IPL – Most Runs Per Over Analysis Report

1. Dataset Description

1.1 Source: The dataset is a compilation of data from all seasons of the Indian Premier League (IPL) and is taken from Kaggle.

1.2 Columns:

- Player
- Runs
- Balls Faced (BF)
- Strike Rate (SR)
- 4s & 6s (Number of boundaries)
- Against (The opposing team)
- Venue (The stadium where the match was played)

1.3 Data Quality:

- No missing values
- Clean and consistent
- Well structured for analyzing scoring patterns and player performance.

2. Operations Performed

2.1 Data Cleaning & Exploration

- No missing/null values observed
- Unique values were checked in categorical columns (Against, Venue).
- Numerical columns (Runs, SR, BF, 4s, 6s) were summarized.

2.2 Descriptive Analytics

- Runs Distribution per Over (histogram)
- Strike Rate distribution (histogram)
- 4s & 6s distribution (step histogram)
- Average Runs by Opposition Team (bar chart)
- Average Strike Rate by Venue (line plot)
- Runs Spread by Venue (boxplots)

2.3 Relationship Analysis

- Runs vs. Balls (Bubble Plot)
- Boundaries vs. Runs (Hexbin Heatmap)

3. Key Insights

3.1 Scoring Patterns

- Most overs have runs in the **14–18 range**, but explosive overs (30+ runs) also exist.
- The strike rate distribution showed a majority between **280 – 360**, but some overs exceeded 500+.
- Sixes play a crucial role in overs with 24+ runs.

3.2 Opponent & Venue Insights

- Certain teams concede more runs on average, showing vulnerability in their bowling.
- Batting-friendly venues (e.g., M. Chinnaswamy Stadium, Wankhede) show **higher average SR and runs**.
- Some stadiums have wider spreads in runs, indicating more unpredictable scoring conditions.

3.3 Player Performance

- Explosive hitters (e.g., Chris Gayle, AB de Villiers) dominate the highest-scoring overs.
- Consistent strike rates across venues show the adaptability of top player

3.4 Boundary Reliance

- The analysis reveals a strong correlation between total runs and the number of boundaries scored in an over. High-scoring overs are not just about singles and doubles; they are heavily reliant on a high number of 4s and 6s.

3.5 Efficiency of Scoring

- The most impactful overs are those where runs are scored with high efficiency. The data shows that players who score a large number of runs with fewer balls faced are crucial for building momentum and setting up a competitive total.

4. Recommendations

4.1 Team Strategy

- Teams should tailor their strategies to exploit the trends in specific overs, such as preserving wickets for the death overs to maximize scoring.
- Conduct detailed analyses to evaluate individual player performance by breaking down their scoring or conceding rates per over.

4.2 Future Analytics Opportunities

- Build predictive models to forecast runs in upcoming overs based on match conditions and player-specific data.
- Use clustering to group players by their scoring patterns to refine batting orders and match-ups.

4.3 Talent Acquisition & Development

- Identify players with a high efficiency rate (runs per ball faced) for potential recruitment to maximize scoring potential in key overs.

4.4 Opponent-Specific Planning

- Advise teams to conduct in-depth analysis on opponents who tend to concede high runs in specific overs to create targeted batting strategies.

4.5 Venue-Based Strategy

- Recommend that teams adjust their batting approach based on venue insights, opting for more aggressive play at stadiums with historically high average strike rates.