“You are a data scientist working for a motorcycle company. The CEO has asked you to come up with a new marketing strategy based on the sales data you've collected over the years. You'll need to show how you would prepare and process the data, how you would analyze the data, and how you would come up with the strategy and report for the CEO.”

Prepare and Process (clean):

Make copy of original data

Converted scientific notation to numbers for US phone numbers (data masked?) to get area codes and fixed #ERROR! for phone numbers column by removing the = sign and + signs. Left the

Converted Order Date to short date since time wasn’t adding any value (all midnight)

Discovered 100 was imputed for PRICE EACH column for missing values, divided sales column values by quantity ordered to get the correct PRICE EACH

Removed “.com” from CUSTOMERNAME column

Unmerged the ADDRESSLINE1 column and ADDRESSLINE2 column for future ease of use.

Analyze:

Assumed USD currency for simplicity

Added a column to compare difference between sale value vs MSRP

Added a 3-letter weekday column for more granularity next to YEAR column

Discovered that DEALSIZE column is based on following increments:

SMALL < 3K

MEDIUM 3K TO 7K

LARGE > 7K

Date covers date ranges Jan 6, 2003 to May 31, 2005 or about 2.5 years of data

Sales are best in 4th quarter with 3rd quarter (summer) being the lowest interestingly since this is a motorcycle company

Sales are lowest on Saturday, Sunday, and Monday’s

80% of our sales come from the following 8 countries out of 19 (largest to smallest in sales):

USA, Spain, France, Australia, UK, Italy, Finland, Norway

4th Quarter: USA, Spain, France, UK, Australia, Norway, Germany

80% of our sales come from the following 4 categories out of 7 (largest to smallest):

Classic Cars, Vintage Cars, Motorcycles, Trucks and Buses

Significantly below MSRP on Classic Car SKUs. More than half are below MSRP.

87% of our sales come from small and medium deal sizes

Top 10 medium size orders account for 30% of all medium orders made and 60% of all sales come from medium size orders.

Strategy:

$225k on hold or disputed for Q1 and Q2 of 2015. Reach out to customers to see if they need any help/education on purchase in hopes of converting over to a sale.

Cold call top 10 medium size order accounts for any leads.

Evaluate if a price adjustment is possible for Classic Car SKUs that are being sold below MSRP. If competitors are significantly higher, we can raise the price and still be below our competitors, this will have the biggest impact since Classic Cars is our biggest selling category

Develop an A/B test for an email marketing campaign targeting our top customers by reminding them what makes us stand apart from competitors to keep us at the top of their mind. How can we solve their problems? Have ready by 4th quarter

Build brand awareness with SEO optimization since we only have 92 customers and we are a company that sells products internationally

Recommendations:

In the future, add a column for ship date to analyze customer wait time for products

I would like to see a column for cost of goods sold to properly calculate profit

Report:

I would generate an executive summary report that is no more than 1 page summarizing my discoveries and recommendations.