

# Case: Tesla Motors

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# Tesla Motors -all electric high-performance cars

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- Economic Trend – increasing gas prices
- Social Trend –desire to be green
- Technology Advances –Battery and motor improvements
- Political Regulatory Trend – favorable treatment and support for alternative energy systems.



# Key events

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- July 2003: Tesla Motors founded by Martin Eberhard and Marc Tarpenning.
  - Named for an early scientist who developed electrical power transmission: Nikola Tesla.
- February 2004, Elon Musk made a \$6.5 million investment and became the largest shareholder of the company and chairman.
  - Later he became CEO and has served as CEO since 2008.
- The company had the most sales of battery electric vehicles and plug-in electric vehicles, capturing **16% of the plug-in market** and **23% of the battery-electric** market.
- Through its subsidiary Tesla Energy, the company develops and is a major installer of photovoltaic systems in the United States. Tesla Energy is also one of the largest global suppliers of battery energy storage systems, with 3 gigawatt-hours installed in 2020.
- October 2021, Tesla's market capitalization reached \$1 trillion. It is the most valuable automaking company in the world.
- Read more at: [https://en.wikipedia.org/wiki/Tesla,\\_Inc.](https://en.wikipedia.org/wiki/Tesla,_Inc.)

# Funding

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- February 2004, \$7.5 million in series A funding. \$6.5 million from Elon Musk. Musk had sold his PayPal investment for about \$100 million.
- February 2006, \$13 million in Series B venture capital. Musk led the round and Valor Equity Partners joined.
- May 2006, A third, \$40 million round. This included investments from Google co-founders Sergey Brin and Larry Page, and former eBay President Jeff Skoll.
- May 2007 , A fourth round of \$45 million
  - The total private financing investment was over \$105 million.
- June 2009, Tesla was given a \$465 million in interest-bearing loans from the United States Department of Energy.
  - This came from the \$8 billion Advanced Technology Vehicles Manufacturing Loan Program. It was made in support of production of the Model S sedan
  - May 2013 Tesla repaid the loan along with \$12 million in interest .

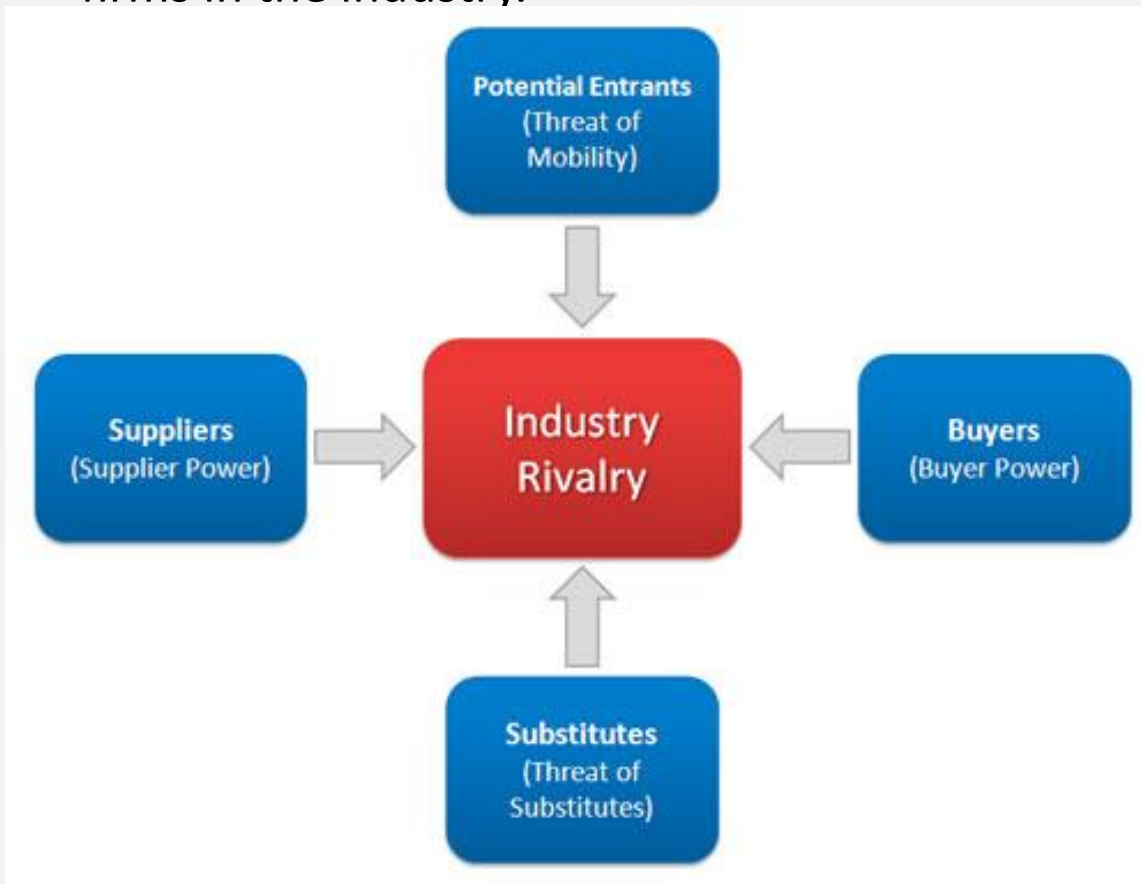
# Team

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- July 2003, Tesla Motors founded by Martin Eberhard and Marc Tarpenning
- February 2004, Elon Musk became the largest investor.
- 2004, Ian Wright was Tesla's third employee.
- May 2004, J. B. Straubel became Tesla's Chief Technical Officer.
- August 2007, Michael Marks became interim CEO
- December 2007, [Ze'ev Drori](#) became CEO and President.
- October 2008 Musk replaced Drori as CEO
- June 2009, Eberhard filed suit against Musk claiming he was unfairly forced out.

# The Porter 5 Forces Model -predicts profitability

- Considers these five forces and then estimates the average profitability of firms in the industry.



1. Bargaining power of **suppliers**
2. Bargaining power of **customers/buyers**
3. Threat of **new entrants**
4. Threat of **substitution** of an alternate product or service.
5. **Rivalry** among the firms in an industry.

# Substitutes

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- Are there substitutes for the product that you are selling?
  - At the time of Tesla's founding, the main substitute for them was anything built by the large auto makers: Toyota, GM, Ford, Chrysler, Honda, Nissan, and so on.
- The greatest danger of substitution occurs when:
  - **Switching costs** are low
    - there is not a lot of cost (financial or training/learning) to the substitution.
  - Substitutes are affordable
    - Other automobiles were less expensive
  - Substitute quality or performance is better
    - The Tesla performance could not be equaled by virtually any other production car. Tesla was faster and more environmentally sustainable than any substitute

# New Entrants

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- Are there barriers to entry for new firms or is it easy to enter the business?
- Barriers:
  - Economy of Scale –hard to compete with the big guys
    - General Motors, Toyota, Ford, Chrysler, Hyundai, Honda, Nissan, VW, etc
  - Product differentiation-
    - The first commercially viable electric automobile. Faster than all others in the price range. More environmentally sustainable.
  - Capital requirements
    - Car industry requires huge capital investments
  - Cost advantages other than size
    - Established manufactures have established supply chains and dealer networks.
  - Access to distribution channels –shelf space
    - Established dealer networks for cars and Tesla needed to find their own path to market.
  - Government and legal barriers
    - Automobiles need to meet stringent regulations
    - Sales of automobiles were controlled through dealers who could use state regulations to make it hard for Tesla to sell cars.



# Rivalry Among Existing Firms

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- What is the nature and intensity of the rivalry among existing firms?
  - Huge!
- Number and Balance Among Competitors
  - Less is more –usually. Fewer competitors may make it easier, but sometimes fragmentation can be an asset to the new entrant.
  - Does fierce competition drive down prices and margins. That is bad for profitability. Yes, there is fierce competition.
- Degree of Difference Among Products
  - Tesla provided the first all electric commercially viable automobile. Also fast and beautiful.
- Growth Rate of an Industry
  - Huge growth potential.
- Level of fixed costs
  - Less is more for the entrant. Low fixed costs make it easier for smaller competitors to get into the industry and get started at a smaller scale.
  - Sadly, the fixed costs are huge.

# Bargaining Power of the Suppliers

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Do the suppliers wield a lot of control over the supplies that you need for your venture?

- Less is better for the new entrant!
  - Tesla needed to develop an entirely new supply chain. A tough problem.
- Supplier concentration
  - Suppliers are quite concentrated.
- Switching costs
  - Electric cars require an entirely new culture. Need to plug in every night. Need to plan trips around charging stations. Range is limited. Charging stations were few and far between –especially in the early years.
- Attractiveness of Substitutes
  - Lots of alternative automobiles, but very few alternative electric automobiles..
- Threat of Forward integration
  - Can a supplier enter your industry?
    - Not much chance of that happening here.

# Bargaining Power of Buyers

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- Less bargaining power of buyers is better for the new entrant
  - Car buyers have many choices, but only a few all electric.
- Buyer Group Concentration
  - Buyers are a diffuse group.
- Buyers' costs
  - Tesla was high priced but then introduced lower cost versions
- Degree of Standardization of Suppliers Products
  - As other cars enter the electric car market this is becoming a problem, but in the early years Tesla was the sole product available.
- Threat of backward integration
  - Can buyer threaten to enter the industry?
    - Nope!



# 5 Forces Table

| Competitive Force             | Low              | Medium       | High            |
|-------------------------------|------------------|--------------|-----------------|
| Threat: Substitutes           | For all electric |              | For automobiles |
| Threat: New Entrants          | Low early        | Getting more |                 |
| Rivalry among Existing Firms  |                  |              | For automobiles |
| Bargaining Power of Suppliers |                  |              | Quite high      |
| Bargaining Power of Buyers    | Quite low        |              |                 |



# Tesla stock value growth (Market Cap of \$1.1 Trillion!)



# The competitive landscape changes in 2021

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- Several new electric cars were launched by 2021. These include:
  - Nissan Leaf (one of the earliest and most popular)
  - Lucid (a new auto company)
  - Audi three models
  - Porsche
  - VW
  - Chevy Bolt
  - Volvo
  - Jaguar I-Pace
  - Hyundai
  - And others
  
- [https://en.wikipedia.org/wiki/List\\_of\\_production\\_battery\\_electric\\_vehicles](https://en.wikipedia.org/wiki/List_of_production_battery_electric_vehicles)