Cricket Match Data Analysis Report

1. Introduction

This report presents a comprehensive analysis of cricket match data using Power BI. The primary objective is to evaluate the team's performance, particularly focusing on their ability to score an average of 180 runs and defend a score of 150 runs. The data was transformed and manipulated using Python libraries, such as NumPy and Pandas, before being loaded into Power BI for detailed analysis.

2. Data Preparation and Transformation

Data Sources

The data utilized in this report encompasses various aspects of cricket match performance, including batting, bowling, and overall team performance.

Data Transformation

Data transformation was conducted using Python, leveraging libraries such as NumPy and Pandas. Key transformations include:

- Creation of calculated columns such as Boundary Runs and Boundary Runs Bowling.
- Aggregation and filtering to ensure that the data is clean and relevant for analysis.

3. Key Measures

The following measures were calculated and analyzed in the Power BI report:

- **Total Runs**: The total number of runs scored by the team across all matches.
- **Total Innings Batted**: The total number of innings in which the team batted.
- **Total Innings Dismissed**: The number of innings in which the team was all out.
- **Batting Average**: The average number of runs scored per dismissal.
- **Total Balls Faced**: The total number of balls faced by the team.
- **Strike Rate**: The rate at which runs are scored per 100 balls.
- **Batting Position**: The order in which players batted.
- **Boundary %**: The percentage of runs scored through boundaries (4s and 6s).
- **Average Balls Faced**: The average number of balls faced per innings.
- **Wickets**: The total number of wickets taken by the team's bowlers.
- **Balls Bowled**: The total number of balls bowled by the team.
- **Runs Conceded**: The total number of runs conceded by the team.
- **Bowling Economy**: The average number of runs conceded per over bowled.
- **Bowling Strike Rate**: The number of balls bowled per wicket taken.
- **Bowling Average**: The average number of runs conceded per wicket taken.

- **Total Innings Bowled**: The number of innings in which the team bowled.
- **Dot Ball %**: The percentage of balls bowled that did not result in runs.
- **Player Selection**: The selection of players for analysis.
- **Display Text**: Textual information displayed in the report.
- **Color Callout Value**: Highlighted values using color to emphasize important metrics.

4. Analysis and Insights

Scoring Ability

- **Key Insight 1**: The team should be able to score at least 180 runs on average. This was identified by analyzing the Total Runs, Batting Average, Strike Rate, and other relevant metrics.

Defensive Strength

- **Key Insight 2**: The team should be able to defend 150 runs on average. This was determined by analyzing the Wickets, Bowling Economy, and Runs Conceded.

5. Visualizations and Findings

The report includes various visualizations to better understand the data:

- **Bar Charts**: Display Total Runs, Wickets, and Boundary %.
- **Line Charts**: Show trends in Batting Average and Bowling Economy over time.
- **Scatter Plots**: Compare Strike Rate with Batting Average and Bowling Strike Rate with Bowling Average.
- **Pie Charts**: Illustrate the distribution of Boundary % and Dot Ball %.
- **Gauge Charts**: Highlight the team's average runs scored and defended, with targets set at 180 and 150 runs, respectively.

6. Conclusion

The analysis reveals that the team has the potential to consistently score an average of 180 runs and defend a score of 150 runs. These findings are crucial for strategic planning and decision-making for future matches.