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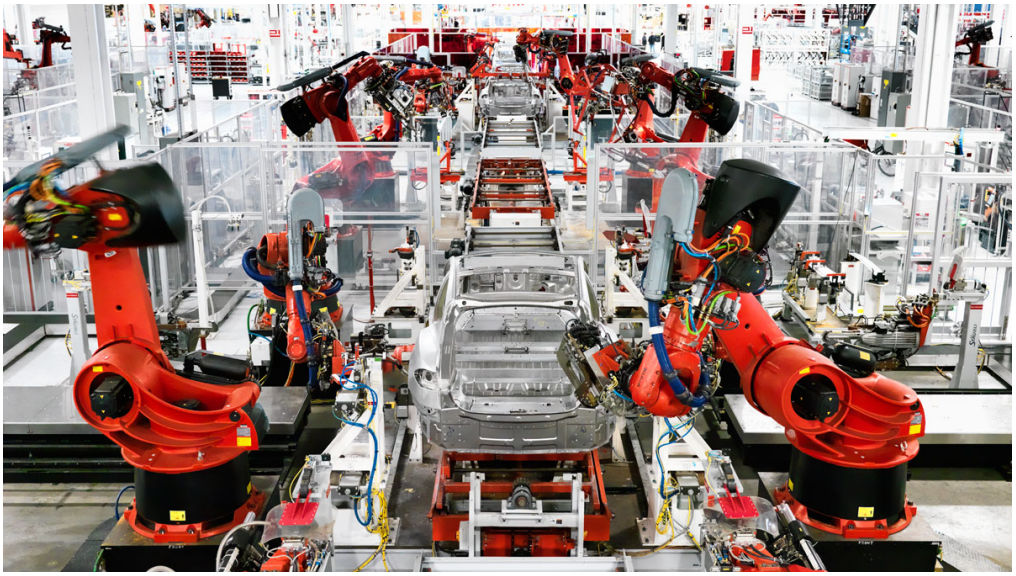
Case Study

Tesla Motors:

Disrupting the Auto industry?



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This case study was written by Jeff Dyer, Horace Beesley Professor of Strategy at Brigham Young University, and Nathan Furr, Assistant Professor of Strategy at INSEAD. It is intended to be used as a basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

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Introduction

Driving down the Silicon Valley corridor from San Francisco to the brown hills of Palo Alto near Stanford University, a casual observer might catch multiple sightings of the Model S, an all-electric vehicle made by Tesla Motors with a range of almost 300 miles. Although the company had many fans in the tech-friendly valley, it also had its critics. On the positive side, Tesla had been ranked by Forbes as the World's Most Innovative Company in 2015, with a flashy feature on the front cover.[i] This was largely due to the success of its second model, the Model S, named 'car of the year' by the magazine Motor Trend in 2013, the only unanimous choice anyone could remember.

Consumer Reports had given it the highest rating ever (99 out of 100) for overall performance. The car could do 0 to 60 in just over three seconds (shaved to 2.7 seconds in "Ludicrous Mode," a feature launched that summer), was possibly the safest sedan ever built (protected in part by the battery packs that lined the chassis), required less maintenance than a combustion engine (no oil changes, spark plugs, filters or hoses) and was beautifully designed with curved lines reminiscent of a Maserati or Jaguar. These characteristics combined to garner rave reviews from the media and owners alike.

However, for the car company trying to change the automotive industry, many roadblocks remained. For one, with a price tag of at least $67,500, topping out at $135,000 fully loaded, the Model S was affordable to only a small niche of wealthy owners. Although Tesla executives were pleased with the sales of the Model S, the roughly 20,000 units sold in 2014 represented less than 0.06% of the 16.5 million cars sold in the United States that year. Moreover, sales had been boosted by a government subsidy of at least $7500 per vehicle that could be taken away at any moment.

Furthermore, Tesla was trying to succeed in one of the world's most difficult-to-enter industries, controlled by a few global players who struggled to squeeze out profitability. Perhaps most telling, the majority of drivers were sceptical of electric vehicles, afraid of getting stranded by a lack of recharging or repair stations. Just a few years earlier, Better Place, a start-up with almost $1 billion in funding, had attempted to introduce electric vehicles in Israel, a smaller and well-defined market, with the backing of Renault and the Israeli government – but had been defeated by the immense costs of building an electric vehicle and the infrastructure to support it. Tesla seemed to be heading down the same path of trying to do it all: creating its own vehicles, charging stations, and a network of company-owned dealerships.

Experienced executives who had toured the Tesla factory whispered behind closed doors that the manufacturing line had major inefficiencies that signalled deeper problems in the production process. Could Tesla really manufacture high volumes efficiently enough to make the company profitable? New York Times columnist Joe Nocera voiced concerns about the ability to make money of "a company that eats through cash, loses money on every sedan it sells, routinely overpromises what it will deliver to Wall Street and is regularly in need of new funding."[ii]

Against this backdrop of enthusiasm and scepticism, the company announced it would launch the Model X in fall 2015. The Model X was an SUV that could take seven passengers, with falcon-winged doors that opened vertically above the top (like the gull-wing doors of the iconic DeLorean sports car), designed to appeal to the same high-end niche of wealthy customers as the Model S. On a grander scale it planned to launch Model 3 in 2017, a four-door sedan with a starting price of $35,000. The goal was to build an electric vehicle for the masses and to sell significant volumes

– upwards of 500,000 – launching electric vehicles into the mainstream of cars in the United States.

Tesla executives liked to say they were on a mission to transform the automotive industry from one dominated by combustion engines that polluted the air with carbon emissions to one driven by electric vehicles using battery technology charged at Tesla's solar-powered super charging stations. In short, they were out to disrupt and make combustion engine vehicles obsolete. The question was could they do it?

History of Tesla

In 2003, Martin Eberhard, a serial entrepreneur with concerns about global warming and US dependence on the Middle East for oil, decided to build a sports car that was environmentally friendly. He had noticed that many of the driveways of northern California had two cars that didn't seem to go together—a Toyota Prius (which he called a "dork mobile") and an expensive sports car. As he later explained, "It was clear that people weren't buying a Prius to save money on gas—gas was selling close to inflation-adjusted all-time lows. They were buying them to make a statement about the environment."[iii]

After investigating a variety of alternative fuel options, Eberhard concluded that an electric-powered vehicle was the answer to provide the greatest efficiency and performance. During his investigation he came into contact with Al Cocconi, founder of AC Propulsion (an electric vehicle firm) and one of the original engineers of GM's ill-fated electric vehicle, the EV-1. AC Propulsion had produced an electric car called the tzero, that could go from 0-60 miles per hour in 4.1 seconds. Eberhard was impressed, but because the tzero used heavy lead-acid batteries, he felt that he could improve performance using lighter lithium ion batteries, which were mass produced for electronics such as laptops. Said Marc Tarpenning, a Tesla co-founder and co-founder of an earlier venture with Eberhard:

> *"One of the things we kept running across was these articles that would say the reason why electric cars will never succeed is that battery technology has not improved in a hundred years. Literally, articles would say that, and it's true of lead acid batteries. Yet it is not true of lithium ion batteries… They get better, on average, at around 7% a year…It goes in fits and starts as they roll out new chemistries ... They get cheaper and better."*[iv]

After several failed attempts to talk AC Propulsion into producing the vehicles, Eberhard licensed the electric drive train technology from the company and teamed up with Tarpenning to found Tesla Motors. The company was named after Nicolai Tesla, the inventor who developed the key ideas behind AC electrical systems used in the US today.

About this time, Elon Musk, a co-founder of X.com (the online banking company that later became PayPal) and the space exploration company SpaceX, also became interested in developing electric vehicles based on the tzero. Like Eberhard, Musk had concerns about fossil fuels. He also recognized the speed and performance that was possible with electric vehicles, particularly if technologies like ultracapacitors (energy storage devices that can store 10-100 times more energy per unit of volume and recharge more quickly and for more cycles than standard batteries) were able to compete commercially against traditional battery technologies. When Musk approached Cocconi to discuss the possibility of buying the tzero and the embedded technology, Tom Gage,

then CEO of AC Propulsion, suggested he collaborate with Eberhard since they were trying to achieve the same objective.

Musk was impressed with Eberhard's plan and agreed to put in $6.3 million to fund Tesla's development of a long-range electric vehicle. Musk would become the chairman of the company, while Eberhard would serve as CEO. J.B. Straubel, a young engineer who was fascinated with the idea of building electric-powered vehicles, joined the Tesla team as another co-founder. According to technology writer Ashlee Vance, "Had anyone from Detroit stopped by Tesla Motors at this point, they would have ended up in hysterics. The sum total of the company's automotive expertise was that a couple of the guys at Tesla really liked cars… What's more, the founding team had no intention of turning to Detroit for advice on how to build a car company."[v]

The Tesla Roadster

The first Tesla model, the Roadster, was based on the Lotus Elise, a fast and light sports car that seemed to fit perfectly with the all-electric car vision of Eberhard and Musk. However, the Roadster suffered numerous production delays during development. Its early transmissions could not handle the high-torque gear changes from the electric motor, resulting in transmission failure within a few thousand miles.[1] Although Tesla worked with multiple suppliers, none were able to resolve the issue. Other delays came from small details such as installing electronic rather than conventional latches on the door. The delays became so long that Musk allegedly forced Eberhard out of the company, a move that prompted legal retaliation from Eberhard who claimed Musk was at fault.

Soon after the first vehicles were produced, they had to be recalled for loose hub flange bolts that could cause the car to crash. There were scare stories that if a Roadster was allowed to run its battery to empty, it would become an unusable "brick," requiring a $40,000 replacement of the battery back at the owners expense to become operational again. But despite these, as Tesla started to mass produce the first Roadsters in March 2008 (dubbed the "Founder's Series"), enthusiasm was high among celebrities and wealthy individuals for the new car. It was fast, "green" and well designed.

The Model S

Just as the first Roadsters were seen on the highways around California, Tesla announced the Model S—a high-performance sedan, priced at $65,000 to $85,000 to compete with cars like the BMW 5 Series. The Model S would have an all-aluminium lightweight body and could run for up to 300 miles on a charge. The cost to develop the Model S was expected to reach $500 million, but Tesla was fortunate to receive a $465 million loan from the US government to build the car as part of an initiative to promote technologies that would help the country achieve energy independence.

To build the Model S, Tesla purchased a recently shut-down automobile plant in Fremont, California. Before it closed, the plant and land had reportedly been appraised at $1 billion, but its fate had compromised future operation (it was labelled by the United Auto Workers Union as the "worst workforce in the automobile industry"). In a bold move, Tesla purchased the factory (which

1 A transmission allows a vehicle to change "gears," or the torque an engine provides, and is typically a complex module in the vehicle consisting of over one hundred parts.

had far more space than needed to manufacture the Model S), at the bargain price of $42 million, and rehired the former workforce.

By May 2012, Tesla was said to have 10,000 reservations from customers hoping to buy the Model S. Although it encountered several challenges in designing the Model S, production went more smoothly than the Roadster, and by June 2012 the first cars were rolling off the factory floor. Critical reception of the Model S exceeded all expectations: the car won virtually every major automobile award in the book. Critics, however, cited reliability issues in the car's electric components (failure of the 17-inch touchscreen, stalling) and the design flaws in its uncomfortable rear seats.

The Model X

As the Model S gained prominence, Tesla unveiled the prototype for the Model X, a full-size crossover utility vehicle that would go into production in late 2013 or 2014. The Model X would seat seven and sport falcon-wing doors, making it easy to enter and exit (see Figure 1). The initial cost of a Signature Series model was a pricey $130,000.

Figure 1. The Model X and its Falcon Wing Doors

Like the Model S, the Model X would go from 0-60 in less than three seconds in “ludicrous mode” and would travel roughly 250 miles on a charge. The production date for the Model X was pushed back numerous times to accommodate increased production of the Model S. As Musk conceded, “The Model X is a particularly challenging car to build. Maybe the hardest car to build in the world.”

With the announcement that the first Model X vehicles would come off the production line in September 2015, Tesla also revealed pre-orders of roughly 23,000 vehicles. Since its 2015 production had already sold out, anyone ordering a Model X would have to wait six months for delivery. At the same time, Tesla also announced that production of the Model 3, its more modestly priced four-door sedan for the masses, would start in late 2016 or early 2017.

The Electric Vehicle Market

Tesla introduced battery electric vehicles (BEVs) (sometimes called plug-in electric vehicles or PEVs) into an electric vehicle market that was virtually non-existent. Although hybrid electric vehicles (HEVs) had gained some traction, notably with the Toyota Prius, as had plug-in hybrid vehicles (PHEVs) with the Chevy Volt and the Prius, Musk claimed that they were “bad electric cars” since they carried around an additional gas engine and drive train, adding weight, cost and parts to maintain and repair. Despite his criticisms, for many customers these vehicles alleviated the concern of being stranded without a charge or service. Unit volumes grew steadily (see Figure 2) and in 2012 Toyota estimated that sales of hybrid models would top 1 million per year going forward, and that it planned to roll out 21 new or redesigned hybrid vehicles by 2015.[vi] If HEVs could get fuel economy up to 75 or 100 miles per gallon, some observers felt this would prevent BEVs from gaining traction.

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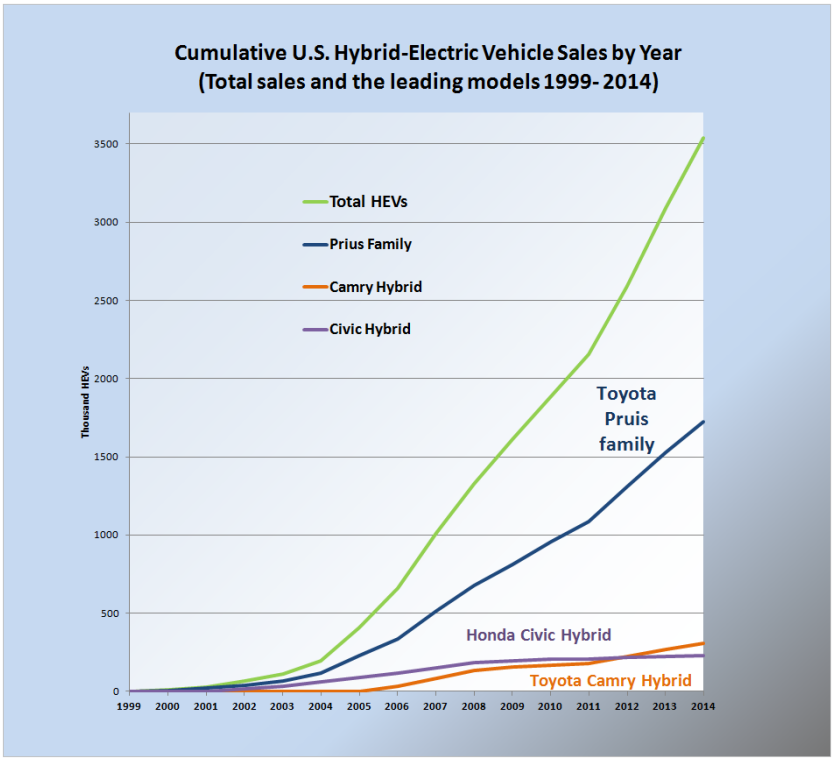
Figure 2. Cumulative US Hybrid Electric Vehicles Sales by Year



Source: https://en.wikipedia.org/wiki/Hybrid_electric_vehicles_in_the_United_States

Tesla faced battery electric vehicle competition from the Nissan Leaf (launched in 2010) and Ford Focus (launched in 2011) and PHEV competition from GM's Chevy Volt (launched in 2007). The Leaf was priced from $22,000 to $29,000 (not including tax credits of roughly $7500 for which all U.S. buyers of electric vehicles qualified), had a range of 75 miles, and was the largest seller worldwide, selling 80,000 total units in the US (30,200 units sold in 2014). The Ford Focus, a vehicle with similar price and specifications, was launched in 2011 but had sold less than 5,000 units by 2015. The Chevy Volt, priced at $40,000, could do 50 miles on a charge and had a back-up gasoline engine. It sold 23,000 units in 2013 but that figure had dropped 20% by 2015, the year that GM launched the Cadillac ELR, another PHEV, priced at $65,000.[vii]

Other car manufacturers were getting into the game. In 2014 BMW launched its all-electric i3, a small sedan priced at $43,000 with a range of 80 miles. It also launched the plug-in hybrid i8, a high-performance sports car starting at $136,000 that directly targeted Tesla. In 2015, Porsche announced the Mission E sports sedan concept car, another direct challenger to the Model S.[viii] A potential threat at the low end of the electric vehicle market was BYD, a Chinese manufacturer poised to break into western markets. BYD attracted the attention of Warren Buffett, who had invested some $230 million for a 10% equity stake. The price of BYD cars was anticipated to be close to $20,000 for a BEV that would go up to 250 miles on a single charge.

Despite the fanfare for BEV and PHEV vehicles, total unit sales were quite small and some players went out of business (Fisker had launched a beautifully designed high-end electric vehicle in 2011, but declared bankruptcy in 2013 having only sold 3,000). In 2014, there were 119,710 plug-in

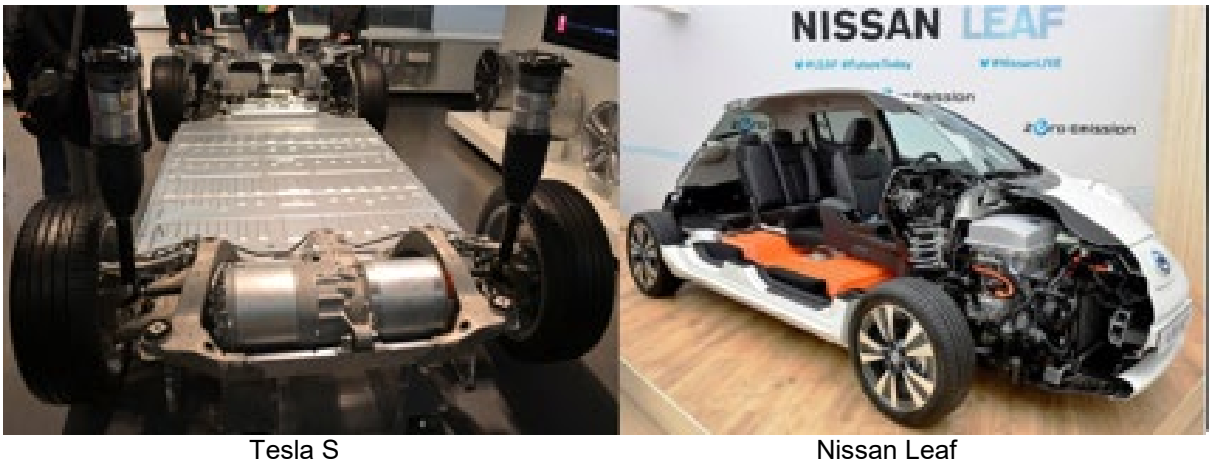
electric vehicles (BEV plus PHEV) sold in the United States representing only 0.07% of the entire market of 16.5 million vehicles, up 23% from the 97,235 sold in 2013.[ix]

Tesla's Approach and Strategies

Product Development and Design

On the surface, the Tesla looked much like other cars, but it hid a significant difference which drew praise from some and criticism from others. If you peeled the skin off a Tesla and compared it to a combustion engine vehicle or electric vehicle like the Nissan Leaf, you would see that the car's architecture is completely different. All major auto manufacturers to date had operated off the traditional combustion engine platform, inserting the battery as a module into the standard platform, which included space in the frame for gear transmission and often for the drivetrain, which created a tunnel through the frame (see Figure 3).

Figure 3. Comparison of Tesla S and Nissan Leaf



Tesla S Nissan Leaf

By contrast, in designing the Model S, Tesla abandoned the standard car architecture because the systems and drive train were engineered from the ground up around the battery packs. Chief Designer, Franz von Holhausen, described the design process:

> *"We weren't taking the recipe of what we have known as a car with a big block somewhere in the car in the front, the middle, or the rear and having to work around that. With the new architecture that we created, electric propulsion allowed us to innovate what a car experience could be beyond a normal ICE motor. I think that is something where we were able to give back space and create an experience that you just can't get in another premium sports sedan."*[x]

Moreover, some of the car's subsystems, like traction control, were based on different technologies than a standard car. Perhaps most shocking, the Tesla Model S eliminated transmission. Although its designers hailed the benefits of the new architecture, critics pointed out the challenges, including the unforeseen errors that could crop up in designing a new platform and how to get repairs to an architecture that many mechanics would not understand.

Manufacturing

Tesla manufactured its cars somewhat differently from major automakers. The factory was highly vertically integrated and automated, with extensive use of 8-10ft. tall red robots, reminiscent of Transformers. While typical auto factory robots performed one function, Tesla's performed up to four tasks on multiple models: welding, riveting, bonding and installing a component. "From the manufacturing standpoint, the way we assemble this car is essentially different from any other car," said Gilbert Passin, VP of Manufacturing at Tesla and a 23-year industry veteran.[xi] Other manufacturing executives pointed out serious flaws. For example, employing only one robot per task typically resulted in more efficient manufacturing, which in the hyper cost-competitive auto industry could be a significant disadvantage.

In addition to the body, Tesla had to manufacture or purchase the battery. Batteries had been a concern for EVs for some time. In addition to being heavy, volatile and expensive, chemical batteries had limited storage capacity, and dealers reported that their greatest challenge with customers was the fear of running out of power.

Tesla invested heavily in developing the battery, starting construction of a "Gigafactory," intended to produce more batteries in 2020 (when at full production) than in the entire world in 2013 (see Figure 4). Like most Tesla moves, it drew praise as well as criticism.

Hitherto, lithium ion batteries were produced in a complex supply chain, with raw materials mined in South America, shipped to North America for processing, then shipped to Japan for further processing and back to North America. Tesla hoped to save on costs by bringing all these operations under one roof – by an estimated 30% – in a net zero-energy factory. It also had plans to sell batteries for other applications, including a "Powerwall"—for home use—marketed as a money-saving device because it recharged when utility rates were low.[2] To achieve its ambitious goal, Tesla committed to build a $5 billion dollar factory, operational by 2017—a massive investment for a new company, even with Panasonic putting up 30-40% of the capital (see section on Tesla's Strategic Partnerships).

Overshadowing Tesla's massive investment, a Japanese company announced it would commercialize an aluminium-air battery 40 times more efficient than Tesla's by the end of the year. If true, this would make the Gigafactory obsolete before it even started production.[xii] An analysis published in Forbes magazine estimated that consumers would pay 30 cents/kWh for energy with a Powerwall, whereas grid power was often much cheaper (an average of 12.5 cents/kWh in the U.S.), arriving at the conclusion that the Powerwall was "just another toy for rich green people."[3]

Figure 4: Tesla Gigafactory 1

2 The Powerwall is also marketed as a battery for solar systems and has been employed in pilot projects with SolarCity and Sun Edison

3 Helman, Christopher (1 May 2015). "Why Tesla's Powerwall Is Just Another Toy For Rich Green People". Forbes. Retrieved 28 June 2015.

Despite the challenge, Tesla invested significantly to improve the performance of lithium ion batteries, developing its own techniques for linking the battery cells together and cooling them. The battery cells were designed to vent heat in a proprietary way and employ coolant running through the entire pack to maintain optimal temperature. It also invested heavily in protecting its innovations, refusing to let outsiders tour battery production and heavily patenting its innovations. Musk insisted that: "We felt compelled to create patents out of concern that the big car companies would copy our technology and then use their massive manufacturing, sales and marketing power to overwhelm Tesla." However, in a surprise move in 2014, he renounced patent control in a blog post titled, "All Our Patents Belong To You," making them "open" for use.[4] Following this invitation, Nissan and BMW reportedly contacted Tesla to potentially cooperate on charging networks. As the Huffington Post commented, "That pretty much validates why the Silicon Valley company freed up its patents in the first place: Tesla wants its superchargers to become the industry standard."[xiii]

Marketing

Tesla was unusual in that it spent no money on advertising, nor planned to use TV or print advertising in the future, as spokesperson Alexis Georgeson explained: "Right now, the stores are our advertising. We're very confident we can sell 20,000-plus cars a year without paid advertising….It may be something we will do years down the road." Early on, when Eberhard hired PR professionals to build publicity for the Tesla Roadster, Musk reportedly fired them because he felt his involvement would generate enough publicity.[xiv] As of 2015, marketing at Tesla was done by a relatively small team of less than 10 individuals. Its marketing and advertising spend was miniscule compared to major automotive companies (General Motors spent over $3 billion on advertising and marketing in 2013; Nissan spent $25 million just advertising the Leaf).[xv] But whether Tesla could realistically sell more than 20,000-30,000 vehicles per year without significant advertising was unclear. It might work as long as Tesla was focused on the niche market at the high end, but not for the Model 3 which targeted the mass market.

4 The "open" nature of Tesla's patents remains a subject of significant debate since patent's are "open," meaning searchable, already but cannot be used unless they are licensed or assigned. Tesla however has not assigned or licensed their patents to anyone and has vaguely stated they would not initiate legal proceedings against anyone who uses them "in good faith." (see Roberts, Jeff John. 2014. "What Elon Musk did—and did not—do when he "opened" Tesla's patents.")

Distribution and Service

Rather than follow the typical franchise-dealership arrangements used by typical automakers to sell cars, Tesla chose instead to own and operate all of its own “dealerships”, located in high-end malls or affluent suburbs, not far from the Apple stores on which they were modelled. Walk-in customers would see one or two Model S cars plus an exposed version of the car’s chassis near the back of the store to show off the battery pack. They could order a car from the store or online, and it would be delivered to their home. Without a large inventory of cars or salesmen, Tesla stores were far less expensive than typical dealership. Moreover, because electric vehicles had so few moving parts compared to a combustion engine, they didn’t require a service bay at the store; servicing was typically be done by technicians at the customer’s home. But the question was how this could possibly work if a large number of customers were buying Tesla vehicles. As electric vehicles were so different from combustion engines, customers could not service their own vehicle or tap into the ubiquitous auto service shops.

Charging Stations

At the core of transforming the auto industry from gas to electric engines was ensuring that customers could conveniently charge the battery when traveling. To address that issue, Tesla started building solar powered “supercharging” stations where customers could charge their battery when on the go (see Figure 5).

Figure 5. Tesla Supercharging Station

Tesla claimed that it took 30 minutes to charge a battery up to 175 miles and 45 minutes to get a full charge. Self-service charging stations were located on major freeways and at locations near restaurants or malls so that customers could do other things while the car charged. By late 2015, Tesla had built over 500 supercharging stations—most with 6-8 chargers—with many more planned. These only worked with Tesla cars and were provided for free—for life. This was promoted as a major advantage over gas vehicles, with an estimated $10,000 of gas savings over a 4-5 year period.

Some questioned whether Tesla could – or should – afford to provide free charging for the life of their vehicles. If, as one estimate reckoned, Tesla allocated roughly 5% of its capital budget of $1-1.5 billion to expand its charging stations by 50% in 2015[xvi], each charging station must cost $200,000 to $300,000. What would happen if the Tesla Model 3 became so popular that there were queues at supercharging stations—further increasing the time needed to charge up?

Partnerships

Like many start-ups, Tesla formed important partnerships to help it access key resources. The battery technology partnership with electronics giant Panasonic was perhaps the most important as battery technology was critical to Tesla's ultimate success. Not only did Panasonic bring years of experience with lithium ion battery technology, it also brought significant financial resources to the table. Tesla also developed a partnership with Dana Holdings, the first company to introduce battery-cooling technology for electric vehicles.[xvii]

In addition to R&D alliances, Tesla struck deals with two of the major automakers: Daimler and Toyota. In 2009, Daimler purchased roughly 10% of Tesla for $50 million.[xviii] Musk and the Tesla team reportedly amazed sceptical Daimler executives by modifying a stock Daimler Smart car into an all-electric vehicle in less than two months. This was followed by a Tesla announcement in

2012 indicating a deeper relationship with Daimler: "We are pleased to announce the start of a development program with Daimler for a new Mercedes-Benz vehicle with a full Tesla powertrain."[xix] Toyota reportedly purchased 3% of Tesla's stock for $50 million in 2010. This sparked negotiations for Tesla to purchase the NUMMI manufacturing plant in Fremont, California, which ultimately became Tesla's car factory. Tesla agreed to provide parts to power the electric version of Toyota's crossover SUV, the RAV4.[xx]

Tesla's Strategy

According to Elon Musk, Tesla's strategy was to start selling vehicles in the high-end niche and gradually move downmarket. If all went according to plan, the Model S and X would be followed in 2017 by a far cheaper Model 3, starting around $35,000 (though many observers questioned whether the Model 3 could really hit this price point given that the Model X came in higher than expected, at around $130,000). And even if it did, could it succeed given that gas prices looked set to remain low for some time and overall sales for electrics and hybrids were basically flat.

Even Musk had been unsure whether Tesla would work at the beginning: "I didn't ask for outside money for Tesla – and SpaceX – because I thought they would fail." While it now seemed unlikely to fail, whether Tesla could be sold to the masses – and truly disrupt industry incumbents by making the internal combustion engine obsolete – was unknown.

As Tesla prepared to launch the Model X, onlookers tended to polarize into the idealists who believed it would change the industry and the sceptics who doubted its ability to change one of the oldest technology paradigms in recent history. Displacing the internal combustion engine (ICE) would require significant technology advancements, changes in customer preferences, infrastructure enhancements and changes to government policy – well beyond the reach of a start-up with limited capital. Tesla seemed to be too thinly spread – developing multiple lines of vehicles, then adding home energy storage, the gigafactory1, charging stations and dealerships. Even its manufacturing appeared inefficient compared to incumbent auto manufacturers who had been working for years to shave cents off the production process, while ICE technologies continued to improve. Indeed many hybrids had become comparatively less attractive as ICE engine efficiencies increased globally, a fate that may befall electric cars. In this context, could Tesla ever make money?

Idealists pointed to the incredible strides made from the Roadster to the Model S, which seemed to be selling well, and now the Model X, with plans for the Model 3 in the pipeline. Clearly investors believed in Tesla's innovations, judging by the premium paid by investors betting on its future growth. But would Tesla ever make a profit? And if so, when? Tesla's income statement showed large losses and growing liabilities (See Table 1). Was its business model sustainable or would it eventually become yet another electric vehicle failure like Better Place or Fisker?

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Table 1. Tesla Financials (in thousands)

Fiscal Year	2014	2013	2012	2011	2010
Income Statement Items					
Revenues	$ 3 198 356	$ 2 013 496	$ 413 256	$ 204 242	$ 116 744
Automotive Sales	$ 3 192 723	$ 1 997 786	$ 385 699	$ 148 568	$ 97 078
Cost of Revenues	$ 2 316 685	$ 1 557 234	$ 383 189	$ 142 647	$ 86 013
General and administrative	$ 603 660	$ 285 569	$ 150 372	$ 101 102	$ 84 573
Operating Expenses	$ 1 068 360	$ 517 545	$ 424 350	$ 313 083	$ 177 569
Operating Income	$ (186 689)	$ (61 283)	$ (394 283)	$ (251 488)	$ (146 838)
Interest Expense	$ (100 886)	$ (32 934)	$ (254)	$ (43)	$ (992)
Income Tax	$ 9 404	$ 2 588	$ 136	$ 489	$ 173
Net Loss	$ (294 040)	$ (74 014)	$ (396 213)	$ (254 411)	$ (154 328)
Balance Sheet Items					
Cash and cash equivalents	$ 1 905 713	$ 845 899	$ 201 890	$ 255 266	$ 99 558
Total Current Assets	$ 3 198 657	$ 1 265 939	$ 524 768	$ 372 838	$ 235 886
Property and equipment, net	$ 1 829 267	$ 738 494	$ 552 229	$ 298 414	$ 114 636
Total Assets	$ 5 849 251	$ 2 416 930	$ 1 114 190	$ 713 448	$ 386 082
Current Liabilities	$ 2 107 166	$ 675 160	$ 539 108	$ 191 339	$ 85 565
Total Liabilities	$ 4 879 345	$ 1 749 810	$ 989 490	$ 489 403	$ 179 034
Total Equity	$ 911 710	$ 667 120	$ 124 700	$ 224 045	$ 207 048

Source: http://ir.teslamotors.com/secfiling.cfm?filingid=1564590-15-1031&cik=1318605
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