Detailed analysis and Projection prediction

Summary: This is a dataset of 3 employs Associat ABC, Associat XYZ, Associat KLM.The dataset contains the employs details of working productivity based on their time spent on each lead to the total no of leads over a given time period. We need to identify missing values, leaves, Duplicate values etc which hampers the productivity. Checking the Data Shape and taking statistical representation to see the data distribution. Cleaning the data and applying Univariant analysis to see the data distribution and checking for outliers and if the outlier is a genuine outlier. Applying all the process to Associat ABC, Associat XYZ, Associat KLM we get to know the productivity of each Associate.

DATA WRANGLING :

Importing necessary libraries like Pandas, Numpy, Matplotlib,Seaborn etc.

For Associate ABC:

Checking for NULL values, Removing Duplicate Data, Flag Column to identify Employees, Day Column to identify working days(feature Engieering), Removing Weekends & Replacing NUll with 0, Typecasting (float to int), Index resetting

For Associate XYZ:

Checking for NULL values, Flag Column to identify Employees,Day Column to identify working days(feature Engieering), Removing Weekends & Replacing NUll with 0, Typecasting (float to int), Index resetting

For Associate KLM:

Flag Column to identify Employees,Day Column to identify working days(feature Engieering)Replacing NUll with 0, Typecasting (float to int), Including the day worked on Saturday & Sunday, Index resetting, Replacing the Null value at index 109 with median, Renaming column (Time Spent on LG) by (Time Spent on LG(mins))

Data visualisation: To check the data distribution we used Histogram & KDE plot. Also Boxplot to check for outliers.

Key performance indicators (KPIs) for each employee:

Average Leads Generated per day:	Average Time Spent per day	Conversion Rate (Leads
ABC-6.26	ABC-5.22 hr	Generated per week):
XYZ-9.88	XYZ-5.87 hr	ABC-31.33
KLM-8.85	KLM-5.71 hr	XYZ-49.44
Average of 3- 8.33	Average of 3- 5.70 hr	KLM-59.5
		Average of 3- 46.75

Conversion Rate (Leads Generated per hour) :	Total Leads Generated over the given time Period
ABC-1.13	ABC-282
XYZ-1.68	XYZ-445
KLM-1.54	KLM-1071
Average of 3- 1.45	Average of 3 = 1798

1. What is the total number of leads generated by Each Associate
   ABC-282 XYZ-445 KLM-1071

2. What is the total number of leaves taken by each associate (considering Saturday and Sunday as holidays)?
   ABC-2 XYZ-4 KLM-13

3. What is the average number of leads generated by each associate?
   ABC-6.266 XYZ-9.888 KLM-8.851

4. Which associate has been the most consistent in lead generation?
   XYZ-9.888

5. Do you remove missing values from the data-set for analysis?
   Yes. Firstly the Weekends with Null values are removed as it is a weekend. Also the day employes took leaves consisted of Missing values which was replaced with 0 . All this was done to get an appropriate and accurate calculations

6. Recommendations for the Business Development Team.

As we can see in the below graph, the time spent on Thursdays and Fridays are less compared to other days in the week by the employes. So if we try to increase the time spent by each employes during these days the no of Lead generation might increase to a significant amount.

Projection for Next Month (DECEMBER):

Projection for next Month (Associate ABC) : 131.6

Projection for next Month (Associate XYZ) : 203.66

Projection for next Month (Associate KLM) : 185.87

Projection for next Month (DECEMBER) including all 3 employees : 525.142