IPL Data Analysis

Statistical Analysis & Performance Insights

by soham sheemar

Introduction to IPL Analytics

The Indian Premier League (IPL) is a premier T20 cricket league. This project analyzes extensive IPL match data. We extract valuable player and team performance insights. Our goal is to uncover hidden trends.

What is IPL?

A leading Twenty20 cricket league.

Project Purpose

Analyze player statistics and insights.

Key Objective

Derive actionable performance insights.

Problem Statement

The core problem is to analyze IPL player statistics and match performances throughout all the seasons from 2008 up till 2024. We aim to extract meaningful insights. This is useful for player evaluations. It helps in understanding game dynamics deeply.

Analyze Player Data

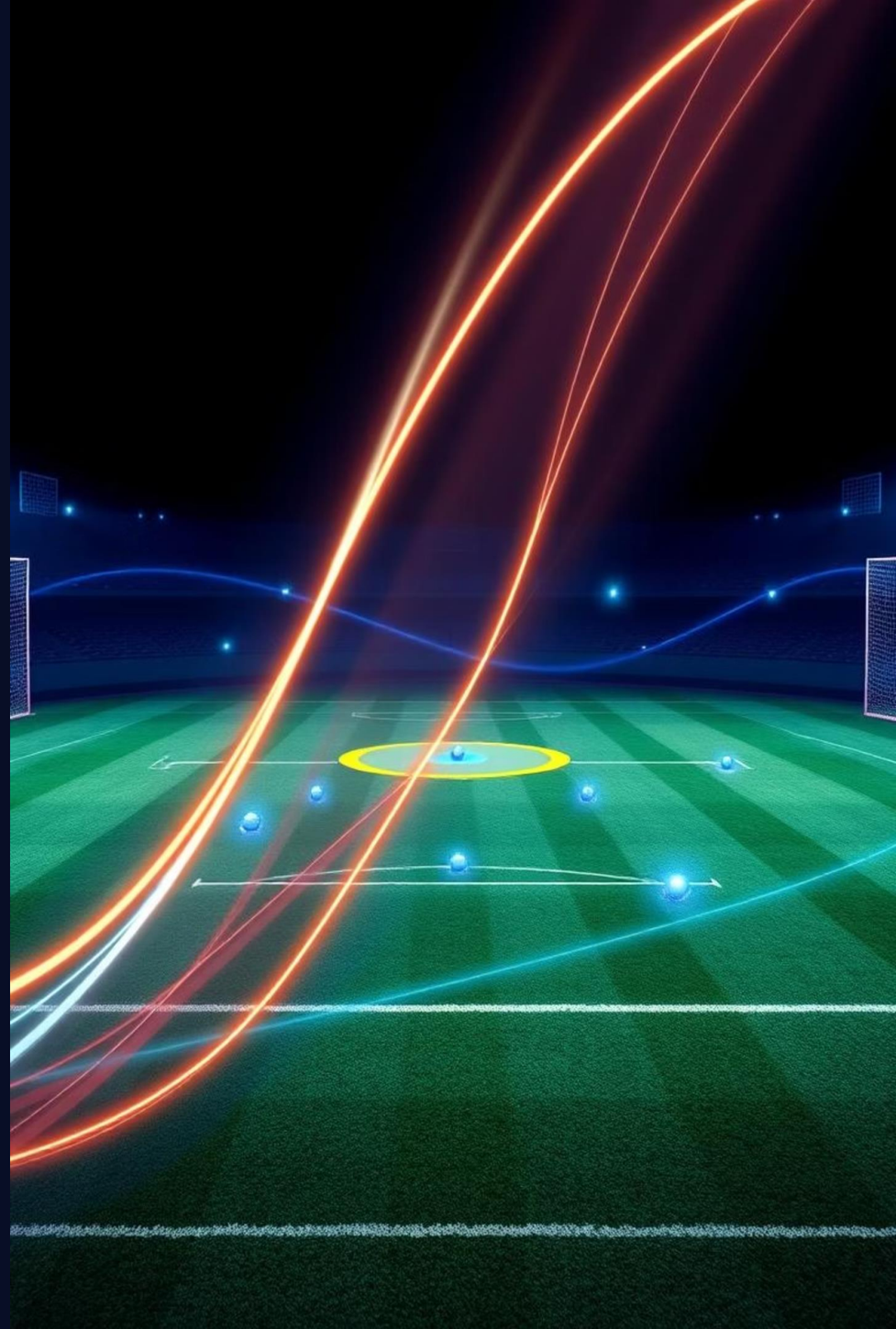
Deep dive into individual performances.

Extract Insights

Uncover trends and patterns.

Strategic Value

Inform team and player decisions.



Dataset Overview

Our dataset comprises extensive IPL match data. It includes details like runs scored, wickets taken, and player names. Match results provide context. The dataset is comprehensive, enabling robust analysis.

Dataset Scope

- Over 10 seasons of IPL data.
- Ball-by-ball match information.
- Player and team statistics.

Key Columns Sample

Batting Average	Matches Batted
Centuries	Matches Bowled
Batting Strike Rate	Stumpings
Economy Rate	5 Wicket Haul

Tools & Libraries Used

We leveraged powerful Python libraries for this analysis. Pandas handled data manipulation. NumPy provided numerical operations. Matplotlib and Seaborn created insightful visualizations. Jupyter Notebook facilitated interactive development.

Python

Primary programming language.

Pandas

Data structuring and analysis.

NumPy

Numerical computing power.

Matplotlib

Static plot generation.

Seaborn

Enhanced statistical graphics.

Jupyter

Interactive analysis environment.

Data Cleaning & Preprocessing

Data cleaning was crucial for accuracy. Missing values were identified and imputed. Filters were applied to focus on relevant data. Basic exploratory data analysis provided initial insights. This ensured data readiness.

Identify Missing Data

Locate gaps in the dataset.

Handle Inconsistencies

Standardize data formats and values.

Apply Filters

Refine data to meet analysis criteria.

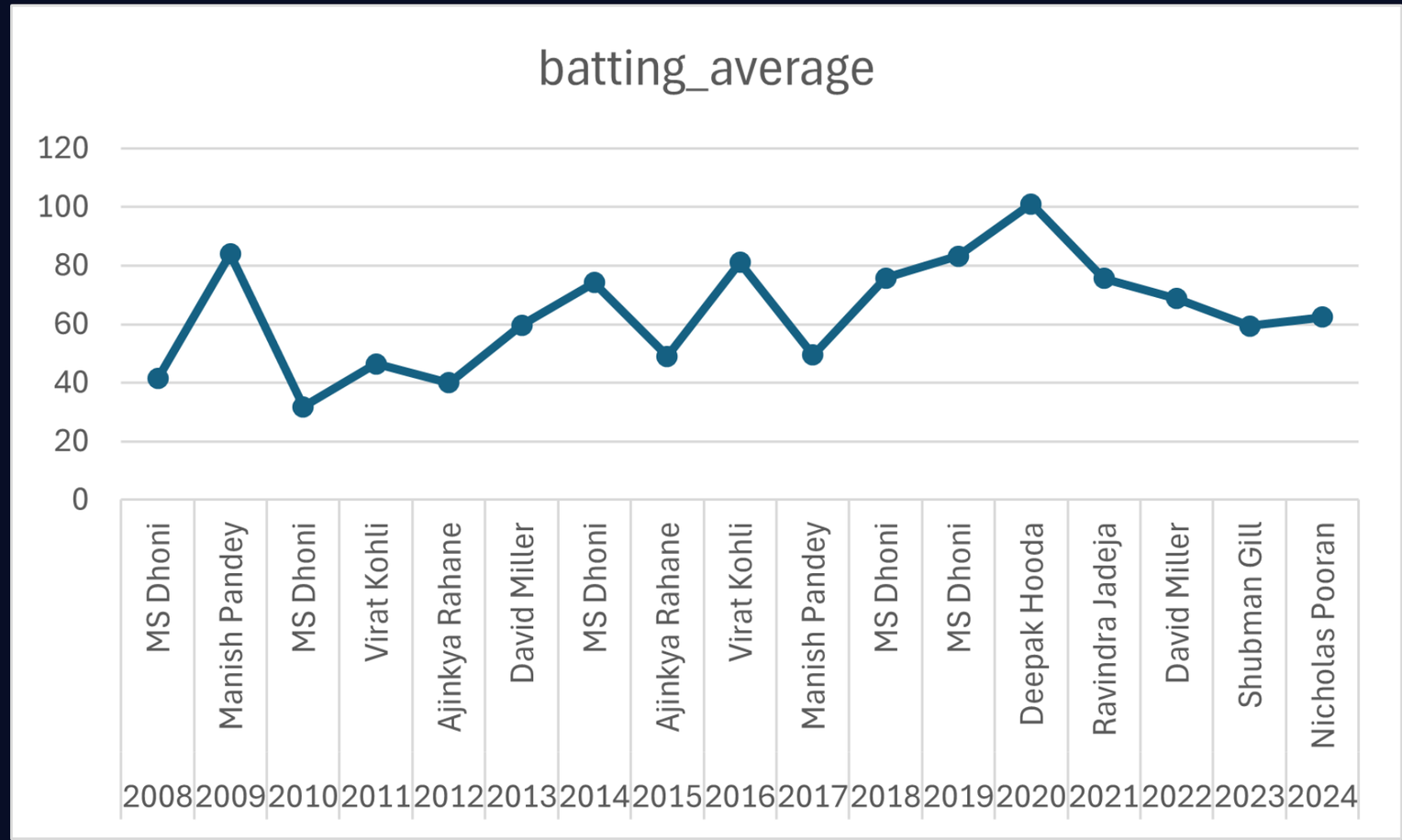
Basic Exploration

Initial insights before deep dive.

Key Batting Analysis

We identified players with the highest batting averages for each year. A minimum of 5 matches played was required. This provided a reliable measure of consistent batting performance across seasons.

Players with Highest Batting Average in Each Year (Min. 5 matches played)		
Year	player_name	batting_average
2008	MS Dhoni	41.4
2009	Manish Pandey	84
2010	MS Dhoni	31.88
2011	Virat Kohli	46.41
2012	Ajinkya Rahane	40
2013	David Miller	59.71
2014	MS Dhoni	74.2
2015	Ajinkya Rahane	49.09
2016	Virat Kohli	81.08
2017	Manish Pandey	49.5
2018	MS Dhoni	75.83
2019	MS Dhoni	83.2
2020	Deepak Hooda	101
2021	Ravindra Jadeja	75.66
2022	David Miller	68.71
2023	Shubman Gill	59.33
2024	Nicholas Pooran	62.38



Key Bowling & All-Rounder Analysis

We analyzed bowlers with the best averages. A minimum of 50 overs bowled was set. All-rounders scoring over 400 runs and taking more than 15 wickets were identified. We also found players with a century and 10+ wickets.

Top Bowler

Best bowling average (min. 50 overs). – **SUNIL NARINE (2012)**

Elite All-Rounders

400+ runs and 15+ wickets in a season. – **SUNIL NARINE (2024)**

Century & Wickets Club

Scored a century and took 10+ wickets. – **SUNIL NARINE (2024)**

Half-Century & Wickets Club

Scored a fifty and took 15+ wickets. – **HARDIK PANDAYA (2018)**

Other Interesting Insights

- Highest batting average with at least 5 matches played – MS DHONI (2019) BATTING AVERAGE OF 83.2. *(fig1)*
- ONLY 5 all-rounders have scored a half century and taken more than 15 wickets in a single season, ANDRE RUSSELL & SUNIL NARINE achieved this feat twice. *(fig2)*
- Best wicket-keeping stats (>= 5 stumpings and at least 1 half century).
- Only 2 players in history of ipl has played a season with a batting strike rate of >150 and has a bowling econ between 5-6 with minimum of 10 matches played in a season:

1. RAVICHANDRAN ASHWIN (2015)
2. SUNIL NARINE (2022)

FIGURE 1

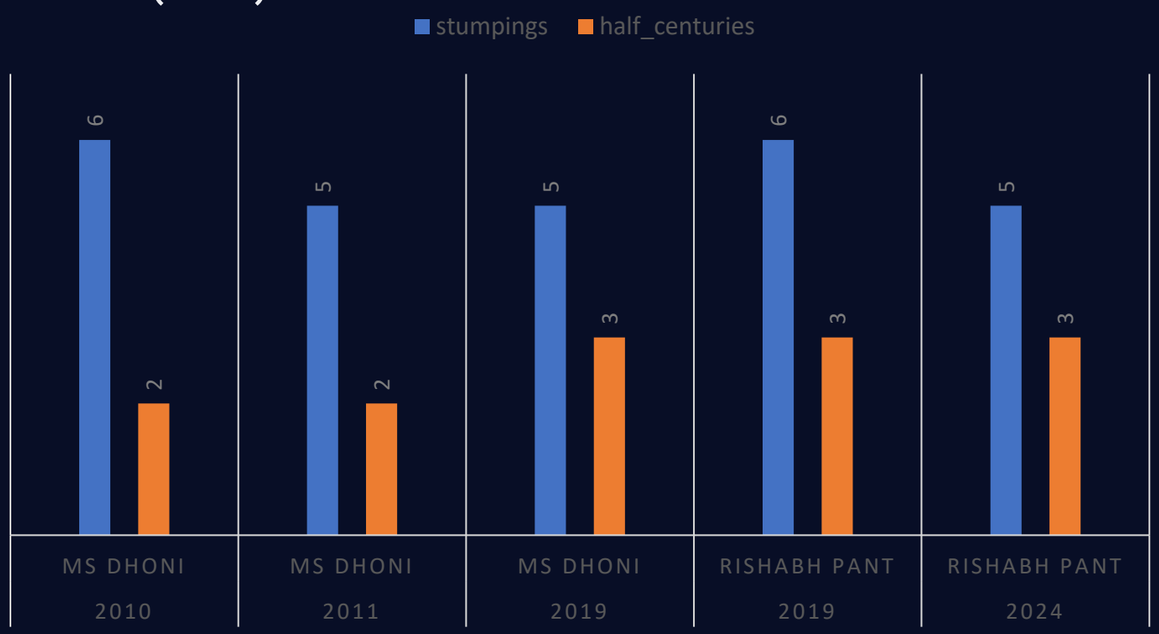
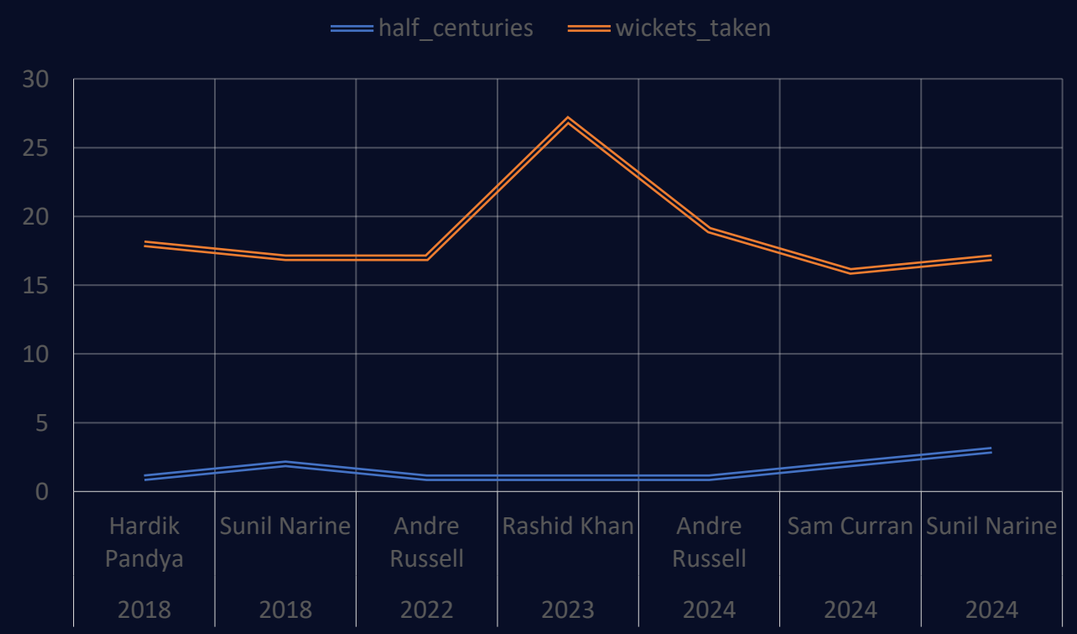


FIGURE 2



Conclusion & Future Scope

This analysis provided deep insights into IPL player and team performances. Future improvements could include predictive modeling. Thank you for your attention.

Key Takeaways

Identified top performers.

Future Enhancements

Developing predictive models for matches.

Thank You

Appreciate your time and interest.