**Business Problem**

You are a data scientist working for an e-commerce company. The company is expanding aggressively and the leadership team has asked you to come up with a plan to increase revenue by 25% in the next quarter without having to cut down on any existing operations.

Now, use this statement and plug it into the overall data science lifecycle we covered in this module. We have provided the six stages here – you need to fill in each stage with your answers and thoughts.

**1) Problem Definition**

Convert the business problem into a data problem

**2) Hypothesis Generation**

Generate a set of hypotheses based on the problem definition

**3) Data Collection/Extraction**

What kind of data do you need based on the above hypotheses? Which variables do you require and how would you collect them?

**4) Data Transformation and Exploration**

a) What kind of visualization techniques will you use to explore the data?

b) Do you need to transform any variables before proceeding with the analysis?

**5) Model Building**

a) What is the evaluation metric for your problem?

b) What kind of models will you build?

c) What if your model validation strategy?

**6) Model Implementation**

a) Which model, based on the ones you have built, is best suited to your business problem? Is there any trade-off between the accuracy and the interpretability?

b) Any specific steps you’ll follow for monitoring your model’s performance?