Problem Statement Worksheet (Hypothesis Formation)

Stocks: Can we quantify the risk when we invest in particular stocks with a high confidence interval of 95%? And is it possible to predict future stock behaviour?

H

1 Context

The stock market as we know it is a marketplace where investors can buy, sell , hold and trade stocks. It is driven by supply and demand. There are many claims out there that claim we can use Data Science to minimize risk and predict future stock price behaviours. We will explore how much money do we put at risk when we invest in a particular stock, and do so with a confidence interval of 95%? And explore a method to run simulations to see if we can predict future stock behavior in a quantifiable value.

2 Criteria for success

Our success for this project will be measured by the ability to quantify the risk in stock with a high confidence interval of 95% or greater and can we quantify a value that predicts future stock price.

3 Scope of solution space

The stock market can provide a large dataset. We will focus on reducing the analysis to "Big Five" Tech companies.

4 Constraints within solution space

Extremely Large Dataset:

- **Must be careful to avoid selection bias**
- **Focus on "Big Five" however, companies are not apples to apples when compared**

- **Market predictions will not account for major impacts such as: Natural disasters, Pandemics and Political moves**

5 Stakeholders to provide key insight

Ricardo Alanis- Springboard Mentor

6 Key data sources

Key Data Sources:

- **Yahoo Finance API**

Additional Data Sources:

- **stackoverflow.com**
- **slack app**
- **geeksforgeeks.org**

H D E I P