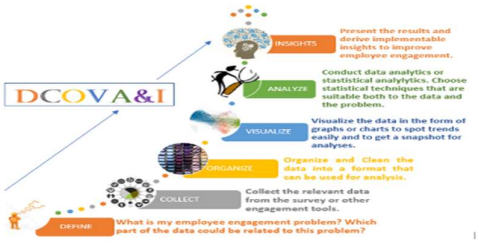
Analytics Case Study

Case Study 8 – How a manager used Analytics to get the Price Elasticity - the reactions of sales quantity of the auto policy to its price change.

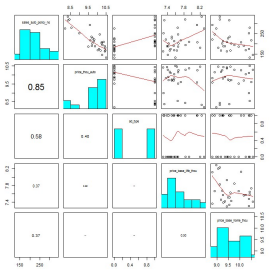
Industry – Banking and Financial Services

We follow DCOVA and I methodology to solve the problem. To Understand this methodology, check this whitepaper - https://pexitics.com/download/dcova-i-whitepaper/?wpdmdl=2970



Business Problem – A company wanted to build a model across its 134 branches to understand the effect of price changes of various insurance products on the auto insurance product. To do this it created a Design Of Experiment and collected the data. The price was changed across 30 branches across 30 different days to decide. The manager wants to know the Price Elasticity - the reactions of sales quantity of the auto policy to its price change.

The manager approaches the analytics team with the problem and shares the data with the team. The analytics team **explores** the data to **treat the data for missing values and outliers.** The team comes out with visualization. One of the visualization is shown below -



This chart is scatter plot matrix which shows the pair wise scatter plot along with the correlation of all the numeric variables in the dataset.

The analytics team then does **statistical analysis to** get the price elasticity. The team first runs a linear regression equation on the data with number of sale of the auto policy as it dependent variable, the "Y". After verifying if the results follow all the assumptions of the linear regression, the team then calculates the price elasticity using the slope and the intercept.

The team then submits the report with the calculated price elasticity to the manager for further action.

Author : Jay Kumar