



# UCD Michael Smurfit Graduate Business School

M.Sc. Business Analytics

MIS41420 – Sports & Performance Analytics

Sports Analytics Tool- Strategistat

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## 1. Introduction

The Indian Premier League is known as IPL. The Board of Control for Cricket in India (BCCI) established the IPL in 2008. IPL is a professional Twenty20 cricket competition in India. In the world of cricket, the IPL is regarded as one of the most enduring and lucrative competitions.

Teams from various Indian cities or regions compete against one another under the league's franchise structure. The ten teams that currently compete in the IPL are Chennai Super Kings, Delhi Capitals, Gujarat Titans, Kings XI Punjab, Kolkata Knight Riders, Lucknow Super Giants, Mumbai Indians, Rajasthan Royals, Royal Challengers Bangalore, and Sunrisers Hyderabad.

Some of the best cricket players in the world, both from India and abroad, have participated in the IPL, creating intense competition and thrilling matches. Due to its combination of top-notch cricket, famous players, entertainment, and fan interaction, it has experienced tremendous growth in popularity. The league has also made a vital contribution to the growth of Indian cricket as well as the development of young talent.

Tableau Link :

[https://public.tableau.com/app/profile/abhinav.ram.ps/viz/MIS41420\\_Sports\\_Analytics\\_Tool\\_IPL-2\\_0/LandingPage](https://public.tableau.com/app/profile/abhinav.ram.ps/viz/MIS41420_Sports_Analytics_Tool_IPL-2_0/LandingPage)

## 2. About Dataset

The data used is a compilation of Player statistics from several cricket competitions, including the IPL, BBL, CPL, Blast, S20, Sri Lankan cricket, and the Syed Ali Memorial T20 Tournament. These Statistics were sourced from Cricinfo.com, a well-known cricket website that offers in-depth coverage of players' performances and games. Insights into the batting and bowling abilities of various players throughout various leagues are provided by the data, which displays their Age, Teams, runs scored, highest scores, batting averages, batting strike rates, centuries, half-centuries, ducks, fours, and sixes, Bowling statistics include balls bowled, runs provided, wickets taken, bowling average, economy, and strike rate. [1]

## 3. What does the tool do?

Strategistat is a comprehensive platform designed to provide deep insights and analysis into the captivating world of the Indian Premier League (IPL). This tool, which is centred on the latest season, has a variety of features that allow users to investigate player performances, team dynamics, young talent scouting, auction preparation, player impact assessment, SWOT analysis, head-to-head statistics, and win/loss forecasts. Each key feature is described in depth below:

### 1. Insights about the Performances of Players and Teams:

Users can learn in-depth insights and analytics about how each player and team performed during the IPL 2022–23 season. They can explore in-depth data on batting

averages, strike rates, bowling economy rates, ability to take wickets, fielding prowess, and overall impact. Users can use this tool to find the best players, keep tabs on their consistency, and assess their performance in various matches, locations, and competition stages.

**2. Discovering Young Talents from T20 Leagues across the World:**

The tool offers a database of emerging cricket players from different T20 competitions throughout the world. Users can find talented athletes that have excelled in their respective leagues and demonstrated great skill and potential. Users can find budding stars that could have a significant impact on future IPL seasons by utilizing powerful analytics and scouting techniques. They can monitor their development, performance patterns, and suitability for various teams and playing situations.

**3. Auction Planning and Strategy:**

Users can confidently prepare for the IPL auction using the Auction Planning and Strategy feature. Users can access historical data, player profiles, and performance analytics to create a strong auction strategy. A player's strengths, shortcomings, recent performance, and appropriateness for particular team requirements can all be considered while making judgments. The tool assists users in maximizing squad balance, budget distribution, and team makeup to improve their chances of assembling a successful team.

**4. Determining Player Impact and Performances:**

Using advanced statistics and performance indicators, the application enables users to assess players' total impact and contributions. They can develop a comprehensive grasp of a player's impact on team outcomes, including their capacity to win matches, ability to alter the course of games, and consistency in various game circumstances. Users can pinpoint the essential elements that go into a player's success and how they affect the tactics and results of the team.

**5. SWOT Analysis of IPL Teams:**

Users can thoroughly analyze each IPL team's SWOT (Strengths, Weaknesses, Opportunities, and Threats) profile. They can evaluate the lineup at bat, bowling attack, fielding prowess, team chemistry, tactical judgment, and general performance trends. The tool aids users in determining each team's competitive advantages, prospective strategies, and areas for improvement. They can evaluate how team chemistry, captaincy changes, and player transfers affect their success.

The Strategistat Tool gives cricket lovers, team strategists, analysts, and fans alike access to the power of robust data analytics, visualizations, and user-friendly interfaces. Discover the IPL's secrets, get unmatched insights, and set out on a thrilling quest to solve the puzzles of cricket's best competition.

## 4. For Whom is the tool useful?

### Key Stakeholders-

#### 1. Team Management

- **Analyse the Key Performance Indicator (KPI) of each player in the team.**  
Team Management can use the tool to examine each player's Key Performance Indicators (KPIs). The player performances, including batting averages, strike rates, bowling economy rates, and fielding effectiveness, are thoroughly examined in this section. Team Management can decide on team makeup, player responsibilities, and batting or bowling orders by analyzing these KPIs to determine the strengths and weaknesses of specific players.
- **Identify key matchups from the opponent teams.**  
The application allows Team Management to locate and evaluate crucial games between rival teams. Team Management receives insights into their players' performance against particular opponents in previous matches by examining historical data and head-to-head statistics. This information helps with strategic planning, squad selection, and game planning to exploit advantageous matchups and neutralize opponent strengths.
- **Perform a SWOT analysis of players within the team and opponent teams.**  
The tool enables Team Management to perform thorough SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis of their players and those from other teams. Team Management may make the most of a player's talents by analyzing them, such as their power-hitting, accurate bowling, excellent fielding, and creating winning game plans. Similarly, Team Management can develop a plan to take advantage of the shortcomings of rival players and obtain an advantage in the game. The program also enables Team Management to evaluate opportunities and threats brought about by players' current play, injuries, or other outside variables, allowing them to make tactical choices and modify team strategy as necessary.

By making it easier to do SWOT assessments, identify important matchups, and conduct in-depth evaluations of player performance, Strategistat Tool is an invaluable tool for team management. These features give Team Management helpful information that they may use to select the best teams, develop winning game plans, and increase their chances of winning the IPL.

#### 2. Captain and Coaches

- **Compare analysis between similar kinds of Players within the team.**

Captains and coaches can use the tool to compare and evaluate players' performances who play similar roles or playing styles. The best players for particular situations can be found by looking at essential performance measures, including batting averages, strike rates, bowling economy rates, and fielding effectiveness. This comparison enables captains and coaches to select teams, assign player positions, and delegate tasks depending on each player's strengths and limitations.

- **Employing the best players according to the playing conditions and during each phase of the game.**

Captains and coaches can use the tool to choose the best players to use based on the game's circumstances and at various points. The tool offers insights into player performance trends based on variables, including pitch conditions, weather, and game scenarios. Captains and coaches may maximize their team's chances of success in various conditions and game phases by using data-driven decisions to optimize squad makeup, batting orders, bowling methods, and fielding positions.

- **Identify the best Playing 11 against each opposition team.**

The tool helps Captains and Coaches decide which Playing 11 will perform best against each opponent team. They can choose the best players for particular matchups by thoroughly analyzing head-to-head statistics, player performances, and historical records. Captains and coaches can plan and choose the best lineup of players to counter the strengths and exploit the opposition's weaknesses by knowing how their players have fared against specific opponents in the past. This increases the team's chances of winning.

Captains and coaches can benefit significantly from Strategistat Tool, which offers them the information and analyses they need to decide wisely and optimize their strategy. The tool makes it easier to compare players like one another, helps choose the best players for particular situations and game phases, and helps determine the optimal Playing 11 against each opponent. With the help of these tools, captains and coaches may make better decisions, adjust to changing circumstances, and improve the team's performance and IPL success.

### **3. CEO and Franchise owners**

- **Plan Auction strategy in buying players for the future auction.**

The tool enables CEOs and Franchise owners to efficiently plan their auction strategy for acquiring more players in the future. They can learn more about player performances, market prices, and trends by accessing historical data, player profiles, and performance statistics. With the aid of this data, an informed auction strategy can be created, target players can be found, and the best bid prices can be established. CEOs and franchise owners can use the application's analytics to make thoughtful decisions that align with the team's long-term objectives and financial restrictions.

- **Identifying Key performers from the season to retain them ahead of the next season.**

To make decisions on player retention for the upcoming season, CEOs and franchise owners can use the tool to identify significant performers from the current season. They can evaluate each player's importance and contribution to the team's success by looking at player statistics, impact measurements, and performance trends. Making decisions on keeping players who consistently perform well and have the potential to make substantial contributions in the future are made easier with the help of this information. CEOs and Franchise owners may fully comprehend player value, team dynamics, and the strategic benefit of player retention thanks to the tool's insights.

CEOs and franchise owners can design auction tactics, handle budget planning, and identify strong performers for player retention by using Strategistat as a beneficial resource. CEOs and Franchise owners can make data-driven decisions that align with the team's long-term vision, improve resource allocation, and raise the likelihood of developing a successful and competitive IPL franchise by having access to comprehensive analytics, historical data, and performance indicators.

#### 4. Scouting Team

- **Identify young players from Indian Domestic T20 leagues as potential players in the future of the team.**

Scouting Teams can use the tool to find young players in Indian domestic T20 tournaments who have the potential to grow into significant assets for their side. Scouting Teams can identify promising players with extraordinary skills and potential by examining player performances, data, and trends. These young players can be monitored, evaluated, and developed to join the team's future roster, ensuring a robust talent pipeline and consistency in team performance.

- **To increase the squad depth and build a better team for the future.**

Scouting teams can use the tool to improve squad depth and fortify their current team. Scouting Teams can pinpoint the areas where the team needs reinforcements or upgrades by scrutinizing player performances, skills, and playing styles. The tool helps teams find players who can add depth to their batting, bowling, fielding, or all-around skills. Scouting Teams ensure a well-rounded and balanced team, ready to handle a variety of problems and sustain success over the long term by proactively obtaining such personnel.

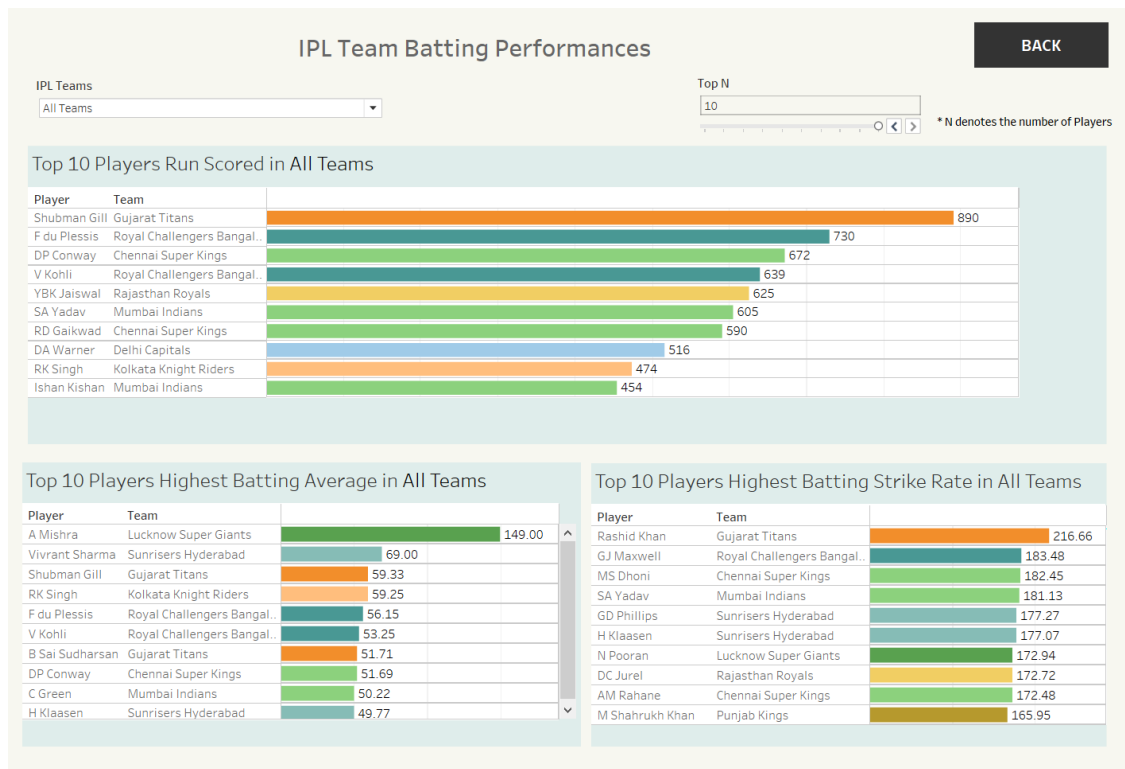
To improve squad depth for the team's future, scouting teams can use the Strategistat Tool to find young prospects from local Indian T20 tournaments and underrated players from other T20 leagues worldwide. Advanced statistics and performance insights provided by the tool enable Scouting Teams to make wise judgments, develop a talent pipeline, and assemble a competitive club that can succeed in the IPL and other leagues.

## 5. User Guide

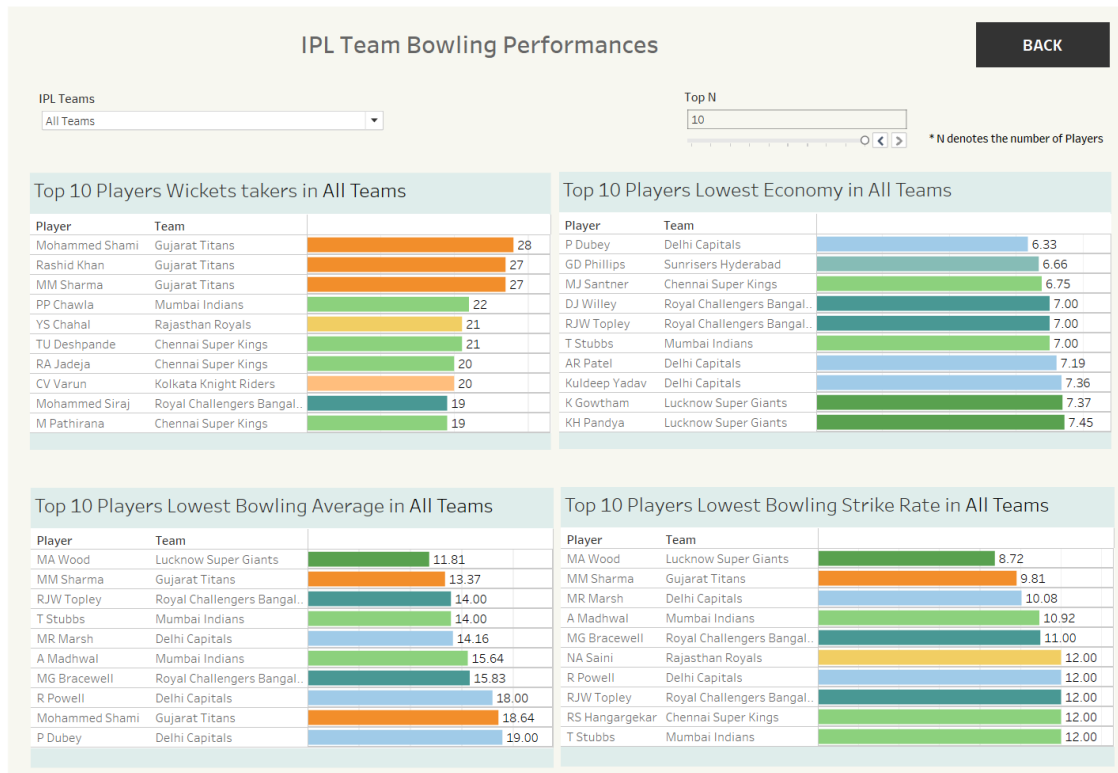
The Strategistat Tool provides an extensive collection of dashboards made especially for analyzing and gaining insight into the performances of players, teams, and leagues. Each dashboard highlights the features and insights as discussed below-

### 1. IPL: Batting and Bowling Performance Dashboard:

This dashboard focuses on the IPL performances of individual players. It offers a thorough analysis of the bowling and batting data. Users can explore key indicators, including batting averages, strike rates, boundaries, bowling economy rates, wicket-taking prowess, and more. Teams and analysts can pinpoint standout players, monitor consistency, and gauge how individual players affect the team's success by contrasting and comparing player performances.

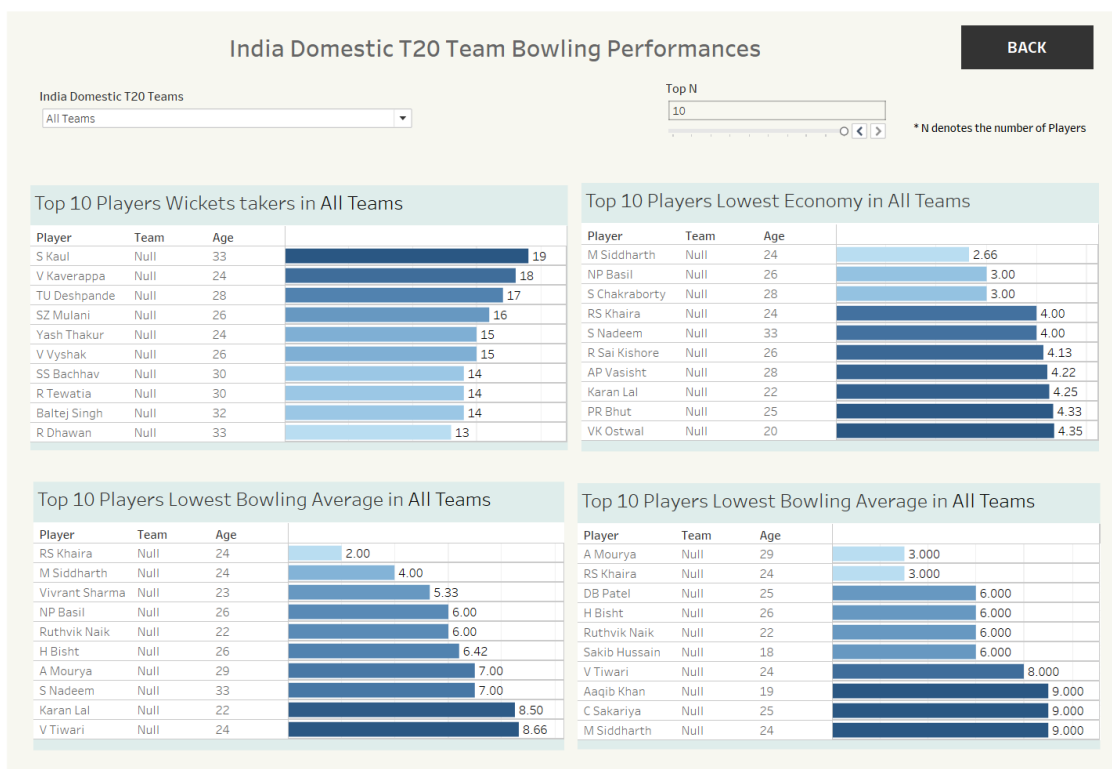
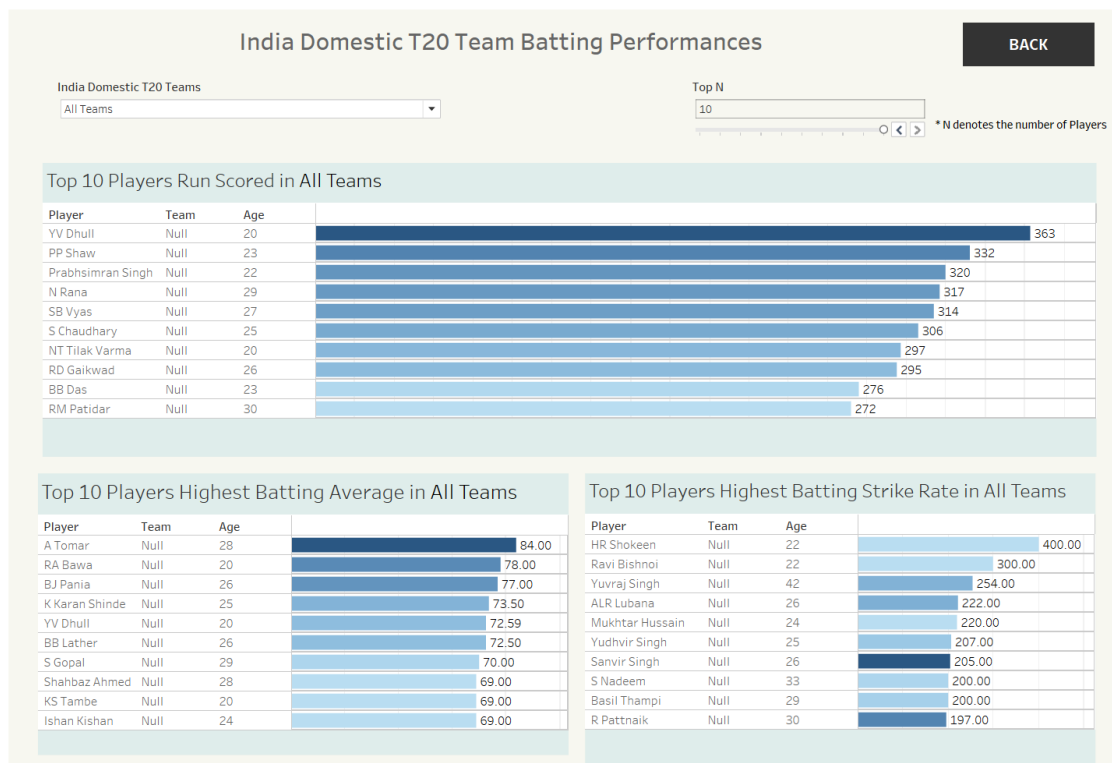






## 2. India Domestic T20: Batting and Bowling Performance Dashboard:

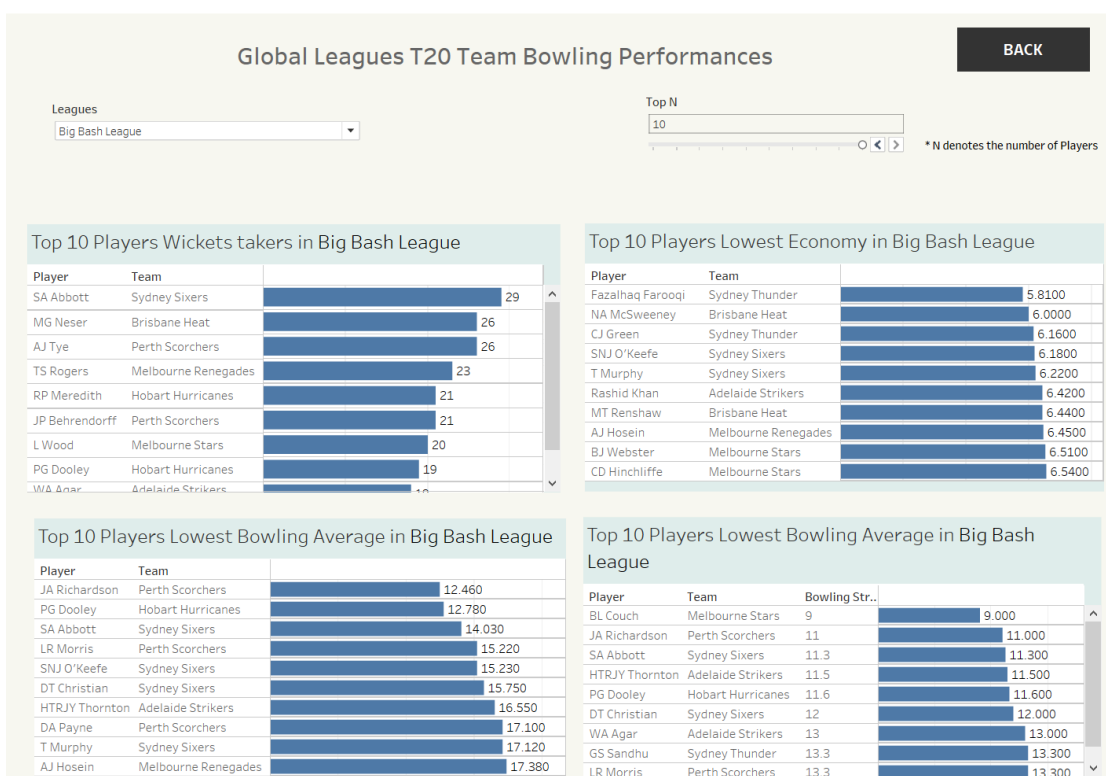
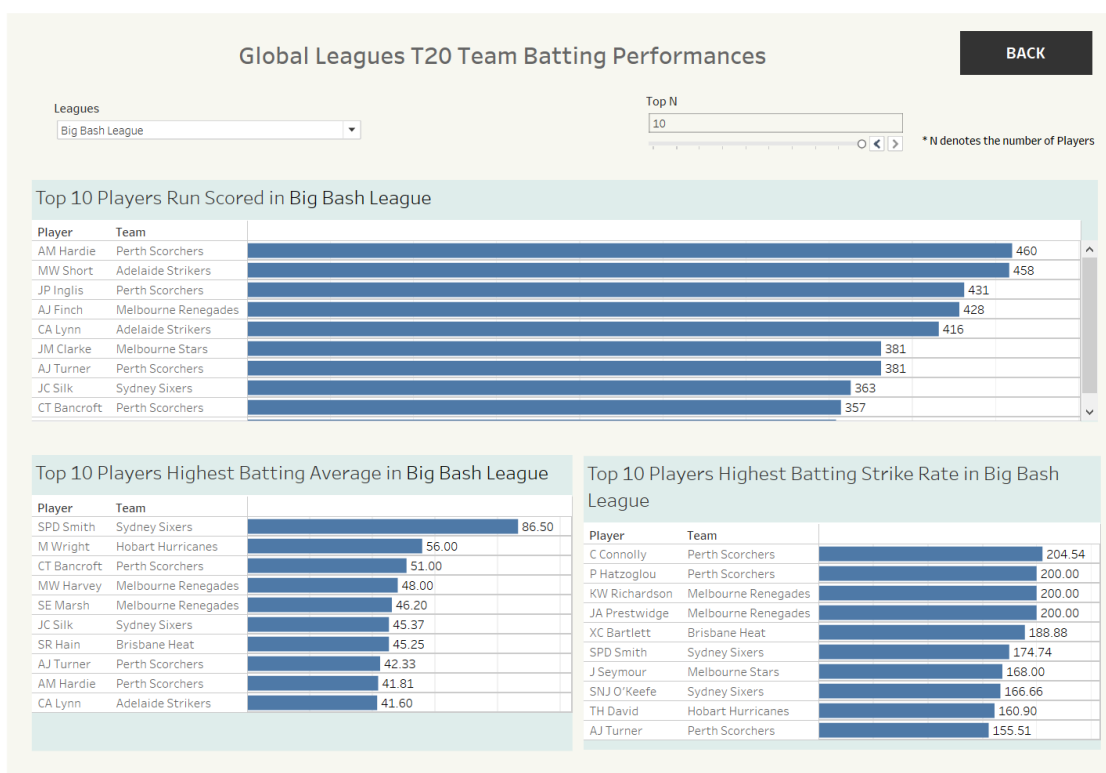
The performances of players in the domestic T20 leagues in India are the main emphasis of this dashboard. Users can review players' batting and bowling statistics in domestic competitions, including features similar to those seen on the IPL dashboard. Learning about player growth, spotting budding stars, and judging a player's readiness for IPL or international cricket is possible.



### 3. Leagues: Batting and Bowling Performance Dashboard:

The Leagues dashboard offers a broader view by collecting batting and bowling performance data from several T20 leagues worldwide. Users can evaluate player performances in other leagues, find exceptional players, and determine their suitability for the IPL by analyzing and comparing player performances. By emphasizing players

who have achieved success outside of the IPL milieu, this dashboard aids scouting efforts.



#### 4. Player Replacement Finder Batsmen and Bowler Dashboard:

Based on performance analytics, this dashboard helps clubs find potential batters and bowlers to replace underperforming players in the IPL with domestic or global leagues. It provides a study of significant statistical variables, including runs scored and wicket-taking prowess. By examining this dashboard, teams can evaluate the talent pool that is accessible and make data-driven selections while looking for appropriate replacements for their squad. Below given are the criteria that we have taken into consideration to determine the Under-performed and Over performed Batsmen and Bowler-

##### Over Performed Batsmen

*IF SUM([Runs Scored]) > 200*

*THEN 'Over-Performed Batsmen' ELSE 'Other' END*

##### Over Performed Bowler

*IF SUM([Wickets]) > 8*

*THEN 'Over-Performed Bowler' ELSE 'Other' END*

##### Under-Performed Batsmen

*IF(SUM([Matches]) > 4) AND SUM([Balls]) = 0 AND SUM([Runs Scored]) < 300*

*THEN 'Under-Performed Batsmen' ELSE 'Other' END*

##### Under-Performed Bowlers

*IF(SUM([Matches]) > 4) AND SUM([Balls]) > 0 AND SUM([Wickets]) < 10*

*THEN 'Under-Performed Bowler' ELSE 'Other' END*

### Player Replacement Finder for IPL Teams- Batsmen

IPL Teams
All Teams

#### Under-Performed Batsmen in All Teams

Team	Player	Runs Scored
Chennai Super Kings	AT Rayudu	158
	MS Dhoni	104
Delhi Capitals	Aman Hakim Khan	110
	MK Pandey	160
	PD Salt	218
	PP Shaw	106
	RR Rossouw	209
	RV Patel	49
Gujarat Titans	A Manohar	114
	DA Miller	259
	R Tewatia	87

Leagues
Big Bash League

#### Potential Player Replacements in Big Bash League

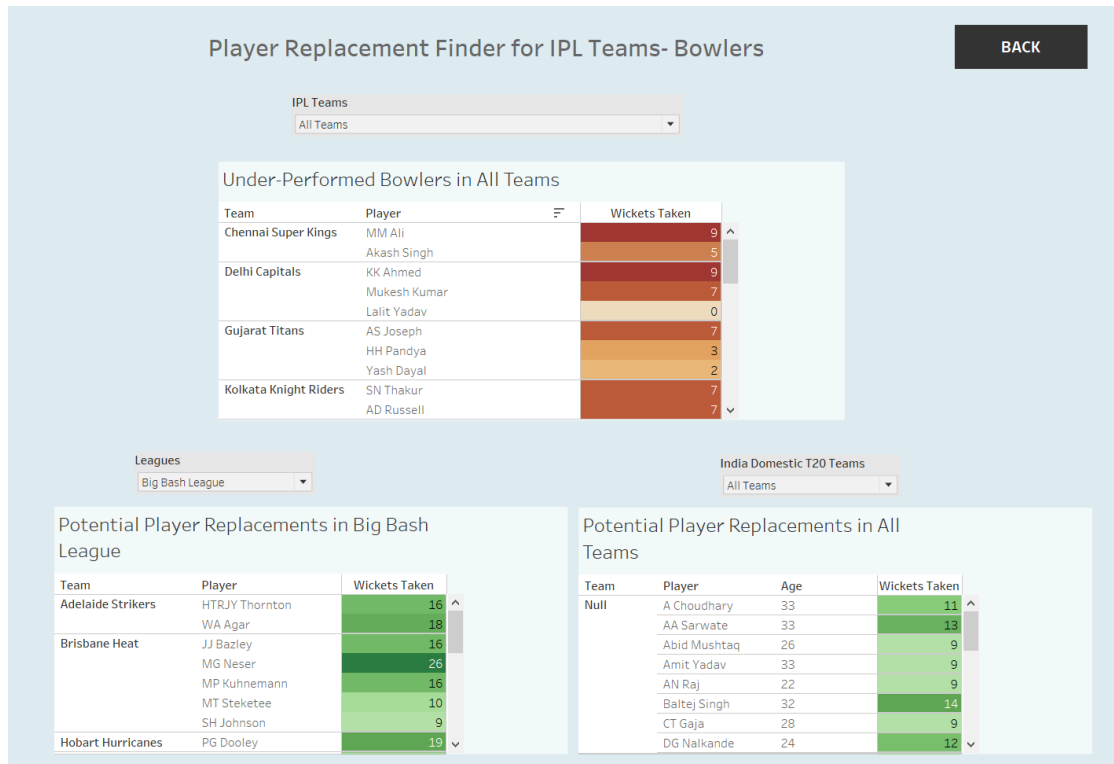
Team	Player	Runs Scored
Adelaide Strikers	AJ Hose	312
	C de Grandhomme	232
	CA Lynn	416
Brisbane Heat	C Munro	278
	J Brown	258
	JJ Peirson	334
	MT Renshaw	283

India Domestic T20 Teams
All Teams

#### Potential Player Replacements in All Teams

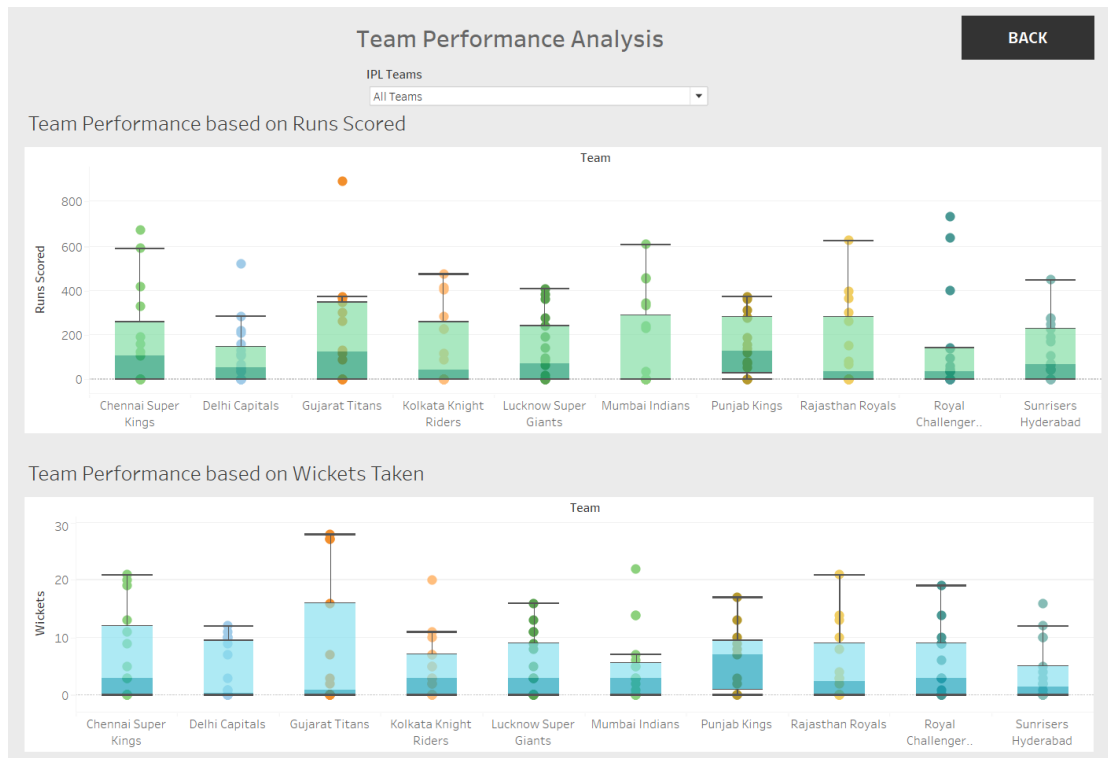
Team	Player	Age	Run Scored
Null	A Juyal	21	218
	A Thapa	29	127
	AD Nath	30	116
	AH Gupta	33	128
	AK Bains	27	114
	AK Sharma	22	38
	Akshat Raghuvanshi	19	63
	AL Menaria	32	135
	AN Khare	25	215

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## 5. Box plot Team Performance Dashboard based on Runs and Wickets:

This dashboard provides an overview of team performance based on runs scored and wickets taken. It uses box plots to show how many runs and wickets each team takes in a match. This visual representation allows teams and analysts to assess consistency, identify outliers, and gain insights into the overall performance of teams in terms of their batting and bowling abilities. This aids team management in learning about the team's strengths and weaknesses and how they have affected the standings in the competition.

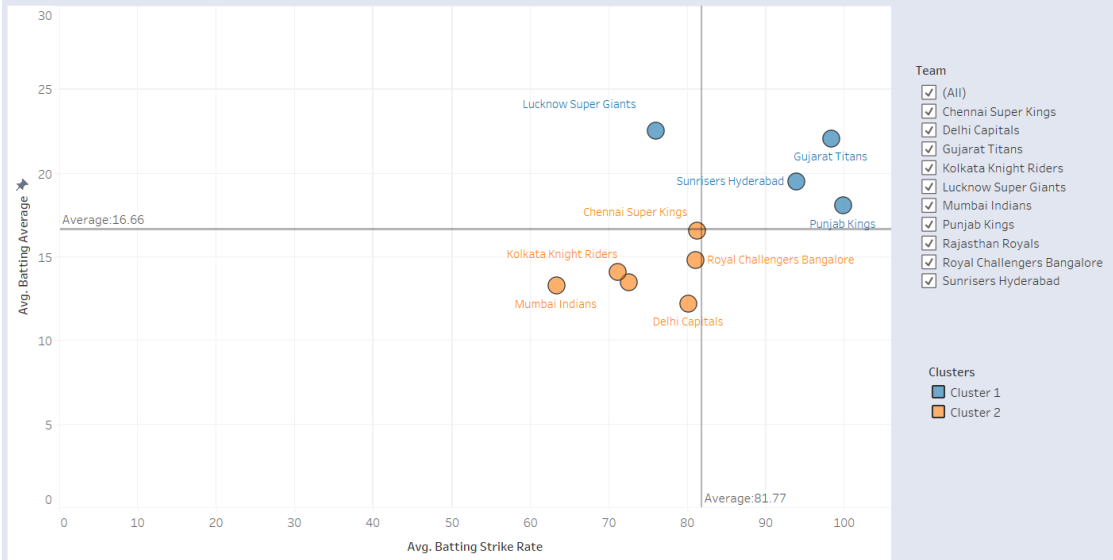


## 6. Team Power Performance Dashboard based on Strike Rate and Average:

The Team Power Performance Dashboard focuses on teams' power-hitting and run-scoring abilities. It examines strike rates and batting averages to evaluate a team's aggressive intent and run-scoring effectiveness. Teams can target higher run rates and improved overall batting performance by looking at these stats, identifying areas for improvement, and modifying their strategy as necessary. Additionally, this dashboard offers team management insight into how six hitting abilities could enhance the team's overall performance and advises the scouting team to acquire more players with strong striking abilities.

## Team Power Performance Analysis

BACK



## 6. Contribution of Team Members

Name of Student	Student ID	Contribution to Work
Abhinav Ram Seetharaman P	22200201	33.33%
Adithya Vivek	22200615	33.33%
Anish Joseph Vijaykumar	22203566	33.33%

Abhinav Ram Seetharaman P (22200201)

For this assignment, we conducted extensive research utilizing all available internet resources. Subsequently, we engaged in brainstorming sessions to reach a conclusion regarding the key performance indicators (KPIs) that could be derived from the data at hand, as well as the stakeholders involved. We then collaborated to determine the structure of the report and evenly distributed the tasks among the team members. My specific responsibilities included data wrangling, obtaining age information from the web, and creating IPL batting and bowling performance dashboards, as well as power performance visualizations using Tableau. Finally, we worked together to craft the report and refine the user interface of the tool.

Adithya Vivek (22200615)

My main role in this project was to handle the descriptive section of the report, perform computations using Excel, and ensure the overall formatting was consistent and well-presented. Additionally, I was responsible for creating the Domestic T20 and Team performance dashboards in Tableau. Towards the end of the project, we all worked together to finalize the report and make it ready for submission. I found this assignment to be an excellent opportunity to apply various sports analysis methods in a practical and hands-on manner.

Anish Joseph Vijaykumar (22203566)

The Sports tool assignment served as a collaborative project involving myself, Abhinav, and Adithya, and it proved to be an immensely valuable learning experience for all of us. At the outset, we engaged in brainstorming sessions and conducted thorough research to explore various ideas and potential datasets for the project. Eventually, we decided on conducting a comparison study of key performance indicators (KPIs). Once we obtained our final dataset, we divided the tasks equally among the team members. In my case, I specifically focused on creating the T20 League and Player Finder Dashboard. As we neared the conclusion of the assignment, we collaborated closely to finalize all of our analyses and refine the user interface of the tool.



## 7. Reference

- [1] <https://www.espncriinfo.com/records>