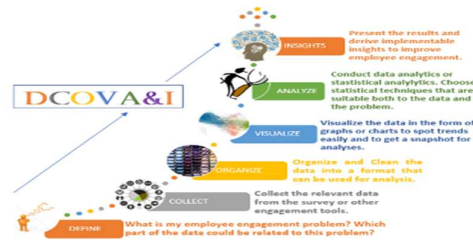**Case Study** – How a manager used Analytics to get insights from the data to improve customer servicing.
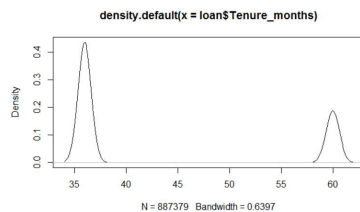**Industry** – Banking and Financial Services

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 of its customers who have taken loan from the institution. The data has customers demography information along with customers loan details. She wishes to explore the data and find out what is the typical loan amount of its customers.

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 density plot and on x-axis we have the loan duration and y-axis represents the density. We observe that the data is grouped into two different loan tenures.

The analytics team then does **statistical analysis,** first to check if the data follows a **normal distribution** or not. In this case, the data is not following the normal distribution. The team applies **Chebychev's theorem** to draw conclusion from the data. In contrast to the empirical rule of 68–95–99.7, under Chebyshev's inequality a minimum of 75% of values must lie within two standard deviations of the mean and 89% within three standard deviations to draw inferences. Using the findings, the analytics team submits a report highlighting the maximum number of loan amount in the range for the two tenure groups. The manager uses these details to improve on the customer experience.