

**University of Wales Trinity Saint David**

**The Global Business Environment**

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**Lecture: Dr. Kenny Tang**

**ASSIGNMENT - 2**

**New Business Opportunities and Product Life Cycle**

**Student name: Georgi Krasimirov Nikolov**

**Student number: 1908490**

**Group: 1**

The awareness of keeping the planet sustainable is increasing as population growth and consumption of fossil fuels are growing. Awareness boost regarding this project is seen as incredibly important and many eco friendly actions have been taken, but the question regarding long term sustainability of the planet and human race still remains uncertain. The transportation sector and industrial revolution is causing a massive consumption of fossil fuel. However as awareness of this has increased there has been a decline in number of fossil fuel used. In 1900 fossil fuel energy consumption was almost 90% which decreased in 2000 to 30%. However recently the use of is still growing rapidly and it cannot manage or sustain anymore. Due to its negative impact on the planet and environment caused by the CO<sub>2</sub> emissions. In order to manage the level of fossil fuel that causes harm to the environment a number of different renewable sources have been introduced, with the aim of green products. Such as the production of electric vehicles (EV). A significant number of automobile producers move towards the production of electric vehicles, the customer behaviour as well as the business models of the automobile market is changing and new business opportunities are entering the market. This paper will discuss the business opportunities caused from the adoption of EV and the business in the automobile value chain resulting in profit for long term.

According to Raymond Vernon When a product is firstly introduced in the industry there are four stages of its life cycle, which are introduction, growth, maturity and decline. Starting from the when the product is introduced in the market until it was declined or removed from the industry. This life cycle helps with investment decisions, making important exit and entry

Carl R. Anderson (1984) . suggests that the product life cycle establishes a way of benefit to companies implementing in business strategy. At the first stage of the life cycle of the product , the introduction. At this stage the market share is low and there is no competition therefore the pricing of the product is most important at this stage in order to build awareness. At the second stage market growth, the revenue and market share are starting to grow, as product is gaining acceptance among the public. The third stage is the maturity stage, the peak of growth has reached the peak and is slowly starting to decrease. At the growth stage the research and developing

cost is higher as well as at the maturity stage. This is because at the growth stage competition is increasing and the product needs to reach many people. And at the maturity stage investment in R&D is highly recommended because products need to differentiate from others. Therefore small firms might find it difficult to enter the market, compared to large firms. It is preferable to enter the market early at the introduction or growth stage for small companies as large firms are likely to survive longer. (Rachel Blakely-Gray). The electric vehicle industry is currently at its end of the introduction stage, therefore it is preferable for larger companies to enter the industry and benefit from profitability at high revenue on the growth and maturity stage.

The early adoption of electric vehicles started in 2013 in Europe. However the limitations of EV is still existing such as high cost(total cost of ownership- TC0) and lower range compared to internal combustion engines(ICE) is still lowering the implementation of EVs. However the customers are still choosing electric vehicles due to the chance of decreasing the carbon footprint, cost saving resulting from government regulation, and driving and usage benefits. European governments are proving attractive benefits for the adopters of electric vehicles, however the TCO of EV is still relatively higher compared to ICE vehicles and cost is considered as the key demand for drivers. The price of battery is one of the major costs for owners of the EV. However the EV battery price per Kwh is starting to decrease with 80%.. Between 2010 and 2016 the battery price dropped from \$1000 to \$227/kWh, with the aim to decrease further to \$100/kWh by 2030. This expectation was made in early introduction stage and the cost of EV batteries decrease due to high innovative technology and firms are starting to move to producing electric vehicles. On the other hand if the limitation of EV regarding limited range is solved the industry would establish a massive growth. Many original equipment manufacturers(OEM) are starting to produce electric vehicles examples are Nissan, Toyota, BMW, Volvo and Audi. They are starting to contribute to the market investment via R & D. Therefore as a result EV is developing and for example Tesla Model S has a capability of traveling over 335 miles on a single charge. The number of charging stations are growing across Europe such as by 2019 there were 144 000 charging stations across EU.

Many European countries such as the UK and Germany have the leading positions and are constantly introducing new policy initiatives to increase the number of charging spaces.

In Porter's book *Competitive Advantage* 1985 talks about how organisations can achieve and sustain progress and superiority in terms of performance. Porter suggested a generic value chain model which is applicable to almost any organization. This helps to increase the product efficiency. The value chain includes five primary activities- inbound and outbound logistics, operations, marketing and sales and service. There are also four different supporting activities- human resources management, procurement, technological development and firm infrastructure. In regard to the EV value chain, a number of different business opportunities are emerging. Examples included in those business opportunities of the electric vehicle are the infrastructure company of creating a network of charging stations, maintaining and developing software, setting up charging stations, access to a payment method of charging services, battery swapping services, development of cost effective networks of all in one EV services etc. The major issues with electric vehicles currently is the slow charging on the available stations and the limited number of charging stations. Therefore the business opportunity emerging in the involvement of growing the number of EV charging stations, in order to decrease the limitations.

The challenge of the number of EV charging stations is not something easy to overcome as the capital and investment required regarding this project is huge and the government alone is unable to manage the cost. The estimated cost of installing EV charging stations for four DC fast chargers per site, considering the labour capital, materials, taxes is approximately \$38,047. However there is also another cost involved such as upgrading the entire power grids and management system which would cost even more. Most of the European government are providing tax benefit for electric vehicle owners. The UK government is trying to pursue the use of EV charging in household and corporate build. Such as the government is offering a Workplace Charging scheme which provides £350 grants for the application of EV charger at work. The challenge of charging stations is still ongoing, therefore there

is enough space for innovative technologies and business models. Large automobile manufactures like BMW, Audi, Toyota, Nissan and Volvo are starting to adopt EV with the trend to green. Recently governments have boosted their awareness regarding this topic and many European countries have set a year target of stopping the sales of diesel and oil based vehicles therefore now is the perfect time for entrepreneurs to enter the EV market.

The production of electric vehicles presents far more business opportunities rather than building a charging station. Yet setting up a charging station is the key to promote the adoption of electric cars but there many others more. Such as innovate technologies to reduce the cost of chargers and batteries is also important for the growth of the eco friendly cars. Business can establish more cost- effective charging systems, new battery and power system upgrades for corporations and households. Another entrepreneurs action could also be the introduction of overnight EV garage where owners would be able to charge their EV during night at a lower cost because not every owner would have the capital to invest for charging at home. Entrepreneurs can help to reduce the TCO of electric cars by establishing all these issues like and introducing a new EV battery production and recycling of used batteries as this would increase the revenue and most likely decrease the sale cost.

The adoption of electric cars is developing, therefore new business opportunities are established. However during this time a significant number of existing companies are losing their long-term plans. Companies in the global automotive industry are likely to lose their profitability in long terms, which could lead to big losses to the business as a result of decrease sales cost of EV. The business of oil and gas production is likely to crash by 2025 as EV would be the major car by then. Therefore if EV continue to be alternative the oil production companies will not be able to remain profitable as now.

On the other hand others would argue that EV would not be able to remove the oil sector company dramatically from the market. (Dan Eberhart, 2018) The oil sector may survive fine with the replacement of EV but they are likely to suffer significant loss in sales of oil. Therefore even if they might continue to exist, the oil production companies will lose in profitability. Also other business linked to the automotive

industry such as companies offering liquid cooling systems, gearing and brake pads will suffer a loss in their sales due to the fact that EV are low maintenance cars and efficient which is less likely to require changing of car parts. The petrol and oil distributors are likely to lose their businesses. Electric vehicles require a low maintenance cost therefore the car servicing industry could potentially lose their business. Therefore the car parts services, industry producing and oil market would face significant loss in revenue with EV are adopted massively. Electric vehicles trends are recognised to increase and all the services linked to the automotive industry mentioned above are likely to lose profit in the long run and potentially cause significant losses to the business.

The launch of BMW first electric car, BMW i3, caused a favourite among the customers. Even though electric cars are out on the market for long periods of time but with the increase in trend of mass-produced electric cars, a number of automobile manufacturers are moving towards the production of electric cars and investing in the new trend. Governments of different countries such as UK are starting to offer benefits and subsidies to customer for the adoption of electric cars. As the EV are still believed to be for the rich people. However cost relating to it such as batteries are falling rapidly during the years. Therefore the decrease in cost will result in dropping the selling price of EV becoming accessible to everyone. Soon enough the price of EV are likely to be the same as the price of fuel-burning counterparts therefore the barriers will be minimised.

To conclude Large automobile companies like Tesla, BMW, Toyota, Audi, Nissan, Honda and more are adopting electric vehicles and shifting their production towards electricity generation. This would lead to high competition, higher sales and growth in production of EV offering a number of different business opportunities. This adoption of EV would cause opportunities for forming car charging stations, development of software, innovation in car batteries and charging systems and offering garage spaces with charging stations. However a different number of businesses such as oil producers, car service sellers, petrol pumps linked to the current automotive industry could lose their profit and even their business. The level of maintenance required for EV is very low and car maintenance services are likely

to suffer significant loss in their sales. Zero carbon footprint is of major importance for society and the adoption of electric vehicles is a change for good. The increased awareness regarding this topic would lead to mass adoption of electric vehicles by customers soon. This is the new generation of the automobile industry.

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