Market Research Proposal for Tesla

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1. Executive Summary

Tesla, Inc, formerly known as Tesla Motors, Inc, is founded in July 2003 in America. Tesla is categorized into the automotive and renewable energy industry where its purpose is to create sustainable energy from home to grid-scale, solar roof tiles and panels, and shift the market perception of automotive as its main product is the electric vehicles (cars and trucks). Moreover, they are also developing battery electric and plug-in electric for vehicles. This accounts greatly in the market and makes Tesla claims the title of the most worldwide battery sales in 2022. To maintain its position in the global market, Tesla also targets several other markets by producing and selling other more affordable vehicle types, such as sedans, small SUVs, a semi-truck, light trucks, and sports cars.

By conducting this research proposal, we aimed to provide more insights that will be able to boost Tesla sales and achieve its maximum profit, as well as to improve Tesla in several aspects. It is significant to have a deep understanding of the customer's perceptions toward electric cars and to observe the market trends and the most efficient market potential to apply the most suitable approach and proper marketing. From the client brief given, we want to explore and propose the related research questions and objectives regarding Tesla's business objectives and research aims. Tesla aims to get deeper insights into customer acquisition and retention and wishes to expand its existing product furthermore and reconsider their R&D budget. Through this research proposal, it will start by understanding driver's attitudes towards electric cars, such as the most they are willing to pay, the level of convenience of charging point, and the driving range limit with a single battery charge, then, seeking the customer's brand perceptions to assist the acquisition and retention as well as exploring and engaging in problem identification research, which is the proportion of customers based on interest towards new products line (Cybertruck, Roadster, and Model 2 Baby EV) and trends.

Tesla has customers all over the globe, making it difficult to have everyone participate in the process of conducting this research. Therefore, we will be using judgemental sampling that will select samples from population of at least 5,000. Online questionnaires will be shared among the sample customers with a focus group followed in the process of data collection if they are willing to participate. Instead of using the same sampling, convenience sampling is used for focus group as anyone from any group of customers can participate if they are willing to. This will help to easily get customers' feedback and preference since the market research must be completed within 6 months.

2. Table of Contents

Table of Contents

3. Introduction

I. Background

Tesla is dominating the electric vehicles market with 65.4% based on Forbes in 2022. However, the percentage is decreasing from the previous 2 years and is predicted to plunge some more. Therefore, Tesla wants to seek deeper insights to assist customer acquisition and retention, expand and develop its existing product and reassess its R&D budget.

II. Problem Definition

Tesla is not the only company in this industry and is aware of its competitors, such as Ford, Mercedes-Benz, and Rivian, who might have the same purpose of transitioning electric cars globally. Even though Tesla is leading in the market, Tesla needs to seek new methods to assist customer acquisition and retention to not fall behind in the industry.

III. Research Aims

In this research proposal, we define three research aims that could help us to address our concern or issue.

I. R.A.1: We seek to understand drivers' attitude toward electric cars.

II. R.A.2: We seek to understand better the brand perceptions among motorists of different manufacturers to assist with customer acquisition and retention.

III. R.A.3: We would like to engage in problem identification research on potential customers and trends among customers.

IV. Research Questions

From each research aims, we seek several aspects that will help us broaden the issue to see from a bigger perspective and increasing the accuracy of the research findings. Each research aims can then be listed into a single or multiple research questions.

- **For R.A.1**

I. R.Q.1.1: How much will they be willing to pay at most?

II. R.Q.1.2: How convenient is the access to charging point for drivers?

III. R.Q.1.3: How far an electric car can go with a single battery charge (driving range limit)?

These questions will give us deeper insights from Tesla's concerns on the level of convenience and willingness to pay with their preference cars, and the limit from a single battery charged. By knowing customers' point of view, it will help to determine the product improvisation in the future. Here, data can be obtained from an online surveys or questionnaires where the results will be varied each customer.

- **For R.A.2**

I. R.Q.2.1: What is the customer's brand perception among brands in automotive industry?
II. R.Q.2.2: How can marketing strategies be utilized to assist with customer acquisition and retention?

These questions seeks the customer's perspective on the brands in automotive industry, specifically on Tesla and its competitors. By knowing customer's brand perception, it will give deeper insight to Tesla on maintaining and improving its products. Moreover, to also strengthen Tesla's position on the industry. Focus group can be conducted where a small group of customers will be able to share their thoughts of brand perceptions. To assist with customer acquisition and retention, Tesla can adopt marketing strategies to see whether it is able to develop an improvement on that.

- **For R.A.3**

I. R.Q.3.1: What is the current trend among customers?
II. R.Q.3.2: What is the proportion of customers based on their interest towards the new products (Cybertruck, Roadster, Model 2 Baby EV)?

These questions seek the evolving trend nowadays to produce and optimize new product lines as well as the plausible group of customers that are likely to be a suitable target for the particular product. To address the questions, online surveys can be conducted, and we could also obtain data from organizational database, which is something that we cannot subjectively predict.

V. Research Objectives

Addressing each research questions with research objectives that will be conducted with few different methods of data collection.

- **For R.A.1**

I. R.O.1.1: Examine the relationship between the consumers' income and their preference car types.
II. R.O.1.2: Examine the relationship between the number of charging point locations in 1 place with customers' domicile.
III. R.O.1.3: Explore the driving range limit with a single battery charge.

- **For R.A.2**

I. R.O.2.1: Examine the brand perception among automotive industry from customers to improve the products to strengthen its position in the industry.

II. R.O.2.2: Determine how marketing strategies can develop an improvement on customer acquisition and retention.

- **For R.A.3**

I. R.O.3.1: Examine the evolving trend from the ratio of car types group of customers tend to purchase within a preferred range of time.

II. R.O.3.2: Explore the potential customers that will be suitable as a target for the new products line.

4. Methodology

I. Research Design

In this research proposal, the research questions and objectives are made to fit the types of research designs, which are exploratory, descriptive, and causal. We use the most suitable design based on the research objectives to enhance the information value obtained while decreasing the cost from it. The exploratory approach allows us to explore and obtain further information due to the lack of the problem background. While the descriptive approach is used to describe the characteristics of the customers or the customers' preferences. The causal approach can help us to have a better understanding of which factors hold the most accounts on the customers' attitude towards Tesla products.

From the research objectives, we categorize them into quantitative and qualitative approaches that have different data collection methods. For data that can be obtained subjectively or known as the primary data, online surveys or questionnaires is the proper method. Various results might help to determine Tesla's future product line. Focus groups are also considered an effective method, however, there might occur some potential errors along the process. Hence, assigning moderators increases the effectiveness and reduces any plausible errors. Moreover, data that cannot be obtained subjectively and need to refer to an organizational database is called secondary data. We refer to the existing database to get higher accuracy percentages of the data variables.

Several statistical techniques with SPSS will then be addressed to each research question and objectives to analyze furthermore.

I. R.O.1.1 – Discriminant Analysis
II. R.O.1.2 – 2-Way ANOVA
III. R.O.1.3 – 1-Way ANOVA
IV. R.O.2.1 – Not applicable (Focus Group)
V. R.O.2.2 – Paired t-test
VI. R.O.3.1 – Multiple Linear Regression
VII. R.O.3.2 – Chi Square Test of Homogeneity

II. Data

A. Primary Data

No.	Variables	Classification of Variables
1	Gender	Categorical Nominal
2	Age	Continuous
3	Annual Household Income	Continuous
4	Domicile	Categorical Nominal
5	Occupation	Categorical Nominal
6	Preferred Car Types	Categorical Nominal
7	Percentage of Battery Charged	Categorical Ordinal
8	Driving Range Limit	Continuous
9	Customer's Brand Perception among Brands in Automotive Industry	Categorical Nominal
10	Exposure to marketing strategies	Categorical Nominal
11	Proportion of Car Types Customers Tend to Purchase	Continuous
12	Level of Convenience	5-Point Likert Scale
13	Proportion of customers based on interest towards new products line	Continuous

B. Secondary Data

No.	Variable	Classification of Variables
14	Amounts of Charging Points in One Domicile	Ordinal
15	New Products Line (Cybertruck, Roadster, Model 2 Baby EV)	Categorical Nominal

III. Sampling Designs

As Tesla dominates the renewable energy industry, its customers are spread all over the world, making it difficult to go through this market research one by one. Therefore, a sampling design is needed to reduce the overall interval time as well as the cost. We use judgmental sampling that will categorize the population according to whether they own a Tesla or not. Then, the step will be followed with simple random sampling (SRS).

A. Non-Tesla User

In the client brief, it is said Tesla has at least 5000 customers globally, hence, at 95% confidence level, it requires the precision of $\pm$ 0.05 of the true population proportion for the target sample size.

$$n_1 \geq \frac{{Z_{\alpha/2}}^2(\pi(1-\pi))}{e^2}$$

$$n_1 \geq \frac{(1.96)^2\big(0.3(1-0.3)\big)}{0.05^2} \approx 322.6944 \approx 323$$

Above is the formula to minimum sample size where n is number of minimum sample size, π is assumed to be 0.3 (30%) and e is assumed to be 0.05. By rounding the estimation value to the nearest integer, hence, we would get the appropriate sample size at approximately 323 customers.

B. Tesla User

$$n_2 \geq \frac{{Z_{\alpha/2}}^2(\pi(1-\pi))}{e^2}$$

$$n_2 \geq \frac{(1.96)^2\big(0.3(1-0.3)\big)}{0.05^2} \approx 322.6944 \approx 323$$

Since we use judgmental sampling for our sampling method, we seek sample size with characteristics of owning a Tesla. From the calculation above and using the same π and e, the amount for Tesla user sample size will be the same as non-Tesla users, which is approximately 323 customers.

Hence, the total sample size for Tesla and non-Tesla users are estimated at 646 respondents, which can be approximated at 650 respondents, with 95% confidence interval and 5% error margin. Furthermore, 10% of the total respondents can be used for our focus group studies, which will be 33 for each of Tesla users and non-Tesla users.

IV. Sampling Techniques

As for the sampling technique, we will conduct a focus group and online questionnaire for obtaining primary data and get access to the organizational database to obtain secondary data, which is the data that is already fixed and not subjective. Doing a questionnaire online is time and cost-saving, because it can just be shared through emails or other platforms, and can reach all groups of people, increasing the efficiency of the research process as well as the response rates.

Focus groups must consist of small groups of people with an instructor or leader to enhance the flow of the focus group. It is better to assign an instructor that speaks the same language as the people in the group to avoid any misunderstanding or misinterpretation. Moreover, decreasing the probability of getting the wrong insight. Having a small group of people tend to have people more confident and more open to contributing, they must feel comfortable doing so. For the focus group, previously we have already stated that the focus group will take 10% of the total respondents for each Tesla and non-Tesla user. Hence, it will have a total of 66 participants from both users.

V. Flow Chart

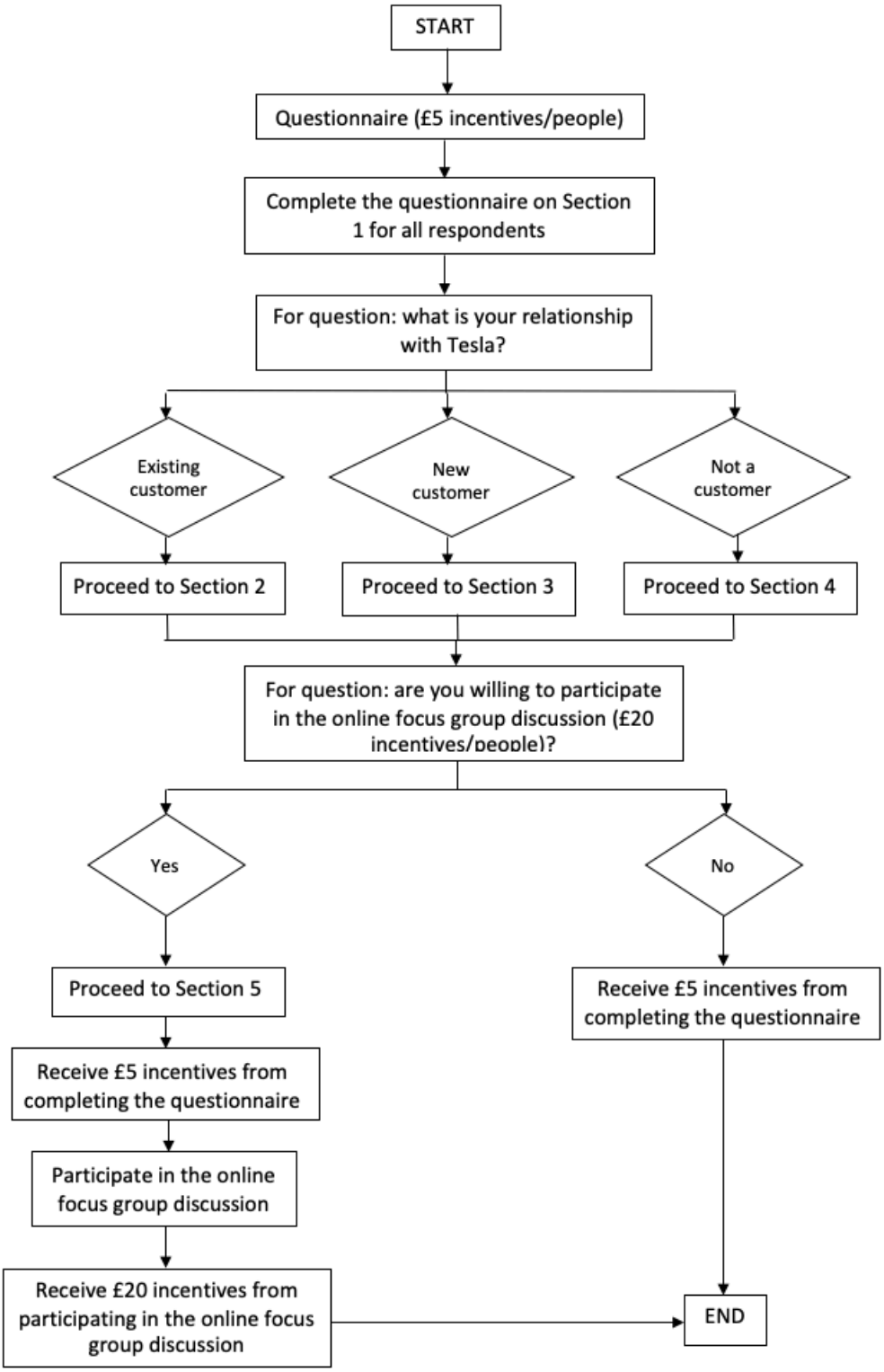


Figure 1 : Flow Chart

5. Data Analysis and Findings

I. Research Objectives 1.1 – Discriminant Analysis

For R.O.1.1, we would like to use Discriminant Analysis as the statistical technique to see whether customer's income and age (continuous/independent variable) has any effect on their preferred car type (categorical/dependent variable).

Therefore, the discriminant function that will be used:

$$D = \beta_0 + \beta_1 X_1 + \beta_2 X_2$$

In this technique, the customers are divided using a cut-off score where customers with high income belong to group 1 and some belong to group 2 otherwise. To conduct the research analysis, we test it by using univariate ANOVAs which will be returning Wilk's Lambda value as well as the p-value. Variables can be proven to reject H0 and able to significantly able to distinguish two customer groups if Wilk's Lambda value, which ranges from 0 to 1, is closer to 0 and the p-value < 0.05.

Canonical discriminant function coefficients can show the relationship between discriminant variables and score, an increase in 1 unit in a particular variable can result in a different discriminant score while holding the rest of the variables constant. It can be further ranked from the highest to the lowest correlation which can be viewed as a conjunction in the structure matrix. During the research process, there might be a misclassification error, we can compute the average of it with a double cross-validation method to predict the discriminant function performance on the forthcoming dataset.

Group Statistics

		Mean	Std. Deviation
Preferred Car Types	Income		
	Age		
Total	Income		
	Age		

Table 1 : Group Statistics

Tests of Equality of Group Means

	Wilk's Lambda	F	df1	df2	Sig.
Income					
Age					

Table 2 : Tests of Equality of Group Means

II. Research Objectives 1.2 – 2-Way ANOVA

For R.O.1.2, we would like to use 2-way ANOVA as the statistical technique to see whether domicile and the amount of charging points as the categorical variables affect the level of convenience as the continuous variable. Here, the hypothesis will be:

H_0: there is no relationship between the level of convenience with the amount of charging points in 1 domicile.

H_1: there is a relationship between the level of convenience with the amount of charging points in 1 domicile.

The level of convenience will be divided into:

Inconvenient	Less convenient	Moderately convenient	Convenient	Very convenient
1	2	3	4	5

Table 3 : Level of Convenience

By using SPSS, the H_0 (null hypothesis) will be rejected if the p-value is less than 0.05 and can conclude that the amount of charging points in 1 domicile has an abundant effect on the level of convenience. The more charging points in 1 domicile, the higher the convenience level. Moreover, we can conduct a partial ETA squared to see whether there is an interaction effect of the independent variables on the dependent variables from the dependent variable variability.

Test of Between Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial ETA Squared
Corrected Model						
Intercept						
Amount of charging points						
Domicile						
Amount of charging points * Domicile						
Error						
Total						
Corrected Total						

a. R squared = (Adjusted R squared =)

Table 4 : Test of Between-Subject effect Table

III. Research Objectives 1.3 – 1-Way ANOVA

For R.O.1.3, we would like to use 1-way ANOVA or independent t-test as the statistical technique to see how far a single car battery charged could go. Here, driving range limit acts as the dependent or continuous variable while level battery charged acts as the independent or categorical variable. The hypothesis will be:

H_0: there is no correlation between the level of battery charged with the driving range limit.

H_1: there is correlation between the level of battery charged with the driving range limit.

With independent t-test, H_0 will be rejected if p-value is less than 0.05 and gives the conclusion that the limit of how far a car could goes depends on the level of its battery charged.

ANOVA

Source	SS	df	MS	F
Between groups	$SS_{between}$	k-1	$SS_{between}/(k-1)$	$MS_{between}/MS_{within}$
Within groups	SS_{within}	n-k	$SS_{within}/(n-k)$	
Total	SS_{total}	n-1		

Table 5 : 1-Way ANOVA Table

IV. Research Objectives 2.1 – Focus Group

For R.O.2.1, a focus group will be conducted as the statistical technique to observe and obtain the customer's brand perceptions among brands in the automotive industry, specifically Tesla and its competitors. The information obtained can be either in a form of feedback with a positive or negative definition. Either way, having those insights can help Tesla to improve or maintain its product to uphold Tesla position in the industry over its competitors.

V. Research Objectives 2.2 – Paired t-test

For R.O.2.2, we would like to use paired t-test as the statistical technique to see whether the marketing strategies Tesla adopt are able to make an improvement on customer acquisition and retention by looking at the one-group pre-test and post-test experimental design. Here, the variable we will be using is exposure to marketing strategies.

H_0: $\mu d = 0$

H_1: $\mu d \neq 0$

Pre-experimental Design

One-Group pre-test post-test design
O_1 X O_2

O_1: The pre-test group

O_2: The post-test group

Y: The exposure to marketing strategies

Table 6 : Pre-experimental Design

Paired Samples test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the difference				
				Lower	Upper			
Level of Improvement (Before) – Level of Improvement (After)								

Table 7 : Paired Sample Test

The term d in the hypotheses represents the difference in the level of improvement before and after adopting the marketing strategies. By using SPSS, we conduct the test to seek if there is a difference between the pre-test and post-test on the exposure of marketing strategies to customer acquisition and retention. H0 will be rejected if the p-value < 0.05 and the value of 0 is not within the confidence interval. The rejection is indicating that there is an improvement in adopting marketing strategies.

VI. Research Objectives 3.1 – Multiple Linear Regression

For R.O.3.1, we would like to conduct a Multiple Linear Regression to see whether the variables have any impact on the evolving trend towards the proportion (ratio) of car types group of customers tend to purchase. The variables we use are age, gender, and occupation as the independent variables and the dependent variable will be the proportion of car types group of customers tend to purchase. The hypothesis will be:

H_0: there is no evolving trend among the proportion of car types group of customers tend to purchase.

H_1: there is an evolving trend among the proportion of car types group of customers tend to purchase.

The multiple linear regression equation is:

$$Evolving\ trend = \beta_0 + \beta_1 Age + \beta_2 Gender + \beta_3 Occ + \varepsilon_i$$

$\widehat{Evolving\ trend} = \widehat{\beta_0} + \widehat{\beta_1}Age + \widehat{\beta_2}Gender + \widehat{\beta_3}Occ$

$\widehat{\beta_0}$: the intercept of evolving trend when the variables are 0.

$\widehat{\beta_i}$: evolving trend will change as X_i increases by 1 unit while the rest of the variables are constant.

Here, i is the representative number of the respective independent variables.

Here, we use dummy variables on Gender, such as:

- 0 = Male
- 1 = Female

Coefficient

Model	Unstandardized coefficients		Standardized coefficients	t	Sig.	95.0% confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
Constant Age Gender Occupation							

Table 8 : Coefficient & t-test table

By using SPSS, we can test the individual variable and overall significance of the model with a t-test and F-test. Conducting this method will help us to see which variables are significant and which are insignificant to the point they can be removed without affecting the model. Nonetheless, if we conduct R squared and adjusted R squared table, we will able to know whether the model is a good fit or otherwise and able to distinguish each variable's significance and its marginal effect.

Model Summary

Model	R	R squared	Adjusted R squared	Std. Error of the Estimate
1				

a. Predictors: constant, age, gender, occupation

Table 9 : R^2 and Adjusted R^2 Table

VII. Research Objectives 3.2 – Chi Square Test of Homogeneity

For R.O.3.2, we would like to analyze by using the Chi-Squared of Homogeneity to seek the proportion of customers that are interested in the new products line where Tesla is said to launch Cybertruck, Roadster, and Model 2 Baby EV as their upcoming products. Here, the independent variable will be the new products line while the proportion of customers is the dependent variable.

Crosstabulation

		New product line			Total
		Cybertruck	Roadster	Model 2 Baby EV	
Customer is interested towards the new products	Interested				
	Uninterested				
Total					

Table 10 : Crosstabulation

The hypothesis will be:

H_0: the proportion of customers is the same on all new products line

H_1: the proportion of customers is different on all new products line

Chi-Square Tests

	Value	df	Asymptotic Significance (2 sided)
Pearson chi-square			
Likelihood ratio			
Linear-by-linear association			
N of valid cases			

Table 11 : Chi-Squared Test

The Chi-square tests table is consisting of a p-value among the columns, a p-value is used to determine whether H_0 is rejected or not. Let's assume 5% significance level, if p-value < 0.05, H_0 is rejected and concludes the proportion is different for all products line and it will give a useful observation to Tesla which customers to target with the particular product line.

6. Timescale

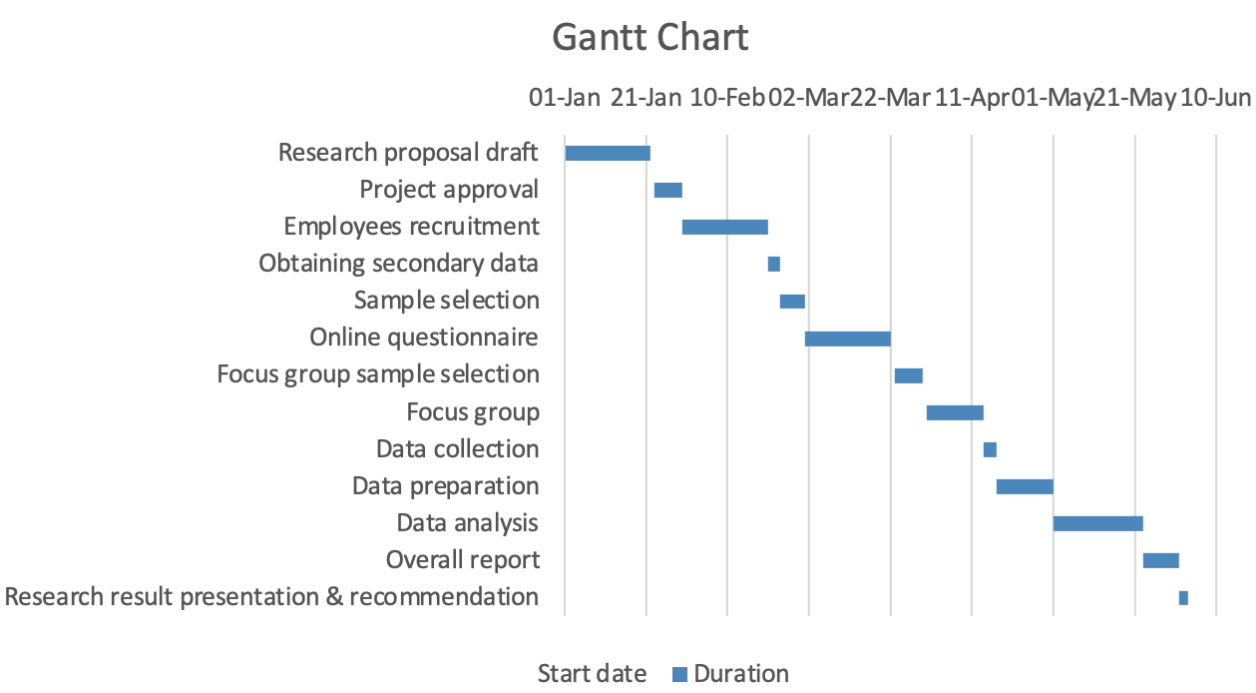


Figure 2 : Gantt Chart

7. Budget

The budget breakdown (in (£)) for Tesla research proposal as follow:

Description	**Cost (£)**
Questionnaire incentives	4,845
Data collection	60,000
Data analysis	95,000
System operations	40,000
Focus group	1,320
Moderator fees	2,000
Administrative	20,000
20% VAT/GST Tax	65,000
Other expenses	35,000
Total	323,165

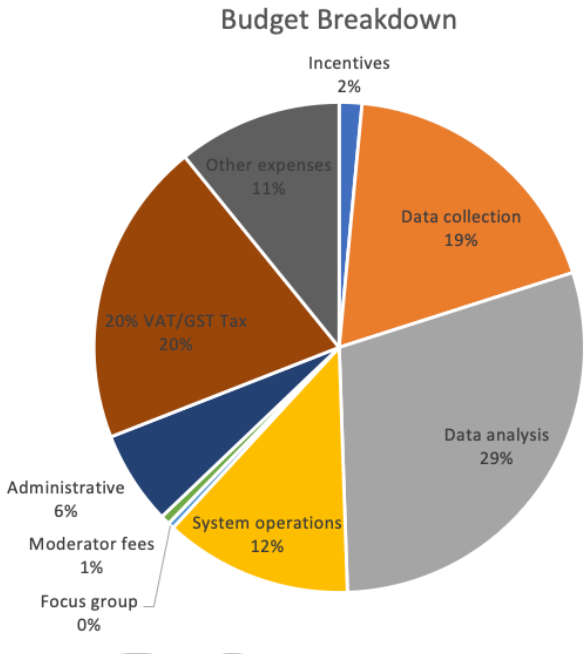
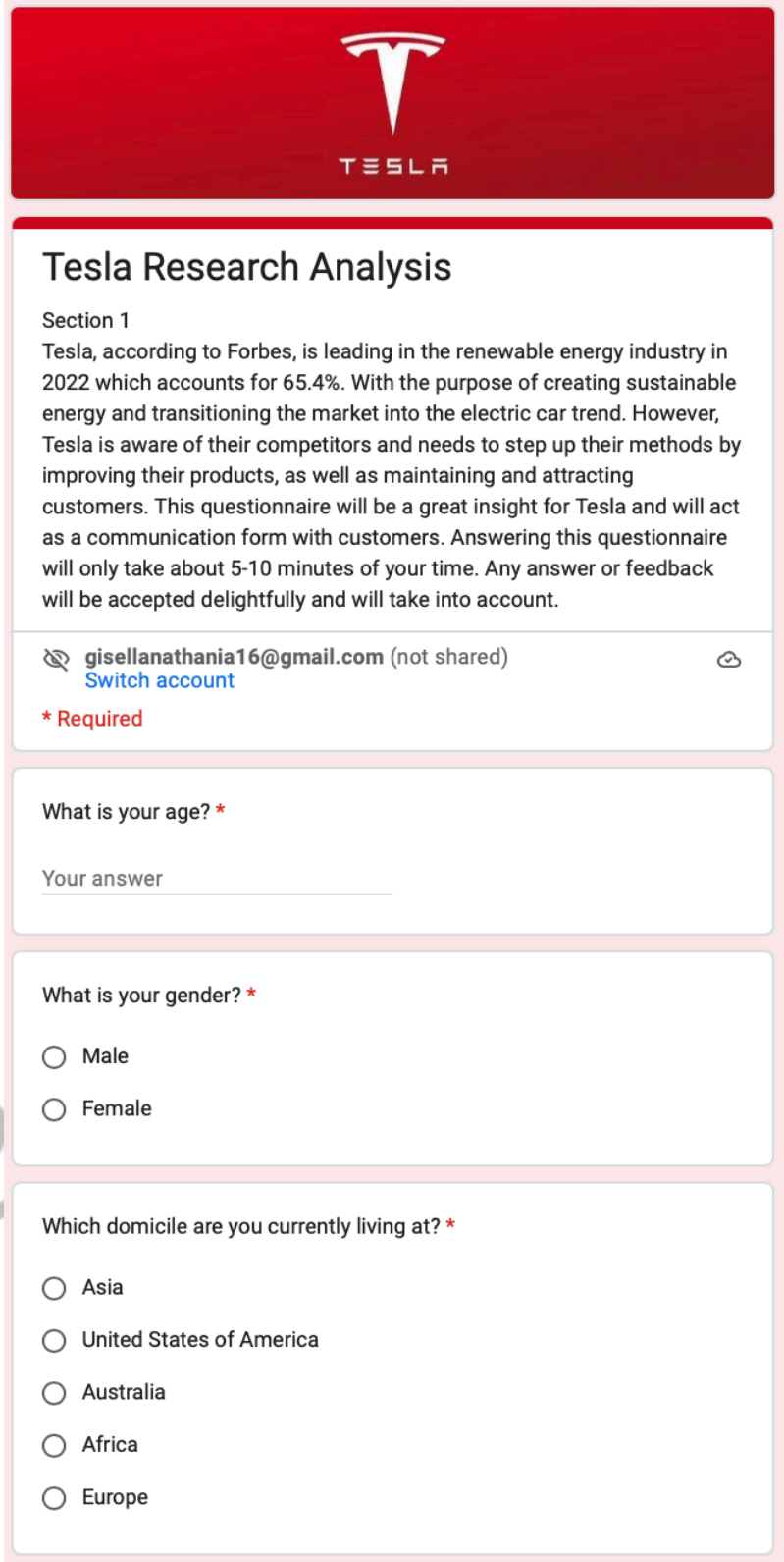


Figure 3 : Budget Breakdown

8. Questionnaire

Section 1



Tesla Research Analysis

Section 1
Tesla, according to Forbes, is leading in the renewable energy industry in 2022 which accounts for 65.4%. With the purpose of creating sustainable energy and transitioning the market into the electric car trend. However, Tesla is aware of their competitors and needs to step up their methods by improving their products, as well as maintaining and attracting customers. This questionnaire will be a great insight for Tesla and will act as a communication form with customers. Answering this questionnaire will only take about 5-10 minutes of your time. Any answer or feedback will be accepted delightfully and will take into account.

gisellanathania16@gmail.com (not shared)
Switch account

* Required

What is your age? *

Your answer

What is your gender? *

- Male
- Female

Which domicile are you currently living at? *

- Asia
- United States of America
- Australia
- Africa
- Europe

What is your current occupation? *

- ◯ Corporate Staff
- ◯ Public Service
- ◯ Medical Staff
- ◯ Media Companies
- ◯ Other: _____

What is your annual household income? *

Your answer

What is your preferred car type? *

- ☐ Gas
- ☐ Electric
- ☐ Hybrid

What is the actual car type that you tend to purchase? *

- ◯ Gas
- ◯ Electric
- ◯ Hybrid

How much are you willing to pay at most for an electric car? *

- ◯ < £30,000
- ◯ £30,000 - £60,000
- ◯ £60,000 - £90,000
- ◯ £90,000 - £120,000
- ◯ £120,000 - £150,000
- ◯ > £150,000

What is your relationship with Tesla? *

- ◯ Existing customer
- ◯ New customer
- ◯ Not a customer

Cybertruck is Tesla's futuristic pickup truck, one of the last vehicles on the road to see successful electrification. Cybertruck is also only the second major Tesla vehicle outside the mainline S, 3, X, and Y lineup, second only to the aforementioned 1st generation Roadster. It has the exterior of an exoskeleton of 30x cold-rolled stainless-steel structural skin and Tesla armored glass for its windows. Followed with a solar roof option will offer an additional 15 miles of range each day, and a matte black exterior has also been confirmed.
From the description above, are you interested in Cybertruck, Tesla's upcoming product? *

- ◯ Yes
- ◯ No

As with the Cybertruck, we've got no concrete specs to go on, only what Tesla announced a few years back when Elon Musk claimed the retractable-hardtop two-plus-two Roadster would have a triple-motor powertrain and all-wheel drive, and would travel 620 miles (1,000 km) on one charge of its massive 200 kWh battery. Musk also claimed that the sports car would hit 60 mph in 1.9 seconds, do the standing quarter mile (400 m) in 8.8 seconds, reach 250 mph (402 km/h) and cost from $200,000. But in the wake of absurdly quick newer EVs like the Rimac Nevera we'd expect the finished Roadster to be both faster from a standing start and more expensive.
From the description above, are you interested in Roadster, Tesla's upcoming product? *

- ◯ Yes
- ◯ No

The slowest and most sensible of Tesla's upcoming new vehicles, but arguably the most interesting and important, is the sub-Model 3 baby EV, seen above in our unofficial artist's rendering. Originally pitched as a $25k EV that would appear in 2023, we suspect inflation and delays caused by supply issues and Tesla's usual overambitious timescales means it'll be a $30k car and won't make its debut before 2024.
From the description above, are you interested in Model 2 Baby EV, Tesla's upcoming product? *

- ◯ Yes
- ◯ No

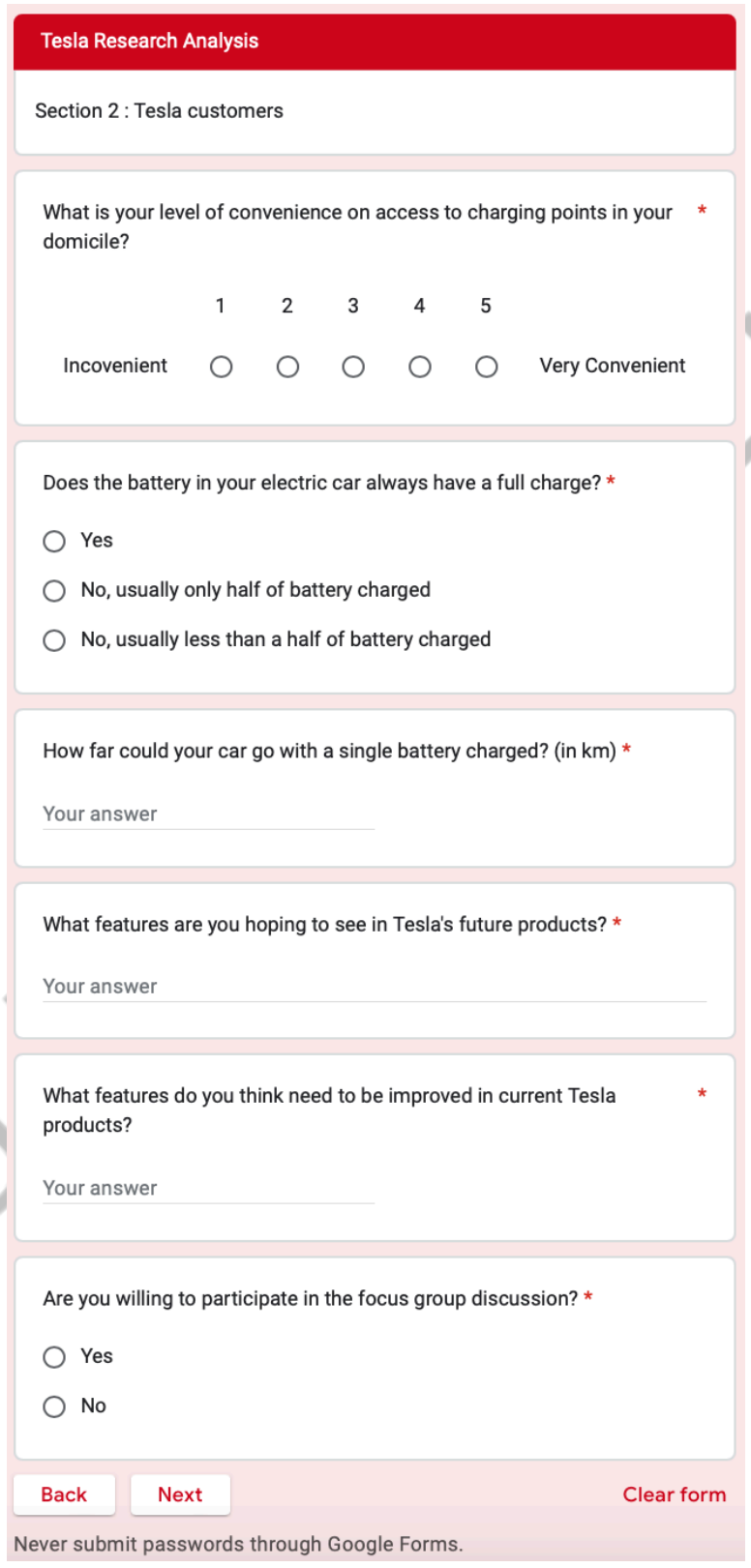
If not, state the reason for your answer for either Cybertruck, Roadster, and Model 2 Baby EV.

Your answer

Next Clear form

Section 2

Respondent will be redirected to section 2 if they opt as an existing customer.



Tesla Research Analysis

Section 2 : Tesla customers

What is your level of convenience on access to charging points in your domicile? *

	1	2	3	4	5	
Incovenient	○	○	○	○	○	Very Convenient

Does the battery in your electric car always have a full charge? *

- ○ Yes
- ○ No, usually only half of battery charged
- ○ No, usually less than a half of battery charged

How far could your car go with a single battery charged? (in km) *

Your answer

What features are you hoping to see in Tesla's future products? *

Your answer

What features do you think need to be improved in current Tesla products? *

Your answer

Are you willing to participate in the focus group discussion? *

- ○ Yes
- ○ No

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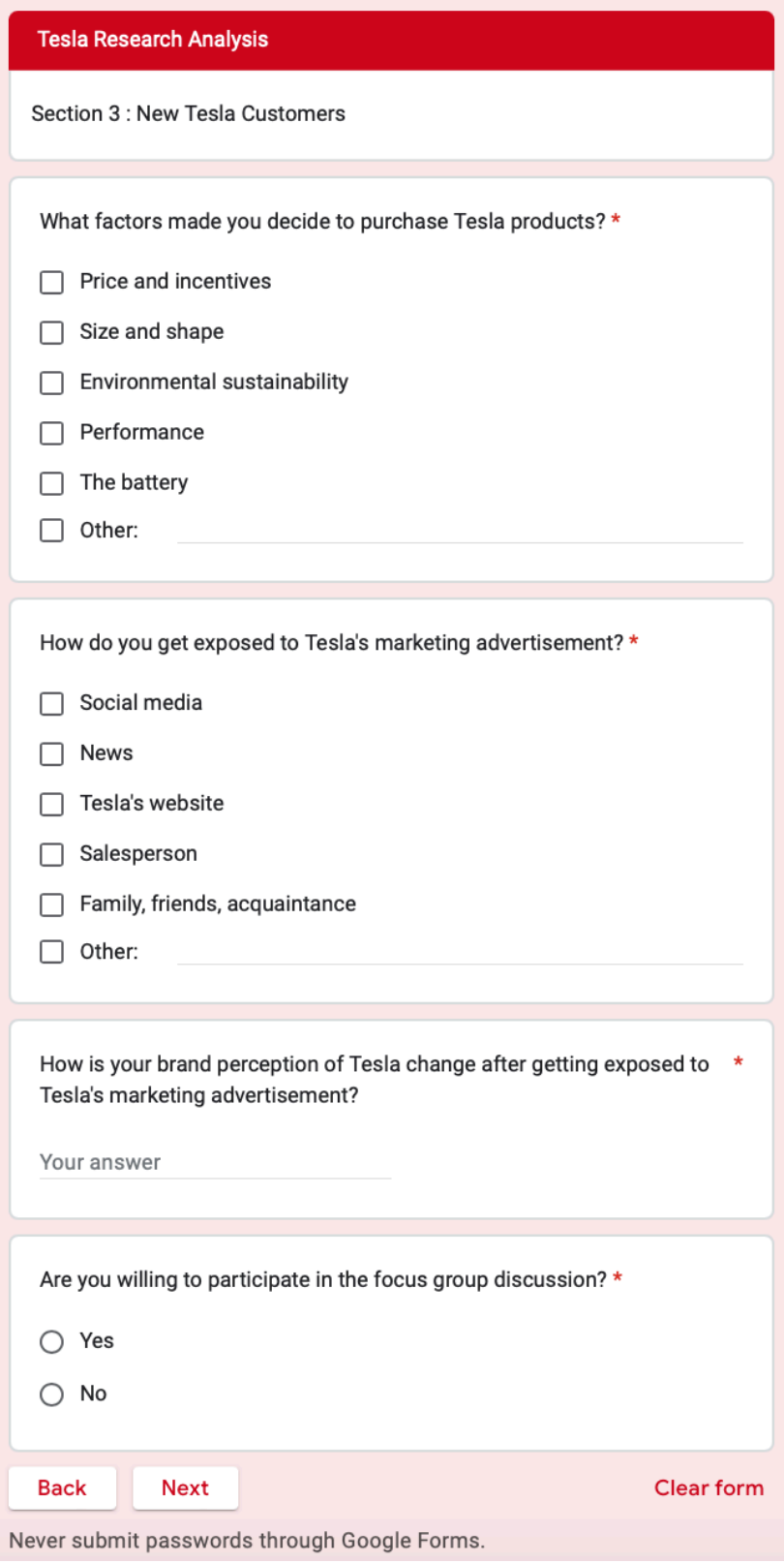
Section 3

Respondent will be redirected to section 3 if they opt as a new customer.



Tesla Research Analysis

Section 3 : New Tesla Customers

What factors made you decide to purchase Tesla products? *

- [ ] Price and incentives
- [ ] Size and shape
- [ ] Environmental sustainability
- [ ] Performance
- [ ] The battery
- [ ] Other:

How do you get exposed to Tesla's marketing advertisement? *

- [ ] Social media
- [ ] News
- [ ] Tesla's website
- [ ] Salesperson
- [ ] Family, friends, acquaintance
- [ ] Other:

How is your brand perception of Tesla change after getting exposed to Tesla's marketing advertisement? *

Your answer

Are you willing to participate in the focus group discussion? *

- ( ) Yes
- ( ) No

Back Next Clear form

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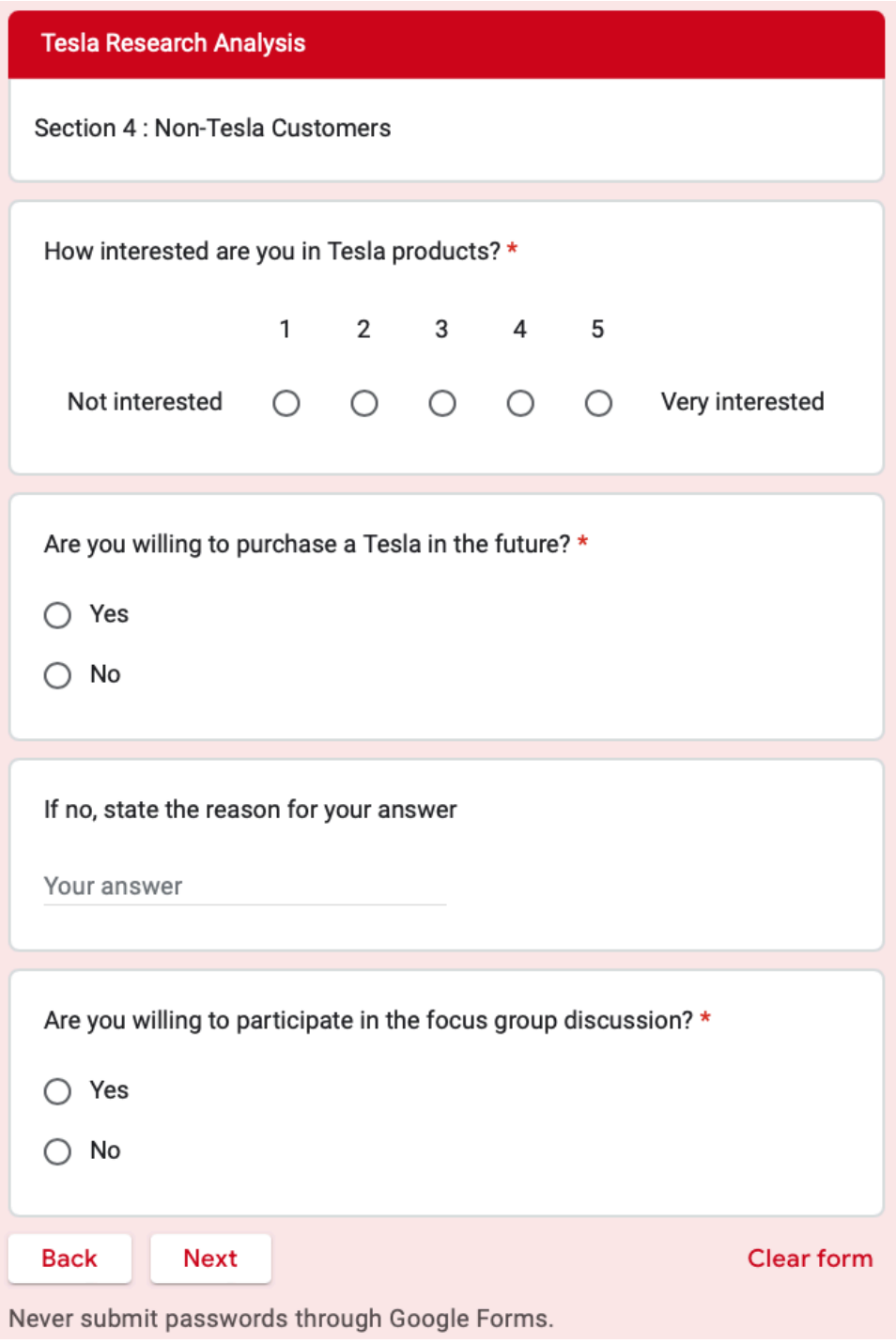
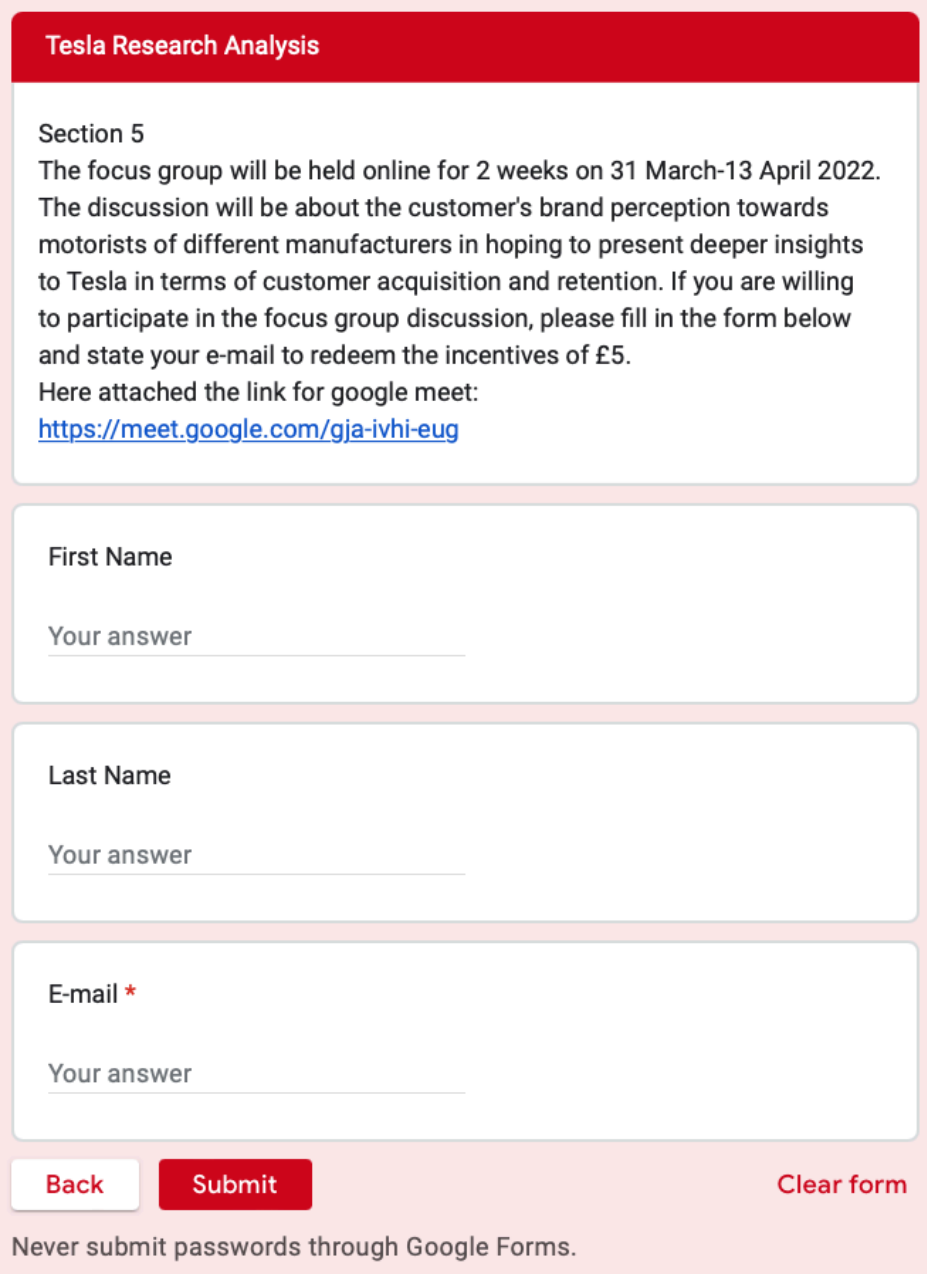
Section 4

Respondent will be redirected to section 4 if they opt as a non-customer



Section 5

Respondent from section 2-4 will be redirect to section 5 if they are willing to participate in the focus group discussion.



9. Recommendations

For future research, Tesla might want to consider improving their marketing techniques to include all groups of customers to accelerate the demand for electric cars. Focusing more on the environment-sustainability might increase the probability of the increment of electric car demand. Tesla needs to always do further research by using Porter's 5 forces framework on customer preference and perspective to understand customers' needs and wants, so Tesla can implement methods to intrigue customers. For the focus group, it can implement conjoint and cluster analysis for future research.

10. Fulfillment of Proposal Requirements

Requirements	Section
Provide a full summary of the research brief, including the aims of the research	1
Demonstrate an understanding of the market or business context as well as any other publically available research done in this area	3
Detail how the fieldwork would be conducted, i.e. face-to-face, telephone, online, focus groups, mixed-mode etc	4
Explain the proposed sampling method as well as other sampling methods considered, including details on any sampling frame to be used	4
Detail the information that would be gathered and collected by the research	4
Explain how you would use any customer or operational data supplied to you by the client	4
Describe what multivariate analysis techniques you propose and how these would help the client's research aims	5
Detail the proposed sample size necessary to construct confidence intervals around the survey estimates	4
An appropriate questionnaire which would capture suitable data to perform the proposed multivariate analysis	8
Proposed further research, i.e. include ideas for how some business or organisational objectives might be helped by further and different research	9

Table 12 : Fulfilment of proposal requirements

11. Appendix

RESEARCH AIMS	RESEARCH QUESTIONS	RESEARCH OBJECTIVES	HYPOTHESES	VARIABLES	STATISTICAL TECHNIQUE
RA1 : We seek to understand drivers' attitude toward electric cars	RQ1.1 : How much will they be willing to pay at most?	RO1.1 : Examine the relationship between the consumers' income and their preference car types.	There is a relationship between the consumers' income and their preference car types	X1 : Income (continuous) X2 : Age (continuous) Y : Preferred car type (categorical nominal)	Discriminant Analysis
	RQ1.2 : How convenient is the access to charging point for drivers?	RO1.2 : Examine the relationship between the number of charging point locations in 1 place with potential consumers' domicile.	There is a relationship between the number of charging point locations in 1 place with potential consumers' domicile.	X1 : domicile (categorical nominal) X2 : amount of charging points (categorical ordinal) Y : level of convenience (continuous) 1 = inconvenient, 5 = very convenient	2-way ANOVA
	RQ1.3 : How far an electric car can go with a single battery charge (driving range limit)?	RO1.3 : Explore the driving range limit with a single battery charge.	There is a relationship between the driving range limit with a single battery charge.	X : Level battery charged (categorical ordinal) Y : Driving range limit (continuous)	1-way ANOVA Independent t-test
RA2 : We seek to understand better the brand perceptions among motorists of different manufacturers to assist with customer acquisition and retention.	RQ2.1 What is the customer's brand perception among brands in automotive industry?	RO2.1 : Examine the brand perception among automotive industry from customers to improve the products to strengthen its position in the industry.			Focus groups
	RQ2.2 : How can marketing strategies be utilized to assist with customer acquisition and retention?	RO2.2 : Determine how marketing strategies can develop an improvement on customer acquisition and retention.	The marketing strategies improves customer acquisition and retention.	Y : Exposure to marketing strategies (categorical nominal)	Paired t-test
RA3 : We would like to engage in problem identification research on potential group of customers and trends among customers.	RQ3.1 : What is the current trend among customers?	RO 3.1 : Examine the evolving trend from the ratio of car types group of customers tend to purchase within a preferred range of time.	There is an evolving trend among the proportion of car types group of customers tend to purchase.	X1 : Age (continuous) X2 : Gender (categorical nominal) X3 : Occupation (categorical nominal) Y : Proportion of car types customers tend to purchase (continuous)	Multiple Linear Regression
	RQ3.2 : What is the proportion of customers based on their interest towards the new products (Cybertruck, Roadster, Model 2 Baby EV)?	RO 3.2: Explore the potential customers that will be suitable as a target for the new product line.	The proportion of customers is different on all new products line	X : Products line (categorical nominal) Y : Proportion of customers (continuous)	Chi Square Test of Homogeneity

Information Required	Approach (Qualitative | Quantitative Research)	Sources of Data (Primary | Secondary)	Methods of Data Collection (Survey | Focus Groups)	Sampling Technique
Demographic Information (age, gender, annual household income, domicile, occupation)	Quantitative	Primary	Surveys and questionnaires	Judgmental Sampling
Preferred car types	Qualitative	Primary	Surveys and questionnaires	
Percentage of battery charged	Quantitative	Primary	Surveys and questionnaires	
Driving range limit	Quantitative	Primary	Surveys and questionnaires	
Amount of charging points in one domicile	Quantitative	Secondary	Organizational database	
Level of Convenience	Quantitative	Primary	Surveys and questionnaires	
Customer's brand perception among brands in automotive industry	Qualitative	Primary	Focus group	
Exposure to marketing strategies (factors on purchasing Tesla products, ways on getting exposed to the advertisements)	Qualitative	Primary	Surveys and questionnaires	
Proportion car types customers tend to purchase	Quantitative	Primary	Surveys and questionnaires	
New products line	Qualitative	Secondary	Organizational database	
Proportion of customers based on interest towards new products line	Qualitative	Primary	Survey and questionnaires	

12. References

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