Batting Intent Analysis in IPL 2025 with Python

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Overview:

In this project, we will be using a recent IPL match data between RCB and DC, which includes details like over number, batter, bowler, runs scored, and wicket events. This rich, granular dataset allows us to analyze batting patterns across different phases of the game.

The scope of our analysis is to understand batting intent:

How players approach the game in various situations; by examining strike rates, boundary percentages, dot ball rates, and over-wise performance, ultimately uncovering insights that can influence real-time strategy and decision-making.

Key Findings:

- ✓ Calculating each batters strike rates across different phases of the game
- ✓ Team-wise Batting Intent across match phases
- ✓ Boundary Percentage VS Dot Ball Percentage per Batter
- ✓ Over-wise Run Progression of Top 4 Batters
- ✓ Correlating Batting Tempo with Wicket Falls

Step-by-step process:

To achieve above targets, i approached the following process.

- ✓ Getting data from data source
- ✓ Loading the data
- ✓ Data Inspection (Meta Data Inspection)
- ✓ Data cleaning
- ✓ Missing value findings
- ✓ Imputations
- ✓ Adding calculated columns (if needed)
- ✓ Data Aggregations
- ✓ Data visualizations

Tools Used:

The following are the tools, which i used majorly to get desired outputs.

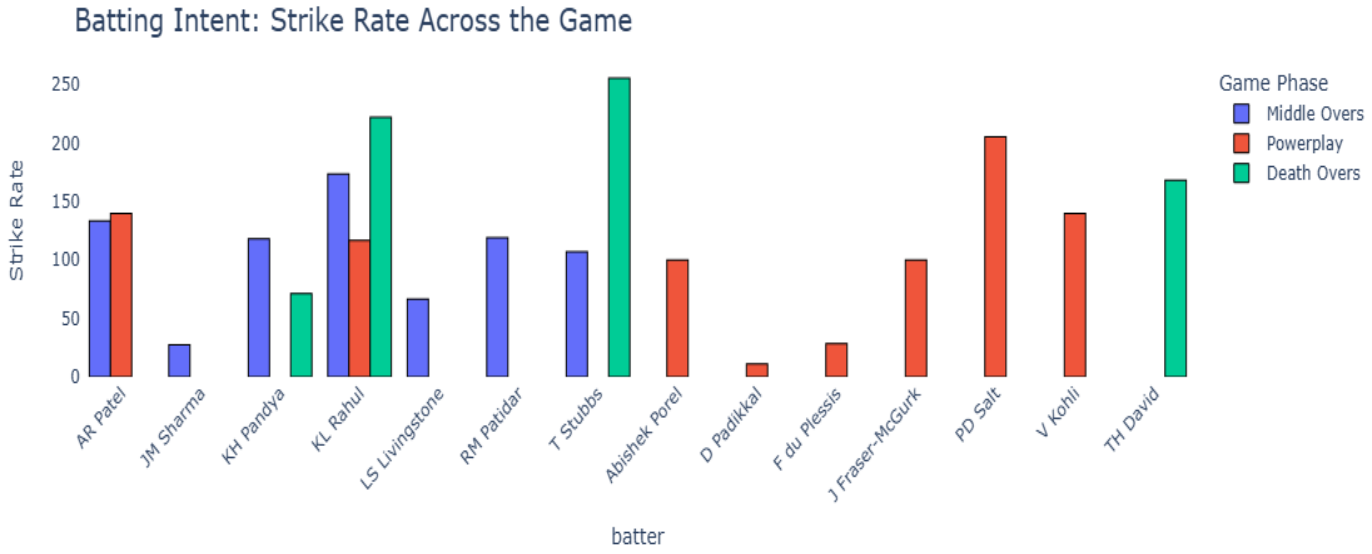
- ✓ Excel
- ✓ Python
- ✓ Numpy library
- ✓ Pandas library
- ✓ Seaborn library
- ✓ Math library
- ✓ Plotly library

  Sub modules under plotly
  - graph_objects
  - Express

Results – Findings – Outputs

1. **Calculating each batter's strike rate across different phases of the game**

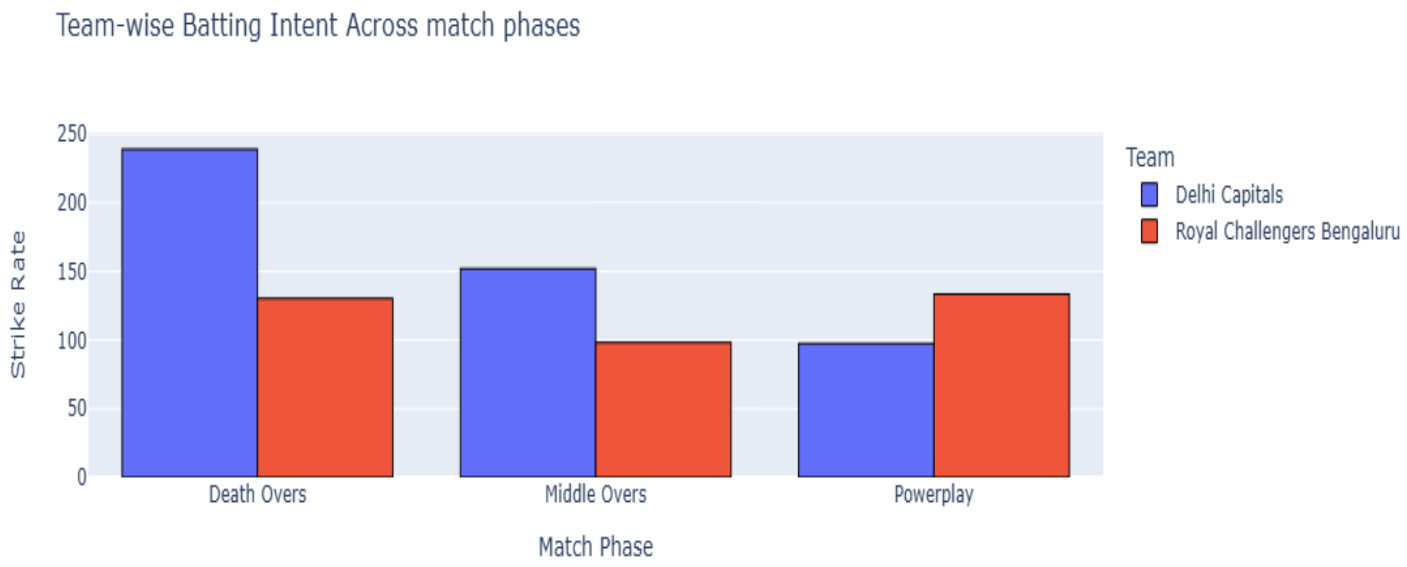
   From the above visualization, T Stubbs and KL Rahul showcased aggressive intent in the Death Overs, with strike rates exceeding 220 and 220, respectively, indicating high impact finishing roles. PD salt and AR Patel were strong with strike rates over 140 in the Powerplay.



2. Team-Wise Batting Intent Across Match Phases

In this, i compared the batting intent of both teams across different match phases using strike rate as a metric.

Performed Aggregations for Batting_team & Phase as categorical columns with Runs _batter as numerical columns and make them sum & count.

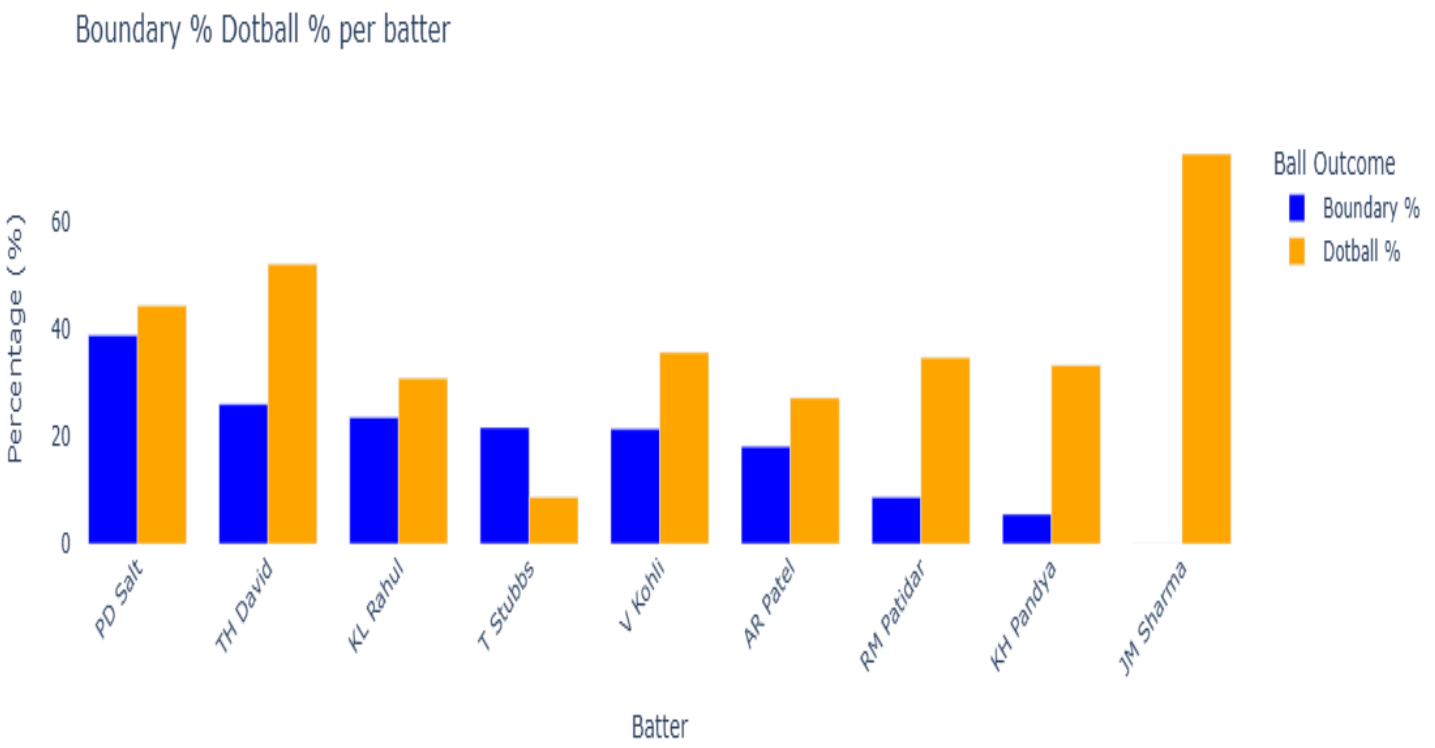


The graph reveals a stark contrast in batting intent between Delhi Capitals and Royal Challengers Bengaluru across different match phases. Delhi Capitals showed a clear surge in aggression during the Death Overs, registering a strike rate close to 240, significantly outpacing RCB.

In Powerplay, RCB were showed more aggressive intent with strike rate of around 135, while Delhi started more cautiously. Across Middle Overs, Delhi again maintained a higher tempo than RCB, suggesting better momentum building and acceleration strategies. Overall, DC dominated the later stages, while RCB leaned on early aggression.

3. Boundary % VS Dot ball % per Batter

Analyzing each batter's ability to rotate strike and score boundaries by calculating their Boundary % and Dot Ball %.



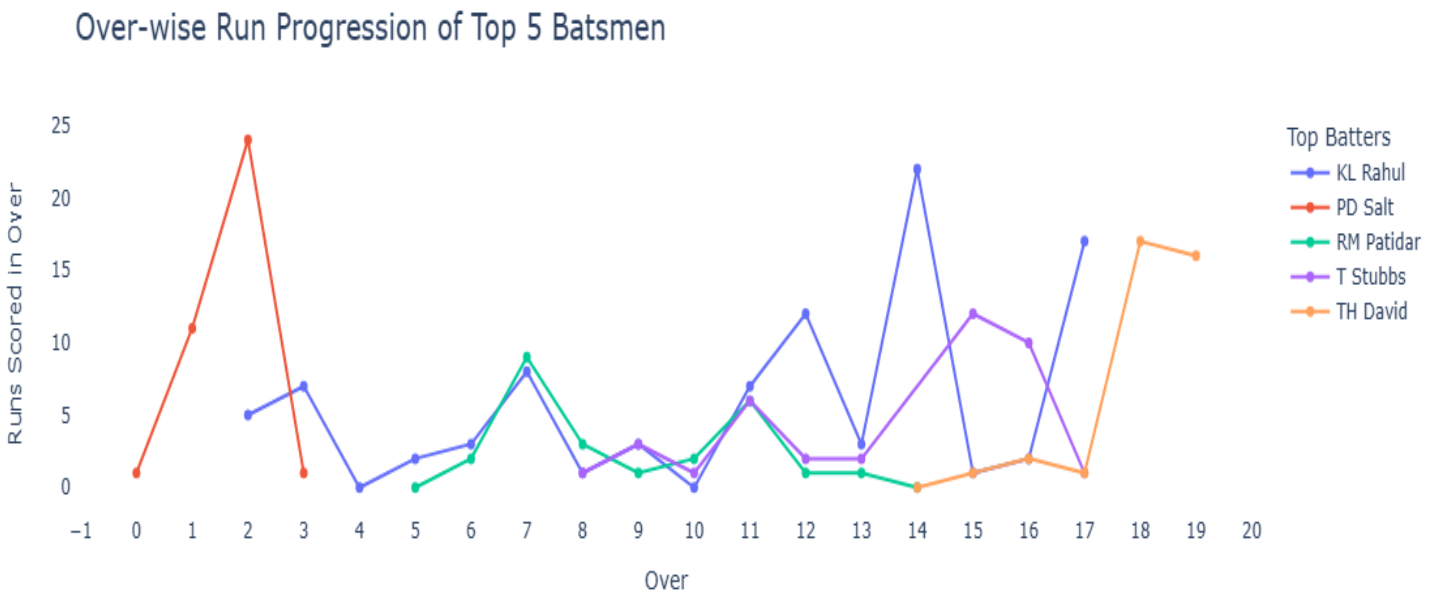
From the above plot, i observed,

PD Salt Stands out with the most balanced approach - high boundary rate(39 %) and relatively low dot ball %, indicating consistent attacking intent. TH David, despite a strong boundary presence, also has a high-reward style.

JM Sharm's intent appears defensive or ineffective, with a dot ball percentage of over 70% and negligible boundaries. Batters like KL Rahul and V Kohli show moderate boundary rates but also face a significant number of dot balls.

4. Over-Wise Run Progression of Top-5 Batters.

Tracking how the top 5 run scorers progressed throughout the innings by analyzing their over-wise scoring patterns.



From the above visualization observations are follows

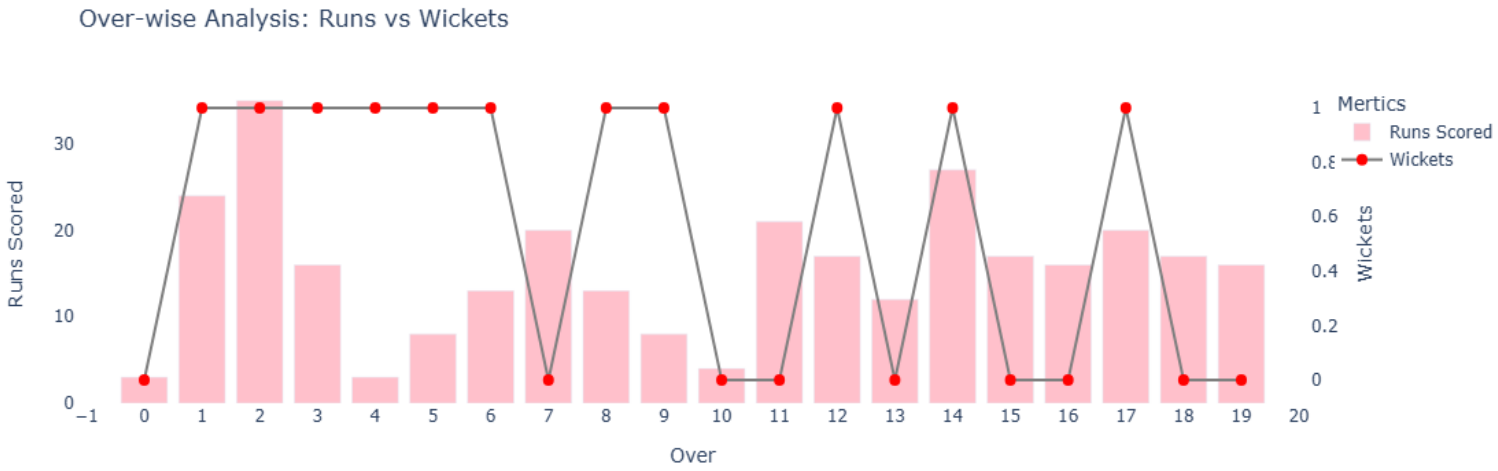
- **KL Rahul** [2-17 overs]
- **T Stubbs** [8-17 overs]
- **PD Salt** [1-3 overs]
- **TH David** [14-20 overs]
- **RM Patidar** [5-14 overs]

PD Salt demonstrated explosive intent upfront, scoring heavily in the first three overs, especially with a 24-run blitz in the 2nd over. KL Rahul adopted a steadier approach, gradually accelerating through the middle overs and peaking with a 22-run over around the 14th , T Stubbs showed late inning aggression, particularly in overs 14 to 16, aligning with a finisher's role. TH David made his impact during the death overs (17-19), consistently scoring above 15 runs per over, indicating high-impact finishing intent.

Overall, each batter's run pattern reflects their strategic roles in the innings

5. Correlating Batting Tempo with Wicket Falls

Comparing how runs and wickets fluctuated over each over to understand momentum shifts during the innings.



In early overs (2nd and 3rd overs) indicate explosive intent, with 35+ runs scored, which means aggressive powerplay batting. However, this high-risk approach also led to early wickets, as seen in the 1st and 4th overs. The middle overs (7-10) show fluctuating intent with moderate scoring and occasional wicket losses, indicating a cautious rebuild phase.

The batting regained momentum in the death overs (13-19) with consistent scoring around 16-27 runs per over, despite losing wickets in the 14th and 17th, reflecting strong finishing intent while balancing aggression with risk.

THE END