

Spring 4-16-2018

Strategic Audit on Tesla

Zitong Li
University of Nebraska-Lincoln

Follow this and additional works at: <https://digitalcommons.unl.edu/honorstheses>



Part of the [Business Analytics Commons](#)

Li, Zitong, "Strategic Audit on Tesla" (2018). *Honors Theses, University of Nebraska-Lincoln*. 20.
<https://digitalcommons.unl.edu/honorstheses/20>

This Article is brought to you for free and open access by the Honors Program at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Honors Theses, University of Nebraska-Lincoln by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

Strategic Audit on Tesla

An Undergraduate Honors Thesis
Submitted in Partial fulfillment of
University Honors Program Requirements
University of Nebraska-Lincoln

By Zitong Li, BS
Computer Science
College of Arts and Sciences

April 16, 2018

Faculty Mentor:
Samuel Nelson, PhD, Strategic Management

Abstract

This paper evaluates the current situation that Tesla, Inc is in. Specifically, this paper provides a detailed analysis of the external and internal problems and strengths of Tesla and its current and past strategy that led to its success today. In conclusion, Tesla's main advantages are its charging and battery technology and a strong brand name. The problem Tesla faces includes production bottlenecks, shortage of cash, high cost and competitions. Based on these analysis, the direction that Tesla should go for is to expand its market share and increase profitability. Several strategies are proposed to help achieve these goals. One of these strategies is selected based on comprehensive evaluation and an implementation plan is created for this strategy.

Key Words: Business Strategy, Tesla Inc., Situation analysis, SWOT analysis, Implementation plan, Strategic audit

Background and Issues

History

Tesla is a Electric vehicle company founded in 2003. The company quickly expanded and is now expected to worth more than \$50 billion. The success of Tesla is largely due to its reach to a global market, advanced technology and a strong brand. Tesla started with its Tesla Roadster, a expensive fully electric sports car as an experiment both to test the technology and the market. Roadster is the first production electric vehicle to have a range greater than 200 miles per charge. The car is well received in the global market. According to the annual report from Tesla in 2012, between 2008 and 2012, 2,450 Roadsters has been delivered worldwide before it is discontinued. Model S, a sedan, is the main model produced and sold by Tesla from 2012 to 2018 with Model X beginning production from 2016. Both Model S and Model X are still in the higher end of the market with price starting at \$74,500 and \$79,500 respectively. Production of Model S and Model X increased steadily and maintained at around 15,000 per quarter. Model 3, however, with a price as low as 35,000, is the model with which Tesla hopes to start getting into the lower end of market and start to rapidly expand market share. Although Model 3 was released in 2016, the production did not start until the 3rd quarter of 2017 and the production of Model 3 has been an issue that many investors and critiques concerns about. 2016 also witnessed the merger between Tesla and SolarCity, a company started by the two cousins of Elon Musk, Lyndon and Peter Rive. SolarCity specialized in manufacturing, marketing and installing of solar panels and other energy services.

Visions and Current Strategy

Started as an electric car company, Tesla has then expanded its expertise to battery storage and solar panels. The vision statement of Tesla, according to its CEO Elon Musk, is “to accelerate the advent of sustainable transport by bringing compelling mass market electric cars to market as soon as possible” (Musk, 2013). More specifically, the company is investing heavily on building a worldwide charging network to support all brands of electric vehicles, developing battery technology to support

electric vehicles to have a longer range and shorter charging time, and also exploring ways to commercialize fully autonomous driving cars. The merger with SolarCity also marked the increasing ambition of the company to push for a fully electric future.

Tesla has followed the strategy of starting from the high end market and working its way down to lower end of the market. Elon explained this strategy himself saying the strategy is “Build sports car. Use that money to build an affordable car. Use that money to build an even more affordable car” (Musk, 2006). Indeed, for a new car company with no experience in the industry, starting with mass producing is so expensive and risky that it is practically impossible. Start with producing small amounts of concept cars comes with a high unit cost. However, this strategy mitigate the high cost and the lack of experience for new company like Tesla by first targeting the wealthy early adopters. Those customers are likely to afford the expensive sports cars with a higher margin and are more tolerant to defects. They will likely to leave positive review for Tesla as long as the car delivers Tesla’s promise without having obvious drawbacks. Tesla followed through this master plan by starting with the sports car Roadster for around \$100,000. Then came Model S which started at \$74,500 and Model X which started at \$79,500. Model 3 with a price as low as 35,000, marks the company has entered the affordable family car market.

Issues and challenges

With all the values and strengths mentioned above, Tesla faces many issues and challenges as well. The most important being the lack of experience. Model 3 is released in a high profile manner in March, 2016. Despite over 325,000 reservations being made in the first week as claimed by the company (Hull, 2016), the production and delivery of this model did not start until the last quarter of 2017, well over a year later. Many analysts attribute this problem to the slow development and shipping of the battery module assembly line. The slow production has caused widespread concerns of the credibility of Tesla and the stock price fell 22 percent in March 2018 as the doubt of Tesla not being able to deliver their promise rose(Hull, 2018). Tesla, facing much pressure, gave a positive response in the Q1 report of 2018. The production rate increased as Tesla reported over 9,700 of Model 3 were produced in the first quarter of

2018 (Solar, 2018). This particular issue might have been ameliorated, but the weakness of the lack of experience exposed by this particular issue is still a big concern for Tesla.

Another concern, perhaps more important, is that the huge amount of capital spending by Tesla not being able to be covered by its revenue and outside investment. Tesla has been reporting net loss since 2008 (Tesla's net loss 2008-2017, 2017). However, Tesla is churning through huge amount of money as it ramp up production. According to Tesla, it has spent over 3 billion dollars in 2017, 1.2 billion in 2016 and 2.2 billion in 2015 on capital expenditure (TSLA's Capital Expenditures Growth by Quarter and Year, n.d.). Because the need to keep investing in technology, open up service stations and charging stations all over the world, and prepare for the production of Model Y that Elon Musk has mentioned, the intense capital expenditure is not likely to go down for at least a few years. Although the CEO predicted that the company is going to become sustainably profitable in 2018, many analysts predicted that Tesla is going to need to raise money again to pay off its 2.9 billion dollar debt that comes with the merger with SolarCity.

Situation Analysis

Internal Analysis

1. Physical assets

Some of the greatest assets of Tesla are its three major factories. Gigafactory 1 in Nevada takes up 43 acres of land, which Tesla claims to be less than 30 percent complete. The footprint of the plant, when finished, is expected to be almost 200 acres. Billions of dollars have been invested by Tesla and Panasonic in this factory. The product that is currently being produced is the powerwall, powerpack and battery modules for all three models of Tesla cars. The other factory is located in Fremont, previously owned by GM and Toyota. The size of this manufacturing plant is over 121 acres. This factory is where the three models of Tesla are being assembled. Gigafactory 2 is located in New York, mainly producing solar panels and solar roof tiles. Comparing to traditional multinational car companies like GM, Toyota and Hyundai, only having three factories in the U.S. seems underwhelming. However, for a new company that

only existed 15 years, those factories, equipments and employees takes up a substantial amount of the total asset of Tesla and should play a very important role in making strategic decisions.

Another set of physical assets is the supercharging stations Tesla has built across the world. According to its website, Tesla has 1191 supercharging stations in the world with almost 9 charger in average for each station. It is an advertising in itself when people see that those whose does not drive a Tesla would still prefer to charge their car in a Tesla charging station. Moreover, owning this network of charging station also gives Tesla more options to control the market.

2. Brand images

The current public impression of Tesla is generally positive. Much of this has to do with its charismatic CEO, Elon Musk. Being a young billionaire who got his first bucket of gold from Zip2, a software company founded in the Silicon Valley, Musk is now the CEO of SpaceX. SpaceX is a private company that focus on manufacturing and recovering rockets. The company managed to make many breakthroughs previously thought impossible for a private company. His other ideas and companies such as Hyperloop and The Boring company also helped to build a innovative and futuristic impression to the public. This image is further developed by his active usage of Twitter. With 21 million followers on Twitter, anything he send out immediately create discussions in all platforms of social media. Although Tesla spend very little in advertisement, its controversial CEO has generated much discussion and anticipation for this company.

Brand power of a company is shown through the pure influence of the brand to generate cash or capital for the company. As a company that started only for 15 years with a small market share, Tesla has a market cap almost as big as GM, a company that has been around for 100 years with almost 17 percent of the market share (General Motors - vehicle sales market share in the U.S from 2000 to 2017, n.d.). The high stock price reflected the high expectation and popularity of the public and proves the power of its brand. Another indicator of the strong brand image of Tesla is the high demand. As mentioned above, 32,500 Model 3 is reserved in the first week of its release, despite its

production didn't start until a year later. The production problem of problem of Model 3 generated much negative press for Tesla. However, after a production increase in the first quarter of 2018, Model 3 has quickly become the best selling electric car, which further proves the enthusiasm the consumers have for this brand. (Randall, 2018).

3. Intellectual capital

Despite its pledge to "open-source" all its patents, Tesla is not going to give away its patents to just anyone. The company has developed many patents in charging system, battery storage and the physical design of electric cars as well as autonomous driving software. Tesla's three models of cars all, in average, have a longer range per charge when comparing to competitors. According to its own website, the Chevy Bolt has a range of 238 miles per charge (Bolt EV, n.d.), comparing to 310 miles per charge for the long range model of Model 3. Tesla's car also charge faster, according to its own website, it takes 1 hour and 20 minutes to charge a Tesla to full with a supercharger (Model 3, n.d.). Chevy Bolt on the other hand, only charge 90 miles of range in 30 minutes. Autopilot is another area where Tesla stands out.

Although Tesla is lagging behind on the new Lidar technology comparing with new companies like Waymo and Uber, it's software and huge amount of driving data is outstanding. Tesla is one of the few companies that offers the option of semi-automatically control in all of its cars. Automatic driving is essentially machine learning, which is the application of certain algorithm to detect patterns in the existing data so that it can behave accordingly depends on the new circumstances it is given. Therefore, experience and data is very valuable in the realm of machine learning. By starting early and having a large enough customer base, Tesla should already have a large amount of data on people's driving patterns, which will give Tesla advantage in the race of building autonomous cars.

4. Direct Sales

One of the unique characters of Tesla when comparing to other car companies is that Tesla does not have retailers selling their cars. Instead, they only sell and service Tesla at their own store. This can be an advantage since this gave Tesla full control of

how their products are introduced to potential customers and thereby maintain the customers' experience at a high standard. Many companies selling high end products that seek to maintain a classy brand image do this. Apple store is a success example. However, this could also be a disadvantage for Tesla. As of now Tesla has over 110 stores in the U.S. This number is far from sufficient if Tesla want to have the reach comparable with traditional companies like GM and Ford. However, increasing the number of stores to the extent that it can compete with those giants will be expensive and could easily cause substantial amount of loss if not managed properly.

5. Unclear Goals

Although the future of Tesla seems very bright, it is trying to address too many problems all at once. Building a charging network so that its customer can go to more places; setting up factories and equipments to boost production; keeping up research so that electric vehicle can be more economically practical; promoting solar energy to general public; all the while keeping up its brand image. All of these cost a great amount of capital and a lot of management effort, it seems Tesla need to slow down some of the efforts and focus on one thing at a time.

External Analysis

1. Industry trend

The trend of transforming to electric cars is sweeping across the industry and it is based on practical concerns instead of purely chasing the concept of "environmental friendly". Electric vehicles provide many advantages over internal combustion engine(ICE) cars. First of all, electricity is cheaper than gas when considering fueling a car. According to US Department of Energy, electric engines convert on average 59% to 62% of the power stored to the power of the wheels while internal combustion engine only convert 17% to 21% of the energy. Another big advantage of electric vehicle is the low maintenance cost. Internal combustion engine requires regular service since it is more complex and many parts like fluids and belt need to be replaced regularly. Electric engine, on the other hand, do not have those problems. Perhaps the most important

factor is that battery technology has reach a point that it can provide enough range to compete with ICE cars.

Because of these practical advantages of electric vehicles, almost all of the major car companies are planning and building more full electric models. As the public start to realize the advantages of electric vehicles, the battery technology advances, more infrastructure like charging station built, the gasoline cars is going to be history sooner than later.

2. Competitors

Tesla has two types of competitors. One group consist of traditional companies looking to expand into electric vehicle market such as Ford and GM and the other group are new startups that focus more on autonomous driving such as Waymo and Uber. Traditional car companies have the advantages of having the experience in car manufacturing. The youngest of them was founded well over 70 years ago. Comparing with Tesla, they have more experiences in the production and assembly of every part of a vehicle expect the battery packs and electric engine. Most of them also have more physical assets available to them. Hyundai and Volkswagen both have factories even larger than the Gigafactory 1 to provide them with enormous economy of scope and scale. Those companies are pushing hard for the transformation to electric vehicles. Both GM and Ford have announced to invest more than 10 billion dollars by 2020 to release multiple models of full electric and hybrid cars (Naughton, Beene, & Coppola, 2018). All that being said, the real performance criteria of electric vehicles are probably its range and charging time. However, all those traditional companies have not shown much threat against Tesla. As mentioned above, the only model available now that can compete with three models of Tesla is Chevy Bolt by GM.

On the other hand, new startups are investing heavily on autonomous driving technology and this is where Tesla is lagging behind. Waymo, formerly the self-driving project of Google, has already started to test fully automated cars in several cities in the U.S. The technology used by Waymo is known as Lidar, which uses laser as radar to scan the surrounding areas of the car to make sure it can perceive the obstacles on the road and predict the movement of other vehicles and pedestrians. Although this

technology is superior than the radar and camera employed by Tesla on its three models, Lidar system, as of now, is very expensive with an estimated price of \$75,000 (Mitchell, 2017), which means it is not feasible to be put into mass production yet. However, the cost of this technology is going to eventually go down and Tesla will be at a disadvantage not having this technology.

3. Foreign Market

Although Tesla is doing well in the U.S. as Model S and Model X takes up 45% of the electric car market in the first half of 2017 according to Forbes (McCarthy, 2017), it has a lower market share in Europe and China. Renault, BMW and Mitsubishi are serious competitors in Europe. Although models from these companies offer less range, they are much cheaper than the Model S and Model X, mostly under \$40,000. According to CleanTechnica, Renault's Zoe outsold Model S and X combined in 2017 in Europe (Pontes, 2018). Comparing to Europe, China has a much bigger electric car market as its government provides much subsidy for and in some cases forces its consumers to purchasing electric vehicles by strict regulations. In November 2017 alone, more than 80,000 electric cars were sold in China. However, Tesla is not competing well with the local brand such as BYD and BAIC. In 2017, Tesla only took up 8.7% of the Chinese electric vehicle market share while BYD took up 15% and BAIC with 25% (Banjo, 2017). Tesla reportedly planned to open factory in China so that it can produce locally and avoid the import tariff, however, the plan fell through due to the regulations in China that foreign companies have to set up joint venture with a local company to open factories in China.

SWOT analysis

This section is a summary of the situations and characteristics of Tesla in a SWOT analysis shown in the table below.

Strength <ul style="list-style-type: none">• Battery technology• Factories and equipment• Own stores and charging stations• Brand image	Opportunity <ul style="list-style-type: none">• Early in catching the trend• Government subsidies• Global market
Weakness <ul style="list-style-type: none">• Spreading attention in too many areas• Lack of experience• Huge need of cash	Threat <ul style="list-style-type: none">• Foreign competitors• U.S. competitors such as Waymo and GM

Strategy Goals

List of goals

1. Increase production

Taken all the above internal and external factors into consideration, it is obvious that although Tesla also put a lot of effort and energy in peripheral areas such as autonomous driving and solar energy, ultimately, Tesla is a high end electric vehicle company looking to enter the lower end of the market with a very strong brand image. Therefore, the ultimate goal that Tesla should be pursuing is to capture market share and increase its sales. Tesla is doing well in the U.S. with almost 50% of the electric vehicle market, however, the total number of car sold is only 8,800 in 2017 (Electric Car Sales, 2018). In comparison, Ford sold

9,577 Ford Focus in January 2017 alone (Ford Focus Sales Numbers, Figures, Results, 2018). Therefore, currently, the most important issue for Tesla is to increase production of Model 3 so that it full fill the demand of the market and start to generate profit.

2. Cut cost and increase profit

As mentioned before, Tesla is expanding its business in multiple directions for it to become dominant in the future market. Correspondingly, it has a huge need of cash. Either to get this cash from profit or external investment, Tesla needs to increase its profitability, which means it has to cut down cost wherever it can and sell as much product as possible.

Evaluation Criteria

Tesla is reported to be producing around 3,000 Model 3 per week at the beginning of April 2018 (Randall & Halford, 2018). It is also reported to target a 5,000 per week by the end of the second quarter of 2018. Based on its past performance, it would be the good result if Tesla can keep up with its own projection. As for foreign markets, Tesla should aim to have surplus in production of the three models for export so that it can increase its market share in Europe and China.

In terms of reducing cost, the evaluation criteria would depend on how much money Tesla plans to spend on R&D and acquiring other assets, if the reduction of cost turns out to be substantially helping the cash need in these areas, then the strategy should be deemed as successful.

Strategic Alternatives

1. Focus on the factory floor

Tesla have postponed its target of Model 3 production in recent months multiple times. Similar instances also happened when Tesla started to push for Model X. It showed that the lack of experience of Tesla in terms of production

planning and effectiveness of addressing technical bottlenecks. This recommendation is for Tesla to focus more effort and capital on the factory floor so that problems are identified and address more efficiently.

2. Partner or invest in lithium mining

Lithium will be the new oil in the auto industry. Car batteries create much demand for Lithium. Tesla produced 34,500 cars in the first quarter of 2018, conservatively, if it keep this rate of production without increase, 138,000 cars would be produced. According to Bloomberg, around 7 kg of Lithium is used in every Tesla, which translate to a 966 tons of demand. Currently, Lithium sells for \$16,500 per ton. This comes to around 16 million dollars of lithium. If Tesla were to produce 500,000 cars in 2018 as it projects, it would have to spend around 58 million dollars on Lithium alone. Other car companies are going to experience similar dependency of Lithium price. Therefore, if Tesla can secure a cheap source of Lithium, it would gain much advantage over its competitors. One good strategy for Tesla is to partner with a major Lithium miner or even invest in its own Lithium mining facility to reduce cost in this area.

3. Setup factory in China

As mentioned above, China is currently the biggest electric vehicle market with the fastest growth. Tesla would miss out on a critical opportunity if it does not open factory in China. However, the concern of leaking of technology to partner with a Chinese company is also valid. Therefore, the appropriate strategy is to both export more expensive model and set up factory to produce cheaper model. Some of the electric vehicles made in China is already hitting the 200 miles range with decent charging speed. Tesla could release a less technology condensed model especially for the Chinese market targeting the lower end of the middle class. This way even if it means Tesla has to partner with a local company, no key technology will be lost and it can secure a place in the future Chinese market to bring Tesla the much-needed profit.

Evaluation

Increasing production is very important but this has been publicly stressed by Tesla's executives many times in the past few months and it seems Tesla is already on the right track to follow through this strategy.

Opening factories in China is also a very valuable strategy, although riskier. China has a fast-growing market for electric vehicles. If Tesla doesn't enter the market now, it might only be able to occupy the high-end luxury car niche as it occupies now. However, opening factory in different country involves a lot of political effort and opening new factory itself demands billions of dollars of capital investment. Moreover, many of the new players like BYD and BAIC is already in a track of quickly expanding market share. These companies target the middle class with fuel efficiency and a price as low as a little above \$10,000. Even if Tesla is able to introduce a new Model that cost less than Model 3, it might not be able to compete with the low price from the local companies. Furthermore, the Chinese government often plays a protective role in regulating the foreign companies. Considering the current tense relationship between the U.S. and China, Chinese government is more likely to shut down foreign companies to make space for local companies. Therefore, this strategy is associate with high return but also high risk and much difficulty.

Partnering with a lithium mining company in the U.S. or other country can also be very helpful in driving the cost down. The price of Lithium has seen a sudden increase in the past couple years as more and more companies are starting to produce products that use Lithium batteries. While the cost of mining Lithium doesn't increase, the increase in price only account for the increase in demand. Therefore, if Tesla can incorporate raw Lithium mining in its supply chain, it could gain a great advantage over other companies. This strategy is also very feasible as there is already report of Tesla in talk with some of the major Lithium mining companies in Chile to make investments (Coren, 2018).

Strategy Recommendations

Partner or invest in lithium mining

This strategy involves more inter-organizational strategy than strategy at other level. There are multiple options for Tesla. The safest option is probably to invest in the local Lithium mining company in Chile as Chile produces almost 50% of the world's Lithium. The major mining company in Chile is Sociedad Química y Minera de Chile(SQM) which is the biggest Lithium producer in the world. If Tesla can get a substantial amount of the share of the company, it would be able to reach an agreement with SQM to produce Lithium for Tesla at a much lower cost than the market average. This would also benefit SQM as Tesla is expected to have a large market and therefore a long-term demand for Lithium.

The market cap of SQM is estimated to be around 14 billion dollars as of April, 2018. With 1 billion dollars of the 3.4 billion dollars of cash, Tesla could buy 7% of the share of SQM, making it the largest shareholder. According to reports, operation cost of mining Lithium is around \$4,000 a ton while the price on the market is over \$16,000 (Kallenos, 2016). Suppose Tesla can get a price of \$6,000 per ton while the price of Lithium doubles to \$32,000 per ton as the demand increases. Assume that Tesla achieves its production goal of 500,000 cars in 2019 and that each car uses 7 kg of Lithium, it would have saved 91 million dollars in Lithium comparing to other companies. Moreover, since SQM is a decently profitable company with an operating net income of 644 million dollars, the shares in SQM will also generate a substantial amount of return.

Implementation Plan

Tesla's CEO, Elon Musk is predicting the company to turn profitable in the 3rd and 4th quarter of 2018. If this turned out to be true, then Tesla is going to have much financial freedom to make investments. At the end of 2018, Tesla should invest 1 billion dollars to buy 7% of SQM. This would constrain Tesla' ability to make other investment shorter. However, with Tesla turning profitable in the near future, the profit and the dividend from those shares at SQM will be able to offset some of those constraints.

Evaluation

This strategy should be monitored continuously. Much of its success depend on how well could Tesla and SQM agree on a lower price of Lithium for Tesla and that SQM is financially doing well. Therefore, the two important factors to look at is going to be the price of Lithium for Tesla to drop and the stock price of SQM to not drop too much.

Contingency plan

This plan bets heavily on the price of Lithium increases rapidly and that no other organization buys more shares of SQM to own more than 7% of the company. However, these conditions are not guaranteed. If other technologies other than Lithium-ion batteries that is going to be more efficient and cheap, this plan should be suspended since the Lithium will have a high chance of being replaced. If other buyers come in and become more influential than Tesla, however, the situation is more tricky. In such case, Tesla should hold its shares and wait for opportunities to buy more shares or find other suppliers of Lithium to partner with.

Citation List

Banjo, S. (2017, September 20). Everyone Wins If China Relaxes Electric-Car Venture Rules. Retrieved April 16, 2018, from https://www.bloomberg.com/gadfly/articles/2017-09-20/everyone-wins-if-china-relaxes-electric-car-venture-rules?utm_content=view&utm_campaign=socialflow-organic&utm_source=twitter&utm_medium=social&cmpid==socialflow-twitter-view

BOLT EV. (n.d.). Retrieved April 16, 2018, from <http://www.chevrolet.com/electric/bolt-ev-electric-car>

Coren, M. J. (2018, January 29). Tesla may get into the lithium business in Chile as the price of battery ingredients soar. Retrieved April 16, 2018, from <https://qz.com/1191964/tesla-tsla-may-get-into-the-lithium-business-in-chile-as-the-price-of-battery-ingredients-soar/>

Electric Car Sales (Monthly Reports). (2018, March 05). Retrieved April 16, 2018, from <http://evobsession.com/electric-car-sales/>

Ford Focus Sales Numbers, Figures, Results. (n.d.). Retrieved April 16, 2018, from <http://fordauthority.com/fmc/ford-motor-company-sales-numbers/ford-sales-numbers/ford-focus-sales-numbers/>

General Motors - vehicle sales market share in the U.S. from 2000 to 2017. (n.d.). Retrieved April 16, 2018, from <https://www.statista.com/statistics/239607/vehicle-sales-market-share-of-general-motors-in-the-united-states/>

Hull, D. (2016, April 07). Tesla Says It Received More Than 325,000 Model 3 Reservations. Retrieved April 16, 2018, from <https://www.bloomberg.com/news/articles/2016-04-07/tesla-says-model-3-pre-orders-surge-to-325-000-in-first-week>

Hull, D. (2018, April 01). Tesla Drops as Model 3 Deliveries Push Is Seen Coming Up Short. Retrieved April 16, 2018, from <https://www.bloombergquint.com/technology/2018/04/01/tesla-makes-last-ditch-model-3-deliveries-as-pressures-mount>

Kanellos, M. (2016, August 29). Is There Money to Be Made in Lithium Mining? Retrieved April 17, 2018, from <https://www.forbes.com/sites/michaelkanellos/2016/08/29/is-there-money-to-be-made-in-lithium-mining/#54b1cb6e23f3>

McCarthy, N. (2017, August 14). Tesla Dominates The U.S. Electric Vehicle Market [Infographic]. Retrieved April 16, 2018, from <https://www.forbes.com/sites/niallmccarthy/2017/08/14/tesla-dominates-the-u-s-electric-vehicle-market-infographic/#c817b1e7be49>

Mitchell, R. (2017, December 11). Lidar costs \$75,000 per car. If the price doesn't drop to a few hundred bucks, driverless cars won't go mass market. Retrieved April 16, 2018, from <http://www.latimes.com/business/la-fi-hy-ouster-lidar-20171211-htmlstory.html>

Model 3. (n.d.). Retrieved April 16, 2018, from <https://www.tesla.com/model3>

Musk, E. (2006, August 2). The Secret Tesla Motors Master Plan (just between you and me). Retrieved April 17, 2018, from <https://www.tesla.com/blog/secret-tesla-motors-master-plan-just-between-you-and-me>

Musk, E. (2013, November 18). The Mission of Tesla. Retrieved April 17, 2018, from <https://www.tesla.com/blog/mission-tesla>

Naughton, K., Beene, R., & Coppola, G. (2018, January 14). Ford Goes 'All In' on Electric Cars. Retrieved April 16, 2018, from <https://www.bloomberg.com/news/articles/2018-01-14/ford-doubling-electric-vehicle-spending-to-11-billion-by-2022>

Pontes, J. (2018, January 29). Tesla Surges, But Renault Zoe Coasts To #1 In 2017 Europe Electric Car Sales. Retrieved April 16, 2018, from <https://cleantechnica.com/2018/01/27/tesla-surges-renault-zoe-coasts-1-2017-europe-electric-car-sales/>

Randall, T., & Halford, D. (2018, February 14). Tesla Model 3 production tracker. Retrieved April 16, 2018, from <https://www.bloomberg.com/graphics/2018-tesla-tracker/>

Randall, T. (2018, April 03). Tesla's Model 3 Is Now America's Best-Selling Electric Car. Retrieved April 16, 2018, from <https://www.bloomberg.com/news/articles/2018-04-03/tesla-s-model-3-is-the-best-selling-electric-car-in-the-u-s>

Solar, R. T. (2018, April 04). Tesla Model 3: Production Up In First Quarter, What's Coming For The Next 3 Quarters? Retrieved April 16, 2018, from <https://seekingalpha.com/article/4161068-tesla-model-3-production-first-quarter-coming-next-3-quarters>

Tesla's net loss 2008-2017. (n.d.). Retrieved April 16, 2018, from <https://www.statista.com/statistics/272130/net-loss-of-tesla/>

TSLA's Capital Expenditures Growth by Quarter and Year. (n.d.). Retrieved April 16, 2018, from https://csimarket.com/stocks/single_growth_rates.php?code=TSLA&capx