| **Project Title** | **IPL Data Analysis Using Power BI/Tableau** |
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| **Skills take away From This Project** | **Data Visualization using Power BI/Tableau**  **Dashboard Creation**  **Exploratory Data Analysis (EDA)**  **Generating Insights from Data**  **Interactive Reporting**  **Data Validation Techniques** |
| **Domain** | **Sports Analytics** |

[**IPL\_ANALYSIS-ORIENTATION-VIDEO.mp4**](https://drive.google.com/file/d/1rZwzr6zRUDvzh9QHjeOxK_dwUBlD4bTo/view?usp=sharing)

**Problem Statement:**

The aim of the project is to analyze the data of the Indian Premier League (IPL) to gain insights into the game using Power BI or Tableau

**Business Use Cases:**

* Identifying the most successful teams and players in the IPL.
* Determining the factors that contribute to a team's or player's success.
* Analyzing the impact of different playing conditions on the outcome of matches.
* Identifying trends in IPL data over time.
* Generating insights that can be used to improve the performance of IPL teams and players.
* Player selection and auction strategies.
* Performance analysis and optimization.
* Augmented coaching and data-driven analysis.
* Enhancing fan engagement.
* Improving broadcasting strategies.

**Approach:**

1. **Data Collection**: Use the provided IPL datasets.
2. **Data Cleaning and Preparation**:
   * Use Power BI or Tableau to handle missing values and ensure data consistency.
3. **Data Analysis and Visualization**:
   * Create visual representations of the following:
     + Highest and lowest scorers in the IPL.
     + Bowlers with the most wickets and those with zero wickets.
     + Stats of the top 5 bowlers.
     + Top fielders based on catches and run-outs.
     + Number of tosses won by each team and match winners after winning the toss.
     + Most successful IPL teams.
     + Most sixes and fours by individuals and teams.
     + Decisions made after winning the toss, both overall and team-wise.
     + Number of matches hosted by different cities and identify the lucky stadium for the top team.
4. **Insights Generation**: Use Power BI/Tableau features to draw meaningful insights and conclusions.

**Results:**

By the end of the project, learners should be able to:

* Identify the top performers in the IPL.
* Understand the factors contributing to the success of teams and players.
* Recognize the impact of toss decisions on match outcomes.
* Generate actionable insights to help IPL teams improve their strategies.
* Create interactive dashboards to visualize the analysis using Power BI or Tableau.

**Project Evaluation metrics:**

* Accuracy of data cleaning and preprocessing steps.
* Quality and clarity of data visualizations.
* Depth and accuracy of insights generated.
* Ability to answer the specific analysis questions provided.
* Proficiency in creating and interpreting Power BI/Tableau dashboards.

**Technical Tags:**

Power BI

Tableau

Data Visualization

Sports Analytics

IPL

Data Analysis

Dashboard Creation

EDA

**Data Set:**

**Source**:[matches (1)](https://docs.google.com/spreadsheets/d/1NC_AGTMvoOq7gwxonH6Txm6K3LQb099prkRW5--gF54/edit?usp=sharing)

[deliveries](https://docs.google.com/spreadsheets/d/1i84Ka-rQNKl8mf_hJ_yYkoebVOaU-BcS6F5uGjKt0Wc/edit?usp=sharing)

**Format**: CSV files

**Variables**: Player names, team names, match details, scores, wickets, catches, run-outs, city names, stadium names, toss details, match results, etc.

**Data Set Explanation:**

**Matches Dataset Columns**

id: Unique identifier for each match.

season: The year the IPL season took place.

city: The city where the match was played.

date: The date on which the match was played.

team1: The name of one of the teams that played the match.

team2: The name of the other team that played the match.

toss\_winner: The team that won the toss.

toss\_decision: The decision made by the toss-winning team (field or bat).

result: The result of the match (e.g., normal, tie).

dl\_applied: Indicates if the Duckworth-Lewis method was applied (1 if applied, 0 if not).

winner: The team that won the match.

win\_by\_runs: Margin of victory in runs if the match was won by runs.

win\_by\_wickets: Margin of victory in wickets if the match was won by wickets.

player\_of\_match: The player who was awarded the Player of the Match.

venue: The name of the stadium where the match was played.

umpire1: The name of the first umpire.

umpire2: The name of the second umpire.

umpire3: The name of the third umpire (if any).

**Deliveries Dataset Columns**

match\_id: Unique identifier for each match (same as in the matches dataset).

inning: The inning number (1 or 2).

batting\_team: The team that is currently batting.

bowling\_team: The team that is currently bowling.

over: The over number in the current inning.

ball: The ball number in the current over.

batsman: The name of the batsman facing the delivery.

non\_striker: The name of the batsman at the non-striker end.

bowler: The name of the bowler delivering the ball.

is\_super\_over: Indicates if the ball was delivered in a Super Over (1 if true, 0 if not).

wide\_runs: Number of runs scored as wides in the delivery.

bye\_runs: Number of runs scored as byes in the delivery.

legbye\_runs: Number of runs scored as leg byes in the delivery.

noball\_runs: Number of runs scored as no-balls in the delivery.

penalty\_runs: Number of penalty runs awarded in the delivery.

batsman\_runs: Number of runs scored by the batsman on the delivery.

extra\_runs: Total extra runs awarded in the delivery (sum of wide, bye, legbye, noball, and penalty runs).

total\_runs: Total runs scored in the delivery (sum of batsman runs and extra runs).

player\_dismissed: Name of the player dismissed in the delivery (if any).

dismissal\_kind: The method of dismissal (e.g., caught, bowled, run-out).

fielder: Name of the fielder involved in the dismissal (if any).

**Project Deliverables:**

A Power BI or Tableau dashboard with the following:

* Visualizations showcasing the top performers in various categories.
* Analysis of match outcomes, toss decisions, and trends over seasons.
* Interactive filters to explore the data by team, player, season, and match venue.
* Insights and conclusions drawn from the data.

A report summarizing the analysis, insights, and recommendations.

**Project Guidelines:**

* Follow best practices for data visualization and dashboard design.
* Ensure data accuracy and consistency.
* Use interactive features of Power BI/Tableau to make the dashboard user-friendly.
* Document any assumptions or data cleaning steps.

**Timeline:**