Competitive Position Analysis

TESLA MOTORS, INC

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Background

Tesla joined the automotive industry in 2003 as a niche player when it was founded by a group of engineers in Silicon Valley who wanted to prove that electric cars could be better than gasoline-powered cars. Tesla built their electric car from the ground up and industry experts say it’s one the best cars ever manufactured. In fact, the Tesla Model S won one of the automotive industry’s highest honors: Motor Trend 2013 car of the year. Elon Musk, Tesla Motors co-founder and CEO said, “Our aspiration with the Model S was to show that an electric car truly can be better than any gasoline car, which is a critical step towards the widespread adoption of sustainable transport” (Teslamotors.com).

Tesla designs, develops, manufactures and sells high-performance fully electric vehicles, advanced electric vehicle powertrain components and stationary energy storage systems. They have established their own network of sales and service centers and Supercharger stations globally to accelerate the widespread adoption of electric vehicles (Tesla 10-K).

According to Tesla’s 2015 Annual Report, Tesla currently produces and sell two fully electric vehicles, the Model S sedan and the Model X sport utility vehicle (SUV). They commenced deliveries of Model S in June 2012 and as of December 31, 2015 have delivered over 107,000 new Model S vehicles worldwide. Tesla continues to improve Model S by introducing performance, all-wheel drive dual motor, and autopilot options, as well as free over-the-air software updates.

Tesla commenced customer deliveries of Model X in the third quarter of 2015. This unique vehicle offers exceptional safety, seating for seven people, all-wheel drive, and our autopilot functionality. Tesla is currently ramping production and deliveries of Model X in the United States and plan to offer it in Europe and Asia in 2016.

After the Model X, their goal is to introduce the Model 3, a lower priced sedan designed for the mass market. They unveiled Model 3 March 31, 2016 and within a week already had over 325,000 reservations, which correspond to about $14 billion in implied future sales, making it the single biggest one-week launch of any product ever (Tesla 10-K).

Tesla’s entry into the auto industry has been disruptive. It’s created huge waves of momentum for the firm and their success has forced other seasoned automobile firms like GM, Toyota and Mercedes to move to electrical cars to compete.

Industry Analysis

There are many trends and factors faced by the automobile industry that may impact value creation for Tesla shareholders. To better understand these factors I’ve conducted an environmental analysis. The most pressing areas of the analysis consist of consumer habits/social considerations, demographic trends, technological advancements, political-legal pressures, global trade issues and macroeconomic impacts (Appendix 1). The summary shows that there are opportunities for Tesla to continue to grow and benefit from electric car sales since there has been an awakening of consumers looking for more eco-friendly (“green”) options in their daily transport as well as regulatory influences outlining fuel efficiency standards, which are best served by electric vehicles. This coincides nicely with the fact that the economic outlook in the US is currently deemed positive, meaning consumers are more able and willing to make automobile purchases. U.S. car sales in 2015 jumped to a record, clearing a peak last reached 15 years ago as cheap gasoline, employment gains and low interest rates spurred Americans to snap up new vehicles (WSJ). Additionally, advances in technology will only amplify Tesla’s success since we are moving into a highly digitized and connected state of “auto-pilot” driven cars and they continue to be at the forefront of
these technological developments. A key demographic for auto-pilot driven cars may point to the baby-boomer generation since over time they may experience declining driving skills and could easily benefit from the safety features presented by this new technology.

Areas to be aware of that could dampen shareholder value are related to consumer habits, global trade issues and macroeconomic issues. Just as lower gas prices has been one of many catalysts for a jump in car sales in the U.S., it may also be detrimental to electric car sales if consumers flee back to larger gas vehicles. On the global trade front, if the Fed continues to increase interest rates, it may make loans look less favorable and consumers may postpone new car purchases. While the economic outlook in the U.S. is currently stronger, it’s much weaker in areas such as in Europe and China, which could impact car sales and profitability. In terms of demographic influences, industry reports that the millennial generation prefers public transport or ride-sharing services in lieu of car ownership. While this could lower industry car sales in general, the impact to Tesla seems minimal since the key demographic for Tesla Model S has been the premium/luxury consumer, which is typically not the price point range of a millennial consumer.

In addition to the environmental analysis presented above, I also conducted a Porter’s Five Forces analysis (Appendix 2) to help appreciate the competitive environment shaping the attractiveness and positioning of Tesla within the auto industry. My findings show that Tesla is well-positioned to lead the electric car and luxury automobile market. Even though the threat of rivalries is strong given the saturated and well established auto industry, my analysis illustrates the Tesla brand is unlike no other and consumers gravitate to Tesla not only because it offer eco-friendliness, it also offers high performance quality, the best safety features and it’s a status symbol in luxury and greatness that consumers desire. This insight in and of itself means that buyers have limited bargaining power with Tesla today. The threat of new entrants is deemed low given its high capital and R&D investment, despite Tesla’s CEO publicly stating that they have open source patents so that other automobile manufactures can leverage their advances in technology to boost electric car options. Tesla’s weak point relates to its supplier dependency for core components of its automobiles. Their vehicles use over 3,000 purchased parts which are sourced globally from over 350 suppliers (Tesla 10-K). They have developed close relationships with several key suppliers particularly in the procurement of cells and certain other key system parts. While they obtain components from multiple sources in some cases, similar to other automobile manufacturers, many of the components used in its vehicles are purchased by a single source. In addition, while several sources of the battery cell they selected for their battery packs are available, Tesla has currently fully qualified only one cell for the battery packs we use in our production vehicles (Tesla 10-K). To improve their bargaining power with suppliers in an effort to reduce operating costs, Tesla will need to expand their cell manufacturers.

**Competitor Analysis**

Who are the competitors of Tesla? On the one hand their competitors are manufacturers of electric cars such as the Nissan Leaf, Ford Focus or BMW i3. On the other hand, their competitors are manufacturers of traditional gas-dependent luxury vehicles such as BMW 7 Series or Audi A8. While there are many rivalries, I’ll focus my competitive analysis on these specific firms.

While most electric cars available today offer the benefits of eco-friendliness at a competitive cost, they tend to fall short on design, styling, and performance, which have historically limited broad consumer adoption of electric vehicles (Tesla 10-K). Tesla has proven to meet consumers’ expectations. As depicted in Appendix – Exhibit 3, Tesla vehicles offer battery ranges that significantly exceed those of any other commercially available electric vehicle. In addition, it’s important to note that Tesla has a proprietary on-board charging system, permitting recharging from almost any available electrical outlet, which in generally not offered by its competitors. Their vehicles also offer fast charging capability from their Supercharger network for free, whereas their competitors charge a fee at their recharging stations. Tesla believes the long-range and charging flexibility of its vehicles will help reduce consumer anxiety over range, alleviate the need for expensive, large-scale charging infrastructure, and differentiate their vehicles as compared to its competitors (Tesla 10-K).

When comparing Tesla to traditional luxury brands, Tesla offers design, styling and performance that are comparable to or better than, other premium vehicles. As Appendix – Exhibit 4 illustrates, Tesla can offer instantaneous and sustained acceleration quicker than any of its luxury brand competitors. Consumer Reports ranked Tesla #1 in owner satisfaction and while that still holds true, they also ranked Tesla as below average in terms of reliability. It’s fair to state that Tesla has


undergone growing pains and is working through operational issues. They have publicly stated that they are uncovering and resolving quality and reliability issues on an ongoing basis, which will allow them to continue to innovate and drive to accomplish their mission of a renewable transportation future.

**Competitive Positioning**

Tesla believes their vehicles, electric vehicle engineering expertise, and business model differentiates them from incumbent automobile manufacturers. Their design and vehicle engineering capabilities, combined with the technical advancement of their powertrain system, have enabled them to design and develop electric vehicles that they believe overcome the design, styling, and performance issues that have historically limited broad consumer adoption of electric vehicles (Tesla 10-K).

Tesla’s core competencies are powertrain engineering, vehicle engineering, innovative manufacturing and energy storage. Their core intellectual property resides not only within the electric powertrain, but also within their ability to design a vehicle that utilizes the unique advantages of an electric powertrain and the latest advancements in consumer technologies, such as mobile computing, sensing, displays, and connectivity (Tesla 10-K). Tesla designs and engineer bodies, chassis, interiors, heating and cooling and low voltage electrical systems in house and to a lesser extent in conjunction with their suppliers. Their team has core competencies in computer aided design and crash test simulations, which they expect to reduce the product development time of new models (Tesla – 10-K).

A key sustainability advantage Tesla has over their competition is their energy storage capabilities. Tesla created Powerwall, a home battery with 6.4 kWh, that charges using electricity generated from solar panels, or when utility rates are low, and powers your home in the evening. They built Superchargers that are free connectors that charge Model S in minutes instead of hours. Supercharger stations are shown in Google Maps on the car’s 17” touchscreen. There are 616 Supercharger stations with 3,644 Superchargers. After a half hour charge, a Tesla Supercharger provides 170 miles of range compared to a 30A Public Charging Stations that provides 10 miles of range or a 40A High Voltage Outlets that proves 14 miles of range (Tesla 10-K).

A Baird analyst said, “We believe Tesla will continue to advance its battery technology allowing for extended range options for the Model 3, and vehicle demand should be supported by Tesla’s brand and history of making quality electric vehicles. Additionally, Tesla’s current supercharger network provides first-mover advantage over other technologies.” (GTM)

Imitation is moderate to high. In certain cases, Tesla leverages their technology to help other car manufacturers that may lack core capabilities to efficiently produce electric vehicles. For instance, Tesla worked with Mercedes to develop and manufacture parts of its new car’s electric drive system, including the lithium ion battery pack, electric motors, on-board charger and other electronics. Tesla also produces electric drive components for the battery-powered Toyota Rav4 EV (CNN Money). In other cases, however, auto manufactures are also putting tremendous resources behind their own technological advances—either through R&D or acquisitions. For example, Audi, BMW Group and Daimler Chrysler are all shareholders of HERE, a leading technology provider of digitized mobility and piloted driving.

Another competitive advantage Tesla holds over existing auto manufactures is their marketing strategy. Their media coverage and word of mouth have been the primary drivers of Tesla sales leads and have helped them achieve sales without traditional advertising resulting in relatively low marketing costs (Tesla – 10-K). The external alignment that Tesla has created with its buyers has had a tremendous impact on their growth and car sales. Consumers buy Tesla because they want to be part of its powerful brand image and do their part towards a creating a cleaner environment.

Given these capabilities I believe Tesla is well-positioned to advance the electric car industry and gain more share as a market leader in electric vehicles, advanced electric vehicle powertrain components and stationary energy storage systems.
APPENDIX

Exhibit 1:
Environmental Analysis

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<thead>
<tr>
<th>Demographic Trends</th>
<th>Consumer Habits / Social</th>
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<tbody>
<tr>
<td>• Millennials are less inclined to buy automobiles than previous generations and</td>
<td>• Changing values in society (e.g., going “green”) call for</td>
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<tr>
<td>are taking advantage of public transportation and ride-sharing services (e.g.,</td>
<td>innovative mobility and service solutions.</td>
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<tr>
<td>Uber).</td>
<td>• Rising/lowering fuel and energy prices can influence</td>
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<td>• 10,000 baby boomers retire everyday. There may be a</td>
<td>customer behavior.</td>
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<tr>
<td>continuous decline in older drivers as they age and are unable to drive due to</td>
<td>• Views that cars as transport machines may mean less brand</td>
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<td>health or deteriorating skills.</td>
<td>loyalty.</td>
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<tr>
<th>Macroeconomic Impacts</th>
<th>Political-Legal Pressures</th>
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<tr>
<td>• Strong outlook for U.S. economy</td>
<td>• Efficient individual mobility remains a key issue in many</td>
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<td>• Weaker outlook in Europe as the region is emerging fatally from a six-year sales</td>
<td>countries, in terms of the political regulation of both national</td>
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<td>slump.</td>
<td>environmental and industrial policymaking.</td>
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<td>• Falling demand in China held down the growth rate, exerting a particularly</td>
<td>• The potential tightening of consumer protection laws could</td>
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<td>crippling impact on the economies of raw material exporting countries such as</td>
<td>result in a greater number of recalls.</td>
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<td>Brazil and Russia.</td>
<td>• Tighter corporate average fuel economy (CAFE) regulations.</td>
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<th>Technological Advancements</th>
<th>Global Trade Issues</th>
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<td>• Digitalization and connectivity has brought about new technological opportunities</td>
<td>• The prospect of the US Federal Reserve Bank tightening its</td>
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<td>for the automobile industry.</td>
<td>monetary policy may dampen the outlook for emerging economies</td>
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<tr>
<td>• Auto-pilot technology brings new opportunities.</td>
<td>• Threat of higher interest rates may make car loans</td>
</tr>
<tr>
<td>• Carbon fiber is replacing steel and has the weight leading to improved</td>
<td>unattractive.</td>
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<tr>
<td>performance and efficiency.</td>
<td>• Possible tightening of existing import-export trade</td>
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<td>agreements may increase expenses and sales opportunities.</td>
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Exhibit 2
Five Forces Analysis

Rivalries: The threat of rivalry is moderate-to-high and can impact market penetration and sales. In the US alone, more than 30 automotive brands vie for the 17 million autos that are sold each year. Industry rivals specific to Tesla include electric, hybrid, and luxury brand cars.

Substitutes: The threat of substitutes is low. Given demographic trends and socio-cultural influences, individuals may forgo automobile purchases and use public transportation or ride-sharing services.

Threat of New Entrants: The threat of new entrants is low-to-moderate. This segment is very innovation driven and the market for alternative fuel vehicles is relatively new requiring heavy capital and R&D investment. According to CEO Elon Musk, they have many open source patents and will not sue other companies leveraging their technology/design in an effort to boost the availability of electric vehicles in the market.

Power of Suppliers: The power of suppliers is high and thus, Tesla’s bargaining power is lower. Tesla has a limited supply chain and exposes them to multiple potential sources of delivery failure or component shortages for the production of their vehicles and powertrain components. This supplier dependency may translate into increased operating costs, reputational risk if they can’t meet buyer demand and loss of business.

Power of Buyers: The bargaining power of buyers is low. The Tesla brand is powerful and their high performance luxury electric cars are like no other. This allows them to price their automobiles at a premium.

Exhibit 3
Electric Car Strategy Maps

Exhibit 4
Luxury Car Strategy Maps

Source: Consumer Reports, April 2018
REFERENCES


