**Tesla makes gorgeous electric cars and deploys battery charger stations. Storage charge batteries depend on lithium, nickel and graphite.**

“The Supercharger network enables long distance travel. Stations are strategically placed to minimize stops and are conveniently ...” As of January 1, 2017, Tesla plans to place a small fee (less than gas price) for the supercharge after 1,000 miles of driving. Tesla Supercharger “2016 maps” are replaced with “2017 maps” showing some new Supercharger expansions in Mexico, China and Australia.

“The lithium market is in its most severe shortage of modern times, a shortage that has seen internal Chinese prices for hydroxide reach $30/kg while rest of the world contract prices have risen to up to $14/kg (FCL).”

<http://benchmarkminerals.com/elon-musk-our-lithium-ion-batteries-should-be-called-nickel-graphite/>

The buzz and excitement has prompted management to look to us for analysis:

1. Retrieve and begin to analyze data about some of the existing and new markets.
2. Determine the impact of essential metals & minerals price on car sales.
3. Generate economic scenarios in the new markets based on possible shortages.

**Decision is to generate battery-charging revenue from existing and new markets**

* Product: Car battery charge at “state of the art” Supercharger battery stations.
* Geography: Mexico, China and Australia
* Customers: Tesla owners in Mexico, China and Australia.

**Business questions:**

1. How would the availability of new charging stations affect the orders for Tesla cars?
2. How would the value of the new markets affect the value of business in US dollars?
3. How best to allocate resources given that demand for Tesla cars increases with access (both proximity and cheap price) of battery charge?

**Data and analysis to inform the decision:**

* Tesla stock price: volatility and correlation
* Lithium / Nickel / Graphite: volatility and correlation
* Foreign exchange rates: US dollar, Australian dollar, Mexican peso and Chinese yuan
* All together: correlations among these indicators

**Data source(s):**

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