**Industry Standard Documentation**

1. **Project Charter:**

* **Project Title:** Customer Segmentation for a Retail Store
* **Project Manager:** Lakimsetti Sai Sasank
* **Start Date:** 13-07-2024
* **End Date:** 17-07-2024
* **Objective:** To segment customers into various groups based on their income and purchasing behaviour.
* **Scope:**
  + Data Cleaning: This step involves identifying, analysing and correcting the errors and inconsistencies present in the dataset that we have chosen. This step has higher priority since the analysis will not be accurate and predictive if any errors or inconsistencies present. It includes missing values and encoding categorical variables.
  + Exploratory Data Analysis (EDA): This step helps in understanding the patterns and relationships present in the data. It is used for visualizing distributions of variables and relationships between variables. Mean, median, and mode functions are used to summarize the data used.
  + Customer segmentation using K-Means: The segmentation of customers into various groups can be done on the basis of characteristics and purchasing behaviour of the customer. Using K-Means cluster, we can easily identify clusters of customers with similar attributes such as age, gender, annual income, spending score.
  + Visualization using Matplotlib and Power BI: Using these tools, we can create various interactive visualizations which helps in the understanding of the spending behaviour of the various groups of customers and taking decisions which helps in the growth of business.
* **Deliverables:**
  + Insights: We can draw clear picture of customer characteristics by recognizing their purchasing behaviour.
  + Conclusions: We can observe different trends discovered during the analysis. They provide a clear-cut summary. These conclusions will play a crucial part in making decisions towards the growth of business and customer satisfaction.
  + Recommendations: With the help of drawn insights and conclusions, we can recommend our products to the customers based on their spending behaviour and mostly purchased category.