

TEACHING NOTE

Tesla Motors and the U.S. Auto Industry (B)

Structure of the Case

This case updates Tesla's activities through early 2011. Tesla did file an IPO, debuting on the NASDAQ on June 29, 2010. It was the first IPO by an American automaker since Ford in 1956. The S-1 was underwritten by Goldman Sachs, Morgan Stanley, J. P. Morgan, and Deutsche Bank Securities. Shares opened at \$17 and closed up 40 percent at \$23.89, bringing a much needed cash infusion of \$226.5 million. After initial optimism, share prices demonstrated a downward trend, reflecting concerns about insufficient infrastructure, slow public acceptance of electric vehicles, and a lack of cheap batteries with adequate capacity. Tesla reported an operating loss of \$146.8 million in its first annual report.

Tesla has established additional strategic partnerships while continuing to work with Daimler. Toyota bought roughly 3 percent of Tesla stock in the IPO as part of a joint vehicle-development agreement, and has announced plans to develop an electric RAV4 using Tesla battery technology. Tesla is also conducting joint research projects with Panasonic. Meanwhile, Tesla has expanded its network of company-owned stores, providing an in-person alternative to a sales process that was previously completed via phone or the Internet (or required a trip to Tesla headquarters). By 2012, Tesla anticipates having nearly 50 stores worldwide, each costing \$5 to \$10 million annually. Tesla has created a wholly owned subsidiary (Tesla Motors Leasing) to provide a leasing alternative to its customers.

The company plans to deliver 25,000 Model S sedans by 2013, at prices ranging from \$57,400 to \$67,400 (depending on the battery option). While significantly cheaper than the Roadster, these prices represent a premium compared to competitors' models. For example, the Nissan Leaf sells for \$25,280 after current tax credits.

Elon Musk's personal life has been in disarray. His ex-wife was featured in an episode of *Divorce Wars*, which detailed their contentious court battle. Mr. Musk claimed that his bank account was empty, which raised concerns among investors about the future of the company. Musk is required to retain a 65 percent stake in the company according to the terms of an Energy Department loan, and cannot cash out. Tesla's public image was further eroded by a BBC *Top Gear* episode featuring a race between a Tesla Roadster and the Lotus Elise (the model on which the Roadster was based), in which the Roadster ran out of charge after just 55 miles. Musk filed a libel suit against the show, which is pending.

On the plus side, Tesla shares received a boost when President Obama stated he would direct federal agencies to purchase alternative-fuel vehicles by 2015. Analysts remain bullish on Tesla's stock, provided the company can bring its cost structure down and mass produce a

vehicle with a sticker price around \$30,000. However, Tesla's liquidity remains problematic, exposing the company to an increased risk of takeover, despite Musk's insistence that the company will remain independent.

Suggested Questions

- 1. In light of this new information, can Tesla Motors continue to be a viable business? Why or why not?*
- 2. What should Elon Musk do?*
- 3. What will the U.S. car industry look like in the future (5 or 10 years out)? Where will Tesla Motors be?*

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- 1. In light of this new information, can Tesla Motors continue to be a viable business? Why or why not?*

Entering a capital-intensive industry dominated by a handful of multinational corporations is a daunting task. Competition is fierce, and large companies like Ford, GM, or Toyota have significant scale advantages that permit them to spread the costs of new innovations across a larger vehicle base (and therefore charge significantly less per vehicle). Developing and commercializing a new technology is a risky and expensive process, especially when there is no assurance that electric batteries will become the next prevailing energy source. Scaling up for mass production requires significant capital, an area where Tesla continues to struggle.

Factors that students might cite in support of Tesla's viability include Musk's engineering prowess and the superior performance of Tesla's batteries and power train technology. (Just because an innovation is technologically superior, however, does not make it an economic success). In addition, conditions in the macrolevel environment (high oil prices, sociocultural attitudes toward global warming, alternative energy science) seem to be coalescing to support the development and adoption of new automotive technologies. Tesla is the first company to successfully bring a fully electric vehicle to market (the Roadster in 2008), and could benefit from the brand recognition that comes with a first-mover advantage. It also has the only electric sports car model, and dominates that particular (though narrow) markets. If Tesla can successfully leverage its reputation for superior design and performance in a family sedan that is reasonably priced compared to competitors, then success is a possibility.

- 2. What should Elon Musk do?*

Tesla's major challenge (still) is its liquidity and access to cash flow. The IPO garnered \$226.1 million (see Video #2), and Tesla has hundreds of millions in loans for technology development from the U.S. Department of Energy, but the company continues to lose money at an alarming rate (\$146.8 million in the last fiscal year). Profitability is not expected until the Model S is launched in 2012 (see Video #4). Tesla needs additional sources of short-term cash until it can generate enough sales to cover its expenses.

When cash is tight, managers must make sure they use their existing funds carefully. While company-owned dealerships have helped increase Tesla's brand recognition in worldwide markets, this expansion has been costly at \$5 to 10 million per year per each location (and may not be the wisest choice for Tesla at this time). Tesla's battery and power train technology is currently superior to others in the industry, but R&D must remain an ongoing focus in order for Tesla to maintain its competitive edge (and protect it from reverse-engineering). Meanwhile, analysts and enthusiasts alike are wondering if Tesla is focused on bringing the Model S to market quickly and cheaply enough.

Reasonable suggestions therefore include:

- Minimize sales and marketing expenses until the company has (more) inventory to sell.
- Partnerships with other firms to reduce the costs of production. (In other words, does Tesla need to make the whole car, or can it focus primarily on the engine?)
- Partnerships with other firms to reduce the costs and risks of technology R&D.
- Shifting attention and investments to operations in order to speed up production and reduce the cost structure of the new Model S.
- Discontinue work on the new SUV Model X (mentioned in Video #4) until the Model S sedan is fully commercialized.
- When the timing is right, consider an additional public offering (taking into account the effects of stock dilution).

3. *What will the U.S. car industry look like in the future (5 or 10 years out)? Where will Tesla Motors be?*

Video #1 is a January 2011 PBS report on recent advances in electric car technology. Electric vehicles are becoming more predominant, and their battery technology is improving. Infrastructure still lags, but is also developing. For example, a recent *New York Times* article¹ covered the opening of the first quick-swap station for electric vehicles in Denmark, with plans to open 20 more by 2012. Video #5 provides a brief follow-on segment on what the future electrical grid might look like if electric cars prevail.

Analysts remain bullish about Tesla's future, provided the company is able to get its cost structure down. Currently, Tesla's range (300 miles per charge) is superior to its competitors, but will not provide sufficient justification for customers to purchase a Model S at more than double the price of competitors' models. Also, Tesla continues to have liquidity problems, which leaves it vulnerable as a takeover target. Strategic alliances (such as those Tesla has with Daimler and Toyota) sometimes serve as a precursor to an acquisition. In fact, Musk is barred from voting to sell the company to any car manufacturer without Daimler's consent. One of the major questions, then, is whether Tesla will become a full-scale, independent car company in the next 5 to 10 years, a subsidiary of another major car company, or if its technology will be purchased and integrated into another company's products.

Teaching Note

Case Strategic Financial Analysis (SFA)

Financial analysis spreadsheets for this case can be found in Connect.

Additional Resources

1. <http://video.pbs.org/video/1833369705> (9:37) *Better Batteries Enhance Electric Car's Promise*. This is a January 2011 report on the future of the automotive industry and advances in electric car technology. It expresses optimism that improvements in battery technology, combined with concerns over global warming and high gasoline prices, may finally make electric cars a viable alternative.
2. <http://video.cnbc.com/gallery/?video=1532184143> (1:43). *Tesla Boosts IPO Shares*. This is a brief CNBC piece discussing the Tesla IPO, and why investors are interested in the company.
3. http://www.metacafe.com/watch/4801746/tesla_motors_exclusive_interview_with_tesla_motors_vp/ (1:55). *Tesla Motors: Exclusive Interview with Tesla Motors VP*. This is a "Meet the Boss" segment featuring one of the new Tesla showrooms and an interview with Tesla VP, Christiano Carlutti. Mr. Carlutti states that sales of the Roadster provide proof of demand for electric vehicles.
4. <http://video.pbs.org/video/1910546395> (4:32). *Sporty Electric Cars*. The video starts with an update on Tesla's stock performance in 1Q 2011, stating that Tesla is not expected to be profitable until the Model S becomes widely available in 2013. The remainder of the segment features an interview with Tesla CEO, Elon Musk. Musk talks about his strategy for the Roadster as a limited-edition vehicle, as well as future plans for the Model S and a new crossover SUV.
5. <http://video.pbs.org/video/1799735547> (2:11). *Cars that Power the Grid*. This is a brief video that asks whether electric cars will be the car of the future. It features the Tesla as the first electric car to hit the market, and then discusses how electric cars could be used to power the electric grid as a source of renewable energy.
6. <http://www.revengeoftheelectriccar.com/> (2:02). *Revenge of the Electric Car*. This is a trailer for a 2011 documentary follow-up to *Who Killed the Electric Car?*

¹ "Plug-and-play batteries: Trying out a quick-swap station for E.V.s," *The New York Times* (Sports/Autos, p. 10), July 31, 2011.