85 and completion rate of 0.9

So the initial sample size(S) would be

$$S = \frac{\text{Final Sample Size}}{\text{Incidence Rate} * \text{Completion Rate}}$$

$$\begin{aligned} S &= 9050 / [0.85 * 0.90] \\ &= 11,830 \end{aligned}$$

Necessary steps will be taken to improve response rate, to adjust for non- response, ultimately to reduce non-response bias.

## G.0 Analysis of Data

**Cluster Analysis:** As this research is expected to work with a gigantic population, Market segmentation would be challenging. According to (Malhotra, Nunan & Birks, 2017) 'Cluster Analysis would be ideal for market segmentation, especially when you don't have prior information about clusters. It's also useful as a data reduction tool, to understand buying behavior, to identify new product opportunities' (Malhotra, Nunan & Birks, 2017).

So this technique will be useful to break the population as people who are sensitive to the price, safety, quality of the vehicle etc. Hence other characteristics of each group can be identified. Considering the complexity of the population, there can be clusters which are extremely homogenous, so **variance**, **ward's method** will be used.

### **Cross Tabulation**

This technique will help us to describe the association between variables. 'It helps us to how one variable relates to another' (Malhotra, Nunan & Birks, 2017). So questions like 'How does the group which is more sensitive to 'price' prioritize 'driving range' 'can be answered.

## **H.0 Scope of Further Research**

Moving forward, Tesla can conduct causal research in order to experiment, understand future trends, new product lines, to find cause and effects, which would be helpful for decision makers. Another multi-cross sectional research would help to understand how these facts change with time

### **Suggestions –**

1. Tesla can get support from United Nations as they help to achieve sustainable development
2. Tesla could also concern on manufacturing EV bikes, aircrafts, ships etc.

## **J. Expected Budget**

- Printing Costs
- Moderator, Interviewer costs
- Rewarding all the participants
- Software packages
- Other Costs

Within a time period of 6 months

## Questionnaire

### Tesla Customers' Questionnaire.

Dear Customer

As we, Tesla, always try to take care of our valuable customers in different ways, this time, we decided hear from you! So we can improve to make sure that you get the best experience of Electric Vehicles from Tesla.

The following questionnaire has been designed by Tesla, it will take about 20 minutes from your valuable time. We would be more than happy if you could provide honest answers while following all the instructions, as this has been created simply for you.

Don't worry! Tesla will definitely take care of your privacy.

Q1. Could you please let us know what was the main reason for you to buy a "Tesla" product?

- ☐ Quality of the vehicle
- ☐ Brand name
- ☐ Re-charging facilities provided by Tesla
- ☐ Driving Range
- ☐ Other

If you ticked on 'Other' category, please mention specifically:

.....

Q2.How often do you service your Vehicle?

I service my vehicle,

- ☐ One time per year
- ☐ Two times per year
- ☐ Three times per year
- ☐ Four or more times per year

Q3. How do you use your EV in general?

- ☐ For short distances only (Less than 20 Km).
- ☐ For long distances only.
- ☐ For both long and short distances.
- ☐ Mostly for short distances, sometimes for long distances as well.

Q4. Please mention whether you agree or do not with following statements about Tesla's Service Center Facilities. (Your honest opinions would be appreciated)

	I strongly agree	I agree	I disagree	I strongly disagree
There is a very long waiting time in general.				
It's easy to make an appointment whenever needed				
Finding parts for my vehicle is difficult and most of the time they are not available				
The distance between my location and to the nearest service center is a problem.				
I am satisfied with Tesla's service center facilities				

Q5. Could you please let us know about your area of residence (City, State, and Country?)

.....

Q6. If you are to spend more 3500 USDs when purchasing an EV, which features do you think worth paying for?

Rank them from 1 to 4 (1- Most Preferred, 4- Least Preferred).

Feature	Starting Point	Improvement	Rank
1. Vehicle Price	35,000 USD	31,500 USD	
2. Range	180 Km	200 Km	
3. Re-charge time	1.30 hours	1 hour	
4. Re-Charge at home	No	Yes	
(Without Garage)			

Q7. A) As a percentage, rate the electric vehicles which has above features if you are to compare with your existing EV vehicle.

0% \_\_\_\_\_ 100%

0% - I do not prefer this car at all

100% - I would definitely prefer this car

B) If percentage is below 20%, please mention why you would not prefer this car

.....

Q8. Which of these describe your monthly income?

- ☐ Less than \$6500
- ☐ \$6500 - \$8000
- ☐ \$8000 - \$10,000
- ☐ \$10,000 - \$12,500
- ☐ Above \$12,500

Q9. For each of the following statements please tell us how likely would you agree or disagree, using a scale from 1 – 7.

1 – Strongly Disagree

7 – Strongly Agree

1. Tesla produces high quality EVs with no technical issues
2. EVs are expensive in general
3. Tesla has unique features compared to other EVs
4. I would recommend Tesla's EVs to my friends

Q10. . Which of the following age groups are you in?

- ☐ 18 – 21 years
- ☐ 22 to 35 years
- ☐ 36 to 50 years
- ☐ 51 to 60 years
- ☐ 61 years or above

Q11. Do you consider buying an EV over a conventional vehicle as an advantage (Name)?

- ☐ Yes
- ☐ No

Q12. What are your suggestions for Tesla to improve in the future?

.....

.....

Thank you for your time and support (Name)! This response will undoubtedly be an asset for Tesla.  
Also don't forget to collect your reward!



### **Non - Tesla Customers' Questionnaire.**

Dear Participant,

Thank you for devoting your valuable time for us as we strive to accelerate the transition of electric cars globally, simply to make this world a better place. This questionnaire will take at around 20 minutes for you to complete. Your responses will be kept confidential, Honest responses will be really appreciated!

Let's Start!

Q1. How many total kilometers per week do you travel, approximately?

- ☐ Less than 75 KM
- ☐ 75 to 100 KM
- ☐ 100 to 150 KM
- ☐ 150 to 200 KM
- ☐ 200 to 250 KM
- ☐ More than 250 KM

Q2. Have you ever driven an electric vehicle?

- ☐ Yes, I drive my own Electric Car
- ☐ Yes, my previous vehicle was an Electric Car
- ☐ Yes, but I do not/ did not own an Electric Car
- ☐ No I have not driven an Electric Car

Q3. Please rank the following EV brands in the way you think that people prefer most when it comes to EVs.

1-Most Preferred

4-Least Preferred

1. Tesla
2. Toyota
3. Nissan
4. Ford

Q4. How do you think that gasoline prices would change in the next 5 years?

1. Increase a lot
2. Increase a bit
3. Will not change
4. Decrease a bit
5. Decrease a lot

Q5. For each of the following factors, please tell us how important it would be to you if you were considering purchasing an electric vehicle, using a scale from 1 – 7.

1 – I strongly disagree

7 – I strongly agree

	Score
1. Availability of charging stations, how easy it is to recharge when you are out and about	
2. Cost compared to Petrol, Diesel Vehicles of same class	
3. Ability to charge at home	
4. Reliability compared to gasoline-powered vehicles	
5. Charging time	
6. Maintenance cost compared to Gasoline Vehicles	
7. Attractive styling	

Q7.. How likely are you to consider buying an electric vehicle in the next 2 years?

- ☐ I definitely plan on getting an EV for my next vehicle
- ☐ I would consider getting an EV as my next vehicle
- ☐ I have some interest in getting an EV in the future, but not for my next vehicle
- ☐ I have no interest in ever getting an EV

Q8. We are going to present you with 10 number pairs of EV brand. For each pair, please indicate which of the two brands of EV in the pair you prefer in terms of “**Product Quality**”

1 in a particular box means that the brand in that column was preferred over the brand in the corresponding row.

0 means that the row brand was preferred over the column brand

The number of times a brand was preferred is obtained by summing the 1s in each column

	Tesla	Toyota	Nissan	Ford	Hyundai
Tesla					
Toyota					
Nissan					
Ford					
Hyundai					
Number of times preferred					

Q9. What suggestions would you like to give in order improve EVs in the future

.....  
.....

Q9. Which of these describe your monthly income?

- ☐ Less than \$6500
- ☐ \$6500 - \$8000
- ☐ \$8000 - \$10,000
- ☐ \$10,000 - \$12,500
- ☐ Above \$12,500

Q10. . Finally, your age category would be,

- ☐ 18 – 21 years
- ☐ 22 to 35 years
- ☐ 36 to 50 years
- ☐ 51 to 60 years

Thank you for your time and support! This response will undoubtedly be an asset for us. Also don't forget to collect your reward!

**Questionnaire for Logistic Company Managers (Face- to –face survey)**

Dear Sir/ Madam,

Thank you for devoting your valuable time for us as we strive to accelerate the transition of electric cars globally, simply to make this world a better place. This questionnaire will be about Heavy Duty Electric Vehicles (HDVs), will take at around 30 minutes for you to complete. Your responses will be kept confidential, Honest responses will be really appreciated!

1. Could you please let us know what kind of heavy duty vehicle models that your company has been using in the last 3 years, and why?
2. How often are these heavy duty vehicles being serviced per year?
3. Please mention how long do your Heavy Duty Vehicles travel per week
4. Please elaborate how would these factors would affect if your company is to buy Heavy Duty Electric Vehicles in the coming 5 years
  - Driving Range
  - Charging Facilitates
  - Carrying Capacity
5. Are you aware that medium and heavy duty Gasoline vehicles highly impact air pollution?
6. Please rate from 1-7 how likely are you to agree with each of the following statements and elaborate your score in words.
  - High Duty Electric Vehicles can't carry heavy loads as Gasoline Vehicles
  - HDVs will be a great solution for air pollution
  - HDVs will be the next trend of the EV market
  - Initial cost of HDVs is significantly high
  - Depot Charging will be able to cover most of the charging needs
7. What suggestions can you give for us, Tesla to manufacture HDVs in the future.

Thank you so much for your valuable time and energy. We will make sure that the company you are representing will be published on our Tesla's upcoming newspapers and articles , as promised.

## Appendix

1. **Information gathered and collected:** As research problems have already mentioned, information which are needed to answer these questions will be gathered and collected from the research through Field Work Techniques. This has already been mentioned on page 7.
2. On the client brief document, it has been mentioned to advice on suitable competitor customers. This has been mentioned on page 15.

### Explanation of the questionnaire Design

As Cluster analysis is expected to use, the questionnaires for online surveys have been designed in such a way that the answers/ responses will be on numerical types as it is easy to determine distances when creating clusters.

The questionnaires have been designed following all the necessary steps when designing.

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