

How Does Tesla Motors Achieve Competitive Advantage in the Global Automobile Industry?

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Abstract

This study analyzed the growth background of Tesla Motors regarded as a new leader in the global automobile industry while deriving its environment and core competencies based on the resource-based view (RBV), which are widely used as the tool in building theoretical frameworks in management research. First of all, Tesla Motors has a lot of threats such as the threats of rivalry, buyers, suppliers, and substitutes. Also, Tesla Motors has abundant resources based on Elon Musk's specific leadership, contributing to gaining dynamic capabilities and ultimately achieving sustainable competitive advantage. In addition, Tesla Motors pursued differentiated strategies such as direct sales, service, charger's network simultaneously achieving creative innovation and quantitative efficiency. Tesla Motors successfully overcame and sublimated these threats and weaknesses, it could create more differentiated and sustainable competitive advantages. This study offers useful implications to multinational firms by systematically investigating the specific features and growth strategies of Tesla Motors as a benchmark.

Keyword : Tesla Motors, resource-based view, environmental analysis, competitive advantage, strategies

1. Introduction

Tesla Motors is a manufacturer of electric vehicles and electric vehicle powertrain components, and was founded in Palo Alto, California in 2003 [1]. The company launched their first vehicle, the Tesla Roadster in 2008 and currently sell the Model S luxury sedan in North America, Europe and China. In 2013, the Model S received the highest customer satisfaction score of any car in world by Consumer Reports. Tesla invests in charging infrastructure in the United States (U.S.) and in Europe to allow vehicle drivers to drive free and long distances. In March 2014, they had 110 Supercharger stations and expect to expand in these regions as well as in Asia during 2014.

Tesla is strategically positioned in the automobile market as a high-end manufacturer and dealer. Their company-owned stores and service centers, technological innovations and high performance vehicle, is a competitive advantage. In 2010, Tesla bought their manufacturing plant in Fremont, California, which was previously used to produce vehicles for Toyota and General Motors. The facility is close to Tesla's headquarter in Palo Alto and close to skilled engineers. The plant has a production capacity of

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500,000 vehicles per year, and Tesla expects to deliver 35,000 this year. Musk has also announced that the company is targeting 500,000 vehicles by 2020, which would mean a compound annual growth rate (CAGR) of 56% from the 22,477 delivered in 2013. The aim of this study analyzes the external and internal environments of Tesla Motors regarded as a new leader in the global automobile industry and understand current Tesla strategies. Moreover, this study suggests future strategies of Tesla.

2. Industry Analysis: 5-Forces Framework

External analysis allows firms to discover threats and opportunities [2][3], see if above normal profits are likely in an industry [4], better understand the nature of competition in an industry [5], make more informed strategic choices [6].

For threat of new entrants, if firms can easily enter the industry, any above normal profits will be bid away quickly. New entrants or firms impact the automotive industry environment, thereby determining the performance of companies like Tesla. This aspect of the Five Forces analysis identifies the intensities of the external factors that create the weak force of the threat of new entry, as follows:

- High cost of brand development (weak force)
- High cost of doing business (weak force)
- High economies of scale (weak force)

Second, there is the high level of threat of rivalry. High rivalry means firms compete vigorously and compete away above average profits. Tesla Motors, Inc. operates in a highly competitive market. This aspect of the Five Forces Analysis outlines the influence of competition on the automotive industry environment. In the case of Tesla, the intensities of the external factors responsible for the strong force of competitive rivalry are as follows:

- Small number of firms (weak force)
- High aggressiveness of firms (strong force)
- Low switching costs (strong force)

Third, for threat of buyers, powerful buyers can squeeze (lower profits) the focal firm by demanding lower prices or higher levels of quality and service. The influence of customers on firms and the automotive industry environment is accounted for in this aspect of the Five Forces Analysis. Tesla's customers are a direct factor that determines the company's sales revenues. The following external

factors and their intensities maintain the moderate force of the bargaining power of customers on Tesla Motors, Inc.:

- Low switching costs (strong force)
- Moderate substitute availability (moderate force)
- Low volume of purchases (weak force)

Forth, there is the moderate level of threat of suppliers. Powerful suppliers can squeeze (lower profits) the focal firm. Tesla's business partly depends on the reliability of its suppliers. This aspect of the Five Forces Analysis shows how suppliers shape the industry environment by influencing the availability of materials that firms need. The intensities of the external factors that create the moderate force of the bargaining power of Tesla's suppliers are as follows:

- Moderate forward integration (moderate force)
- Moderate size of suppliers (moderate force)
- Moderate supply (moderate force)

Last, there is the moderate level of threat of substitutes. Tesla Motors, Inc. experiences the impact of substitutes on the automotive industry environment. In this aspect of the Five Forces Analysis, the intensities of the external factors that lead to the moderate force of the threat of substitution against Tesla are considered, as follows:

- Low switching costs (strong force)
- Moderate substitute availability (moderate force)
- Moderate performance of substitutes (moderate force)

3. Internal Analysis: VRIO Framework

To understand strategies of Tesla, internal analysis have to perform and find out core competencies based on resource-based view (RBV) [7-9], which are widely used as the tool in building theoretical frameworks in management research [10][11]. RBV assumes that a firm's resources and capabilities are the primary drivers of competitive advantage and economic performance and used to help firms achieve competitive advantage and superior economic performance. Internal analysis helps a firm determine if its resources and capabilities are likely sources of competitive advantage and establish strategies that will exploit any sources of competitive advantage [12]. The most common tool is VRIO framework

(Valuable, Rare, Imitable, organized questions).

Tesla has 203 patents and 280 patents pending. Most of these patents revolve around the battery and electric powertrain components, which is the most important component of the vehicle. The battery pack is Tesla's core competence. It is designed to allow flexibility with regards to battery cell chemistry, form and vendor in order to adapt to future advancements. As a result, Tesla will be able to optimize their battery pack as battery cells improve in energy storage, capacity and cost per kilowatt-hour (kWh).

The company has developed an extensive technology portfolio that may help them bring lower-priced vehicles to the market. This is an important technological advantage and a competitive advantage that position the company for future growth. Tesla has invested a vast amount of resources in innovation.

Tesla's core capability is their powertrain and battery pack technology. This is the single most valuable strategic factor and is highly rare. Imitating this capability is costly and demands high technical expertise. The company is organized to capture value by using the technology for their own vehicles as well as selling powertrain components to other manufacturers. So, we concluded that the powertrain and battery pack technology is a sustainable competitive advantage.

Tesla currently sources battery cells from Panasonic, who has agreed to supply cells for Model S and Model X. In an attempt to push down battery costs and secure the supply of battery cells for Gen 3, Tesla has announced their plans to build a battery factory with the capacity to produce more batteries than the total world output in 2013. With the Gigafactory, the entire battery pack production will be vertically integrated. This will create significant scale advantages and allow Tesla to build the Gen 3 with 200 miles range and half the price of the Model S. In collaboration with battery manufacturing partners, including Panasonic, Tesla plan to build a factory to achieve scale and minimize costs through manufacturing, less logistics waste, optimization of processes and reduced overhead. The plan is to begin construction during 2014 with production starting in 2017. Musk expects the factory to supply battery cells for 500,000 vehicles annually and reduce the current battery cost by 30% Tesla could potentially become the world leading producer of lithium-ion batteries.

All vehicle manufacturing is carried out at the Fremont factory in California, which has a capacity of 500,000 vehicles per year. The plant has been redesigned from scratch to maximize flexibility and adaptability in manufacturing. Instead of using heavy equipment, Tesla uses automated vehicles and robots to move the cars and components around the factory. This has reduced overhead need, and made the manufacturing process leaner and more cost efficient. Additionally, the design and engineering team are placed in the same location, which, according to Tesla, enables faster processes, better products and reduction of logistics waste. The location was strategically chosen to be close to technical expertise and

engineering labor in Palo Alto, California.

The flexible manufacturing process and the high-technology composition of the Fremont factory is rare among auto companies. Tesla is the only company with a plant built entirely for electric vehicles. The company has opportunity to maintain an advantage in EV manufacturing in the short-term as construction time and technical know-how will make competitors lag a few years behind. Thus, the Fremont plant is a temporary competitive advantage.

Tesla has pursued an integrated distribution model, which is different from the traditional dealership model. The company has spent large amounts of capital to expand the network of stores and service centers globally, and incurs high expenses related to operating them. However, Tesla may in the long run be able to capture more margins. The rationale for this business model is that for existing dealerships, there is a conflict of interest between selling gasoline driven cars and electric cars. Explaining the advantages of one will undermine the other Tesla's stores located in visible venues such as malls and shopping streets to reach customers when they are open-minded. This allows us to interact with potential customers and have them learn about our cars from Tesla Product Specialists before they have decided which new car to buy

The stores carry no inventory and are solely designed to be informative. Brand perception is extremely important for Tesla, and with integrated stores, Tesla controls the entire customer experience.

Based on the analysis, I find that Tesla's stores and service centers are valuable for the company, in order to educate customers and maintain a good brand perception. It is also rare, as Tesla is the only auto company who has adopted a vertically integrated distribution model. The relatively high SG&A expenses, highlights that this resource is costly, but not impossible to imitate. In such, the stores provide a temporary competitive advantage.

Tesla's superchargers are on average, 16 times faster than public charging stations and the company currently have 110 stations in North America and Europe and has recently opened their first station in China. By the end of 2014, they plan to cover 98% of the U.S. population. Faster charging and convenience of the superchargers, gives Tesla a competitive advantage. While it will take time for competitors to build a similar network, it can be imitated.

Customers have attached a "coolness" factor to the company, the products and to Elon Musk himself. Few chief executive officer (CEO) in the industry have the same track record and knowledge of alternative energy. With superior performance, the company has established a strong brand and was voted car of the year by Consumer Reports in 2013. By building a car that exceeds expectations, Musk knows that customers who buy a Model S become a sales person to a community of like-minded

people. Instead of relying on traditional advertising, Tesla relies on word-of-mouth and media coverage. Elon Musk and customer advocates are valuable for the company and rare in an industry where switching costs and brand loyalty is relatively low. While competitors may change brand perceptions by introducing new models, Elon Musk is not imitable. I conclude that Tesla's marketing strategy is a temporary competitive advantage while Elon Musk is sustainable competitive advantage.

[Table 1] VRIO Framework

Resource/Capability	Valuable	Rare	Imitable	Organized	Competitive Advantage
Battery pack & powertrain technology	Yes	Yes	Unlikely	Yes	Sustainable competitive advantage
The Gigafactory	Potentially	Yes	Unlikely	Not yet	Potential sustainable competitive advantage
Manufacturing	Yes	Yes	Only in the long-run	Yes	Temporary competitive advantage
Company-owned stores	Yes	Yes	Only in the long-run	Yes	Temporary competitive advantage
Supercharger network	Yes	Yes	Only in the long-run	Yes	Temporary competitive advantage
Elon Musk	Yes	Yes	Unlikely	Yes	Sustainable competitive advantage

4. Current Strategy

Strategy refers to a firm's theory about how to gain competitive advantages [3][13]. Every strategic choice has strategy implementation implications [14]. Strategy implementation is just as important as strategy formulation. A strategy is only as good as its implementation [15][16]. Strategy is implemented through organizational structure and control [17]. Tesla implements many strategies. First, for direct sales, Tesla entered the market through expensive high-end cars targeted to the more financially privileged class of people. Once it is more established and widely known as a successful idea, it would venture into a more competitive market of lower-level priced models. Therefore, the first model was launched to get the company's mission out in the marketplace.

All Tesla needed was to make a name for their brand get its concept widely accepted. After that it reinforced its business model. Tesla's business model is based on a three-pronged approach to selling, servicing, and charging its electric vehicles. Tesla doesn't adopt the approach of franchise dealerships, unlike most manufacturers. They prefer selling their product directly to the customers through self-owned showrooms across many of the major urban centers in the world. They believe that this method of selling can speed up their product development. But more significant is the customer's buying

experience. Tesla has showrooms, Service Plus centers (a combination of retail and service center), and service facilities. Tesla has also made use of the Internet sales—consumers can customize and purchase a Tesla online.

As mentioned above Tesla has combined direct sales with service centers. They believe opening service centers has a positive effect on the customer demand. Thus the “Service Plus” retail centers. Customers can service their cars or charge them at the service centers or the Service Plus locations. They also have mobile technicians who can come to your home, called Tesla Rangers. With the Model S, they can wirelessly upload data so technicians can view and fix certain problems online without even physically touching the car.

Tesla has a wide network of where their customers can charge their vehicles. Supercharger Stations: a place where customers can charge their vehicles in about 30 minutes for free. It is their belief that this will increase the rate of the customer’s product adoption. It doesn’t end here, apart from the three-pronged business model, Tesla also provides financial services like granting loans and leases. If the customer wants to resell a vehicle, some of the loan programs have a resale value guarantee provision, which provides some downside protection on a vehicle’s value. Tesla’s other products include: a line of home batteries, called the Powerwall, that serve as energy storage systems in homes or businesses, and solar roof systems as well. Another very important part of Tesla’s business strategy is that Tesla takes customer deposits up front—a year, two years, three years in advance of production and delivery, unlike other car companies. Tesla has sold \$500 million in stock to the public

5. Conclusion: Suggestions for the Firm Strategy

As we search for the data and analyze Tesla, we could figure out those factors, which could be key issues for the firm to survive in long-run. Those are the key issues and important point that the firm is confronting and things that they have to deal with.

First, Tesla does not utilize a cost leadership strategy and has been operating at a net loss for about 7 Years. The Silicon Valley automaker loses an average of \$4,000 for every model S they produce and sell. Using its reckoning of operating losses, analysts estimate that Tesla burned \$359 million in cash last quarter in a bull market for luxury vehicles

Supply chain issues have limited Tesla’s ability to produce vehicles. Tesla vehicles require specific and unique parts to produce. According to the results discovered using the porters 5 forces model the overall supplier power working against this company is high.

Tesla Motors needs to create an infrastructure for users to recharge, repair, and recycle. Their current infrastructure is limited (This is the initial cost of doing business). Although electric vehicles are great, they require a vast infrastructure to support them. As Tesla grows so does its need for such an ecosystem. In order to reach their goals, Tesla has to eat many of the initial costs for these systems upfront.

In order to advance its new, found success Tesla Motors needs to improve their liability of various components and systems in its vehicles. The Model-S and X although fantastic vehicles still are known to have issues such as electronic door handle not opening, electric motors failing, warped brake rotors, and failure of auto pilot. Other mature auto manufactures have an opportunity to introduce electric vehicles that will offer similar features and no defects.

Tesla motors and its innovative technologies face several political and legal hurdles before they gain firm footing in the automotive industry. Law makers are still reviewing the idea of self-driving cars to determine what it will or will not be capable of doing. Several states have banned Tesla vehicles from being sold in their states because Tesla does not generate sales through dealers.

Electric vehicles as a whole, are not quite social acceptable. Tesla's brand needs to make great strides. Tesla's and other EV's account for a very small portion of the auto market. Many people view them as expensive, limited, undeveloped technology.

we are suggesting best alternative for Tesla to keep maintain their competitive advantage, since the problem solving about those factors we listed could be very deadly to the firm.

Tesla is aimed to shake up the world. This Silicon Valley based company has changed the future of the automotive industry and the big three (Ford, Chrysler/Fiat, General Motors) are starting to pay attention. Over recent years Tesla has made many strategic moves to gain competitive advantage. For example, their 10 million square foot "Gigafactory" which is projected to produce 500,000 battery packs for the Model S, X, 3 and other derivatives.

In order to advance their overall mission, Tesla needs to create strategic alliances, because this automotive company is losing more than \$4,000 dollars on every vehicle that they sell and in order to continue their shake up of a mature, deeply entrenched, bureaucratic. These alliances will need to be effectively managed by candidates selected by the board of directors. Marketing should play a huge role in ensuring stakeholders are pleased with the results of such initiatives. Operations should collaborate with human resources in establishing culture norms for alliances. Additionally, finance should consult with board members on allocation of resources during the term of an alliance.

The best strategic alternative for Tesla motors is to create a strategic alliance with Apple corporation.

Because Tesla's "Master Plan" is to build a sports car, use that money to build an affordable car, use that money to build an even more affordable car. Apple corporation's future plans and goals are the closest in industry to what Tesla aims to do. Since September of 2015 Apple has committed itself to its electric vehicle program code named "Project Titan." Apple is moving with purpose, towards an electric vehicle, it is easy to see how a partnership would be mutually beneficial. A strategic alliance will benefit Tesla both in the future and in the here and now.

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