
ELECTRIC VEHICLES. NEW BUSINESS OPPORTUNITIES AND PRODUCT LIFE CYCLE

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CONTENT	PAGE
Introduction	2
Product Life Cycle	2
Business Opportunities in the industry	4
Porter's Value Chain	5
Conclusion	6
References	7

Introduction

This project is focusing on the electric vehicle sector, and the stages the sector go through. It will be used the case study “Electric vehicles in Europe: gearing up for a new phase?” and additional research. To analyses the in what stage is the sector now it will be used Product Life Cycle. Through using the framework and making additional research will determine the growth of the EV sector. The research follows the growth of the EV market share, increasing its sells and its increasing popularity. Also, the project will provide a prognosis about the future developing of the Electric Vehicles and whether it’s positive or negative. The essay will provide an examples for future business opportunity in the Electric Vehicle industry and possible ways to increase the sales. In this essay Porter’s Value Chain will be included as well.

Product Life Cycle

Product life cycle consist five different points. The first one is development, the second one is introduction, third is growth, followed by maturity and decline. The product’s sales and profits go up and down through the different life stages of the product (shown in the image below). Normally products move through the whole cycle that contain of different stages. The speed product moves through the stages differ, but every product has a different and limited life span. The life of a product can be extended in some various ways, such as promoting new ways of using the product, finding new target clientele, or adding new features to the product. Most products have confined period of time and during that period the Management has to maximize its returns on the investment they have made for the product. (Baines, et al., 2017)

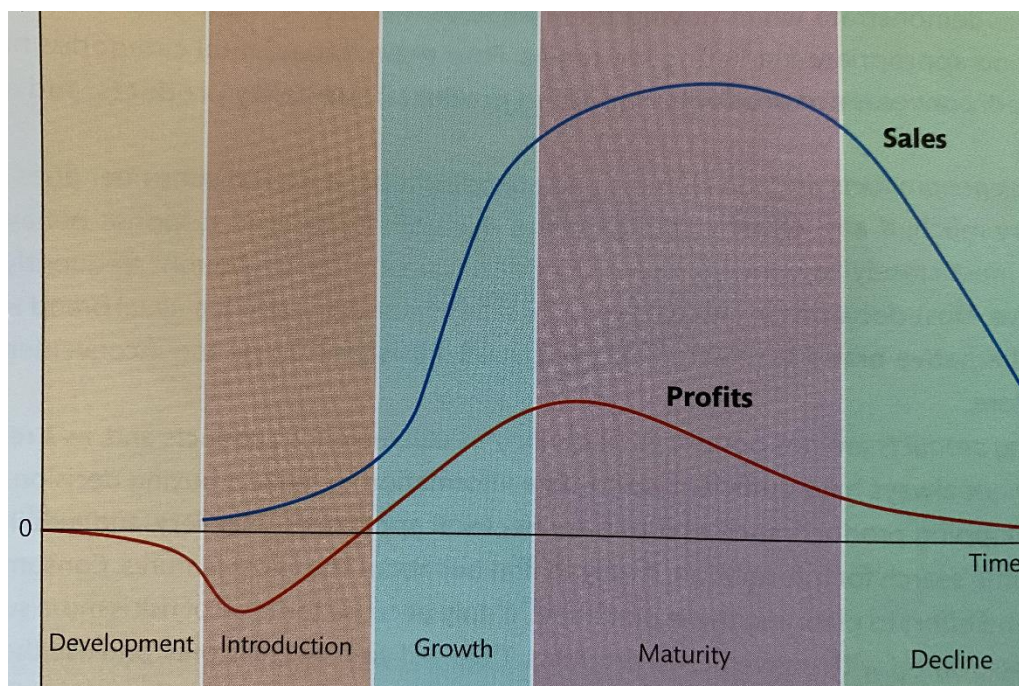
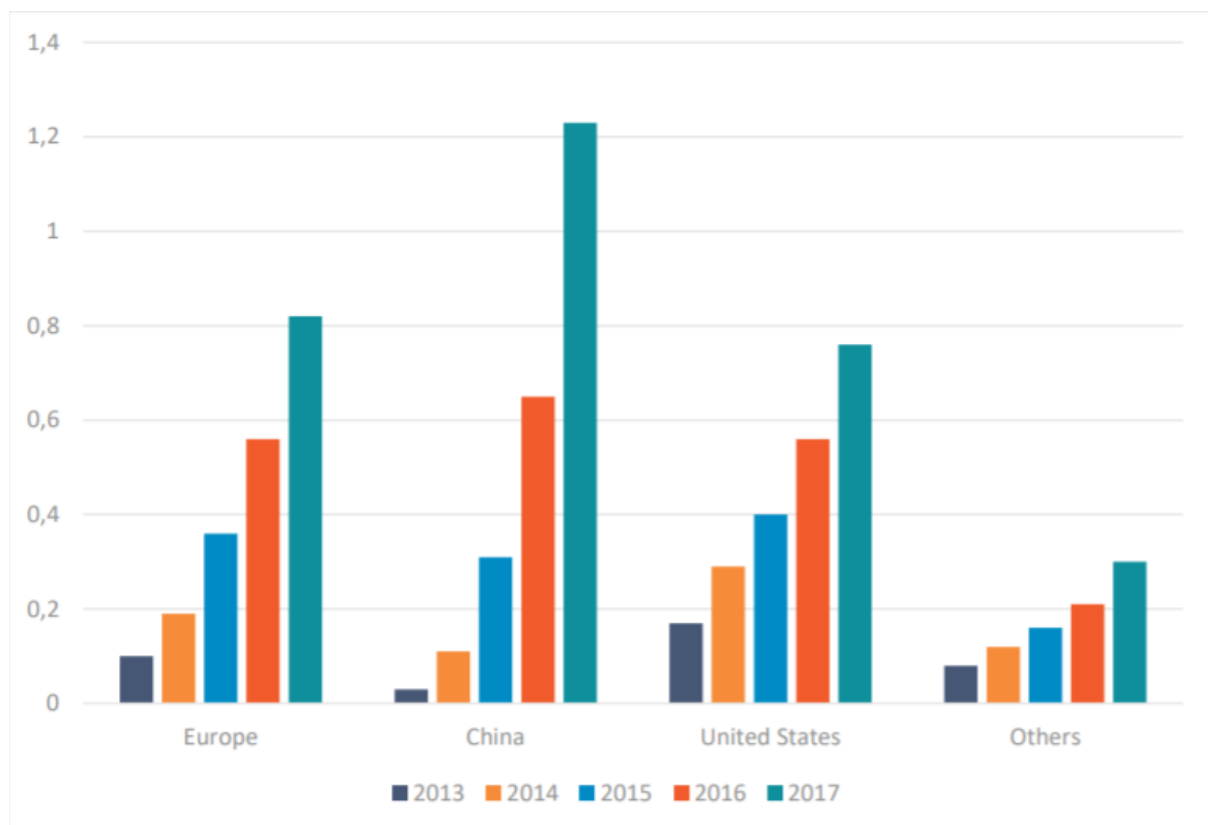


Image courtesy (Baines, et al., 2017)

The market share of electric vehicles market has expanded significantly in recent years. There were 3.1 million EV in the world in 2017, which is 50% more compared with 2016. Same year, 2017, the word leader when it comes to market share of electric vehicles was Norway. Then Norway had the highest market share of Electric Vehicles globally. Although, on the Europe market dominating are petrol and diesel vehicles, the share of EV is increasing fast. The European Automobile Manufacturers' Association stated that the market share of Electric Vehicles in European Union was around 2% in July, August and September 2018(third quarter), which is 30% higher compared with 2017. These cars are in use mainly in more developed countries of EU, however EV slowly but successfully penetrating new markets in Eastern Europe. Big automakers are increasing their investments in order to offer more models in different electric vehicle sizes. The assortment of EV is still confined, compared to conventional vehicles. The European Commission's Joint Research Centre (JRC) has provided a data that states that there were 33 PHEV (plug-in hybrids electric vehicle) types and 28 BEV (battery electric vehicle) types accessible in Europe (for 2017). Purchasing Electric Vehicles is still more expensive, than buying conventional vehicle. JRC also states that currently the purchasing cost of EV is at least 40% more higher, compared with conventional cars. (Niestadt & Bjørnåvold, 2019)



Global EV outlook for 2013-2017 (Niestadt & Bjørnåvold, 2019)

Vehicles producers are increasing their EV launch plans, part of them are complying with the tightened regulations in Europe and China. Its predicted that by 2022 the market of EV will provide variety of over 500 distinct EV models globally. Consumers power and competitive prices offered by manufacturers and suppliers will be the key factor of acquiring new clientele. The sales of EV increased to 2.1 million in 2019, compared to 450.000 in 2015. The prognoses for 2025 are showing that the sales will reach 8.5 million, and by 2030 the sales are expected to reach 26 million. The EV share of the market is still minor, compared with the share of the conventional cars, however it is going up with fast pace. The manufacturers and suppliers of EV in Europe for instance manage to penetrate the market very successfully. The market shares of EV for 2025 is expected to be 10%, which is high increase, compared with 2.7% in 2020. (McKerracher, et al., 2020)

Business Opportunities in the industry

Taxes and Regulations

Many European countries have launched a tax benefit system that favor EV and low emission conventional vehicles, such as Netherland, Norway, Brussels and many others. (Agency, 2019) Buying electric vehicle or low emission vehicle in United Kingdom can grant to the customers a discount. The government provides subsidies to vehicle dealerships and manufacturers. (Gov.uk, 2020) That tool could be used to encourage customers to participate in saving the environment by buying EV, also it will be beneficial for the Electric Vehicles manufacturers and suppliers as it will be profitable for them.

The government of New Zealand is promoting the purchase of EV in New Zealand by eliminating fuel tax. Other strategies to upsurge sales used in other countries are bus lane use, free parking, free charging, free road tolls, no GST on purchase and low licensing fees. (Aurecongroup.com, 2020)

EV fleet charging

Opportunities in EV fleet charging will emerge first in places with high-demand charges and sunny weather, which makes solar-power generation more economical. Policies supporting the environment are important too. Just as policies have supported the development of the US market for EVs, they could also be helpful in developing the market for EV fleet-charging. Through delivering a well-rounded range of services, businesses can better seize the opportunities in the vehicle fleet-charging industry. To do this, four elements will need to be in place: Hardware and software integration; Digital, analytics, and connectivity; large base of installed EV chargers; Access to price signals from the power market. (Gao, et al., 2020)

Battery technologies

Lithium batteries technology are innovation in EV industry. The price of the batteries is getting cheaper; the power density is being enhanced. However, there are eight universities in Korea, researching better battery technology. Nissan LEAF is using Lithium Ion Batteries, also known as LiMn2O4. They are similar to cell phone batteries, and provide for the vehicle 175km of range. It has been created a battery, newer than LiMn2O4. The new battery Lithium Phosphate is much more stable and can take more rounds of charging and discharging. What is more, the battery has a slightly lower voltage, which can provide for the vehicle 300km of range. (Aurecongroup.com, 2020)

Porter's Value Chain

Value Chain is a chain of actions which are conducted to deliver valuable product or service to the market. Every corporation, association or organization that creates value and wishes to enhance its competitiveness may use the value chain to achieve its objectives. The model helps companies to evaluate each of their practices to optimize their competitive advantage in order to enhance each move as much as possible. The value chain is considered to be a valuable instrument in strategic management, as it focuses on the positioning of a product or service on the market. The value chain has three main objectives: improve services, reduce costs, create value. (Robben & Quatrebarbes, 2015)

EV policy in some of the North European countries, one of which is Norway, proposes a clear and single object and objective for policy. Electric vehicles sector includes a variety of related but distinct elements. Thus, if look at Electric vehicles sector as a value chain, where every different segment could be targeted by the policy. What is more, electric vehicles can be divided in 3 different value chains - the value chain of vehicles, the value chain of charging, and the value chain of surrounding network. Last one is not that much of a chain, it could be considered as a third category for policy. The value chains of vehicles and charging have each four divisions in chain. At least one elements of the chain can be targeted by the policy. For example, a purchase subsidy targets the vehicles value chain, and within that the consumer-segment. Thus, that peculiar policy could be classified as a vehicle-consumer concentrated policy. (Steen, et al., 2015)

According to the case study for the Electric Vehicle sector presents an exceptional end to end value chain, and the study discuss its several elements. Every challenge and novel consideration that occur of this technology could provide an opportunity for the making of novel (or improvement of actually existing) business model besides this new value chain.

Powertrain transformation

Raw materials used for the equipment to be manufactured. Large investments in EV would mean lower demand for machinery mechanic operations.

Carmaker and suppliers will enter into e-motor manufacture to take advantage of the increased growth potential. The manufacturers of turbocharger will get benefits, but will be under pressure in a long term.

Changing infrastructure. The providers of utilities and infrastructure will get benefits from the investments to create charging stations for electric vehicles and new business representations to deliver auxiliary services.

Maintenance. service providers will experience negative impact after sales

Second use/ Recycling. New businesses will arrive (2nd use and recycling of EV components) because of the increasing price for raw materials, it will be an opportunity for them.

The incumbents of the classic automotive value chain and the new entrants are challenging new methods and tactics to satisfy the needs of the newer value chain and take advantage of the emerging markets for new facilities. On one hand emerging markets for goods and services are result of electric vehicle acceptance, and enabling and facilitating further electric vehicle scale-up on the other.

Conclusion

Considering the acquired data from the case study and additional research it could be said that Electric Vehicles Sector is in stage of growth. The data is showing that slowly but progressively EV sector is acquiring a little bit more of the market share each year. The sales are gradually increasing and the business is on a rise. According to the forecast for the next five, ten years the popularity of the electric vehicles will grow among the consumers. The sales will go higher. The assortment of produced models will increase, that automatically would mean more modern and fashionable models with new features. If Electric Vehicle will keep thriving, that would mean that new business opportunities will enter the horizon. By any mean the opportunities are expected to be in technological aspect such as EV fleet charging, battery enhancement, etc. Overall it could be concluded that Electric Vehicle business on its thrive and it appear to be the future of the vehicle industry.

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