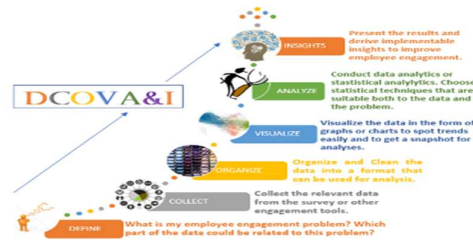**Case Study 3** – How a manager used Analytics to get insights from the data to update internal process.
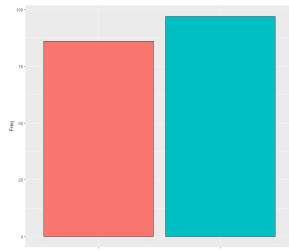**Industry** – Banking and Financial Services

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 – The manager has data on number of days it took to take decision for processing the lead till final decision. The lead is for account opening. The final decision results into the request of account opening being either approved or rejected. The manager wants to understand if the average time for decision is the same for the cases where the accounts opened and where the accounts did not open.

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** and create **dummy variables** for the categorical data. The team comes out with visualization. One of the visualization is shown below -

This graph is the bar plot and on x-axis we have the account opening flag(Yes or No) and y-axis represents the frequency.

The analytics team then does **statistical analysis**(Hypothesis testing)**.** For doing the hypothesis testing, first they define the null hypothesis and the alternate hypothesis. They then run the t-test to check if the mean time of "Yes" decision is same as a "No" decision. The team confirms the output of the t-test against the prescribed p-value and confirm that the mean of the two groups is different. The manager uses this input to improve the approval process.