

# ASSOCIATES\_DATA\_REPORT

## INTRODUCTION

This report explores the data of associates Raj, Arya, and Ali to identify trends and patterns in their performance, providing a comparative analysis among them. The insights aim to support data-driven decision-making for optimizing team efficiency.

## DATASET DESCRIPTION

The dataset contains daily performance data for three associates: **Raj**, **Arya**, and **Ali**. It includes information such as the date of record (**Day**), the number of leads generated (**Leads**), and the total time spent on lead generation in minutes (**Time spent on LG**). Additionally, the dataset provides calculated values like the average time spent per lead (**Avg Time Per Lead**) and other metrics such as daily team review notes (**Daily Team Review**) and the number of incomplete leads (**No. of Incomplete Leads**).

## DATA PRE-PROCESSING

Empty rows were removed, and missing values were filled using the mean of the respective columns. Data inconsistencies were addressed, and the 'Date' column was set as the index to organize the data chronologically. These steps ensured the data's accuracy and readiness for analysis.

## GAINED INSIGHTS

### 1. Lead Generation Efficiency:

The lead generation efficiency for each associate was calculated as the ratio of total leads generated to the total time spent on lead generation. The results are as follows:

- Raj achieved a lead generation efficiency of 0.042 leads per minute and 2.534 leads per hour.
- Arya had a lead generation efficiency of 0.085 leads per minute and 5.107 leads per hour.
- Ali recorded a lead generation efficiency of 0.053 leads per minute and 3.154 leads per hour.

Among the associates, **Arya** demonstrated the highest efficiency in lead generation.

### 2. Daily Performance Variability:

The standard deviation of the daily number of leads generated by each associate was calculated to assess variability in their performance. The results are as follows:

- Raj exhibited a standard deviation of 2.621 leads.
- Arya showed a standard deviation of 2.157 leads.
- Ali had a standard deviation of 3.006 leads.

Among the associates, **Ali** demonstrated the highest variability in daily performance.

### 3. Time Management Analysis:

The relationship between the average time spent per lead and the total number of leads generated per day was analyzed for each associate. The correlation coefficients are as follows:

- **Raj** has a correlation of -0.334, indicating a weak negative relationship.
- **Arya** has a correlation of -0.509, showing a moderate negative relationship.
- **Ali** has a correlation of -0.365, reflecting a weak to moderate negative relationship.

These correlations suggest that, generally, as the average time per lead increases, the total number of leads generated tends to decrease, with Arya showing the strongest negative correlation.

### 4. Impact of Daily Team Reviews on Lead Generation:

- **Raj:** Generated an average of 10.93 leads on review days versus 10.50 leads on non-review days, showing a 4.05% increase when reviews were attended.
- **Arya:** Generated an average of 11.56 leads on review days. No data for non-review days as Arya has never missed a review.
- **Ali:** Generated an average of 11.90 leads on review days versus 11.00 leads on non-review days, reflecting an 8.20% increase when reviews were attended.

### 5. Performance Consistency:

The coefficient of variation (CV), which measures the relative variability of daily leads generated by each associate, was calculated as follows:

- **Raj** : CV = 24.03%
- **Arya**: CV = 18.66%
- **Ali** : CV = 25.30%

Arya has the lowest CV, demonstrating the most consistent performance in lead generation.

### 6. High-Performance Days:

The top 10% of days with the highest lead generation for each associate were analyzed for average time spent on lead generation:

- **Raj:** The average time spent on high-performance days is 320.00 minutes, with an average time per lead of 19.25 minutes.
- **Arya:** The average time spent on high-performance days is 162.50 minutes, with an average time per lead of 10.75 minutes.

- **Ali:** The average time spent on high-performance days is 275.00 minutes, with an average time per lead of 16.75 minutes.

## 7. Impact of Longer Lead Generation Time:

An analysis was conducted to determine if there is a threshold for time spent on lead generation that significantly impacts the number of leads generated. The optimal times and average times per lead for each associate are as follows:

- **Raj:** The optimal time spent on lead generation is 360.00 minutes, with an optimal average time per lead of 19.00 minutes.
- **Arya:** The optimal time spent on lead generation is 150.00 minutes, with an optimal average time per lead of 11.00 minutes.
- **Ali:** The optimal time spent on lead generation is 360.00 minutes, with an optimal average time per lead of 18.00 minutes.

These thresholds suggest that beyond these optimal times, the number of leads generated is maximized for each associate.

## 8. Comparative Day Analysis:

The analysis aimed to compare average leads generated on weekdays versus weekends. However, no weekend data was available in the dataset, and only weekday data was included. As a result, it was not possible to conduct the analysis on performance differences based on the day of the week.

## 9. Predictive Analysis:

A simple linear regression model was used to predict the number of leads each associate is expected to generate based on their time spent on lead generation. The R-squared values for these models are as follows:

- **Raj** : R-squared = 0.41
- **Arya** : R-squared = 0.10
- **Ali** : R-squared = 0.27

These values indicate that the model using only time spent on lead generation as the independent variable explains a modest proportion of the variance in lead generation.

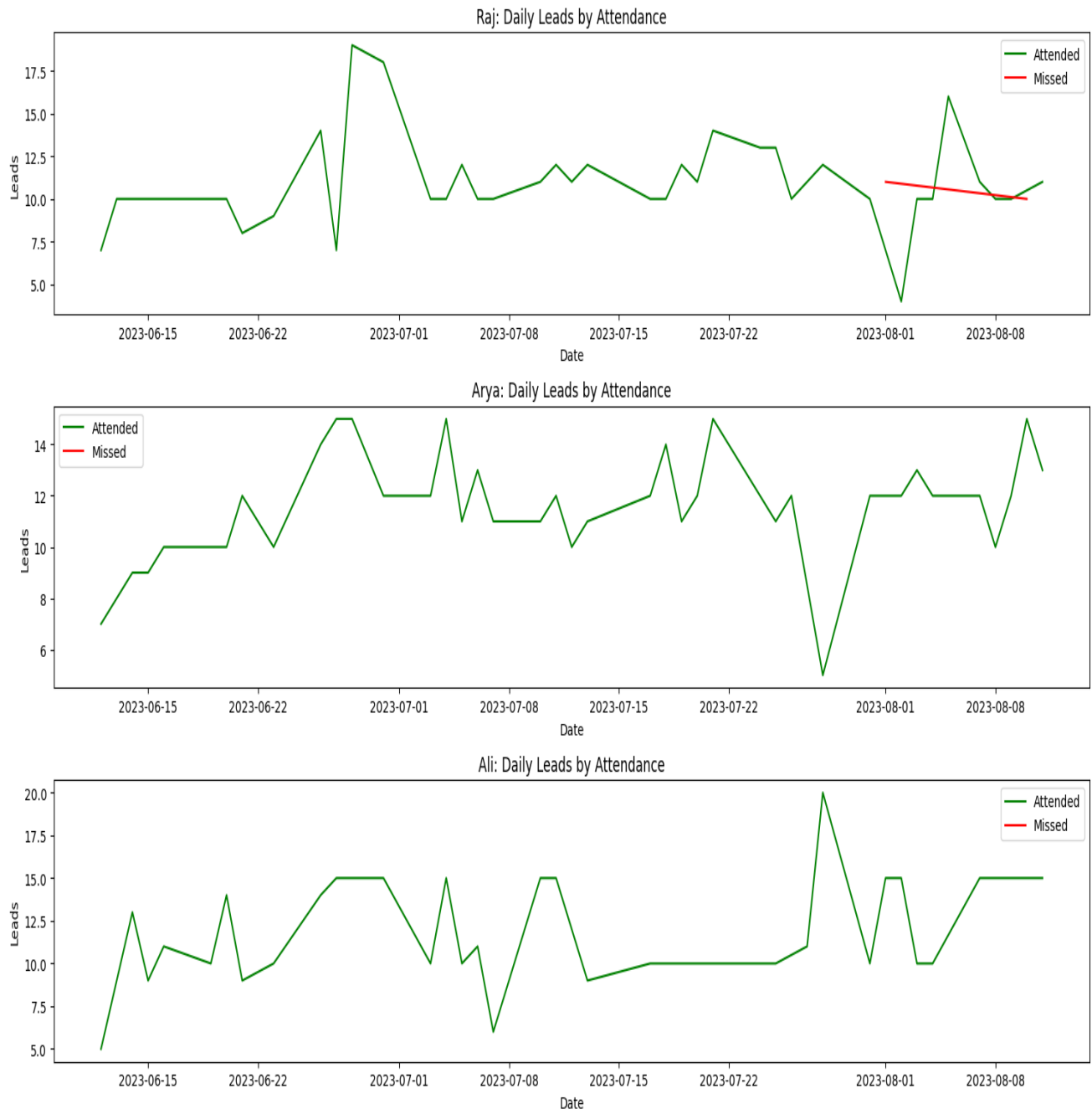
However, by incorporating all relevant columns except the target variable into the regression model, the accuracy significantly improves:

- **Raj** : R-squared = 0.97
- **Arya**: R-squared = 0.88
- **Ali** : R-squared = 0.93

These higher R-squared values demonstrate that a more comprehensive model provides a much better fit to the actual data.

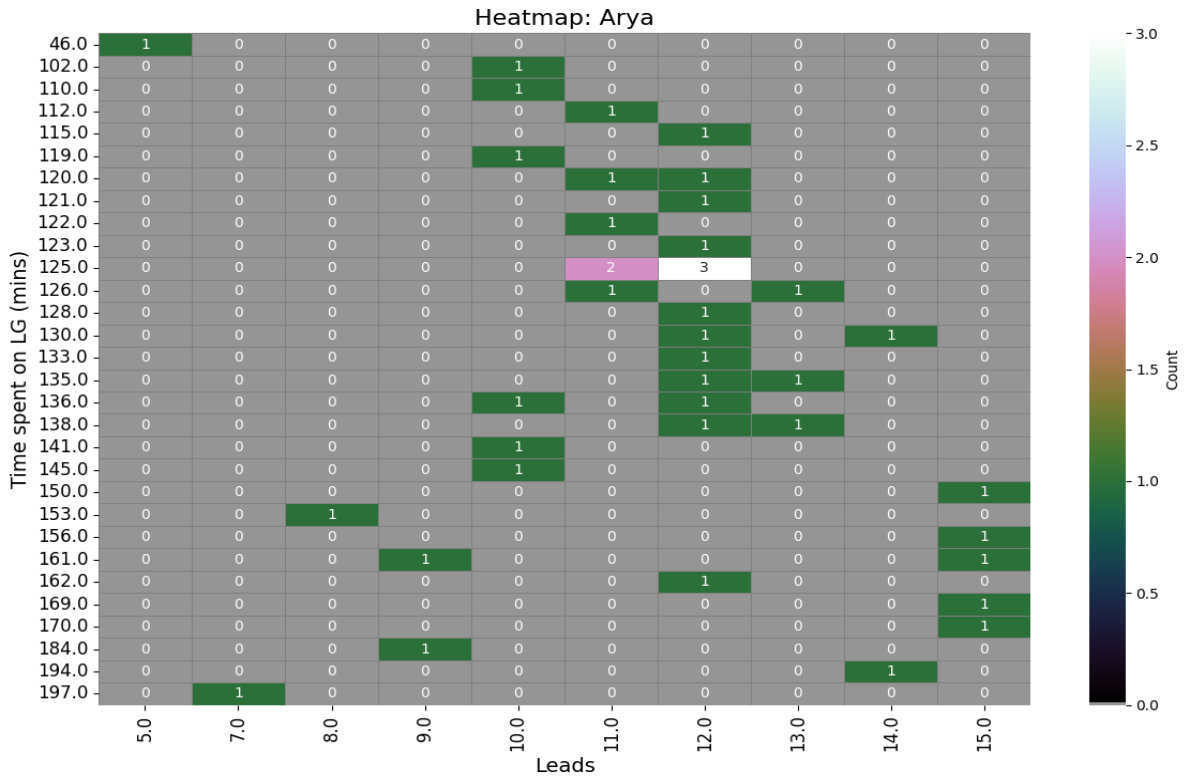
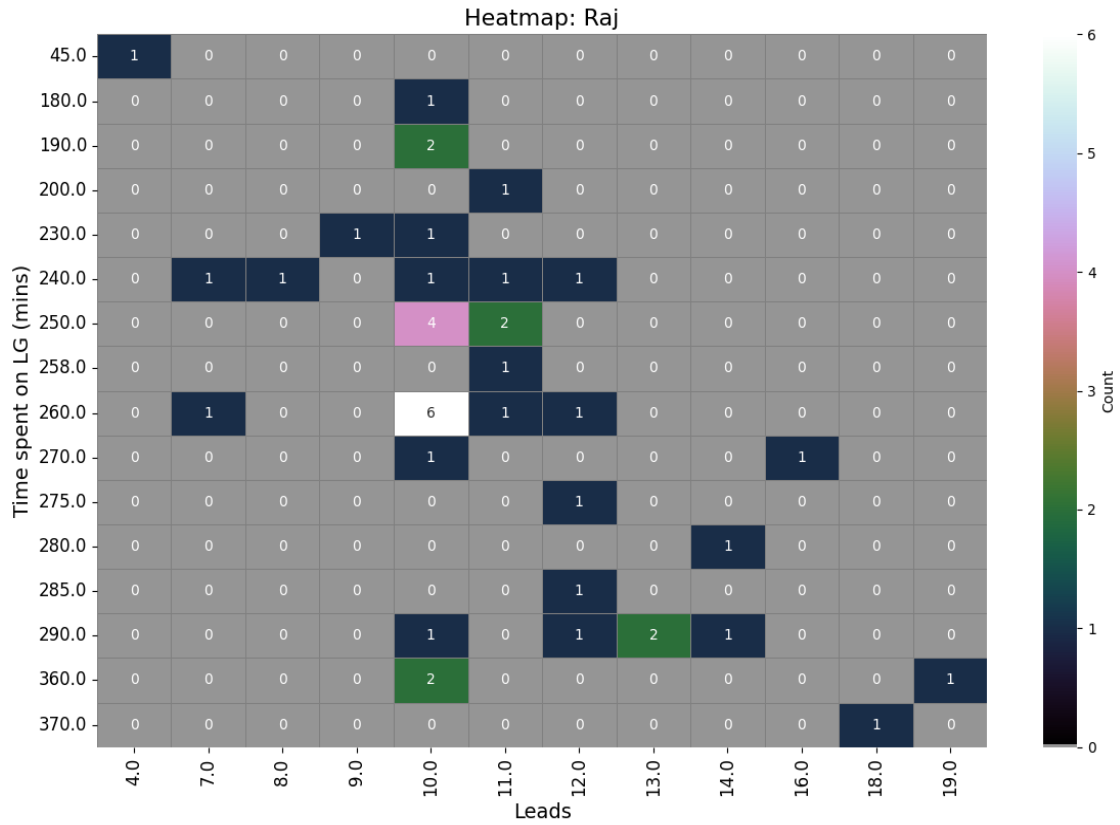
## VISUALIZATIONS

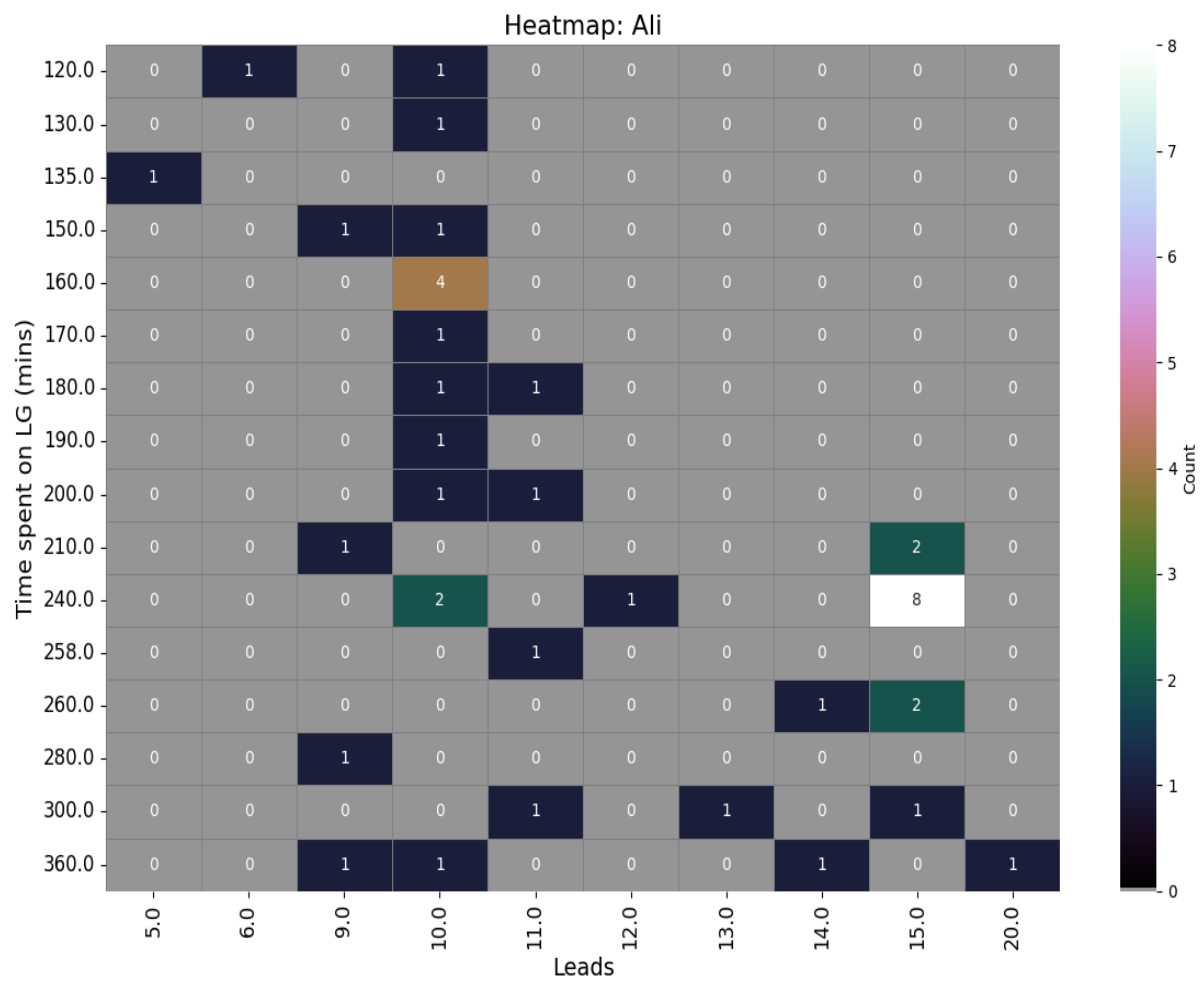
### ✓ Performance Trend with Attendance



The above line chart illustrates the trend of daily leads generated on days with attended versus missed team reviews. For each associate, including Raj, Arya (who never missed a review) and Ali (who also never missed a review), a noticeable difference in lead generation is evident based on review attendance. Generally, days with attended reviews show higher lead generation compared to days when reviews were missed.

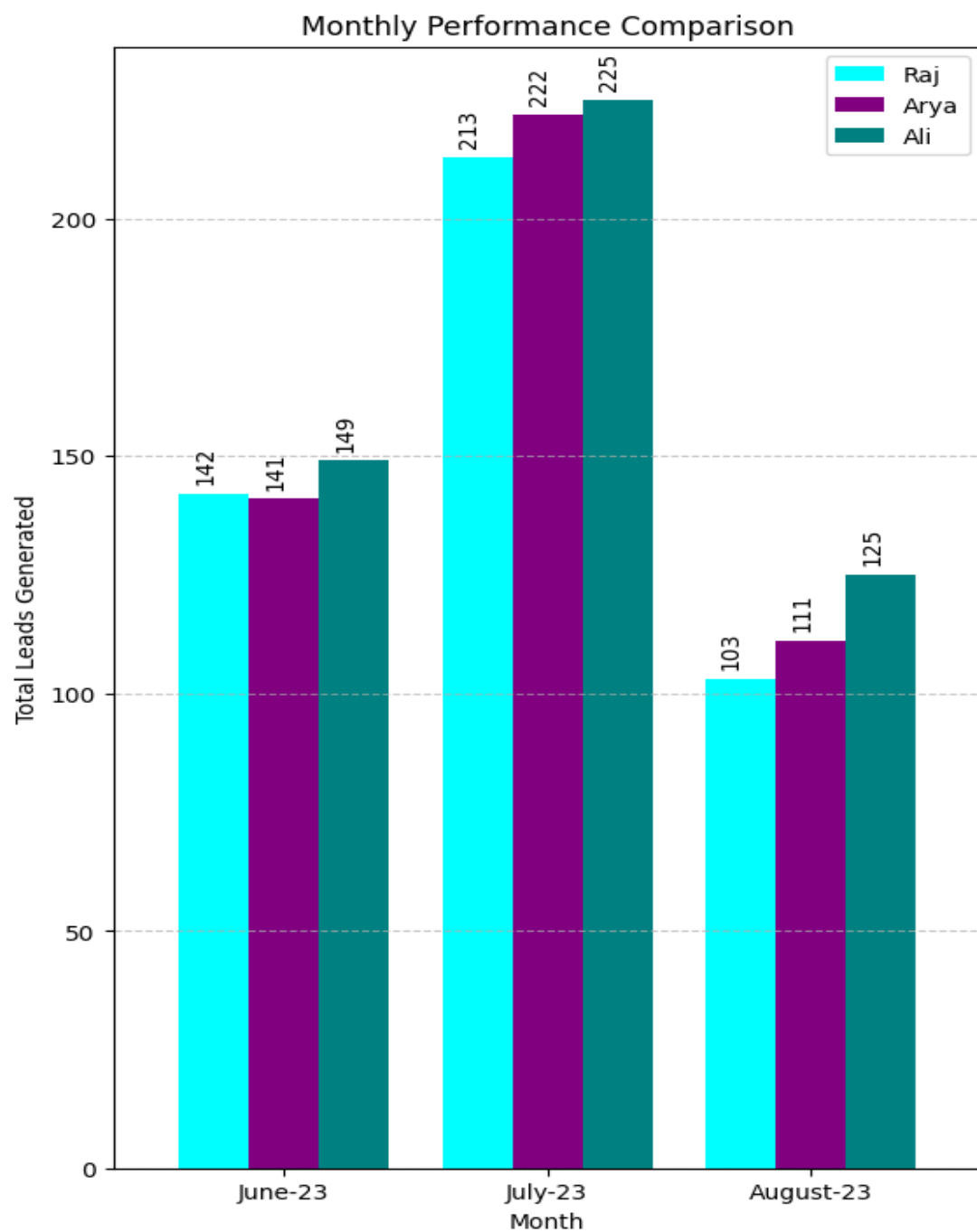
✓ **Time vs. Leads Heatmap:**





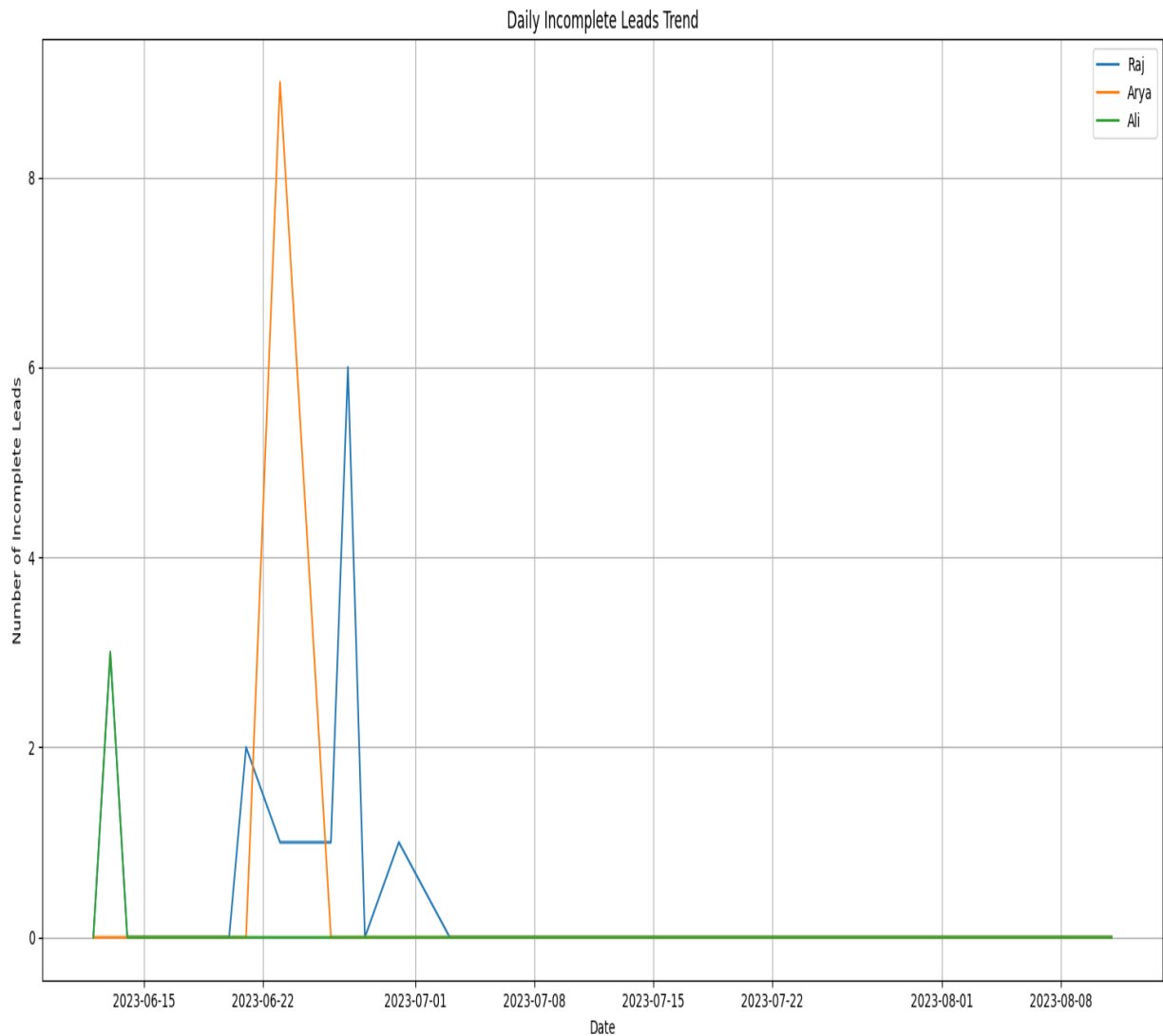
The above Heatmaps visualize the relationship between the time spent on lead generation and the number of leads generated for each associate. The heatmap displays the intensity of lead generation relative to the time spent, highlighting patterns and trends in performance.

✓ **Monthly Performance Comparison:**



The above bar chart compares the total leads generated by each associate on a monthly basis. This chart visually represents Raj, Arya, and Ali's lead generation performance throughout the year, facilitating a straightforward comparison of their monthly achievements.

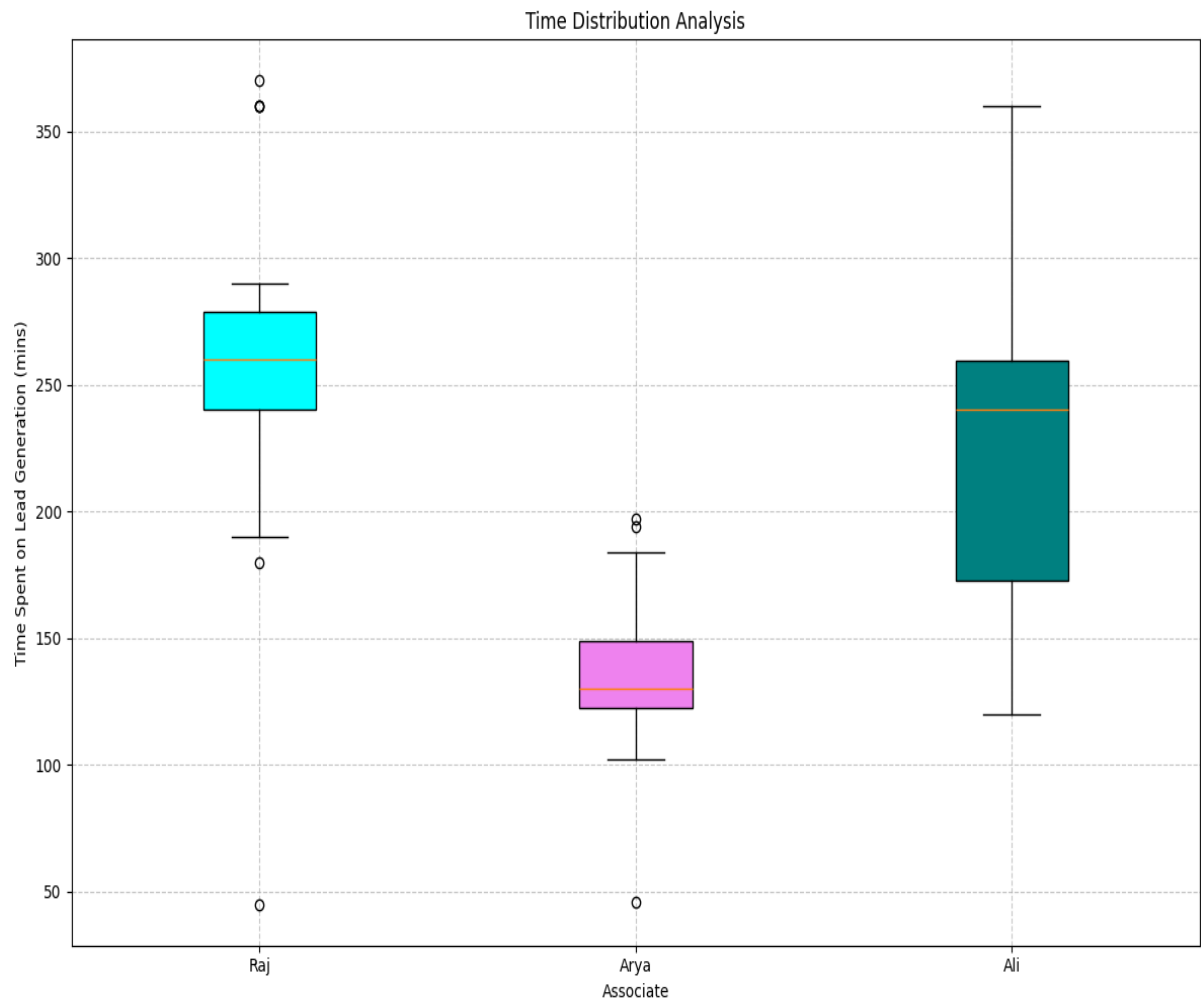
✓ **Daily Incomplete Leads Trend:**



The above line chart illustrates the daily trend of incomplete leads for each associate. This chart tracks the number of incomplete leads over time, providing insights into the consistency and variations in incomplete lead generation across Raj, Arya, and Ali.



## ✓ Time Distribution Analysis:



The above box plot visualizes the distribution of time spent on lead generation activities for each associate. This plot highlights the spread and central tendency of the time spent, including any potential outliers, for Raj, Arya, and Ali. It provides a clear overview of how each associate allocates their time across lead generation tasks.