Tesla IS/IT Analysis and Strategy

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Glossary

ET-Eye tracking It is a technological sensor that allows a device to know exactly where the gaze is focused. Thanks to this device we can determine the degree of attention, concentration, sleepiness, presence, knowledge or other mental states.

DMS - Driver monitoring system is a vehicle safety system

VC-Value chain

EV-Electric vehicle

T&D-Technology Development

Abstract

This report presents an analysis with different IS/IT tools of Tesla. This paper aims to demonstrate how Tesla works and develop a strategy for the future of the brand. The first part of the paper presents two analysis of the company, one method is the competition of the business environment and the second method is how the business operates. Both analysis demonstrate the potential challenges and disruptors for Tesla. The second part of the paper demonstrates a strategy aligned to Tesla know-how to face the challenges of the market. The last part is the conclusion of the report.

Introduction

Tesla Motors is the flow symbol of electric vehicles and consolidates with its way of thinking for efficient power sources fuel makes it an earth benevolent organization. The electric vehicle (EV) area is going through a time of extension, and Tesla is at the bleeding edge of the upheaval that is occurring in the car area with the presentation of the EV into the market. Tesla Motors was established by Elon Musk in 2003, and entered the market with a troublesome proposition in the car business, as it proposed the acquaintance of completely electric vehicles with add to thinking about the climate; thusly, the organization created inventive and novel functionalities, contrasted with inward ignition vehicles. As a feature of its underlying procedure, Tesla Motors chipped away at the innovative work of longer-enduring batteries, quick charging electric energizes, homegrown energy gracefully through sunlight based boards, motor plan and power, and dependable and safe vehicles. Because of the accomplishment of the initial three models of EV created by Tesla, Tesla looks to contend legitimately with other customary producers and furthermore permitting it to produce an incentive for the organization by merging the brand and accomplish economies of scale.

Tesla Analysis of the business environment, challenges and potential disruptors

5 Porter Forces

Industry rivalry

The EV market is in a transition between the Introduction and Growth phases. Other EV and traditional combustion vehicles constitute the main competition for Tesla. (International Energy Agency, 2019) The industry is relatively concentrated in a few leading companies, which gives power to the latter and lessens the intensity of rivalry. There are competitors of various nationalities with different approaches and different strategies. Competitors make very high investments to enter and compete in this industry, so they will react hard if they feel their market share is a threat. The big problem for Tesla is the potential competitors on the automotive sector from traditional manufacturers such as Volkswagen, Daimler, BMW, which are consolidated into large groups concentrating several different brands to cover the different market segments. These groups of manufacturers have significant economic power, infrastructure and highly qualified personnel that at any time can jeopardise Tesla's position in the EV market. The growth rate of the industry is high, with some EV currently on the market. **See Figure 1.**

Threat of new entrants

The vehicle sector has various access obstacles for new rivals, related with commodity differentiation and cost leadership. (Shipley, 2020)

Entry barriers associated with commodity differentiation

A large portion of the brands offer items adjusted to the various needs of the client, so the connection with the client and the brand picture turns into an essential worth and a crucial passage obstruction. Tesla, notwithstanding, has decided on an alternate methodology, attempting to assemble its image picture without high publicizing ventures. Splendid utilization of informal communities and the advertising aptitudes of its CEO have empowered Tesla to accomplish a brand picture that is now perceived in the business. (Furr and Dyer, 2020)

Tesla has put forth an extraordinary attempt in producing licenses, primarily identified with electric batteries, and a piece of its business depends on authorizing those licenses to different makers, for example, Mercedes. Tesla has a solid presence in the battery market today and is constantly advancing. (Bryant, 2020)

Entry barriers associated with cost leadership

The significance of fixed expenses in the vehicle business implies that the economy of scale needed to acquire benefits is exceptionally high. Tesla has had the option to beat this section obstruction because of the underlying speculation of its organizer Elon Musk. (Locke, 2020)

Innovation: The vehicle business is described by the extremely elevated level of innovation needed to satisfy least industry guidelines, both in the assembling cycle and in route and security frameworks, which are not really accessible to any new rival on the lookout. In this sense, Tesla's upper hand for entering the area lies in innovation, exploiting its mechanical skill created by its organization SpaceX to create in-house the plan and designing of the body, frame, insides, warming and cooling frameworks, just as the transformation of certain subsystems of the conventional vehicle to the electric model. (Kolodny, 2020) On the other hand, Tesla has had the option to get a preferred position in the plans of its lithium-particle batteries. Stride in front of serious arrangements, which has permitted Tesla Model S to be situated as the vehicle with the most amazing autonomous available in the market. (Charlton, 2020). Admittance to dispersion diverts in the vehicle market is another obstruction to passage for new contenders. The expense of admittance to these channels and the requirement for an unmistakable Return on Investment by franchisees may prevent contenders with less ability to enter the market. For this situation, Tesla has handled the issue with an unexpected methodology in comparison to regular: conveying its vehicles only through the Internet in the underlying stage, and through Tesla car-traders/showrooms. **See Figure 2**

Threat to substitutes

In the EV market, we have four explicit substitute items: regular vehicles, hybrids, different options in contrast to conventional oil products and public transport. (Li and Loo, 2014)

Regular vehicles are the primary substitute item for the EV, as they are completely merged in the public arena and offer a generally lower cost to the customer. Nonetheless, the market for customary vehicles is in an experienced stage and is by all accounts moving toward decay. (The Open University, 2019) **See Figure 3**

The hybrid car has gone through enormous development lately because of the producers' trial inspiration. The underlying condition of electric advances didn't offer adequate assurances to the purchaser to put up unadulterated electric vehicles for sale to the public, and the mixture alternative has permitted the area to turn out to be more unique while making benefits and advancing examination into the advances. Notwithstanding, as we have seen over, the development pace of the EV is higher than that of the hybrid car (Worldwide Energy Agency, 2020)

Different options in contrast to conventional oil products, which, despite the fact that it has gotten its opportunity, has not yet been advanced as a genuine other option, for the most part since it involves comparable issues to petroleum and diesel, for example, cost and outflow of contaminating gases. Hydrogen is another chance, however the shortage of refueling focuses in addition to the cost of hydrogen fuel is higher than for ignition motors. (Graham, 2020)

Related on public transport the interest in railroads and metros may affect the quantity of individuals with vehicles. A more productive and prudent method of public vehicle will make numerous vehicle clients change the manner in which they travel. In EU nations where there are underground and transport, in spite of the fact that the pace of vehicle use is still extremely high, individuals utilize the metro and rail framework for transport in huge numbers. The danger in short to medium term of train frameworks speaks to a low danger to Tesla. (Eurostat, 2020)

Bargaining power of buyers

The vehicle business has thoroughly sectioned its clients, offering items adjusted to their necessities. Concerning the items offered by Tesla Motors, the worth saw by the client is high. Nonetheless, the general financial circumstance, along with the chance of utilizing conventional vehicles and the way that there are no high trade costs, implies that clients have huge bartering power. (Deloitte, 2017)

In addition, the Internet has made accessible for buyers a lot of data on costs and creation measures, carrying more decisions to possible purchasers.

Bargaing power of suppliers

The raw materials have a high degree of exclusivity; this quality is a power factor for suppliers, as manufacturers cannot replace their supplier by offering a distinguished, higher quality product. Tesla and the other manufacturers know that they have significant bargaining power with suppliers because of their position. (Deloitte, 2017)
As batteries are a vital part of Tesla Motors' competitive strategy, the agreement between Panasonic and Tesla to provide support and batteries to Tesla would reduce the bargaining power of Panasonic. (Inagakil, 2020) **See Figure 4**

Value Chain Analysis (see Figure 5)

Firm Infrastructure

Its success is mainly due to the technological advances achieved, thanks to the development innovation. Furthermore, to its excellent investment in this area, achieving with this to deliver value to its clients, and a more fantastic positioning of its brand, to create a vanguard business in the automotive segment. (Dudovskiy, 2018)
Its economic and financial position in the stock markets is vital for the company's sustainability. It has also built up an appreciable reputation in terms of development, status and technology. Maintaining relations with governments is essential in order to be able to operate normally and take advantage of any subsidies that may exist. (Dudovskiy, 2018)

Human resources

Tesla has a highly qualified staff specialised in technology; the staff is trained for each process in the development of its models and seeks to provide comprehensive solutions in the various areas of the company. The company attracts, recruits, hires and trains employees, including sales and production line employees. (Dudovskiy, 2018)

Technology

Tesla has high-end technology and its patents developed in its technology development (T&D) area, where it designs its cars and gives way to improvements in the product and process.

Tesla invests heavily in T&D to develop new components to bring greater security (autonomous driving), better connectivity (car controller software) and greater efficiency (battery capacity) to its car models. (Dudovskiy, 2018)

Procurement

The computer systems that support the operations to be able to acquire machines and components are essential so as not to interrupt production. The transport service for vehicles from the factory to the sales points is part of the system that allows Tesla to use its own sales points. Besides, relationships with customers are essential in terms of the status they provide.

Inbound logistic

Tesla manufactures the vast majority of its components in its plant, allowing for savings in transportation costs, better inventory control and improved quality control.
As most inputs are manufactured in-house, its inbound logistics are efficient. Vehicles use thousands of parts manufactured by Tesla and others purchased internationally, developing close relationships with several of them. (Dudovskiy, 2018)

Operations

Its production is order-based, which saves storage space. That is why they do not require a high inventory. Their manufacturing processes and operations make them have a demanding quality control since the segment they are aimed at is demanding, and they seek to satisfy it, being rigorous. (Dudovskiy, 2018)

Outbound Logistic

Since Tesla bases its production on order and does not depend on dealers to handle sales to its customers, it ships its models either from its own sales outlets (transporting its vehicles to the same sales outlets) or from the production plant.
It maintains a small inventory in its shops, taking orders over the Internet. Receives an initial payment and concludes a purchase contract for order delivery with the customer. (Dudovskiy, 2018)Tesla increases its profit margin and establishes a post-order manufacturing system. Besides, Tesla enhances brand awareness with this distribution. TESLA REPORT (Tesla, Inc, 2019)

Sales and Marketing

It does not have dealers but has its own sales points. With the help of technology, they make their vehicle models known to their customers. For this purpose, sales can be made directly through the website. Advertising often includes strange events, such as the launch of a Tesla car into space. (Hull, 2020)

Their growth depends mostly on the acceptance of their vehicle models, the performance of these and the various computer connectivity devices that seek to meet all market expectations. Customers like their cars to be connected, software-controlled and environmentally friendly. (Dudovskiy, 2018)

Customer service

In the after-sales service, Tesla assists its customers with updates in the vehicle's functionality software, comprehensive maintenance programs and others with an added value in right treatment and customer service (status). It has charging facilities as part of a power grid in different parts of Europe and other countries. (Tesla, Inc, 2019) Also, it offers guarantees for periods of 3 years for resale value and extended service. Tesla Supercharger stations aim of meeting the demand and needs of the owners of their EV.

Strategy to improve brand positioning

Eye-Tracking (ET) Technology

The information can be used to obtain more intense knowledge about user behaviour and understand precisely where a random user is looking in the car. Not only can point where the driver looks, but also the movement of the eye concerning the head. **See Figure 6.**

The most direct application of ET is in driver monitoring systems (DMS). To create safer and more advanced cars, the combination of facial recognition and ET makes it possible to obtain information about the driver's attention, alertness or concentration behind the wheel. Also, this technology is proving very beneficial in the testing and safety inspection processes, as it brings light into the focus of the driver's gaze**.** Mixed systems are even being implemented where the real environment and virtual reality are combined, and through ET technology elements that cause distraction or states of alertness while driving are identified. (Davis, Morris, Achtemeier, & Easterlund, 2019)

Some manufacturers such as Mercedes-Benz, Ford, Volvo and Volkswagen, already offer similar technologies. However, Toyota leads the sector with its ET implemented in its Premium Lexus brand. (Davis, Morris, Achtemeier, & Easterlund, 2019)
ET in automobile safety would contribute to the reduction of accidents in automobiles since by determining the driver's field of vision, it would be possible to know which areas have the least visual range. If these areas cause the driver to have any type of accident, it would also take advantage of the areas with the most fixation to locate signage and essential information for driving and companies dedicated to road safety. This technology could benefit the VC by improving vehicle sales by having this technology implemented. In turn, the data generated each time activity or process is carried out in the car can be stored and used to analyse the driving systems and improve the results in the future making. **See Figure 7**. Also, the processes in the driving of the vehicle could measure efficiency in terms of constant monitoring. Furthermore, data collection for the improvement of driving, the VC in the T&D department could have a positive impact.
Within the VC, ET can benefit the Technology department since the company could invest in ET and discover new advances. The application of ET in Tesla could mitigate errors, maximise profits and give quality service to the client. (Davis, Morris, Achtemeier, & Easterlund, 2019). Related to the technological entry barriers for car manufacturers, Tesla will not have any issues on implementing this technology due to the high skilled employees in the T&D department.
Due to Tesla using a differentiation strategy that allows it to charge higher prices about its competitors, this technology could keep the capacity of innovation and development in technology and research. **See Figure 8**

Conclusion

For the development of the following strategic plan, there is a limitation; the information for the market analysis is based on reliable secondary sources: specialised websites, company website and electronic newspapers.
In order to broaden the scope of the strategic plan presented, it is recommended that the analysis be carried out considering Tesla Motors' presence in other international markets, to quantify possible synergies and risks affecting the company.
Tesla must be careful with the different car manufacturers that have the more significant financial limit, more noteworthy economies of scale and large scale manufacturing

experience that can rapidly influence Tesla, and that can likewise convince the most hesitant shoppers to re-visitation of the exemplary vehicle in view of the still numerous and basic issues that electric vehicles have.

From Tesla's analysis, it is in a good position with customers and suppliers, especially the latter due to the enormous competitiveness and supply that exists between the different companies that are capable of manufacturing the large number of parts needed to assemble a car. The big problem for Tesla is the potential competitors that are already on the market and could be a potential threat to Tesla sales. Tesla has a substantial investment in technology, and Tesla needs to keep developing and implementing new technologies to assure a position on the market.

References

Bryant, C. (2020, July 17). *Bloomberg*. Retrieved October 2, 2020, from Bloomberg: https://www.bloomberg.com/opinion/articles/2020-07-17/mercedes-owner-daimler-must-wish-it-had-kept-that-tesla-stake

Charlton, A. (2020, June 19). *Carmagazine.* Retrieved October 4, 2020, from Carmagazine: https://www.carmagazine.co.uk/electric/longest-range-electric-cars-ev/

Eurostat. (2020, July 1). *Eurostat.* Retrieved October 6, 2020, from Europa: https://ec.europa.eu/eurostat/statistics-explained/index.php/Passenger_transport_statistics

Dudovskiy, J. (2018, October 16). *Business Research Methodology.* Retrieved from Research Methodology: https://research-methodology.net/tesla-value-chain-analysis-2/#_ftnref9

Davis, B., Morris, N., Achtemeier, J., & Easterlund, P. (2019). *Improvement of Driving Simulator Eye Tracking Software .* University of Minnesota, Mechanical Engineering. Minnesota: Roadway Safety Institute.

Deloitte. (2017). *The Future of the Automotive Value Chain 2025.* London: Deloitte.

Furr, N., & Dyer, J. (2020, February 12). *Harvard Business Reviw.* Retrieved October 1, 2020, from HBR: https://hbr.org/2020/02/lessons-from-teslas-approach-to-innovation

Graham, R. (2020, February 13). *Euronews.* Retrieved October 4, 2020, from Euronews: https://www.euronews.com/living/2020/02/13/hydrogen-fuel-cell-vs-electric-cars-what-you-need-to-know-but-couldn-t-ask

Inagakil, K. (2020, February 4). *Financial Times.* Retrieved October 15, 2020, from Financial Times: https://www.ft.com/content/7cdb9e1a-466c-11ea-aeb3-955839e06441

International Energy Agency. (2019). *Global EV Outlook 2019.* Paris: IEA.

International Energy Agency. (2020). *Global EV Outlook.* Paris: IEA.

Hull, D. (2020, August 2). *Bloomberg.* Retrieved October 11, 2020, from Bloomberg: https://www.bloomberg.com/news/articles/2020-08-02/love-him-or-hate-him-elon-musk-is-enjoying-a-spectacular-run

Kolodny, L. (2020, April 28). *CNBC.* Retrieved October 2, 2020, from CNBC: https://www.cnbc.com/2020/04/28/heres-how-tesla-and-spacex-worked-with-and-paid-each-other-in-the-past-year.html

Li, L., & Loo, B. (2014). Alternative and Transitional Energy Sources for Urban Transportation. *Current Sustainable/Renewable Energy Reports* , 19-26.

Locke, T. (2020, January 30). *CNBC.* Retrieved October 2, 2020, from CNBC: https://www.cnbc.com/2020/01/30/elon-musk-i-really-didnt-want-to-be-ceo-of-tesla.html

Shipley, L. (2020, February 29). *Hardvard Business Review.* Retrieved October 1, 2020, from HBR: https://hbr.org/2020/02/how-tesla-sets-itself-apart

Tesla, Inc. (2019). *Tesla Financial Report.* Palo Alto: Tesla.

The Open University. (2019, August 30). *The Open University.* Retrieved October 4, 2020, from Open: https://www.open.edu/openlearn/money-management/management/business-studies/lifecycle-the-car-industry

APPENDIX

Appendix 1 Registrations of electric cars in UK

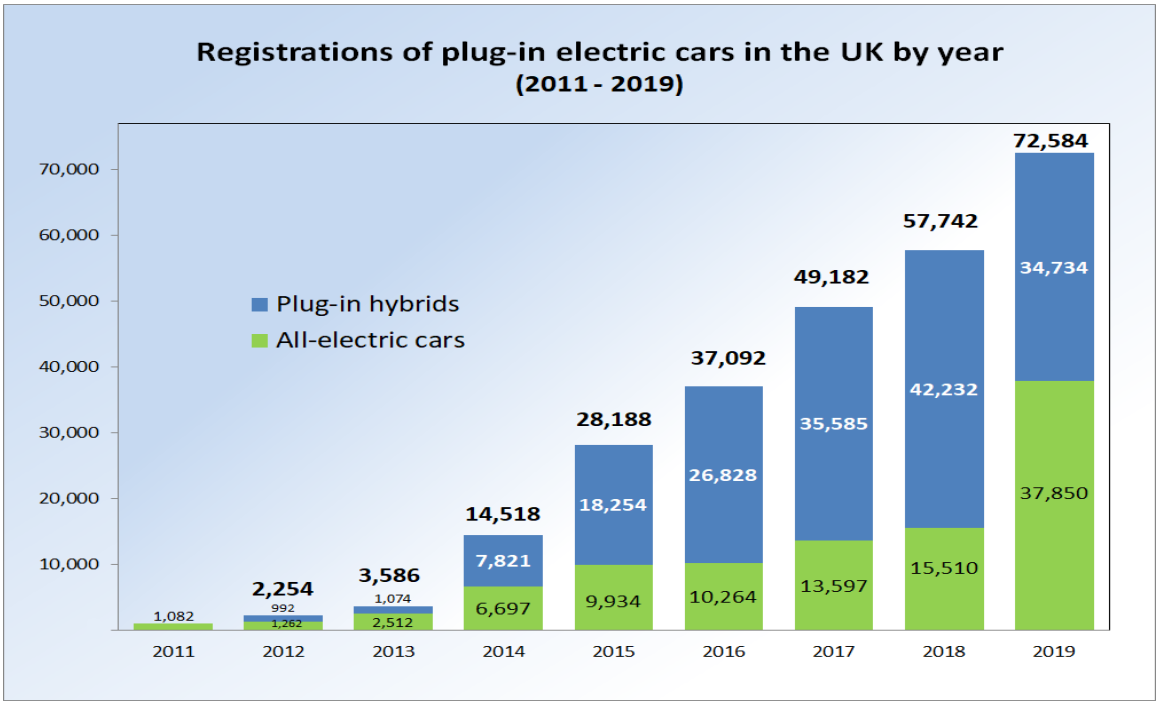

Figure 1. (Society of Motor Manufacturers and Traders, 2019)

Appendix 2 Tesla Business Process Map

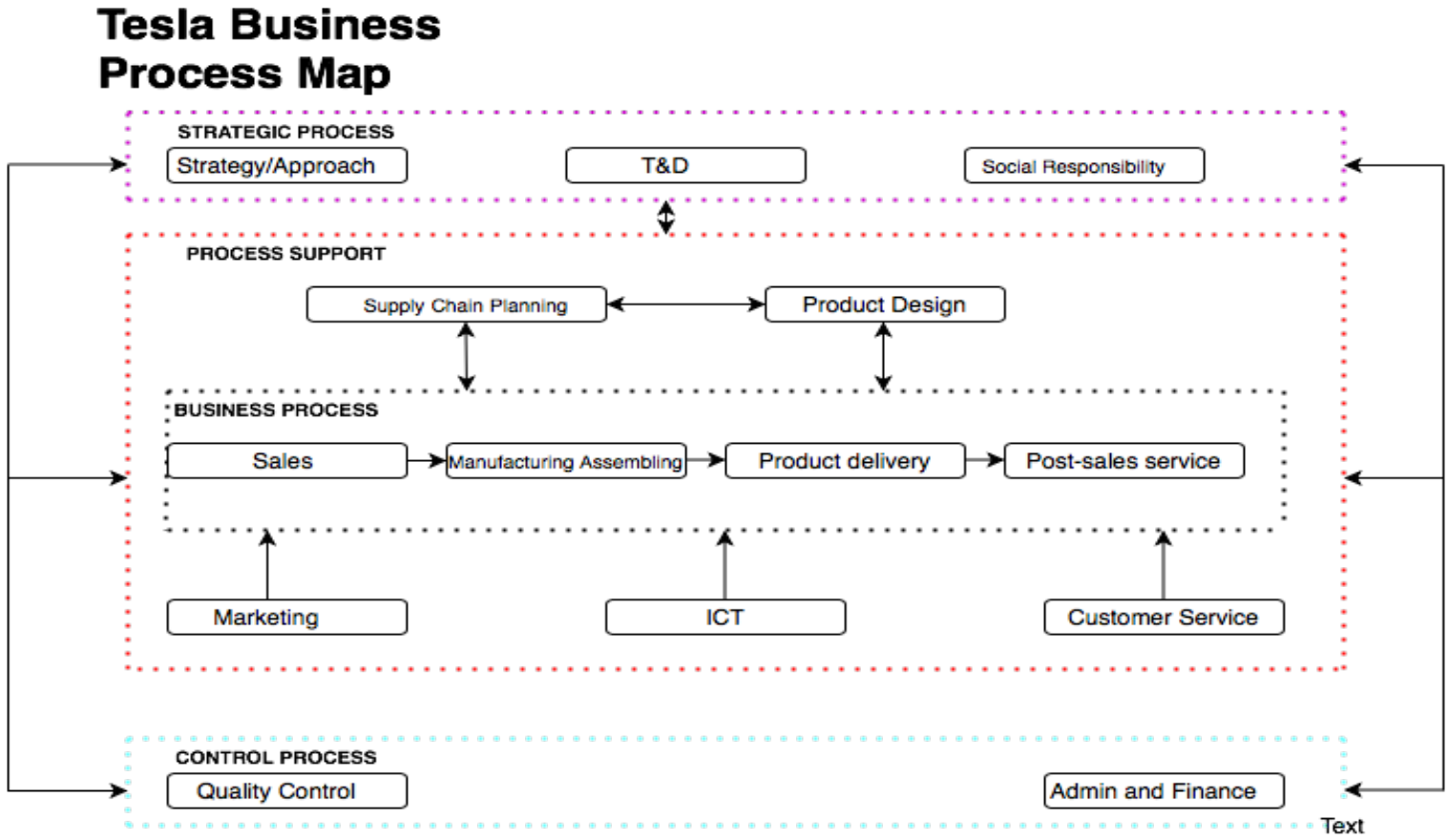

Figure 2. Own work

Appendix 3 Product Life Cycle

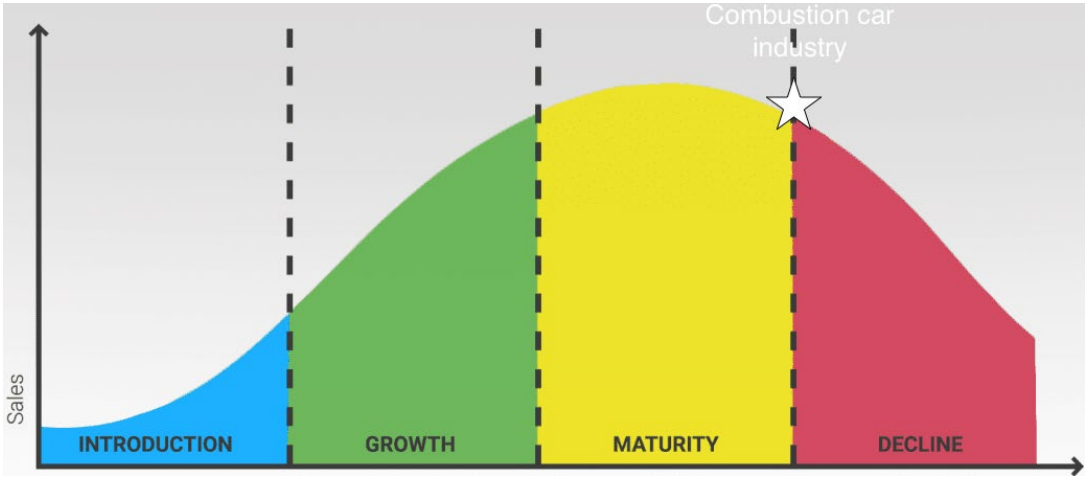

Figure 3 (The Open University, 2019)

Appendix 4 Tesla 5 Porter Forces

Green-Low

Yellow-Medium

Red-Strong

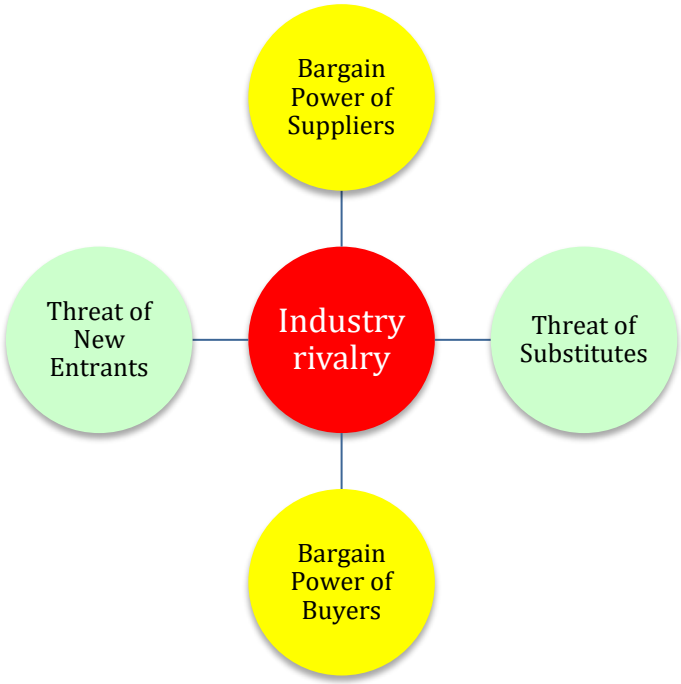

Figure 4. Own work

Appendix 5 Value Chain Analysis Tesla

Infrastructure	Economic and financial position, brand image, high-value of the brand, relationship with governments and subsidies.					MARGIN
Human resources		High skilled employees, training for each are of the company.				
Technology Development		Patents, efficiency, security systems.		Invest of technologies	Update the software for the customers	
Procurement		Orders	Transport	Sales	Good relationship with its clients	
Primary Activities	Inbound Logistics	Operations	Outbound Logistics	Marketing & Sales	Customer Service	
	Raw materials, quality control	Own operational system, quality control, car efficiency	Own dealership, own car sales points.	Sales through website, own car dealership, Public Relations, social media,	Extended guarantees for the car, recharging points	

Figure 5. Own work

Appendix 6 Strategy Table

Components of the strategy	Analysis
Consumers	Europeans
Product	EV
Market	Europe
Technology	Innovation, development and implementation of ET.

Figure 6. Own work

Appendix 7 Impact of the Strategy on the Value Chain

Areas where the Strategy will have a considerable impact - Purple

Infrastructure	Economic and financial position, brand image, high-value of the brand, relationship with governments and subsidies.					MARGIN
Human resources		High skilled employees, training for each are of the company.				
Technology Development		Patents, efficiency, security systems.		Invest of technologies	Update the software for the customers	
Procurement		Orders	Transport	Sales	Good relationship with its clients	
Primary Activities	Inbound Logistics	Operations	Outbound Logistics	Marketing & Sales	Customer Service	
	Raw materials, quality control	Own operational system, quality control, car efficiency	Own dealership, own car sales points.	Sales through website, own car dealership, Public Relations, social media,	Extended guarantees for the car, recharging points	

Figure 7. Own work.

Appendix 8 Impact of the Strategy on the Sales Process

Purple areas represent the benefit and the impact in the business.

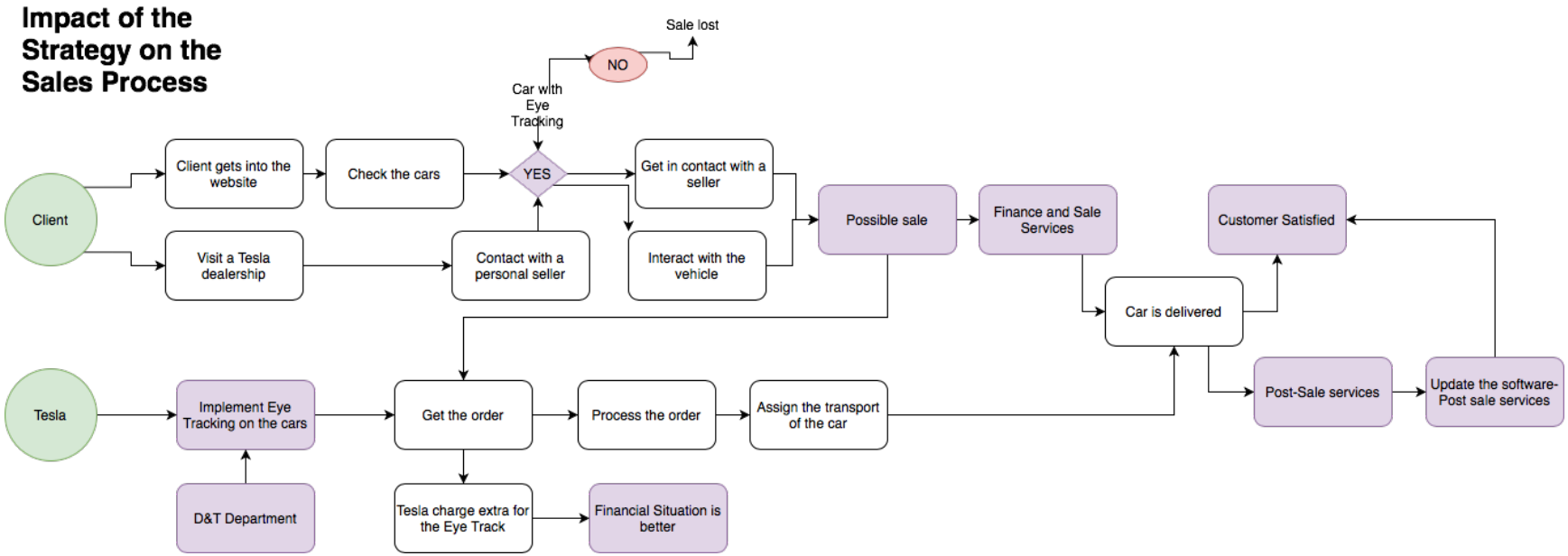

Figure 8. Own work.