

**REPUBLIC OF TURKEY
ISTANBUL GELISIM UNIVERSITY
INSTITUTE OF GRADUATE STUDIES**

Department of Business Administration

**THE IMPACT OF LESS CARBON EMISSION ON THE
BRAND IMAGE OF TESLA AND HYUNDAI IN THE UK**

Master Thesis

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Supervisor

Asst. Prof. Dr. Ertan GÜNDÜZ

Istanbul – 2023

THESIS INTRODUCTION FORM

Name and Surname : Ahmad Shekıb GAVSİ

Language of the Thesis : English

Name of the Thesis : The Impact of Less Carbon Emission on the Brand Image of Tesla and Hyundai in The UK

Institute : Istanbul Gelisim University Institute of Graduate Studies

Department : Business Administration

Thesis Type : Master

Date of the Thesis : 31/03/2023

Page Number : 88

Thesis Supervisors : Asst. Prof. Dr. Ertan GÜNDÜZ

Index Terms : Carbon emission, Brand image

Turkish Anstract : Çalışmanın odak noktası, karbon emisyonu stratejilerinin yardımıyla marka imajı yaratma yönleri olmuştur. Hyundai ve Tesla gibi kuruluşların karbon emisyon stratejileri burada ayrıntılı olarak tartışılmıştır.

Distribution List : 1. To the Institute of Graduate Studies of Istanbul Gelisim University
2. To the National Thesis Center of YÖK (Higher Education Council)

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DECLARATION

I hereby declare that in the preparation of this thesis, scientific ethical rules have been followed, the works of other persons have been referenced in accordance with the scientific norms if used, there is no falsification in the used data, any part of the thesis has not been submitted to this university or any other university as another thesis.

Ahmad Shekib GAVSI

.../.../2023



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ÖZET

Çalışmanın odak noktası, karbon emisyonu stratejilerinin yardımıyla marka imajı yaratma yönleri olmuştur. Hyundai ve Tesla gibi kuruluşların karbon emisyon stratejileri burada ayrıntılı olarak tartışılmıştır. Kuruluşlar, müşteriler arasında popülerlik kazanmak için bu stratejileri kullandı. Bunun yardımıyla marka imajlarını oluşturmayı başardılar. Karbon emisyonlarını azaltma stratejisi, otomobil sektöründeki kuruluşların en ilgili KSS stratejilerinden biridir. Otomobil sektörü çok büyük miktarda karbon saldığında, bu sektörün belirli bir düzeyde karbon merkezli strateji izlemesi gerekli hale geldi.

Günümüzde insanların doğası gereği sürdürülebilir olan bir marka ile ilişkilendirmek istedikleri görülmüştür. Dolayısıyla, sürdürülebilirlik talebini gören Hyundai ve Tesla, müşterilerin dikkatini çekmeye yardımcı olan birçok sürdürülebilir strateji üretti. Ayrıca, sadece müşterilerin değil, paydaşların da dikkatini çekmeye yardımcı olur. Daha az karbon emisyonu, müşterinin satın alma kararlarını etkilemeye yardımcı olur ve böylece kuruluş, satışlarını rakiplerinden daha fazla artırabilir. Ayrıca kuruluşlardaki sürdürülebilir stratejiler, pazarda marka değeri yaratmaya yardımcı olur. Bu nedenle, Hyundai ve Tesla'nın benimsediği sürdürülebilir uygulamaların Birleşik Krallık'taki marka itibarını artırması ve bunun da araba satışlarını artırmasına ve iş büyümesini desteklemesine yardımcı olması bekleniyor.

Hem Tesla hem de Hyundai, fosil yakıtlı araba üretimini durdurmak ve bunun yerine elektrikli veya güneş enerjisiyle çalışan arabaları veya hidrojenle çalışan arabaları geliştirmek gibi sürdürülebilir uygulamaları benimsedi. Bu sürdürülebilir uygulamaların iki şirketin işlerine gerçekten yardımcı olup olmadığı, yorumculuk felsefesi, tümevarım yaklaşımı ve tek yöntem seçimi ile yanıtlanan çalışmanın sorusudur. Fr veri toplama ikincil veri kaynakları kullanılmıştır.

Anahtar Kelimeler: Karbon salınımı, Marka imajı

SUMMARY

The focus of the study has been on the aspects of brand image creation with the help of carbon emission strategies. The carbon emission strategies of organizations like Hyundai and Tesla have been discussed here in detail. The organizations have utilized these strategies to gain popularity among customers. They have been able to build their brand image with the help of this. The strategy of reduction of carbon emissions is one of the most relevant CSR strategies of organizations in the automobile sector. As the automobile sector emits a huge amount of carbon, it has become necessary for this sector to follow a certain level of carbon-centric strategy.

It has been seen that people nowadays want to associate with a brand that is sustainable in nature. So seeing the demand for sustainability Hyundai and Tesla have generated many sustainable strategies which help in grabbing the attention of the customers. Also, not only the customers but also helps in grabbing the attention of the stakeholders. Less carbon emission helps to influence the customer's buying decisions and thus the organization is able to boost their sales more than their competitors. Also, sustainable strategies in organizations help in creating brand value in the market. Therefore, it is expected that the sustainable practices adopted by Hyundai and Tesla will also increase their brand reputation in the UK which will help increase their car sales and support business growth.

Both Tesla and Hyundai have adopted sustainable practices such as ceasing the production of fossil fuel cars and instead developing electric or solar powered cars or hydrogen conclusion transports. Whether these sustainable practices are really helping the business of the two companies is the question of the study that has been answered following an interpretivism philosophy, inductive approach and monomethod choice. For data collection secondary data resources were used.

Keywords: Carbon emission, Brand image

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ACKNOWLEDGEMENTS

I want to thank my supervisor, teachers and professors who have provided me with adequate knowledge on how to conduct research. I am also grateful to my friends and family whose constant support provided me with the strength to perform continuously without being demotivated by any challenges experienced during this task



CHAPTER ONE

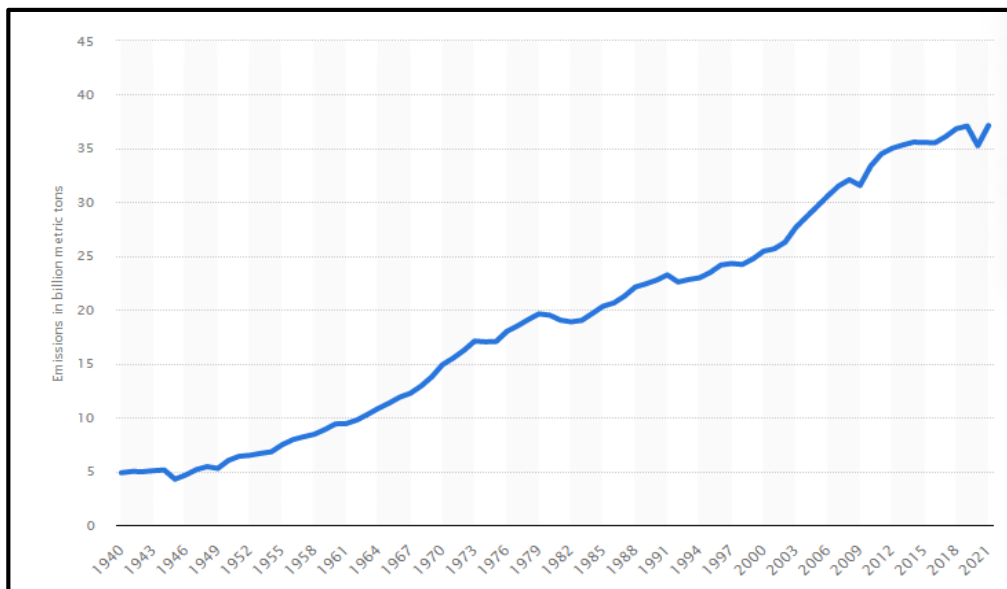
INTRODUCTION

1.1 Background

Current research findings have confirmed the contribution of carbon emissions to global climate change (Mikhaylovet al., 2020; Yoro & Daramola, 2020). Black carbon emissions have contributed to the global temperature rise through its direct radiative force resulting in global warming. Black carbon emission is mainly released during the incomplete combustion of fossil fuels like petrol and types of diesel (Lyu & Olofsson, 2020; Diapouli et al., 2017). The major usage of fossil fuels can be observed in industrial energy consumption and during engine combustion of automobiles.

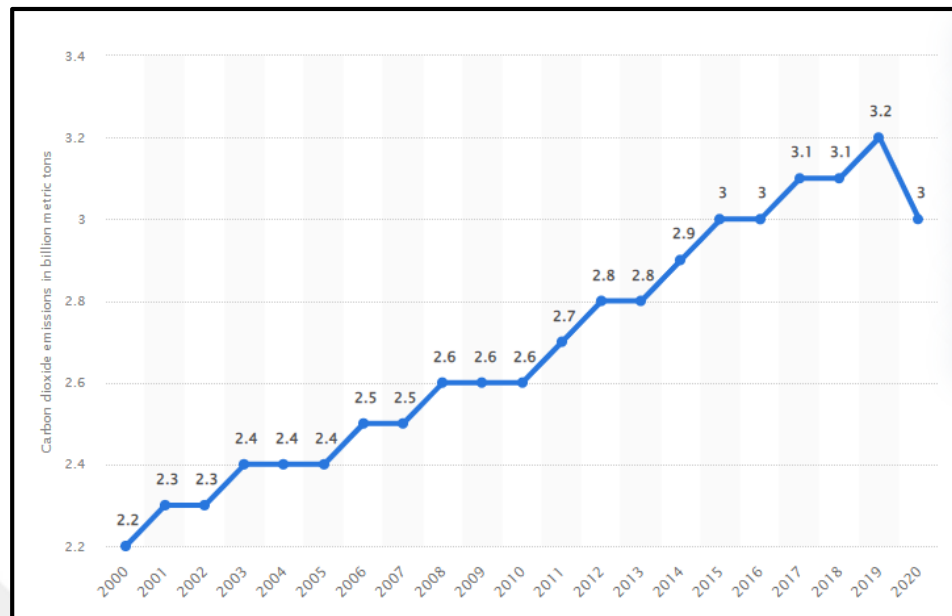
In 2021, a total of 35.26 billion metric tons of carbon is emitted by the world in the automotive industry producing 7.3 billion metric tons which are considered to be the major polluter in the world (Tiseo, 2023). Among transportation vehicles, passenger cars release the maximum amount of carbon (Tiseo, 2021).

Figure 1: Global CO2 emission per annum



(Source: Tiseo, 2023)

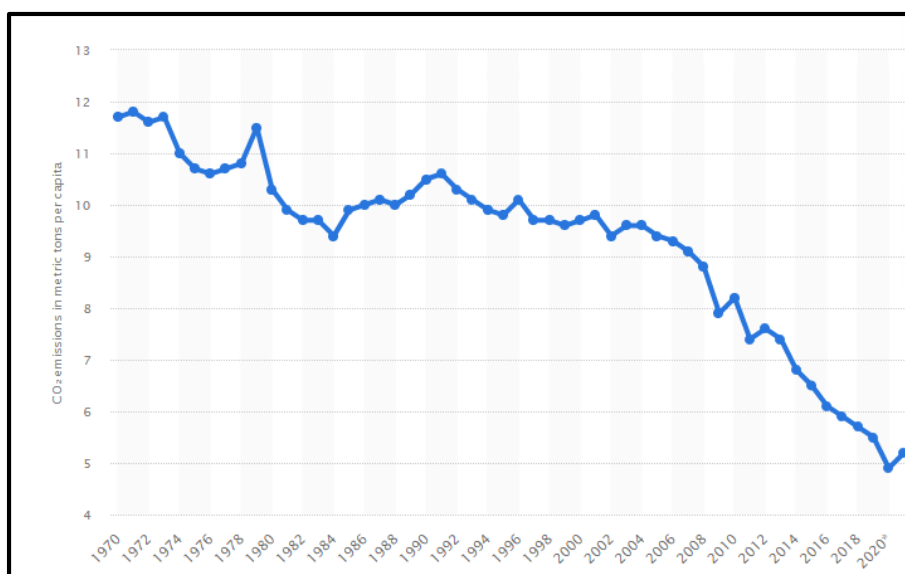
Figure 2: Carbon dioxide (CO2) emission from passenger cars



(Source: Tiseo, 2021)

Countries like the United Kingdom (UK), which prospered through industrialization, emit a large amount of carbon into the environment and therefore, are polluting the national as well as the global climate. Sensing that carbon emission is the greatest threat to the environment in recent times, countries, especially with developed economies are trying to find alternatives to fossil fuels that can reduce the global carbon footprint. However, decoupling carbon emissions from economic growth is a greater challenge to the nations. Despite these, the governments have reformed their environmental regulation policies and have restricted the level of carbon emission by the companies. Companies are now using the help of advanced technologies such as emission filters and are adopting green energy resources like solar, wind and hydropower and hydrogen combustion to reduce their carbon footprint. Britain has plans to reduce carbon emissions completely and therefore is targeting the net-zero carbon goal to achieve by 2030 (The Economist, 2022). Companies doing business in the UK have responded positively to the sustainable developmental plans of the UK. As a result, the annual carbon emission of the UK is decreasing. In 2021, the per capita carbon emission of the UK is 5.2 metric tons (Tiseo, 2022).

Figure 3: Per capita carbon dioxide(CO2)emission in the UK



(Source: Tiseo, 2022).

The automotive industry was one of the major contributors to the UK economy. In 2021, the industry contributed £14.1 billion (Carlier, 2022). UK exports 55% of its manufactured cars to the EU and that earned around 15.1 billion in 2022 (Placek, 2022a). Moreover, the country's stable political condition, high GDP, customers' purchase behaviour to spend on luxury cars, technological advancement and trade relaxations have made it an attractive market for foreign automotive companies like Tesla and Hyundai. In addition, the market size and higher car demands for UK-made cars in the European markets have increased the market attractiveness further.

However, statistics show that car production was the maximum in 2016. After which the graph is going down. In 2016, the number of passenger car production was 1,722,698 whereas the number went down to 859,575 (Placek, 2022). These figures are alarming. However, it is observed that although the production of fuel cars has decreased by 9.8% in 2022, the production of electric vehicles increased by 4.8% (Hawes, 2023). This indicates that the demand for fuel cars is decreasing. The UK customers are rejecting the high pollution-causing fuel cars and are more inclined towards sustainable cars like electric vehicles. Hence, in order to stay in the competition of the UK automotive industry and to take advantage of the UK market, car-making companies like Tesla and Hyundai need to invest more in green practices

and focus on carbon-reducing technologies so that the demand for their zero carbon emission cars increase among the UK customers.

Both Tesla and Hyundai have adopted sustainable development strategies that included the net zero programme. Tesla has converted all their vehicle designs to electric cars in order to achieve the zero-emission goal. The company has shifted to green energy sources and is using solar panels to power its cars. The company is also supporting the use of solar energy for electricity generation and is building Solar roofs and Powerwall (solar energy grid). Through these approaches, Tesla could save 5.0 million metric tons of carbon dioxide (CO₂) emissions in 2020 (Tesla, 2020). Hyundai is planning to achieve net-zero carbon status by 2045. While Tesla is promoting the use of electric and solar energy, Hyundai is focusing majorly to introduce hydrogen combustion engines in their vehicles. In addition, the company is also planning to alter all its fossil fuel combustion vehicles to electric vehicles by 2035 (Hyundai, 2023). With these sustainability practices, both companies are contributing to reducing environmental pollution and protecting the global climate from further deterioration. Lowering pollution will also indirectly help in protecting the community's health from environmental health hazards.

These approaches are spreading a good message to the community about the companies. It is already observed that sustainable practices help develop a better brand image of a company (Aybaly et al., 2017). Automotive companies are nowadays using green solutions and sharing the news of corporate social responsibilities (CSR) to the world through their annual sustainability reports. The purpose is to make their customers realize that they are working for ethical and ecological causes (Aybaly et al., 2017). CSR practices enhance the corporate image of a company which builds a positive image of the brand in customers' perception. Customers accept these companies to be responsible and accountable which develops a sense of trust and reliability between the brands and their customers. This helps in customer attraction and long-term retention and therefore increases sales and supports business growth (Fuji, Habidin & Ong, 2018).

1.2 Research Purpose

In this study, the sustainable approaches of Tesla and Hyundai in the UK, towards the reduction of net carbon emissions will be studied to understand how these CSR approaches are supporting the business of the brands through the enhancement of their brand image.

1.2.1 Research aim

To understand the effect of sustainable practices of Tesla and Hyundai, regarding their attempt at carbon emission reduction, on the development of their brand images.

1.2.2 Research objectives

To understand the impact of carbon emission strategies on the brand image of Tesla in the UK.

To analyse the effect of carbon emission reduction on the brand image development of Hyundai in the UK.

To analyse the future outcome of these sustainable practices of Tesla and Hyundai on their businesses?

1.2.3 Research questions

What is the impact of less carbon emission on the brand image of Tesla?

What is the impact of less carbon emission on the brand image of Hyundai?

What is the future outcome of less carbon emission for Tesla and Hyundai?

1.3 Importance

The current research will add an important contribution to business studies since it has targeted two important areas of modern businesses such as sustainability and brand reputation. Sustainability is related to the corporate social responsibility practices of a company through which a company can develop a better social image of itself. On the other hand, a good brand image is required to attain a better market reputation

(Streimikiene et al., 2021). Market reputation is directly linked with the sales and business growth of a company since market reputation helps to direct customer purchase decisions (García-Madariaga & Rodríguez-Rivera, 2017).

In addition, the study also has importance from the aspect of global environmental impact. The findings of the research regarding less carbon emission will depict the contribution of the automotive industry to climate change and environmental pollution. In addition, the environmental quality before and after the adoption of sustainable practices by the automotive companies will demonstrate how the other companies in the industry can contribute to the development of a better world for the community.

The research will also contribute to the economy of the automotive industry since it will demonstrate whether investing in CSR and green practices will help companies gain financial benefits through higher sales and revenue. Therefore, this study will help new automotive businesses to strategize their sustainable development goals that will support building their brand image and aid in business growth.

1.4 Need of the research

The research is needed for the entrepreneurs in the automotive industry to make them aware of the expectation of the customers from a brand regarding their ethical practices towards the environment and global community. Since the automotive industry is one of the major contributors to global environmental pollution and climate change through its high amount of carbon (in form of carbon dioxide and greenhouse gas) emission, new businesses need to put efforts into reducing the carbon emission in their business operations. Examples of the big automotive brands like Tesla and Hyundai and their pro-environmental strategies will lead the new automotive brands to plan their operational strategies toward corporate social responsibilities (CSR). Since CSR is important to develop a positive brand image that in turn increases business, the new businesses will be cautious towards their supply chain activities to reduce carbon emissions. Therefore, this research is needed from two important aspects – (1) Saving the global environment and (2) business development.

1.5 Assumptions

Many studies have been conducted to date to depict the connection between sustainable practices and brand image (Aybaly et al., 2017; Lee, 2019; Yadav & Veetil, 2021). Hence it can be assumed that these studies will provide sufficient information to understand the topic background. Further, the study is specifically focused to observe the less carbon emission approaches of two automotive brands, Tesla, and Hyundai in the UK. These brands regularly publish their sustainability reports which contain the results of their net zero-carbon goals (Tesla, 2020; Hyundai, 2023). These annual impact reports are published and can be accessed by the public. It is assumed that these reports will also offer good knowledge about the brand's sustainable operations and the financial reports of the companies will help the researcher to relate the impact of less carbon emission approaches with their business performance.

1.6 Limitations

The primary limitation of the study is its case study approach. Focusing on only two companies cannot describe the global scenario of the automotive industry and their contribution to environmental and climate protection. Further, these two companies are already established brands and are globally recognized. Therefore, a direct confirmation cannot be made that the environmental practices of these companies are helping build their brand image. The service and product quality of these companies also have a greater effect on developing such a reputation and enhancing their business.

On the other hand, a great level of financial investment is required to minimise carbon emissions since it needs advanced technological support (Göçer, Jin & Fawcett, 2019). Both Tesla and Hyundai are large enterprises. Therefore, they can afford those funding. However, if sustainability is a major approach to achieving a high brand reputation, then how do SMEs (small-to-medium enterprises that have less financial strength) in the industry could fulfil the requirement? By focusing only on Tesla and Hyundai, the study also cannot resolve this question.

Despite these limitations, it can be said that the available studies majorly have discussed the relationship between sustainable practice and brand reputation, but specific information on Tesla and Hyundai is not available in form of a detailed

analysis (Lee, 2019; Yadav & Veetil, 2021). Further, many companies are now attempting greenwashing and are misinforming customers about their environmental practices whereas, in reality, they are not performing as they are promising or reporting (Aybaly et al., 2017). This study can scrutinize whether these two brands are also involved in such ill practices and will deliver the message to the industry about the negative impact of greenwashing on business and brand reputation.

1.7 Methods

The study has taken a case study strategy to collect company-specific data in a longitudinal time horizon (Yadav & Veetil, 2021). A secondary qualitative monomethod approach has been chosen for data collection whereas data interpretation is done following the interpretivism philosophy and inductive reasoning style (Yadav & Veetil, 2021). A further detailed discussion of the research methods can be found in the third chapter of this thesis.

1.8 Dissertation Structure

The study has been divided into five chapters starting with the Introduction chapter and followed by the literature review chapter that provides details on the previous research in this field. The third chapter describes the methodology. The fourth chapter presents the findings, and their interpretation is given in the discussion section. The final analysis is presented in the concluding chapter which is the last chapter of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1. Chapter Introduction

The literature review is mainly the method of writing where the researchers are trying to summarize or even critically analyzed the different author's viewpoints regarding the research. The data of this chapter will be collected from various authentic sources like Google scholar, articles, newspapers etc (Gupta, et.al, 2020). The main purpose of the literature review is to obtain an understanding of the present research and also debates of the reverent to the specific topic or even the study and also help in getting the information in the written format (Stock, et.al, 2019). The literature review is mainly used in order to incorporate all the information and then help in framing the conclusion of a certain topic.

Also, it helps in creating a new formation for the knowledge and also in the process of careful evaluation and also analytical summarization the researcher has the capability to generate a new language of the knowledge which helps in the research. Thus, here in this study, has provided a clear discussion about the impact of less carbon emission on the brand image of Tesla as well as of Hyundai. Also, it provides a clear discussion about the future outcome of less carbon emission for both the companies Tesla and Hyundai.

Reference	Topic	Methodology	Conclusions	Thoughts
Muniz, F., Guzmán, F., Paswan, A.K. and Crawford, H.J. (2019).	The immediate effect of corporate social responsibility on consumer-based brand equity.	Experiment conducted in Australia, Spain, and the United States, based on actual program of corporate social responsibility	Change in brand loyalty due to corporate social responsibility drives immediate affirmative change in the equity of the brand. Change in brand awareness of the companies has a relationship that can be depicted as an inverted U with change in the equity of the brand, while the change in the perceived quality of the brand is not effective.	Hence, the corporate social responsibility can help with positive change in brand equity, while brand awareness is also necessary.
Salehzadeh, R., Sayedan, M., Mirmehdi, S.M. and Heidari Aqagoli, P. (2023)	Elucidating green branding among Muslim consumers: the nexus of green brand love, image, trust and attitude	Cross-sectional survey on 201 consumers of different brands in the automobile industry in Iran.	Green brand image has a conspicuous direct effect on the green brand attitude, trust, and love. Trust and green brand attitude have a significant direct effect on green brand love.	The brand image being green can, therefore, drive love for the brand in the long run.
Long, Z., Axsen, J., Miller, I. and Kormos, C. (2019)	What does Tesla mean to car buyers? Exploring the role of automotive brand in perceptions of battery electric vehicles.	Survey of a representative sample of 2123 Canadians who have new vehicles	Tesla is seen as a brand that has pushed innovation in battery electric vehicles (BEVs), making them stylish and environment friendly. It has shaped the consumer attitude regarding the BEVs.	The innovation used by Tesla has helped them with changing the attitude towards the BEVs.
Panda, T.K., Kumar, A., Jakhar, S., Luthra, S., Garza-Reyes, J.A., Kazancoglu, I. and Nayak, S.S. (2020).	Social and environmental sustainability model on consumers' altruism, green purchase intention, green brand loyalty and evangelism.	331 respondents in survey, analysed by Structural Equation Modelling technique	Sustainability awareness can have a positive effect on the consumer altruism, which improves consumer purchase intention, green brand evangelism, altruism, and green brand loyalty	The ability of the companies to display awareness regarding sustainability has, therefore, helped with the consumer purchase intentions being improved.

Reference	Topic	Methodology	Conclusions	Thoughts
Lee, M.T. and Raschke, R.L. (2023)	Stakeholder legitimacy in firm greening and financial performance: What about greenwashing temptations?	39 firms chosen from automotive, food and beverage, and technology industries. Data collected from Glassdoor, Refinitiv Financial Markets Database, ESG Reports of companies	Stakeholder legitimacy drives environmental, social, and governance (ESG) performance. ESG performance has a positive and direct impact on net profit margins of company. Companies with low ESG performance usually greenwash. Greenwashing does not associate with net profit margins of the company.	It was found that unlike the findings of this research, the greenwashing activities were not found to hinder profits.
Hardman, S., Shiu, E. and Steinberger-Wilckens, R. (2015)	Changing the fate of Fuel Cell Vehicles: Can lessons be learnt from Tesla Motors?	Historical case studies and financial reports of Tesla	Fuel cell vehicles need to show a shift in the paradigm from the current strategy of market entry to high level encroachments.	Hence, the zero emission vehicles of Tesla have improved its brand image for consumers.
Maldonado-Guzmán, G., Garza-Reyes, J.A. and Pinzón-Castro, Y. (2021)	Eco-innovation and the circular economy in the automotive industry	Extensive literature review and self-administered questionnaires, obtaining 460 responses from different companies in the automotive industry in Mexico.	Eco-innovation of the process, products, and management has a positive effect on the circular economy of the automobile companies.	Unique eco-innovation strategies can help with improving the ability of the automobile organisations to engage in circular economy practices.

Reference	Topic	Methodology	Conclusions	Thoughts
Agrawal, R., Wankhede, V.A., Kumar, A. and Luthra, S. (2021)	Analysing the roadblocks of circular economy adoption in the automobile sector: Reducing waste and environmental perspectives	Literature review and expert consultation	Not having the ability to prove high quality products that have been remanufactured is one of the biggest hindrances to adopting circular economy for automobile companies in India.	Hence, the reduction in the carbon emissions of the vehicles could be affected by the problems with the companies being able to deliver high quality vehicles after remanufacturing.
Agyemang, M., Kusi-Sarpong, S., Khan, S.A., Mani, V., Rehman, S.T. and Kusi-Sarpong, H. (2019)	Drivers and barriers to circular economy implementation: An explorative study in Pakistan's automobile industry	Surveys of 112 people and interviews of 28 people in Pakistan	The reduction in costs, profitability and market share, and concern for the environment drive the implementation of circular economy practices. The unawareness and cost issues hinder the implementation	Thus, it was found that costs are one of the biggest drivers as well as barriers for the implementation of technologies that could reduce the greenhouse gas emissions from vehicles.

Table 1: Systematic Literature Review for a few associated sources with key research regarding relevant topics

(Source: Created by Author)

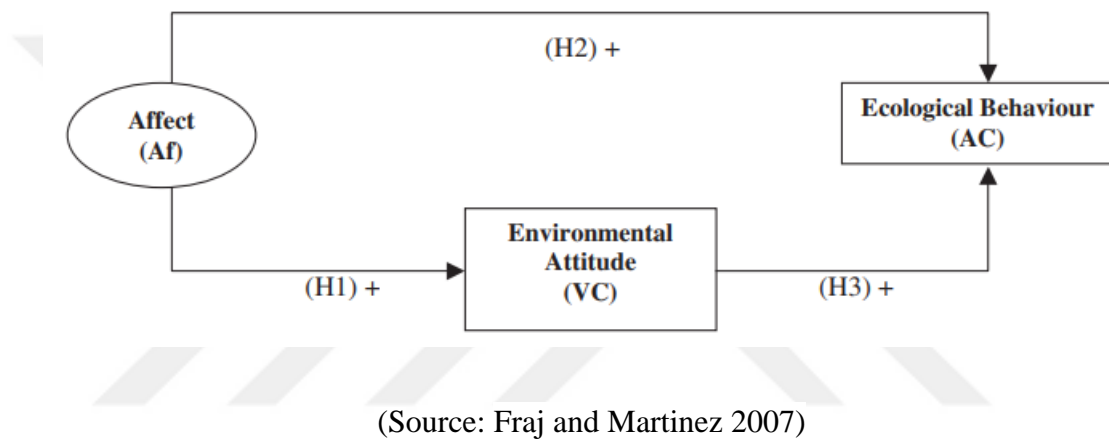
2.2. Impact of Green Marketing on Brand Image of Companies in the Automobile Industry

2.2.1. Green Marketing

Green marketing involves the combined forces of environmental and ecological marketing. The marketing of products that are expected to be safe for the environment is generally termed as green marketing. According to Nekmahmud and Fekete-Farkas (2020), green marketing can help with there being ecological advancements, competitive advantages through positive effect on the environment, increase in the awareness regarding environmental social situations, making sure that long term and sustainable growth can be found, with profitable and efficient use of resources. This can also help with the corporate social responsibility of an organisation. However, as

Mathur, Valecha and Khanna (2018) suggest, green marketing does not just involve making green claims or publicizing the green efforts being taken by the organisation. It also includes the actual efforts that the organisation has been taking for making a positive effect on the environment, or at least reduce the adverse effect that their administration or product could have on the environment. The green marketing process involves a large number of exercises that could contribute to improving the brand image of the organisation.

Figure 4: The three components of the relationship between the environmental attitudes and ecological behaviours



The components of the relationship shared between the environmental attitudes and ecological behaviours include the cognitive, intentional, and emotional components of the attitudes that the consumers show towards green marketing in the organisation. Affect commitment, verbal commitment, and actual commitment are linked in this context regarding the way in which the consumers react to green marketing (Fraj and Martinez 2007).

According to Groening, Sarkis and Zhu (2018), marketing green products require different strategies as compared to the non-green products. A majority of consumers are likely to choose a product that is environmentally superior over a product that is environmentally inferior, subject to *ceteris paribus*. The consumers are not, however, usually interested in paying more for the product that is environmentally superior. This implies that the consumers consider the costs of price to be more significant than the benefits of low carbon footprint.

2.2.2. Brand Reputation

According to WOO (2021), companies have to make sure that they have been making their stand clear on the basis of their positioning in order to protect their reputation. The product strategy, distribution strategy, pricing strategy, demand strategy, and labelling strategy are the five components that a company needs to adopt for environmental marketing to be successful. More consumers and communities need to be made aware regarding the need to commit to the environment and take the steps that are required for implementing the corporate social responsibility, which will also help with building the reputation of the companies themselves. The use of corporate social responsibility can help with a positive value for the green image of the company (Widyastuti et al. 2019).

2.2.3. Customer Loyalty

According to Baktash and Talib (2019), a significant effect can be seen of the quality of the products offered and the trust of the consumers on the company and the sustainability of its products on the loyalty that is shown by the consumers. The age and education of the consumers can also, however, have a significant effect on the attitude that the consumers show towards the quality of the green products that are offered to them. The product quality as well as the pricing can affect the loyalty of the consumers as well as the corporate image that the brand carries with it. The expertise of the salespeople regarding communicating the effects of the lower carbon footprint and how it could help the environment could also be important for garnering and maintaining customer loyalty in the companies that are being taken into account. The environmental strategy can be seen as a significantly important strategic agenda for the people (Gelderman et al. 2021).

2.2.4. Competitive Advantage

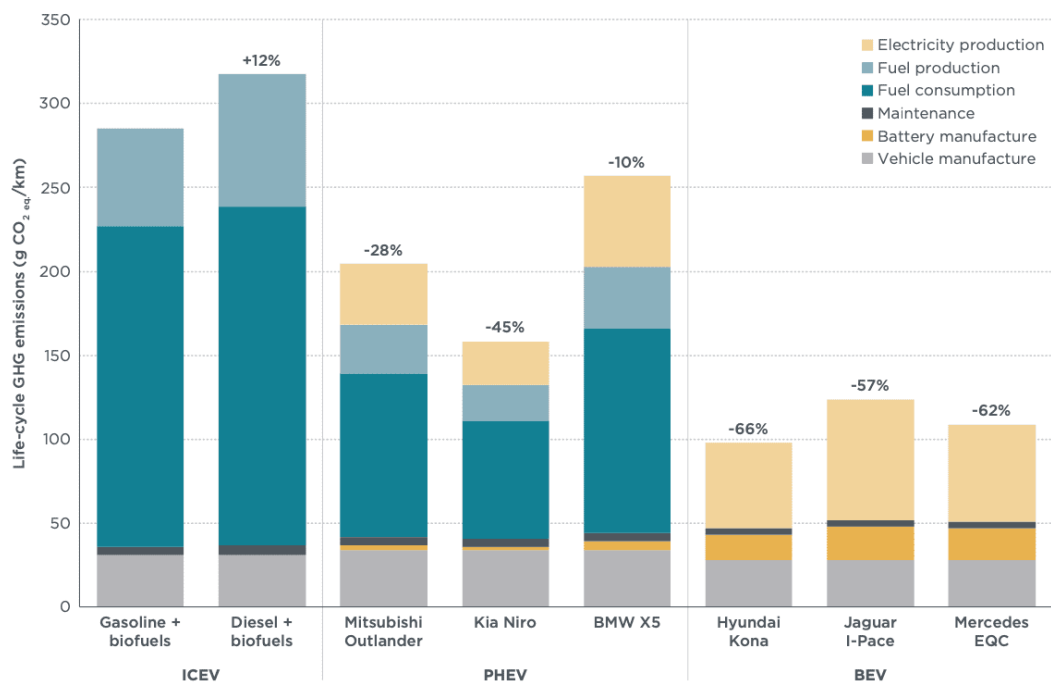
The internal green marketing actions of an organisation can contribute to the competitive advantage that it may acquire. There is a significantly strong relationship between the strategies and the people, which improves the creation of competitive advantage in the organisations (Papadas et al. 2019). The companies may also use greenwashing for the competitive advantage to be built in the organisation. However,

if detected, it could affect the profitability as well as cause ethical harm, thus ruining the reputation of the company (Szabo and Webster 2021).

2.2.5. Environmental Sustainability

Figure 5 below shows the life cycle greenhouse gas emissions of battery electric vehicles are, on an average, 63% less than the average in the same segment in new gasoline combustion engine vehicles. The greenhouse gas emissions, individually, are mostly similar, but differences are seen in the consumption of electric energy by the conventional models and the electric vehicles. These determine the difference between the energy efficiency of the two kinds of vehicles (The International Council on Clean Transportation 2022).

Figure 5: Life Cycle greenhouse gas emissions of conventional and electric vehicles driven in Germany



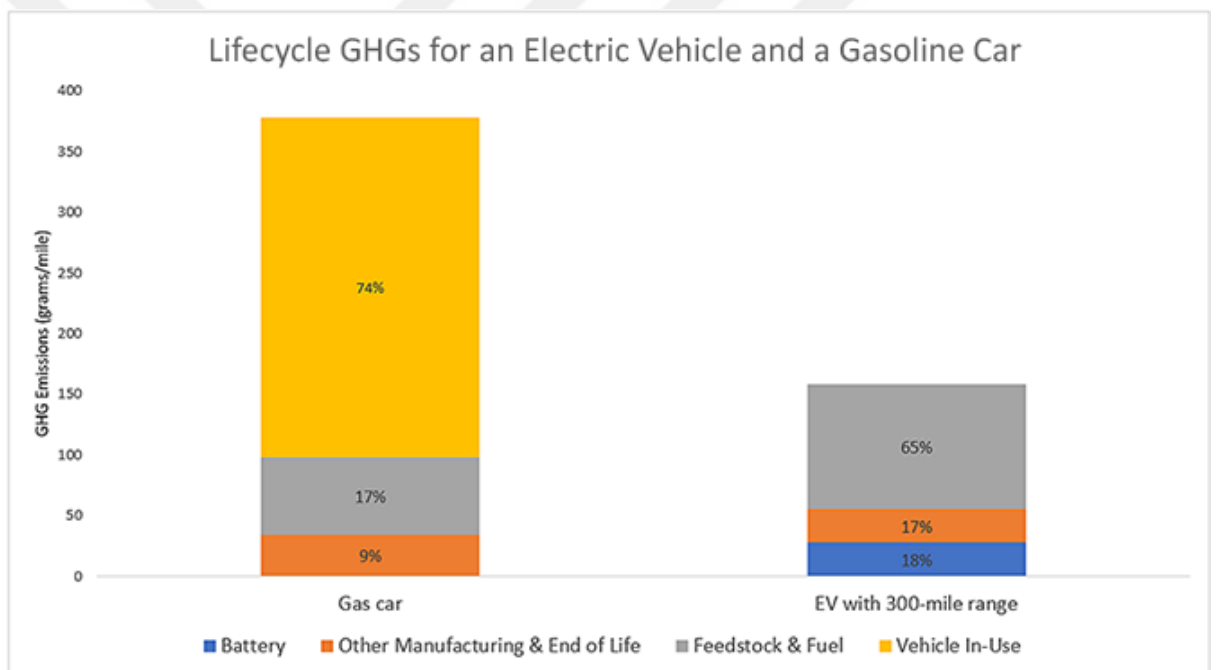
(Source: The International Council on Clean Transportation 2022)

According to the United States Environmental Protection Agency (2023), the popular myth of electric vehicles having more adverse effects on the climate than the gasoline driven cars due to the emissions from the power plants can be proven to be wrong. The electric vehicles usually have a much lower carbon footprint than the gasoline driven cars, even when the electricity that is used for charging is taken into account. The

electric vehicles have no tailpipe emissions, but the charging of the electric vehicles, which requires energy, could be responsible for the carbon footprint of the cars being increased. However, even after considering the emissions due to these actions, the total carbon footprint of the electric vehicles has been found to be less than the carbon footprint of the gasoline cars.

According to the United States Environmental Protection Agency (2023), the greenhouse gas emissions from an electric vehicle over its lifetime is lower than conventional gasoline driven vehicles even when the manufacturing of the batteries is considered.

Figure 6: Life Cycle Greenhouse Gas Emissions of Electric Vehicles and Gasoline Cars



(Source: United States Environmental Protection Agency 2023)

2.3. Impact of less carbon emission on the brand image of Tesla

2.3.1 Consumer behaviour

According to Latif, Pérez & Sahibzada (2020), the ethical behaviour of consumers has changed in recent times, and they have become conscious of the aspects of CSR activities. The CSR activities which are done by the organizations have a certain level of impact on the customers. Customers like buying products from ethical brands which

have some positive contributions in the aspects of CSR activities (Latif, Pérez & Sahibzada, 2020). It may also be observed that the brands which are engaged in ethical behaviour are considered to be positive and the customers feel a certain level of satisfaction when they contribute to the brands. This positive impact on the customers often drives them towards a brand through which they are able to manage developments.

2.3.2 Important CSR strategy

According to Islam et al. (2021), less carbon emission is a part of the aspects of CSR activities through which the organizations are able to maintain a certain level of brand image through which they are able to attract customers. Reduction of carbon emissions is an activity which remains on the priority list of most organizations (Islam et al. 2021). It is the highest target of the organizations as the emission of carbon is harmful to the environment. The organizations which are able to make it possible in the context of carbon emission are liked by the customers. Moreover, it helps in the creation of a brand image as very few organizations are able to fulfil their carbon emission goals.

According to Kim, Lee &Roh, (2020), the reduction of carbon emissions as a strategy is one of the most important levels of CSR activity which remains a point of focus. It is one of the top levels of CSR activities through which the organizations aim at gaining a better brand image (Kim, Lee &Roh, 2020). It may be noted that there are other CSR activities like the aspects of community development and protecting the landfill but the aspects of reduction of carbon emission are one of the most relevant ones. It may also be noted that the impact of carbon emission is high on the environment for which it is the most preferred CSR strategy by organizations. Tesla has taken this CSR strategy seriously and has been able to gain development.

2.3.3 Customer retention

According to Raza et. al., (2020), organizations are able to retain their customers with the help of CSR activities as the customers generally keep on returning to the organization when they find the organization to be performing CSR activities in a great way. The customer retention capabilities of organizations are high when they are engaged in the aspects of CSR activities (Raza et al. 2020). It is also argued that CSR

activities are incapable of retaining customers as the customers only buy from those organizations which provide them with the right kind of product. Product quality matters to the customers more than CSR strategies. Brand reputation is often created with the help of quality products rather than CSR strategies.

2.3.4 The real impact of CSR activities on the customers

According to Hu, Liu & Zhang (2020), building a brand image can be possible through CSR activities but it does not impact the customers as a whole. The brand image building that happens through CSR is not very important as most of the customers do not respond to the aspects of the CSR image of an organization. They generally buy the products which they found to be better or are better suited for them. The matter of CSR activity does not impact them as a whole (Hu, Liu & Zhang, 2020). It is a merely added quality in the aspects of the organization through which they may be able to gain developments. Customers often do not pay heed to the brand image of the organizations if they get the right kind of products from them. In the case of Tesla, the organization has been impacted by the product and services it sells and not by the brand image.

According to Cuesta-Valiño, Rodríguez, & Núñez-Barriopedro, (2019), fewer carbon emissions do not have a direct relation with brand image. It is a part of the CSR activities of the organizations through which a brand image can be built. CSR activities are mostly done under governmental pressure and also intend to make the brand image turn out to be better. There has often been some important level of impact of CSR activities on the brand image for which the organizations always go for these (Cuesta-Valiño, Rodríguez, & Núñez-Barriopedro, 2019). It may also be noted that CSR strategies remain an integral part of the organizations which are making it big. In the case of Tesla, the scenario is similar. It has attempted to build its brand image through carbon reduction but the brand image is mostly due to the products and services it can provide.

2.3.5 Positive message

According to Lee et al. (2020), the reduction of carbon emissions cannot impact the brand image but it may generate a positive message for other organizations. Other

organizations may be able to use these strategies and implement those (Lee et al. 2020). This may help in the reduction of carbon emissions through which society may get benefitted. Organizations like Tesla can spread a certain level of positivity with the help of their CSR strategies. It may also be noted that the reduction of carbon emissions often creates a certain level of awareness in the minds of the customers and they indulge in the concept and accept the same in a better way.

2.3.6 Stakeholder engagement

According to Leonidou et. al.,(2020), the aspects of stakeholder engagement are possible with the help of CSR activities and the reduction of carbon emissions does that for sure. The important stakeholders of the organizations often indulge with them due to CSR activities. CSR activities like carbon reduction provide organizations with a certain level of positivity through which they are able to impact the environment in a positive manner (Leonidou et al. 2020). It may also be noted that the important task of the engagement of the stakeholders is easily done with the help of CSR activities. There are different aspects of development in the context of CSR activities through which a better level of development may also be possible. In the case of Tesla, the organization has been able to engage some relevant stakeholders which have contributed to the aspects of profitability.

According to Shackleton et. al.,(2019), the aspect of carbon reduction helps the local communities for development which is an integral part of this CSR activity. It helps organizations get a positive response from customers and other important stakeholders (Shackleton et al. 2019). It creates a positive reputation which is necessary for the aspects of development. The impact of this positive reputation is huge which often impacts the overall brand image of the organization through the aspects of CSR activities. The engagement of the stakeholders in the vehicle industry has been tough as there are different sets of stakeholders to manage the whole scenario. Organizations may often be able to engage in the aspects of the engagement with the help of activities like stakeholder engagement.

According to Kumar et al., (2021), organizations in the automobile industry indulge themselves in the aspects of CSR activities due to the level of financial management it can deliver. Organizations can do financial management with the help of the

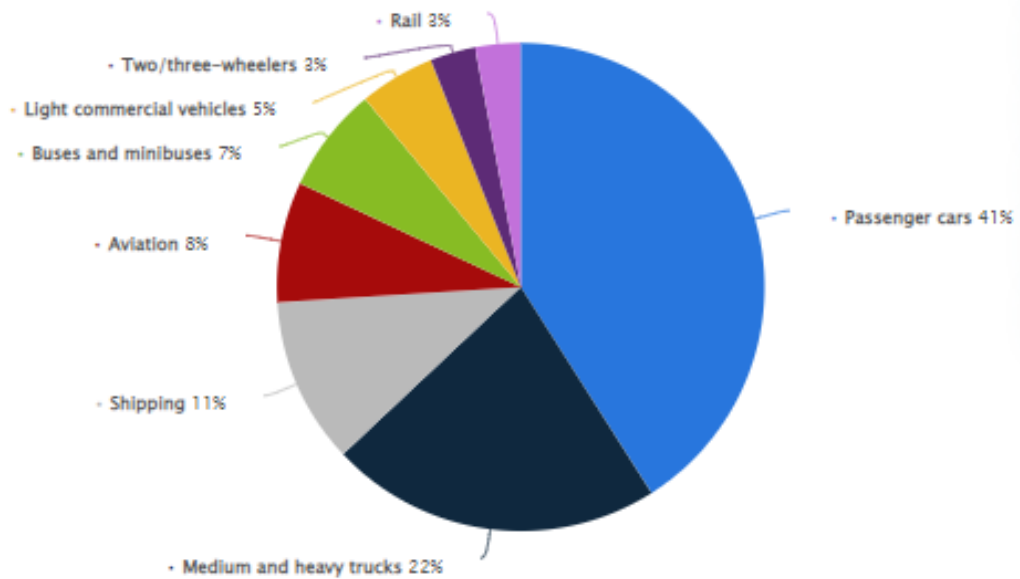
reputation they have been able to create (Kumar et al. 2021). The creation of reputation mostly depends on the aspects of CSR activities. It may also be noted that the level of commitment the organization has been able to bring in for the important stakeholders is mainly done with the help of activities like carbon reduction. In the case of Tesla, it has been able to create a brand image of its own with the help of a better level of development which has been there.

According to Chen, Mao & Sun, (2022), the ethical duties of organizations are often considered to be one of the most important duties. This can make a huge difference in the profitability of the organization. The changing aspects of profitability are often considered to be one of the most important aspects of developments which have been better in the context of the change (Chen, Mao & Sun, 2022). It may be noted here that the importance of CSR activities is growing in recent times and most organizations are engaged in these aspects due to the constant level of pressure from the different categories of stakeholders. In the case of Tesla, it may not have that pressure in the context of the organization, but it is a big organization for which there comes a lot of responsibility. Thus, it has to indulge in the activities of necessary carbon reduction.

2.4. The impact of less carbon emission on the brand image of Hyundai

In the year 2020, it has been observed that about 7.3 billion, metric tons of carbon dioxide emissions have been done in the global transport sector. Passenger cars generate the emission 41% of the carbon emission in the entire world (Tiseo, 2021).

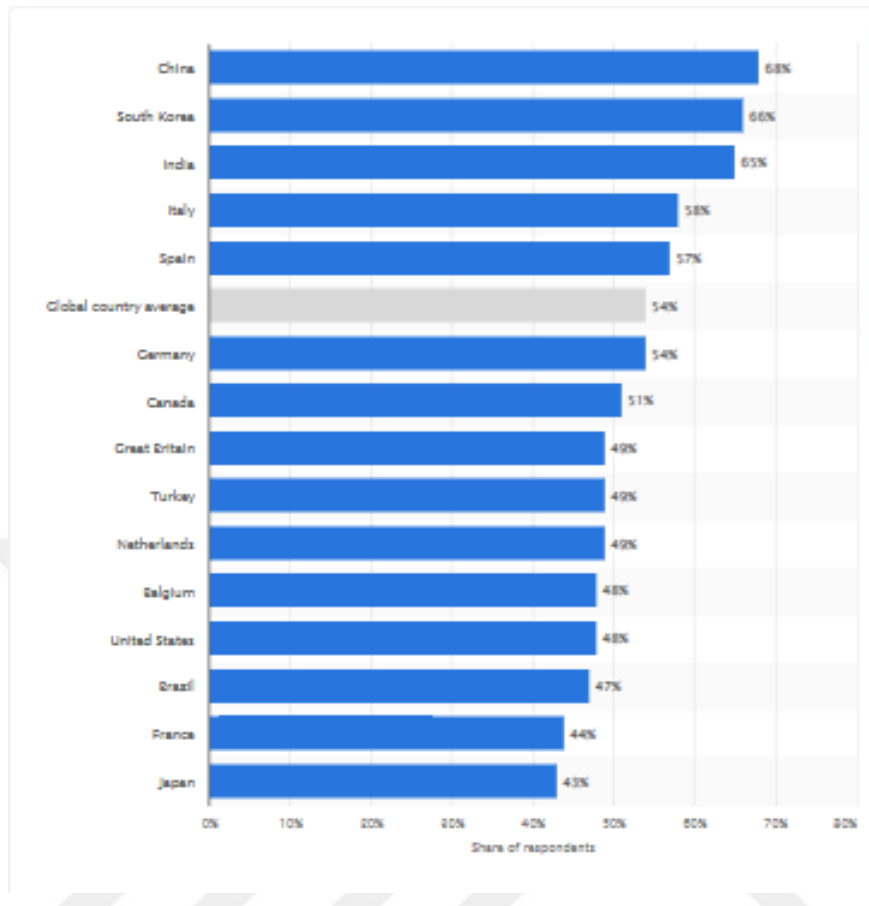
Figure 7: Breakdown of CO2 emissions in the transportation sector worldwide



(Source: Tiseo, 2021)

The US is generated a high amount of transport emissions in the whole world. Although the emission started to decrease, they reach in the year 2019 the country generated 1.9 billion, metric tons of carbon emissions. In the year 2020, the impact of the covid has to decrease the emission of carbon to around 300 million metric tons (Tiseo, 2021). So that is why people are worried about the environment and that is why they want to use sustainable products.

Figure 8: Share of consumers trying to avoid buying new goods



(Source: Tighe, 2022)

According to Tighe, (2022) in the year 2020, more than half of the customers throughout the world tried to purchase a new product which causes harm to the climate. There are lots of customers who are concerned about climate change and then they are decided to use sustainable products which are good for the environment. In the year 2021, over a third of customers worldwide stated they would purchase more environmentally friendly goods. to improve the environment of the whole world. That means the demand for electric cars is more as they do not generate any kind of waste materials which can harm the environment.

2.4.1. Customer purchase decision

Carlier, (2022) stated that in response to growing environmental concerns from both consumers and governments, the global market for electric vehicles has evolved. According to projections for sales of plug-in electric light vehicles (PEVs) globally,

the market increased by more than twofold between 2020 and 2021. With 6.7 million units sold, the PEV market is regionally diversified. Thus, this means that the rise of demand can bring a great opportunity to the automation industry and also helps increase brand value among customers. Thus, seeing this opportunity, automobile companies started to generate car which generates less carbon in the environment.

According to Castro-Santa, Drews, & van den Bergh, (2022), green advertisements are become the most successful market strategy in the market and also help the organization to promote products or even services which have an impact on the environment. It has been observed that customers can be strongly influenced by the advertisement that promoted green products rather than the non-green product attributed and thus such advertisements create a positive attitude towards the brand among the customers.

This positive attitude is thus generated by the green advertisements that help in predicting the customer's purchase decisions. That means the company which creates green advertisements helps in promoting that the organization generates less carbon in their organization which influences the customers who are concerned about the environment and thus it helps in creating a positive relationship with the customers.

On the contrary Mandarić, Hunjet, & Vuković, (2022) do not agree with the other authors as they have observed that positive consumer attitudes do not ways transits to into action which is mainly known as the attitude-behaviour gap and the main reasons can be financed as the customers can also simply support the sustainable automobile industry by simply not purchasing them. Thus, the environment is not much to attract customers to buy sustainable cars if the price of the vehicle is too high.

Accepting the information Gersdorf, et.al, (2020) point out that the price of an electric vehicle is much higher and, in that case, the environmental value is not that effective also when the company increase some process it can result from the disapproval of the products. Thus, companies must be made affordable electric vehicles which help the customers to get the products or the services so that they can contribute to the sustainability of the environment.

2.4.2. Companies generating smart products.

While on the other hand Mishra, Ghosh, & Sarkar, (2022) mentioned that smart product which generates less carbon dioxide helps the company to maintain its brand image globally and thus make sure the customers about the quality of the product and hence the company get maximum profit. Thus, the company mainly focus on generating smart products. That means if the organization innovated smart technology, it also helps in creating the brand image of the company in the market.

The government also taking the initiative to act on climate change and that is why they made some policies or even agreed to invest in the automobile sector. The government of the UK announces 125.5 million dollars in funding for the development of green technology in the automobile sector (Holman, 2021). Thus, it is a great opportunity for the organization to create new technology which is beneficial for the environment. Also, the government develop some environmental policies which are beneficial for the automobile industry to develop new technology for the recognition of the brand and helps the environment to maintain sustainability.

Acknowledge the fact Gao, et.al, (2022) utter in their research that the positive effect of the environmental policies which is given by the governments is very essential to decrease the costs of the government intervention and also rises the advantage of the interruption to inspire the governments to fulfil their responsibilities. Making businesses fully utilize the smart technology spillover effect is advantageous to lower the costs of green innovation and boost the advantages that come from it. Thus, this means that the introduction of new technology helps in brand recognition in the market.

For example, the new innovation of the Hyundai Ioniq 5 and the Kia EV6 are both electric cars designed in such a way that they are very user-friendly and also environment-friendly, comfortable and also affordable pricing. Thus, it creates huge value brand brands as their customers started to appreciate them and also thus the company can create a positive brand image among the customers through its unique innovation (Brauer,2022). Thus, it means that the innovation of the companies can create an implacable brand value in the market regarding sustainability in the environment.

2.4.3. Companies maintain sustainability in supply chain management.

According to Amiri, et.al, (2021) the usage of sustainability in the supply chain management of the automobile industry helps in achieving sustainable development goals which help the manufacturers more advance and also revolutionary strategies for the supply chain which leads to becoming more table and also very efficient and also helps in planning the ethical supply chain in the organization as well as an ethical workplace.

For example, Hyundai is started to develop a sustainable supply chain which enclosed the entire value chain of the whole company. The company partnered with the suppliers so that they can able to create an ethical environment and also a corporate environment which can manage both socially and environmentally responsible ways. The three main Hyundai strategies for collaborative growth with its suppliers are nurturing suppliers' global competitiveness; strengthening the foundation for sustainable growth; and fostering a culture of joint growth. The company is engaging in a variety of actions targeted at encouraging quality competitiveness, improving R&D capabilities, and boosting productivity in order to cultivate the worldwide competitiveness of the suppliers. The company engages in actions that aim to develop the suppliers' foundation for sustainable management, construct growth infrastructure, and broaden global sales channels in order to provide the basis for sustainable growth (hyundai.com, 2020).

Green supply chain management mainly concentrates on developing the value to the customers and thus the company with the help of the various customer relationship management in the most strategic way. When the customers value the services of the customers which they accept from the company through the help of green distribution and also marketing them in the green supply chain management then the customers do not want to switch to the competitor company and thus it also helps in enhancing the brand value in the market (Amiri, et.al, 2021).

While on the other hand Zimon, Tyan, &Sroufe, (2020) commented some different pint that the sustainable supply chain helps the organization to maintain relationships with the suppliers, customers especially under the impact of the government and also

the other stakeholders which are outside the supply chain. Thus, this relationship helps in generating brand value in the market.

Another piece of information is provided by Siems, &Seuring (2021) which states that stakeholder engagements are therefore the most important in sustainable development. They mainly have a vital role when it comes to control and accountability. The accountability of the company makes them more responsible for the process which may take place in the supply chain. While control is the capability of the stakeholders to adjust the company's project. Thus, the stakeholders also help maintain sustainability in the organization which helps in creating positive brand value in the organisation.

2.5. Future aspects of less carbon emission for Tesla and Hyundai

According to Ohueri et al. (2019), the CSR activities that are done by Tesla are indeed relevant. The product of the organization has been one of the most sustainable vehicles which provide a good amount of speed. This type of feature in the Tesla EVS has helped the organization to overcome all the sustainable challenges (Ohueri et al. 2019). Being a big organization in the automotive industry, Tesla has been able to contribute to the aspects of sustainability which has been one of the most relevant factors. This type of product design may help Tesla in the generation of less carbon activity in future and it may be able to attain the target of carbon emission that it has set in the next few years. This type of product design may prove to be productive for the organization in future.

According to Taleizadeh, Alizadeh-Basban&Niaki (2019), Tesla is already a brand of sustainability due to the product it has designed but other than this product Tesla has often indulged in the activities of community development. It has already invested a huge amount in the context of community development (Taleizadeh, Alizadeh-Basban&Niaki, 2019). These types of activities are creating a brand image and many poor people are getting benefitted from these aspects. Tesla has been able to indulge in the aspects of customer satisfaction which is also a key driving factor in the creation of its brand image. In the future, it may impact the mindset of the customers while making a decision for the brands.

According to Li et al. (2020), the indulgence of Tesla with the aspects of carbon reduction strategy is one of the most important factors of its future development through which the organization may be able to capture the EV market to some extent. The carbon reduction activities of Tesla also lie in its charging stations and many other offices (Li et al. 2020). It uses clean energy in its offices to reduce the release of carbon this is an initiative which may generate a positive image of the organization in future which may help in gaining the attention of the stakeholders in particular.

2.5.1. Improved sales in the organization

Like Tesla Hyundai also take certain steps to reduce carbon emission like the introduction of a new model which is run on electric sources and also maintaining sustainability in the supply chain management thus the company can get a lot of benefits like the sales of the company may increase on the daily basis. Though after implementing sustainable supply chain management in the organization the sales of the company increased 3.8 times in the sales in the year 2020 (hyundai.com, 2020).

Thus, it can be said that the implementation of a sustainable strategy in the organization helps raise sales in the market. With the same observation Zhang, et.al, (2019) commented in their research paper that Millennials in the specific are more like to purchase more for products which contain sustainable components or even products that have social responsibility assets. Thus, if the organization contains any kind of sustainable products or even practices any kind of sustainable strategies then it has a huge potential that the customers will purchase from that company which helps in rising sales. Thus, it can be said that the sustainability implementation in the organization helps in rising the sales of the organization.

But Marks, & Miller, (2022) do not agree with that and said that the sustainability strategy sometimes becomes hugely expensive, which can decrease the sales of the organization as the customers do not want to purchase it and that is why the company should implement the price which is much affordable for the customers. This strategy is obtained by the Hyundai Company and that is why their sales are high and it will be stable in the future. The company can get more customers in the future as they have implemented fewer carbon emissions.

2.5.2. Increases the number of customers.

Additionally, Singhal, (2022) commented in their research sustainability is the key business plan from both the customer's and the company's perspective. Customers want to know in which the products are manufactured, sourced, and even delivered as they are mainly concerned about the environment. Customers want to join companies that have strong environmental ethics along with social and governance values. That means the companies which maintain the sustainability strategy have a huge opportunity to grab the attention of the customers and thus it also helps in maintaining the brand value in the market.

2.5.3. Efficiency in the organization

While Haley, et.al., (2020) mentioned some most important parts that are sustainability helps in maintaining efficiency. As organizations look for methods to streamline processes, cut back on raw material inputs, and use less energy, making a clear and bold commitment to decrease carbon emissions frequently leads to increased efficiency. That means in the future less carbon emission helps in the rising of efficiency which not only helps in grabbing the customer's attention but also has a huge influence to retain them in the organization while creating brand value in the market.

2.5.4. Improved relations with the stakeholders

Transparent sustainability measurements and performance have a huge potential to strengthen important relationships with stakeholders in addition to improving ties with the general public. In the sustainability industry and beyond, more investors than ever are shifting money away from carbon-intensive, covert businesses and toward those who have made the decision to be transparent, proactive, and honest about their management of greenhouse gas (GHG) emissions (Secinaro, et.al, 2020). So, these are the future benefits that the company can if they maintain less carbon emission in the organization which helps in bringing sustainability to the environment.

2.6. Hypothesis

H0: Less carbon emission does not have any impact on brand image.

H1: Less carbon emission has a positive impact on brand image.

2.7. Chapter conclusion

The literature review consists of the CSR history of the organizations which enables the organizations in gaining brand value. The real impact of CSR activities on the brand image has been discussed here in detail. The real impact of CSR activities is discussed here which mainly shows that CSR does not really impact the aspects of customer decision-making. It is quite evident that the CSR activities of the organizations do not really impact the customers. Customers generally make their decisions on the basis of the quality of products. In the case of Tesla, it is evident that the organization has been able to provide high-speed vehicles to the customers for which it is preferred. The organization also saves a lot of cost regarding the fuel for which it is often preferred by the customers.

CSR activities do have an impact on the brand image of the organizations as they are able to gain governmental support. Organizations often get compensations and advantages due to the implementation of CSR activities in the context of the organizations. They are able to engage employees who are talented. This also contributes to the creation of a brand image as the performance level remains high on these matters. The reduction of carbon emissions by the companies like Tesla and Hyundai has helped in the development of their CSR image which has helped in getting investors. It may also help in getting more investors in future.

CHAPTER THREE

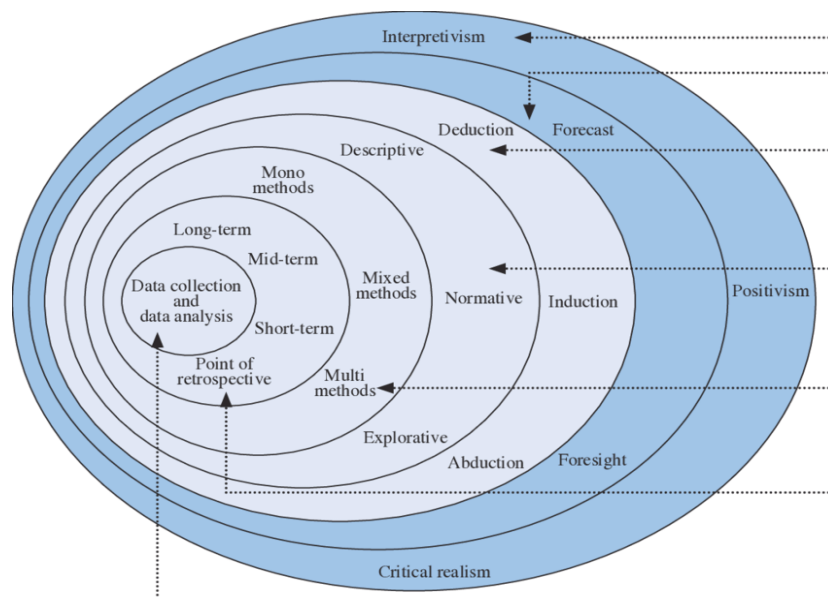
METHODOLOGY

3.1. Chapter Introduction

The methodology is a vital chapter in the whole research as it helps the researchers to get the specific procedures or even the strategies that help in knowing, selecting, and also inspecting the information of the specific topic which the researchers have chosen. In the research methodology, the researchers mainly allowed their readers to critically evaluate the whole research and also identified its validity as well as its reality. Here the research methodology will help to identify in which way the whole research will be done so that they will get the results that they are looking for.

Here the researchers will provide a wide discussion about the research philosophy along with the approach of the research while finding out the main strategy which helps the researchers to understand the real scenario of the whole research. Not only that the research choice will help the investigators to know that weathers the whole research is done on a single method or multiple methods. The time horizon along with the data collection is also provided in the research methodology section.

Figure 9: Research Onion Model



(Source:researchgate.net, 2022)

3.2. Research Philosophy

Research philosophy refers to the underlying philosophical assumptions of research and the philosophical reasoning behind certain aspects of research. It is important for researchers to reflect on their research philosophy in order to ensure that the project is aligned with their core philosophical beliefs and values (Al-Ababneh, 2020). Here in this research, the Interpretivism research philosophy is taken by the researchers as it helps in getting to understand the deep knowledge about the less carbon emission affects the brand image.

Interpretivism is a research approach that assumes reality is subjective and open to interpretation. This approach focuses on qualitative data, such as interviews and participant observation, in order to gain insight into the human experience. Interpretivism researchers are dedicated to understanding how individuals interact with their environment and interpret the world around them (Alharahsheh, & Pius, 2020). When it comes to the potential for reformulating the researcher's past knowledge and understanding within the research process, interpretive research offers flexibility. Thus, interpretive research involves both the generation and processing of data.

The interpretivism research philosophy helps the researchers to understand the true impact of the whole topic which is the impact of less carbon emission upon the brand value of both Hyundai and Tesla and that is why it has been used in these research methods. Another essential point that the researchers considered while taking this method is that interpretivism research accepts the socially constructed theory which will provide them with the social results which is needed to understand the relationship between less carbon emission and the brand value of the organization. Thus, through this research philosophy, the researchers have the capacity to know the impact of carbon emission on the brand and also their customers in the most specific way.

Figure 10: Research Philosophy



(Source: Created by Author)

3.3. Research Approach

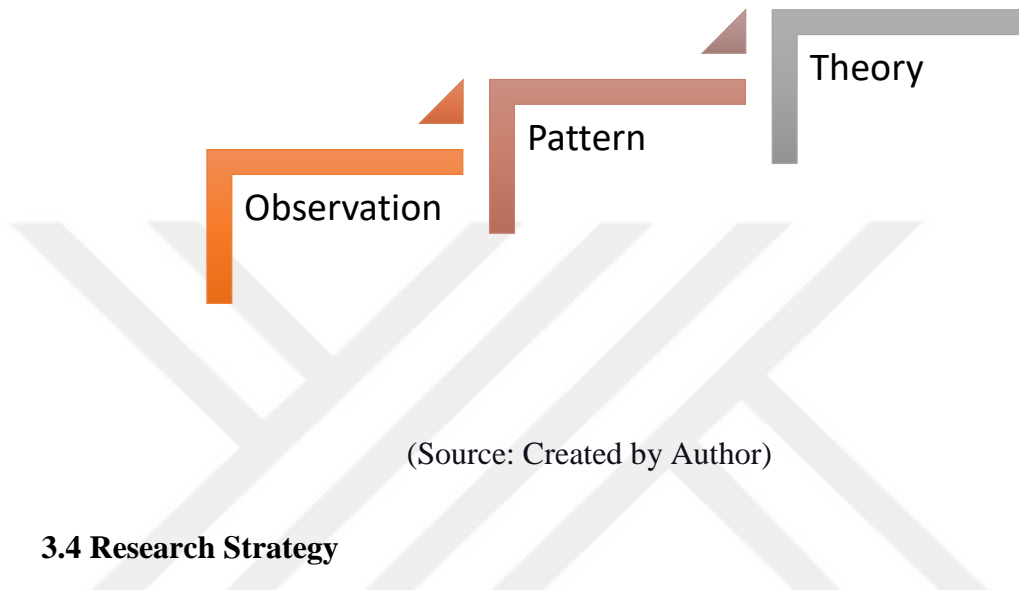
A research approach is a method or strategy used to gain knowledge and information about a particular topic of interest. It can involve a variety of techniques such as surveys, interviews, observations, experiments, case studies, and secondary research. Research approaches are important because they provide structure and guidance for the research process, helping to ensure that the results obtained are valid and reliable. A thorough understanding of the research approach used is essential for the successful completion of any research project (Islam, & Aldaihani, 2022).

There are two primary types of research approaches inductive and deductive research. The inductive approach to research is an empirical method of data collection and analysis that aims to draw conclusions and develop theories based on observations. It is often used in areas such as sociology and anthropology where an in-depth understanding of the subject matter is desired. Additionally, it can be used to explore new topics or areas that have yet to be studied in detail. The inductive approach is especially valuable when the researcher does not have access to a large amount of pre-existing data or research on a given topic (Al-Ababneh, 2020).

The deductive approach to research is a more structured and analytical method of data collection and analysis. This approach relies on existing theories and hypotheses in order to form conclusions about the subject matter (Pearse, 2019). Here the researchers

have selected the inductive method to do their research approach and the reason behind it is this approach helps in providing a clear framework of the underlying experience of the research. As the main aim of the research is how low-carbon practices help in developing the brand image so that is why inductive research approach will help in concluding the whole topic through the existing data which is provided in the research.

Figure 11: The Inductive Approach



3.4 Research Strategy

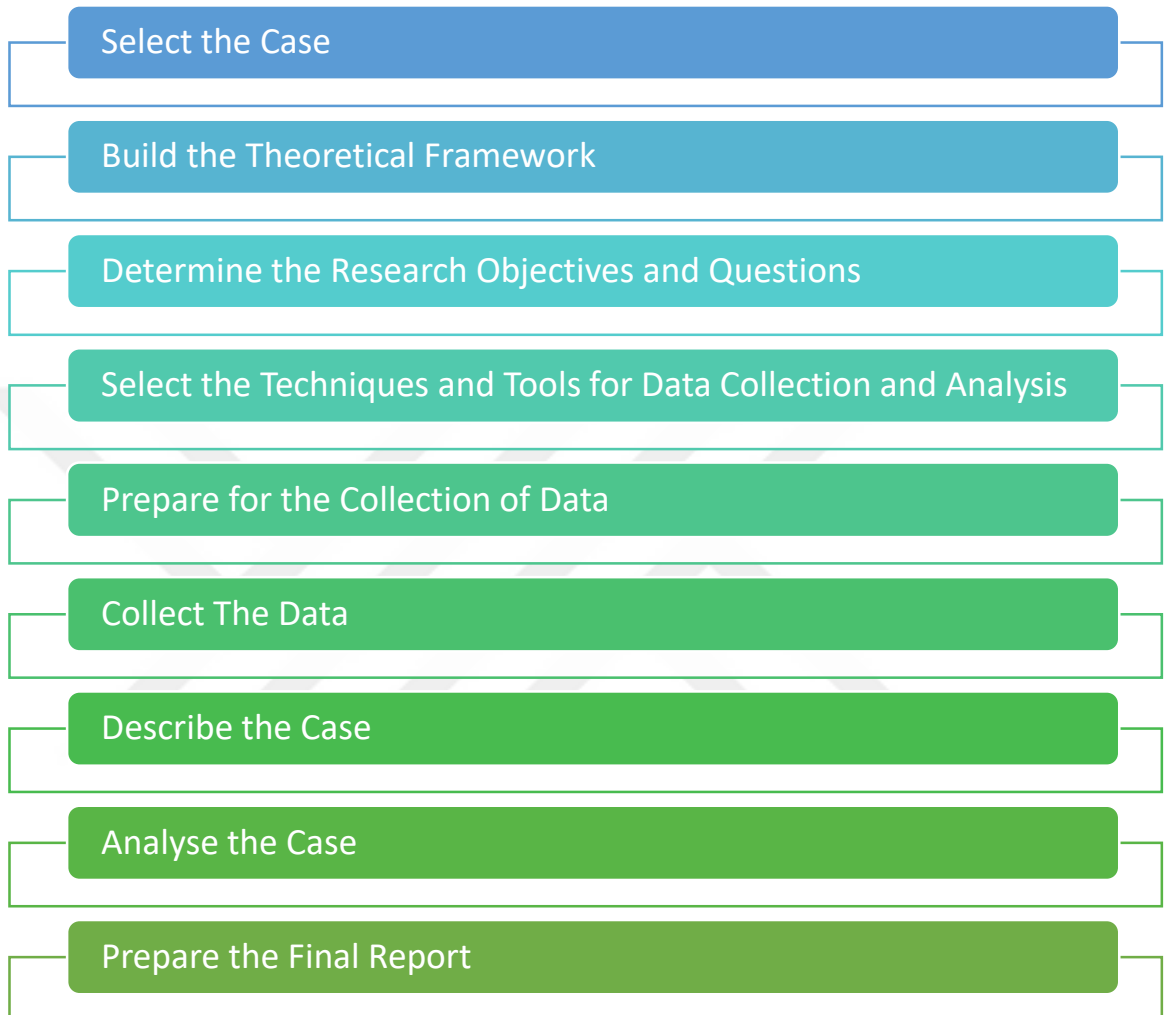
The research strategy is the stepwise action plan which is done in the research which helps the researchers to provide direction to their specific thoughts and also their efforts while enabling them to do the research in a systematic way. It also helps in scheduling to generate quality and also the very detailed reporting of the whole research (Mekonnen, 2020).

Here in this research, the researchers with the help of the case study have conducted the whole research. In contrast to the singular perspective, you obtain from a survey or interview, case studies collect a variety of viewpoints. Because the motive of one particular person is less clear, this increases the chance of understanding the topic at hand and lowers the chance of bias (Alpi, & Evans, 2019).

The reason behind this is that the whole research is about the carbon emission affects the brand value of both Hyundai and Tesla so taking the real-life case study will also help the researchers to know what the actual effect happens in both companies. The

researchers can also help to identify the future aspects which help the companies to get more sales by simply changing their strategies for a long period of time.

Figure 12: Case Study Approach



(Source: Created by Author)

3.5 Research Choices

The research choice of methodology will mainly depend on the main judgment and also the methodological strategies of the researchers and also their relationship with the practice and even also the practitioners (HR, &Aithal, 2022). There are mainly three types of research choices which are the mono method, mixed method, and Multi method. While acquiring data for a study is the main focus, either quantitatively or qualitatively, it is known as a mono method; when using mixed methods, quantitative and qualitative techniques are combined to achieve many goals while overcoming the

limitations of a mono method; The employment of both qualitative and quantitative methods, even while the research is based on one of them and the other approach is auxiliary or additional, is undermined by multi-method choice.

Here in this section, the researchers have applied the mono-method to do further research and the main reason is that the mono-method will help the research to avoid any kind of confusion or even any kind of doubts about the further research. Also, this method is only used a simple single data set which also helps in avoiding any complexity that can be occurred while doing the research. So that means the researchers can able to find out the impact of less carbon emission on the brand image of both the brand Tesla and Hyundai. Also, it helps in understanding the involvement of the customer in maintaining the brand image of the companies in the market.

3.6. Time horizon

As per the study of Waluya, Iqbal &Indradewa (2019), data collection was performed following a longitudinal time horizon. Since the study is focused on Tesla and Hyundai, and the researcher adopted a case study approach, all available information regarding the brand image of these two companies was obtained over a longer time period. However, for their sustainable practices and business performance, updated information from the last five years was used.

3.7. Data collection and analysis

The research topic has three focus points - sustainability practices of Hyundai and Tesla, customer perception of brand image and its effect on their business in the UK market. Secondary resources were selected as per the suggestion of Hussain, Malik & Taylor (2017).

The company-specific data were available on the company websites where they published their annual business reports and sustainability reports. The latest of these reports were considered for data collection regarding their strategies, goals, and achievements on the net zero carbon emission programmes. Data on their business performance was available in the annual business reports. In this context, statistical content from websites like Statista, McKinsey and Mintel was also collected.

For understanding the impact of sustainable practices on the brand image of Tesla and Hyundai among UK customers, the researcher considered studies of other authors who have published their findings on sustainability and brand reputation through interviews and surveys of customers. To ensure the authenticity of those findings, these articles were selected from peer-reviewed journals that were available in academic databases like Google Scholar, Emerald, Scopus etc. Some of the articles were also collected from the university library.

A thematic analysis of this data was performed under each of the objectives and data interpretation was done following the inductive approach (Dasgupta & Ghatge, 2015). Following inductive reasoning, the researcher established a connection between the sustainable practices of Tesla and Hyundai and their brand image and business performance.

3.8. Limitations

The primary limitation of the study lies in its strategic design for data collection. The research was performed in the form of secondary analysis where the research questions were answered through the information available from secondary data sources. A majority of the analysis was developed based on the observations of other authors who have researched similar fields. However, some of these opinions can be biased or wrong and separating this class from the other authentic data sources was not possible. Therefore, the inclusion of this type of data can mislead the direction of data interpretation of the present research.

Moreover, since previous research was done on a similar topic, but not the same, available data sometimes could not offer specific answers to all the research objectives (Ellram & Tate, 2016). In such cases, the researcher had to extrapolate and correlate the available information to demonstrate the connection between sustainability (net zero carbon emission) practices and the brand image of Tesla and Hyundai. The number of case studies on Tesla and Hyundai on this specific topic is also low. This further lowered the volume of secondary data resources of particular interest.

Since the brand image is associated with customer perception, it would be better to acquire knowledge about the experience and feelings of the customer of Hyundai and

Tesla in the UK about their sustainability practices. Therefore, conducting interviews or surveys on the UK customer of these two brands would be more effective in understanding the real-time picture. As opposed to the secondary qualitative data, primary research like surveys would have generated quantitative data that could offer numeric accuracy to data analysis and hence will save the study from opinion biases (Queirós, Faria& Almeida, 2017). However, primary data often demands monetary investment and higher time for data collection. Instead, secondary data collection is easier and can provide a considerable amount of information free of cost. Because of these reasons, despite the stated limitations the author has performed secondary research.

3.9. Ethical considerations

The researcher adhered to the ethical regulations set by Istanbul Gelisim University while setting the research designs as well as during data representation. Following research ethics is important since it validates research integrity and the credibility of the study to the educational society. Following the suggestion of Hasan (2021) on ethical practices in secondary research, data integrity is thoroughly maintained in the study. Unlike the primary research data, where maintaining the confidentiality and anonymity of the research participants are important, maintaining secondary data security is relatively easier (Saunders & Lewis, 2017). In this study, since the researcher has collected all data from public sites, keeping data confidential was not a concern here. Rather, presenting the data without any harm to specific communities, governments, ethnicity, or company was the major concern for the researcher.

During result communication, the researcher restrained himself from any practices of research misconduct. Secondary data availed from the studies of previous authors who have published their findings in reputed peer-reviewed journals were acknowledged. Hence, the researcher has not participated in any kind of act of plagiarism. Any findings presented were introduced with authentic citations to offer the source recognition. This also validates the data reliability and avoids the possibility of data falsification or fabrication. To maintain data integrity, all secondary data were offered in their original forms without altering the sense of the information.

3.10. Chapter Summary

The chapter proposes that the current study on understanding the effect of the net zero carbon approach of Tesla and Hyundai on their brand image was conducted as descriptive secondary research. Based on the topic, the research was structured following the interpretive philosophy. Secondary data collection was done with a case study strategy by using data resources available in databases of peer-reviewed journal articles, company annual reports and websites providing statistical information. The study followed a qualitative monomethod choice for data collection in a longitudinal time frame and the collected data were analysed in a theme-based analysis method using the inductive reasoning approach. Throughout the study, all ethical norms for conducting secondary research were followed.

CHAPTER FOUR

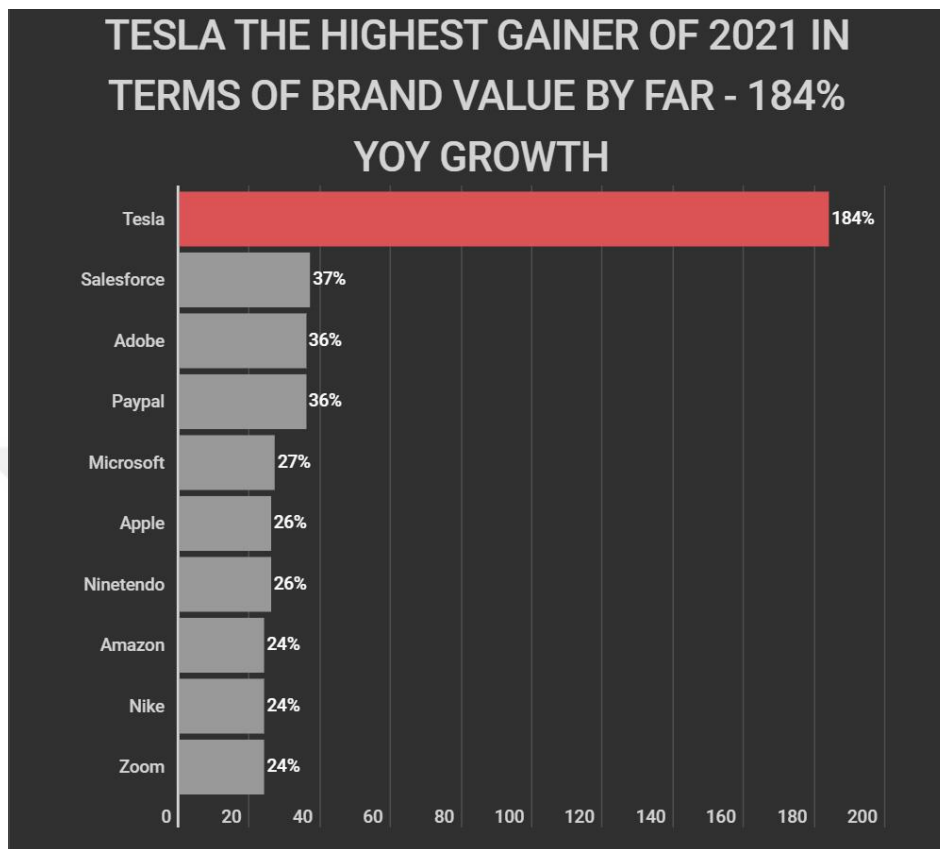
FINDINGS AND DISCUSSION

4.1 Chapter introduction

The findings and discussion chapter consists of the data findings regarding the aspects of the research. The findings are then linked to the pieces of literature for a better understanding of the situation. Here the discussion has been mostly regarding the reduction of carbon emissions by the organizations like Tesla and Hyundai. These organizations have been engaged in these activities to make things work. The discussion has been mostly regarding the carbon reduction strategies of Tesla and Hyundai and how it has helped them to build their brand image. The study also analyzes the future consequences of sustainable practices that are being held in these organizations. The analysis may bring in some positive aspects of sustainable practices and carbon reduction to be specific. The direct and indirect impact of these activities is analyzed here in detail. The data that is found regarding these activities of the organizations are linked with the pieces of literature.

4.2 Impact of carbon emission strategies on the brand image of Tesla in the UK

Figure 13: The Growth in Brand Value of Companies in 2021

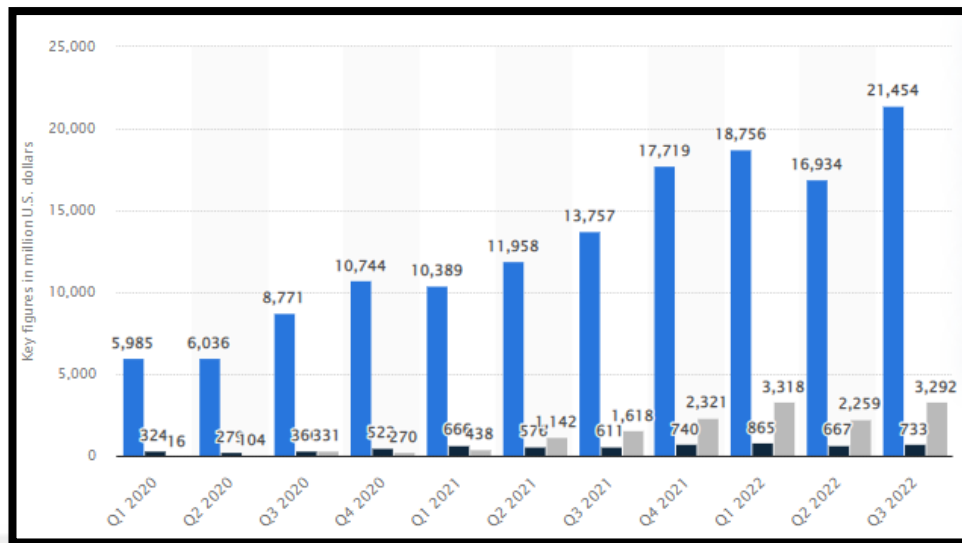


(Source: Financial Mirror 2021)

Tesla, as shown in Figure 13, has made the highest gains in 2021 in terms of brand value.

The impact report of Tesla states that the organization has been able to reduce 5.0 million metric tons of CO₂e (Tesla, 2023). This shows that the activity of Tesla has been able to reduce carbon to some extent. The carbon emission strategy of Tesla lies in the fact that it has always promoted it and it has contributed to the development of electric vehicles. They have made electric vehicles fast and the customers liked these vehicles the most. Earlier electric vehicles were not very popular among customers as these vehicles were unable to provide the customers with the speed and satisfaction that is generally required. After Tesla launched its vehicles, the urge of customers to buy EVs has risen.

Figure 14: Key figures of Tesla



(Source: <https://www.statista.com/statistics/1186969/tesla-motors-quarterly-key-figures/>)

In 2022, Tesla experienced a net profit of 3.3 billion USD (Statista, 2023). The organization has been able to achieve this with its brand image and the creation of brand value. Tesla ranks 9th among the car companies in terms of brand value creation. 66 billion USD is the brand value of Tesla (Barron's, 2023). This shows that it has been able to gain a certain level of value in the market through its activities and products. The creation of brand value is not just because of the products it sells. It is also because of the CSR strategies the organization has adopted. The low-carbon CSR activities have been one of the most important strategic advantages of Tesla. The products of the organization are sustainable for the environment and also for the user's pocket.

Tesla has solar panels and solar roofs which are also a part of their product range. The organization sells these and promotes clean energy through this. The organization has its own charging stations where they use clean energy to charge the vehicles. The organization promotes 100% renewable energy in homes which has been a positive aspect regarding clean energy (Zeta, 2023). The organization promoted these aspects, and it has helped in the development of the perspective of the customers regarding the use of green energy. Organizations have often been able to engage in the activities of

carbon reduction due to the level of cooperation they have been able to gain from the customers.

Tesla focuses on the aspects of scope 1, 2 and 3 emissions. They aim at reducing these emissions for which they have started a program of measuring all sorts of emissions. They have started keeping records from 2021 through which they have been able to gain an idea about the possible emission that is happening and the things they require mitigating (Bloomberg, 2023). The vehicle manufacturing phase is one of the most important ones where the emissions are checked and corrected. The emissions from the supply chain and vehicle use are often considered to be the most in the case of other organizations but in the case of Tesla, it is checked well for the betterment of the situation.

The EVs generally emit less amount of greenhouse gas than ICE vehicles. Thus, Tesla vehicles can be considered to be less harmful to the environment. Some model of Tesla like Model 3 emits 5340 miles of less carbon than ICE vehicles (Carbon Credits, 2023). The ability of Tesla to compete with these vehicles has enabled the organization the creation of brand value and image. The impact report that Tesla is able to generate is an important aspect through which its emissions are well visible. The organization has been measuring all the aspects lately for which it has been easier to understand the situation of the organization in terms of carbon emission.

According to Bian et al. (2021), the profitability of automobile organizations shows their level of engagement in the aspects of CSR activities like carbon reduction. These activities do not really have much connection with the aspects of the customer purchase decision as the customers generally look into pocket-friendly options (Bian et al. 2021). The aspect of sustainability matters to them only in terms of money. The electric vehicles of Tesla and Hyundai save a lot of money for users as they do not consume fossil fuel. The price of fossil fuel is also rising and at this moment customers are unable to maintain the cost of their vehicles.

According to Nave & Ferreira (2019), the organizations in this sector are engaged in the aspects of carbon emission with the help of their electric vehicles and they are using it as a strategy to develop their brand image through which they may be able to gain more customers (Nave & Ferreira, 2019). Carbon reduction remains the most

important target of organizations in terms of their CSR strategies. Thus, it is given utmost priority in the context of the organization. It may also be noted that the investment these organizations are making is an integral part of their future consequences and profitability. The reductions of carbon emission form an integral part of their CSR activities for strategic advantages.

CSR strategies often make customers choose the organization over others. It creates a certain level of competitive advantage through which the organizations are able to gain profitability. According to Vishwanathan et al. (2020), brand value creation is also done with the help of these strategies which is quite evident in the sales and profitability of these organizations like Tesla. It may also be noted that the responsibilities, the companies have been able to respond to are an integral part of their annual reports (Vishwanathan et al. 2020). The amount of satisfaction the stakeholders have been able to gain is important in this context. Consumers often consider the organizations to be greenwashing them in the name of CSR which requires to be mitigated by the organizations.

According to ElAlfy et al. (2020), it has often been found that CSR strategies like that of carbon reduction create relationships between the organization and its customers. This relationship helps in the development of the brand image of the organizations. These activities make the customers feel comfortable with the brand and they consider the brand to be a positive one (ElAlfy et al. 2020). When they invest in these brands, they feel they have been able to contribute some positive aspects here. This generation of feelings is the motivating factor for the organizations for which they indulge in activities of carbon reduction.

According to Bocquet et al. (2019), carbon reduction is a part of CSR activities, but it cannot be considered to be the key driving factor for the creation of brand value. The organizations may gain an advantage over governmental support and other ethical issues through CSR activities, but they may not gain brand value directly from the CSR activities like carbon reduction (Bocquet et al. 2019). It may also be noted that good CSR strategies create better opportunities for the aspects of profitability. Tangible reasons like price and quality do not always form the focal point of customer choice or decision-making. The aspects of CSR strategies are often important in the context of development.

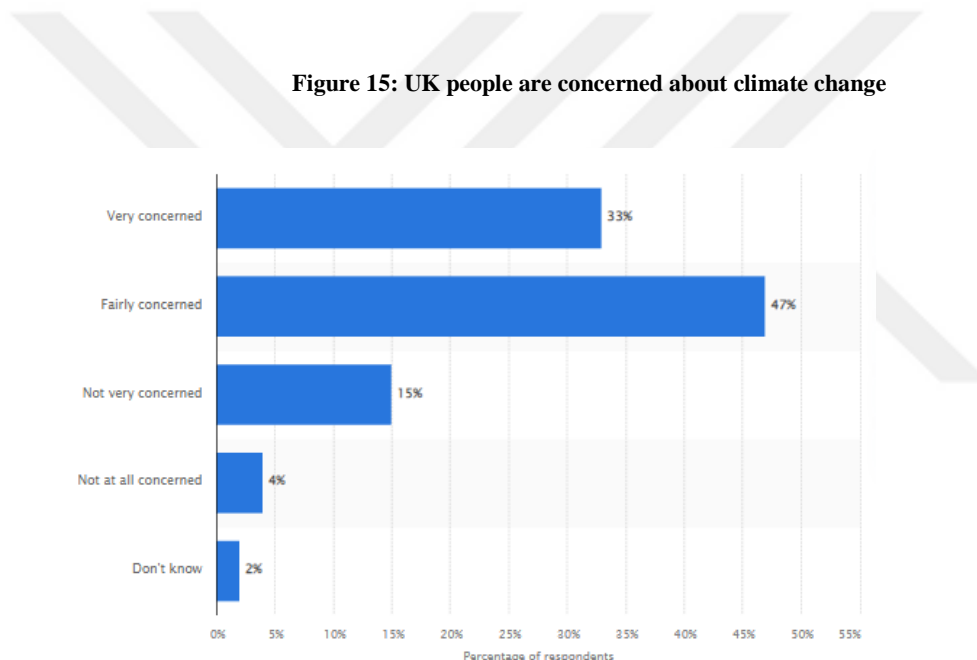
According to Siltaloppi, Rajala & Hietala (2021), the development of consumer perception is done with the help of CSR activities which the organization. CSR activities like carbon reduction help in the development of organizational perception through which better levels of development are also possible. The organizations enter into the aspects of corporate philanthropy through which they would be benefitted (Siltaloppi, Rajala & Hietala, 2021). The high-value international markets are considered to be the place where CSR activities are the utmost required. CSR often builds customer-based brand equity through which the customers are influenced. CSR in the case of different types of organizations different and these activities have impacted the whole scenario.

According to Tao & Song (2020), the companies in the automobile sector often impact the environment negatively which requires having some or other CSR activities to fulfil the goals. CSR activities have become necessary for organizations even if they do not wish to gain brand image with the help of these (Tao & Song, 2020). The organizations in these industries are more indulged in the aspects of carbon reduction as they are the ones releasing the maximum amount of scope 2 carbons. The release of an excessive amount of carbon enables organizations to reduce the signs to a higher level. Doing the right CSR at the right time remains an integral part of the organization.

According to Rodrigo, Aqueveque & Duran, (2019), organizations are often pressurized to follow the aspects of corporate social responsibility. It is not always because of brand value creation. Governmental actions and regulations often enable them to create brand value which is there. The organizations which are unable to fulfil the CSR needs of the government are unable to maintain the development (Rodrigo, Aqueveque & Duran, 2019). It may also be noted here that in recent times, CSR activities are presented in a positive manner on the company websites which provides the customers with a certain level of idea regarding the aspects of the organization. This type of situation is often considered to be important for which brand value creation cannot be considered to be the only reason behind the CSR strategies. Tesla's CSR has benefitted the organization with profitability through which they have been able to maintain a better level of brand image here.

4.3 Impact of less carbon emission on the brand image of Hyundai

It has been observed that people in the UK are concerned about Climate change. According to Statista shows that 80% of the people of the UK are concerned about climate change. Whereas 18% are not concerned about it (Jaganmohan, 2021). So that is why they are attracted to the brand which is convened about climate change and made some innovative changes in its system to bring sustainability to the environment then they want to support the brands and hence purchase things from them which creates a huge value to the brand in the market. Hyundai is the perfect example of maintaining sustainability while maintaining its brand image in the market of UK.



(Source: Jaganmohan, 2021).

Hyundai Motor is well-recognised for its environment-supportive activities. Every year, Hyundai, UK publishes its sustainability reports to promote its activities towards corporate social responsibility. The company promotes its net zero carbon activities through these reports and is projecting that it will offer the UK its first generation in 2045 to live in a carbon-neutral world. It has strategized an ESG plan for sustainable development to focus on the sustainability of the environment, society and governance. By 2045, all its passenger cars will be electric vehicles and passenger vehicles will be run on hydrogen combustion engines (Hyundai, 2022).

However, the company has promised to use green hydrogen to reduce carbon emissions. The majority of hydrogen energy is produced from fossil fuels that can emit carbon. Hence, Hyundai has adopted an alternative technology where hydrogen will be produced by electrolysis of water (Hyundai, 2022b). The company has also applied the net zero carbon strategy in its supply chain management.

In factories, it is using renewable energy. It has increased its competitiveness with other automobile brands since it has planned to include net-zero automotive parts in its electric vehicles. For this, the company is building a network with suppliers who also follow the sustainability approaches in their supply chain, and this contributes to Hyundai's global carbon neutrality journey (Hyundai, 2022a). Certainly, these attempts are expected to develop a positive brand reputation for the company to the customers of the UK as well as the world.

Hyundai in order to maintain sustainability in the environment made some strategic policies. The rules state that the company must acknowledge that protecting the environment is essential for business success, develop corporate values through proactive eco-friendly management, and uphold its corporate social responsibility. Also, the company must use the resources as well as the energies which are sustainable and also helps in reducing the pollutants to maintain sustainability in the environment. Also, the company should efficiently need to protect biodiversity as well as preserves the natural environment (hyundai.com, 2022a).

From this whole scenario, it is quite evident that the company is doing its best in order to save climate change in the whole world. So, when the people of the UK who are concerned about the sustainability of the environment have a positive influence on the company and thus they will be recommended others to purchase sustainability products from the company which helps the company to have a positive recognition in the whole UK (Gil-Gomez, et.al, 2020).

The value-belief-norm theory states that consumer values, such as valuing social justice or nature, should have an impact on their beliefs, which in turn directly expected norms in the marketplace (Peterson, et.al, 2021). So that is why when they will be observed that the organization faithfully maintains its norms towards the sustainability

of the environment and that is how their perception towards the company will change which helps the company to create brand value in the market.

Hyundai is not only stuck into innovating sustainable things or even making sustainable strategies they are also joint partners so that they can be able to enhance their productivity without harming the environment. The company partnered with Healthy Seas and thus both of them are raising funds so that they can be able to get the better of the abandoned fishing nets which are present in the ocean then they will recycle this waste into regenerated nylon yarn so that they can be able to generate new innovative products which will survey the mankind (hyundai.com 2022b).

From the above statements it can be explained that the company does not only stops its sustainability strategy through innovation or only through making policies, but they also Collaborate with the organization which helps them to reach its true motive of maintaining sustainability in the environment so that they can be able to fulfil the customer's demands. People are searching for methods to contribute to the fight against climate change, whether it means limiting their use of plastic or reusing things. The company also made a commitment to this technique with the IONIQ 5, where even the floor mats are created with recycled fishing nets (hyundai.com, 2022c).

Thus, this shows that the company values its customers and thus in order to fulfil their demands they have made several strategies that not only influence the customer's buying decision but they are also satisfied that the company is listening to them (Ho, & Chung, 2020). In this way, the company is successfully able to influence the customer's purchasing decision, and not only that they are also able to create a brand image for the customers.

Kim, Hur& Yeo (2015) researched to understand the impact of corporate social responsibility on customer perception of brand image. The authors chose Hyundai Motors as one of the chosen brands under research and 122 customers were interviewed who had knowledge about the CSR activities of the company. The author found that there exists a positive relationship between a customer's CSR perception and brand trust. The correlation score was 0.44 between the two ($p<0.01$) was highly significant. Moreover, a consumer perceives a brand with high CSR to be of a higher brand reputation. The correlation score between the two was 0.43 ($p<0.01$). The

authors also found by analyzing the responses of the interview participants that they consider a brand trustable if the brand reputation is high. This was evident from the correlation score between brand trust and reputation which was 0.48 ($p < 0.01$) (Kim, Hur & Yeo, 2015). All these figures demonstrate that a company's CSR activities help it develop a better brand reputation which earned its customers' trust.

When customers trust a brand, they approach buying cars from the same company. Brand recognition increases this trust ability and this results in earning brand loyalty. Loyal customers increase company sales which leads to higher profit margins. Therefore, it can be understood that CSR activities indirectly offer a competitive advantage to a company (Mabkhot & Shaari, 2017). From the findings of Kim, Hur & Yeo (2015), it is obvious that the CSR attempts of Hyundai in the South Korean markets helped it earn a higher brand reputation and earn customer trust which increases its sales and business revenue in the country. The company's projected revenue in the UK in 2023 is US 1,285 million dollars (Statista, 2022).

Also, Hyundai creates some other CSR moments which help in maintaining the brand value in the UK. The company supports a different culture which shows that the company believes in diversity. While on other hand they tried to maintain equality among the employees. Hyundai aspires to be a place where its staff members can develop and take pride in who they are and what they contribute to the organization. In response to employee feedback, we established Hyundai's way of working, and Code of Conduct and aim to internalize it across the entire business by designating a person to oversee organizational culture changes and innovation for each organization while collaborating with executives.

Hyundai is giving full support to establish a comfortable work environment in the midst of the protracted epidemic, prioritizing the comfort and welfare of its employees. Hyundai is also putting a lot of effort into developing an organizational culture that enables staff members to fully commit to their work in an independent, proactive setting based on reciprocal active communication (hyundai.com, 2023).

As the organization cared about its employees so that is why this strategy helps the company to maintain brand efficiency in the market. The higher the employee satisfaction the high among of corporate performance (Suomi, et.al, 2021). That means

they will feel motivated to do their work efficiently and thus they can be able to serve the customer perfectly. Thus, if the customers are satisfied with the services that they received from the company, then this will help increase the brand value in the market.

Hyundai aims to achieve “zero accidents”, protecting drivers, passengers, and pedestrians, based on its quality philosophy of “producing defect-free vehicles that will never break down” backed by cutting-edge safety technologies.

Hyundai mainly aims to achieve Zero accidents and also helps in protecting the drivers, and passengers mainly on the basis of the quality of the products which are defect-free cars that do not have any breakdowns and are backed by advanced safety devices. In order to achieve this, the company keeps improving its overall quality and safety systems by encouraging preventative quality and safety measures from the early stages of vehicle development as well as by averting any major issues afterwards through early detection, early improvement, and early after-sales actions. Through the creation of quality and safety training programmers, management of quality and safety reporting centres, analysis of safety data, and establishment of safety test sites, we will in particular establish sustainable safety management the system is intended to maximize customer satisfaction and strengthen the trust (hyundai.com, 2023).

This proves that the company values its customers and also thinks about their safety which helps in building a strong relationship with the customers also the customer trusts the brand and hence they tried to retain to become their loyal customers which helps the brand to create an impeccable brand image in the market (Wang, et.al, 2020). The most essential part of the brand value is to create a bond with the customers and also make a connection with them. As the brand shows that it cared about the customers and innovates new ideologies which protect the customers from various car accidents helping those to create that bond in which the brand indeed flourishes (Iglesias, et.al, 2020).

Through this strong bond with the customs, the company was able to make great sales in the market. Hyundai delivers 4.2% of the car market share in the year 2021. While on the same year, the company made sales of about 47% including the makeover of 125,00 electric vehicles which is the fourth largest of the car manufacturers (Hyundai.

news, 2021). Thus, it can be said that the strong relationship of the brand with its customers helps in boosting sales as well as brand reorganization.

4.4 Future outcome of less carbon emission for Tesla and Hyundai

Lifetime fuel consumption and use phase GHG consumption are considered here for the research. It is found that 30,000 litres of fuel are burned per car which releases 70 tons of CO₂e into the atmosphere (Forbes, 2023). Burner fossil fuel is very difficult to de-carbonize and capturing the carbon is often difficult and economically not feasible in this context. A battery can be used here over and over again. The Tesla vehicles have those technologies which the ICE vehicles do not have which are able to provide better services to the customers. 6.8 million Metric tons of vehicle CO₂ are considered to be saved by EVs through which organizations like Tesla are able to save a lot of aspects of the carbon emission.

Tesla generates more electricity through its solar panels than it consumes for the charging of its cars. Tesla vehicles and solar panels prevented the emission of 8.4 million metric tons of CO₂e into the air. The organization contributes to the transition of the world to the aspects of sustainable energy through which a better level of development is also possible. They plan to deploy 1500 GWh of energy storage every year (E-international relations, 2023). By 2030 they may be able to sell millions of vehicles which may all together contribute to the aspects of low carbon emission. Since Tesla vehicles are sustainable, the customers of the organization who purchase these vehicles would be able to contribute to the aspects of sustainability in a better way.

Tesla is engaged in a lot of low-carbon strategies but it has recently been kicked out of the ESG index due to the poor low carbons strategies they have. The codes of business contacts that the organization has followed are one of the main reasons for the organization being kicked out of the whole scenario. Elon Musk has called ESG metrics to be the devil incarnate for making such decisions against the organization (CNBC, 2023). These aspects may impact the future consequences of the organization through which the whole scenario may often be impacted. The shareholders are impacted due to the aspects of these images the organization has been able to create.

According to Gillan, Koch & Starks (2021), the aspects of CSR are impacting the brand image of the organizations as a whole and the organizations are well impacted by the brand image, they have been able to establish. The corporate feedback to the society the organizations give is a relevant part of the formation of their brand image (Gillan, Koch & Starks, 2021). The CSR activities of Hyundai and Tesla state that they may gain dominance over the market due to their strategies. The activities they are engaged in may help them in the creation of a good reputation in the market in future. These activities may also help these organizations in gaining a better level of reputation which may be beneficial for governmental support.

According to Kim et al. (2019), industrial development and social progress are making it important for organizations to follow CSR activities which are better. The CSR activities of Tesla and Hyundai are often not on point which may enable the organizations to come out of the aspects of the list of good companies (Kim et al. 2019). Most organizations do CSR activities to make them recognizable to the people. It creates a reputation and market value which has a positive impact on the brand reputation of the organization. It also adds to the competitive advantage of these organizations. The sustainable practices of these organizations may bring in better customer support. They may have an increased rate of social media followers through which better situations can be gained.

According to Shin et al. (2021), the businesses of these organizations in the automobile industry may often get impacted due to the amount of carbon they release. Thus, organizations in the automobile industry often indulge in the aspects of CSR activities like carbon reduction to make the situation better for them to thrive. In spite of all these the situations may not be favoured for the organizations as having too many electric vehicles on the earth has its own set of negative impacts (Shin et al. 2021). The creation of brand image building has been one of the most important aspects of choosing CSR activities. The CSR activities do not always help in the creation of a brand image as at the present no such aspects of development are noticeable in the aspects of the activities.

According to Jia (2020), the functionality of the brands does not depend on CSR activities. CSR activities only create a brand reputation. The product development and services all depend on the organization. Customers generally judge organizations on

the basis of the products these organizations have. The indulgence of these organizations in the aspects of CSR activities is often not considered to be beneficial to the businesses as a whole (Jia, 2020). The brand attitude towards product development according to the wish of the customers matters a lot. The buying willingness of the customers matters a lot and it depends on the product and its after-sales service. It is not merely a factor which can impact the business directly and improve the profitability of the organization.

A report published by McKinsey & Company suggested that the transition to net zero carbon emission in road mobility, with the sustainability approach of automotive companies like Tesla, Hyundai and others, will positively impact the global climate. Less to zero carbon emissions will regulate global warming. Both Tesla and Hyundai, who are planning to shift the designs of their car models into zero-emission vehicles, will contribute to a better future environment and pollution-free world. However, McKinsey & Company forecasted that such a shift will bring a complete disruption to the supply chain of the automotive companies (Möller&Schaufuss, 2022).

Shifting to the production of electric or hydrogen-powered vehicles, as planned by Tesla and Hyundai respectively, will lower the use of conventional engines and will only offer new low-emission cars. McKinsey projected that by 2030 sales of global new vehicles will rise to 60% from 5% in 2020 (Möller&Schaufuss, 2022). The demand for batteries or hydrogen fuels will increase heavily. Both companies need to redesign their whole production system which will need higher investments. This will increase car prices (De Rubens et al., 2020). Moreover, the automobile parts of the old Tesla or Hyundai cars running on conventional fuels will be unavailable (Möller&Schaufuss, 2022). This might create dissatisfaction among the old customers of Tesla and Hyundai. It is known that customer satisfaction is linked with a positive brand image and product sales. However, in the case of net zero-emission production, customer dissatisfaction may negatively impact the brand reputation. Hence, it is observed that in one way, a reduction in carbon emissions will offer a positive brand image based on the companies' pro-environmental activities. On the other hand, poor availability of automobile parts and higher prices may reduce the business of these companies since dissatisfied customers may share negative reviews which may impact the brand images of the companies in future (Langga, Kusumawati&Alhabsji, 2021).

Another important factor that might impact the brand images of the two companies is employee dissatisfaction. It is assumed that since in Europe, most of the automotive companies including Tesla and Hyundai in the UK have agreed to shift their entire supply chain to zero-emission systems by 2035 to 2045, an approximation of 13 million jobs related to the designing and production of conventional fossil fuel engines and high emission cars will be displaced by 2050 (Möller&Schaufuss, 2022). Further, both companies will require skilled engineers and workers who have knowledge of making zero-emission vehicles. Hence existing employees of the two companies, who fail to acquire such knowledge will lose their jobs (Meckling&Nahm, 2018). This will bring employee dissatisfaction and will harm the ethical image of the company. However, by 2050, the market for electric and renewable energy vehicles is expected to offer nine million new jobs to skilled workers (Möller&Schaufuss, 2022). Tesla and Hyundai offering such jobs to the new employees will serve their socio-economic responsibility to the community.

It is obvious from the above discussion that the zero carbon emission supply chains on one hand will help Tesla and Hyundai to earn a better brand image in future since they will be fulfilling their environmental and socioeconomic responsibilities of CSR (corporate social responsibility); however, on the other hand, the companies will fail to perform ethical CSR towards their employees. Possible employee and customer dissatisfaction will indicate that both companies will fail to fulfil the interests of their stakeholder which will negatively impact the brand's reputation in the UK market (Emmanuel & Priscilla, 2022).

4.5 Chapter conclusion

The findings and discussion chapter consists of all the data findings which have been linked with the literature. The data findings regarding the aspects of the organization are presented here in detail for a better understanding of the future consequences of the CSR strategies which are being followed by Hyundai and Tesla. Both these organizations have been engaged in the aspects of carbon reduction activities which have impacted their brand image. This reputation may help these organizations in gaining better profitability and customer support in future. The organization's organizations are engaged in the aspects of carbon reduction with the help of their

products. These products may help them in reducing carbon emissions in the atmosphere.



CHAPTER FIVE

CONCLUSION

5.1 Summary

The reduction of carbon emissions is the most concerned topic of the current global environment and climate protection discussion. It is observed that industries are the major contributors to total carbon emissions in the world. In these, automotive companies such as Tesla, Hyundai and others have significant direct and indirect contributions.

The direct contributions are related to the supply chain of Tesla and Hyundai whereas the indirect contributions are linked to the post-sales activities. In supply chains, both companies used fossil fuels to power their factory operation or used logistics transportation that was run on petrol or diesel. In both cases, a large amount of carbon dioxide and greenhouse gases are emitted from their supply chain activities. On the other hand, the conventional fuel cars made by them are powered by the burning of fossil fuels which also release a heavy amount of carbon dioxide into the environment. Such emissions are resulting in environmental pollution and global warming.

Realising the effects of conventional cars, both Tesla and Hyundai are now focusing on sustainable development goals that will be achieved with their ESG (environment, social and governance) strategies. A major approach to these goals is net zero carbon emissions. Being socially responsible companies, both Tesla and Hyundai are now attempting to reduce the carbon emission activities of their supply chains. Both companies are designing zero-emission vehicles. For example, In the UK, Tesla is making electric vehicles and solar-powered passenger cars whereas Hyundai is making hydrogen-powered vehicles. In both cases, the elimination of engines powered by petrol or diesel burning will reduce the total carbon emissions from their sold vehicles. They are also using renewable energy sources such as solar, and hydro energy in their factories and are planning to use low-emission vehicles in their logistics which will reduce carbon emissions in their supply chain operations.

Hyundai, in addition to a green supply chain, is using the latest technologies which can generate green hydrogen i.e. hydrogen produced by water electrolysis rather than the conventional fuel combustion method. Also, the company is working with suppliers who follow low-carbon policies in their automobile parts production. This suggests that Hyundai is not only restructuring its supply chain to make it a low-emission system, but it is also encouraging its business networks to follow the same. Hyundai in other countries is taking similar strategies and has made promises to its stakeholders to achieve a zero-emission world by 2045. As a result, Hyundai UK is contributing to carbon emission reduction on a global basis.

Tesla, which is another brand, is concerned about carbon emission and that is why they have been implementing a lot of strategies that help the brand to achieve the goal that they have aimed for. Tesla is famous for their innovative EV cars and that is what customers liked so much that their sales increase impeccably. The company has also solar panels and solar roofs which shows their customers their initiative towards the carbon emission in the environment. Also, the company promoted 100% renewable energy in the home which helps decrease the carbon release in the environment. Thus, through all these activities, the customers have a huge trust in the brand and that is why they have planned to maintain a strong relationship with the brand which also helps the brand to maintain a strong brand image in the market against its competitors.

The people of the UK are very concerned about climate change and the amount of carbon which is generated by the transport industry. So that is why they decided to use those products which are sustainable in nature or even associated with those companies which release less amount of carbon dioxide into the environment. This is the reason the demand for sustainable products or the sustainable strategy is in great demand.

Thus, both the companies Tesla and Hyundai are very concerned about environmental sustainability and that is why both companies are tried to implement some strategies which help them to maintain the carbon emission in their manufacturing industry. When the customers are aware that both companies are concerned about environmental sustainability then they will try to associate with these brands and hence it helps the brand to maintain a brand value in the market against the other competitors

Organizations must adopt stronger CSR practices in order to keep up with societal advancement and industrial development. The CSR initiatives of Tesla and Hyundai are frequently off-target, which might help the businesses drop off the list of good firms. The majority of businesses engage in CSR initiatives to increase their public visibility. It develops a reputation and market value that enhance the organization's brand reputation. Additionally, it strengthens these firms' edge over rivals. The better customer assistance could result from these firms' sustainable business strategies. They might have more social media followers, which could lead to better circumstances.

Due to the quantity of carbon, they emit, the companies of these enterprises in the automotive industry may frequently be impacted. As a result, firms in the automotive sector frequently engage in CSR initiatives like carbon reduction in order to improve their environment and increase their chances of success.

5.2. Recommendation

The recommendation is the most important part of the research where the researchers advise certain strategies in order to mitigate the issues that they have identified while doing the whole research. First, instead of doing the second method the researchers can do a primary data collection while doing the survey on the customers of Hyundai and Tesla and thus they will get the late answer which helps them to get better results than they are looking for. Second, though it has mentioned in which way both the company have been able to reduce the carbon content in their manufacturing system through innovation or through creating the policies, they also mentioned how both the companies have maintained suitability in an economic way then which will enhance the research topic.

Here it is also not mentioned in which way the company will promote to the customers that they maintain sustainability in their system. As if the customers are unaware of the fact that the company has maintained sustainability changes for the betterment of the environment then they will be unable to support the company which can create a huge loss for the company in building its reputation in the market. Finally, maintaining sustainability in supply chain management is also very important and it should be mentioned here that in which they both companies have maintained

sustainability in their supply chain management so that they can be able to emit less carbon into the environment which helps them to create a positive brand value in the market.

5.3. Limitation

The main limitation of the research is that the research is done in the second method which means all the data which is collected is through different sources. This can create a huge confusion as the data of the secondary research sometimes become very vague which means it is not appropriate for the current research. As in secondary research, the data is collected from the research paper which is done before so the maximum changes that the researchers will not be able to get the current data which is also a huge challenge as they will not understand the current situation that going on the market. As in the secondary data, the information is gathered by someone else there is a huge possibility that the data can be biased, and this is another reason the researchers may face a lot of challenges in the future while getting the results that they are looking for. So, these are some of the limitations that the researchers face while getting accurate results for the research.

5.4. Future scope

The future scope of the research is the portion where the researchers suggested some topic that helps future researchers to do further research which can be related to the same topic. Economic sustainability maintains the brand value can be the most important topic where it shows that sustainability economic strategies which are implemented by the organizations help in rating the brand value among the customers as well as among the competitors.

Different social media platform which the company should use to promote its sustainability among the customers which help in creating brand value is another important a topic that future researchers can use in order to do further research where they can be able to identify which media platform is the most effective to promote the sustainability of the brand. Another topic that helps the researchers to do their future research that is the government initiative towards the organization regarding

environmental sustainability which helps the brands to achieve their goals of maintaining zero carbon emissions in their system.



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APPENDIXES

Appendix A:

Table 2: Gantt Chart

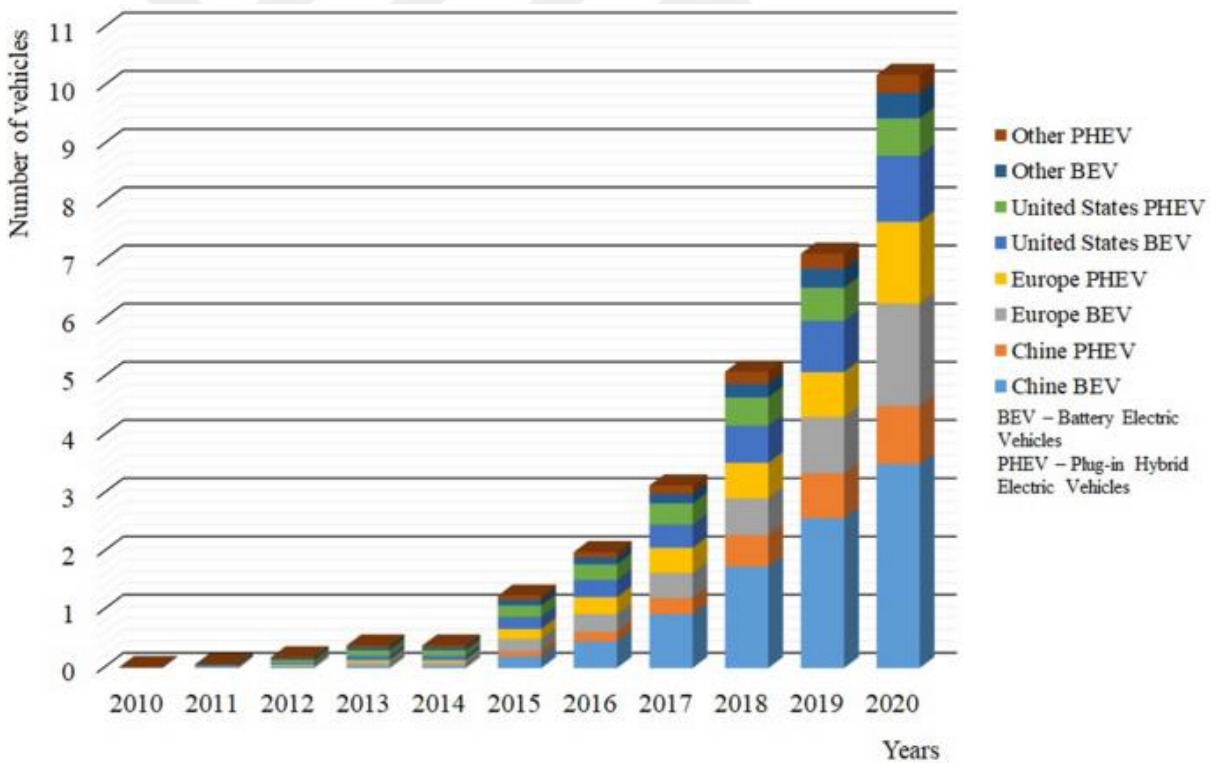
	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7
Conceptualise the Research Topic							
Build the Proposal							
Briefly Review the Literature							
Highlight Keywords and Key Concepts							
Develop aims and Objectives							
Decide on Methodology							

Complete Ethics Form							
Submit Proposal							
Review the Literature Extensively							
Refine the Aims and Objectives							
Final Decision Regarding Methodology							
Take Supervisor Feedback							
Collect Data							
Analyse the Data							

Draw Conclusions							
Take Supervisor Feedback							
Write Final Dissertation							

Appendix B:

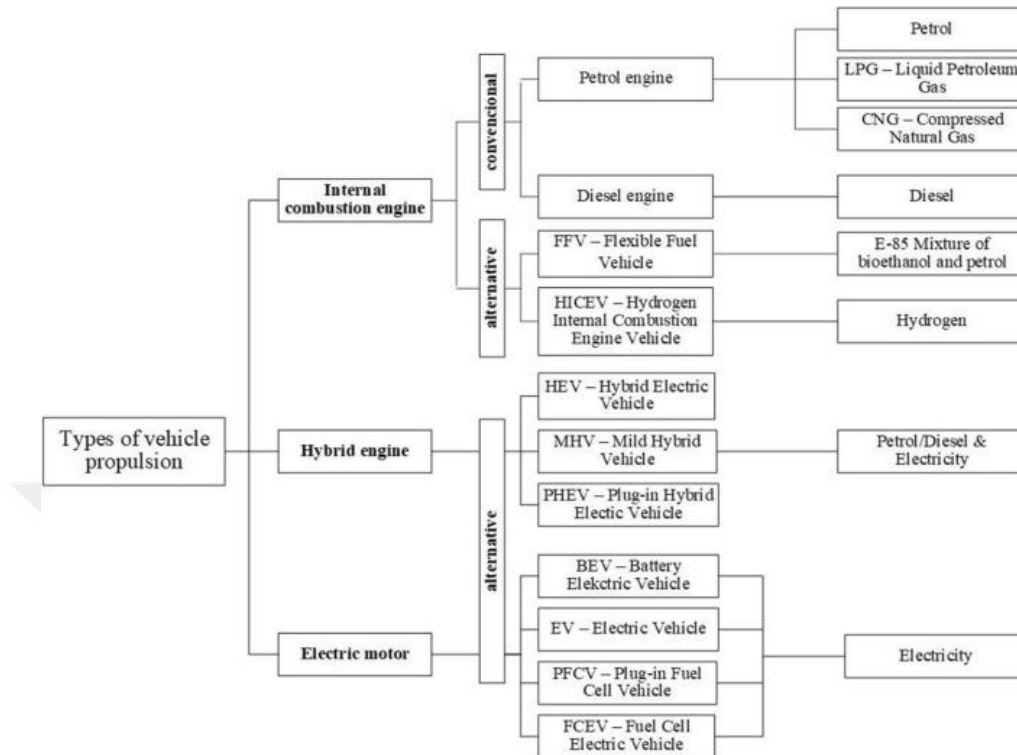
Figure 16: Global Electric Passenger Cars over the Years



(Source: Furch, Konečný and Krobot 2022)

Appendix C:

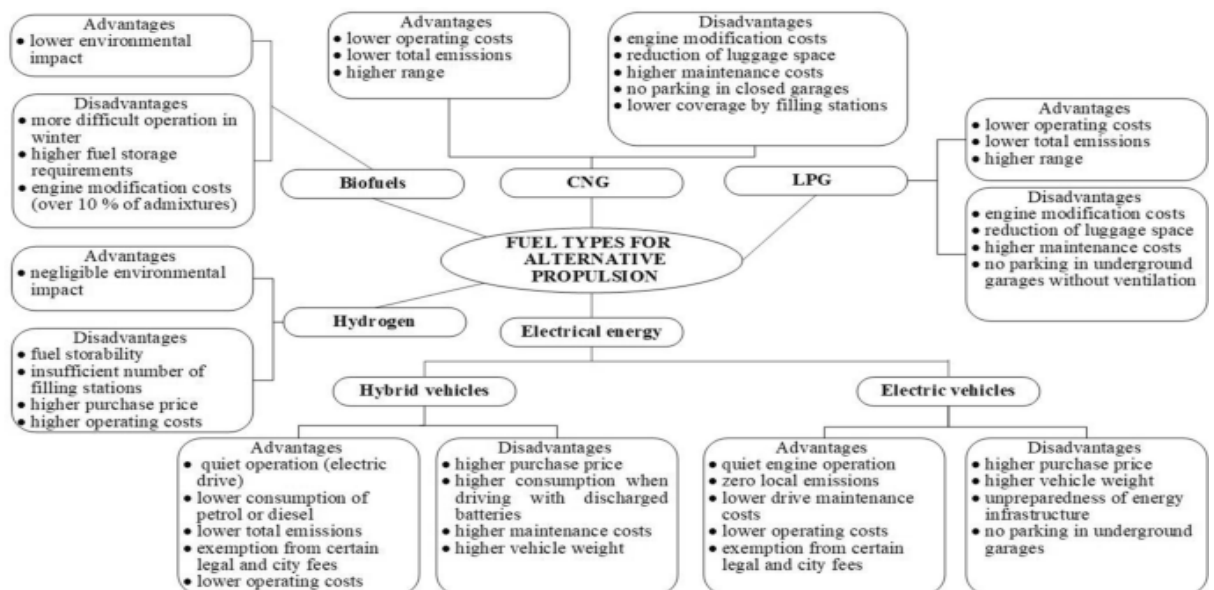
Figure 17: Passenger Cars Propulsion



(Source: Furch, Konečný and Krobot 2022)

Appendix D:

Figure 18: Advantages and Disadvantages of Passenger Cars powered by Different modes



(Source: Furch, Konečný and Krobot 2022)