IFT 598: Data Visualization & Reporting for IT

Arizona State University

Project – IPL Dashboard Implementation

Submitted By:

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Contents

Section 1: The Dashboard:

The dashboard is made from the IPL dataset. There are two dashboards created Team Statistics to analyze the individual team performance over the period 2008 – 2022 and the other dashboard player statistics is used to analyze the performance of players over the period 2008 – 2022.

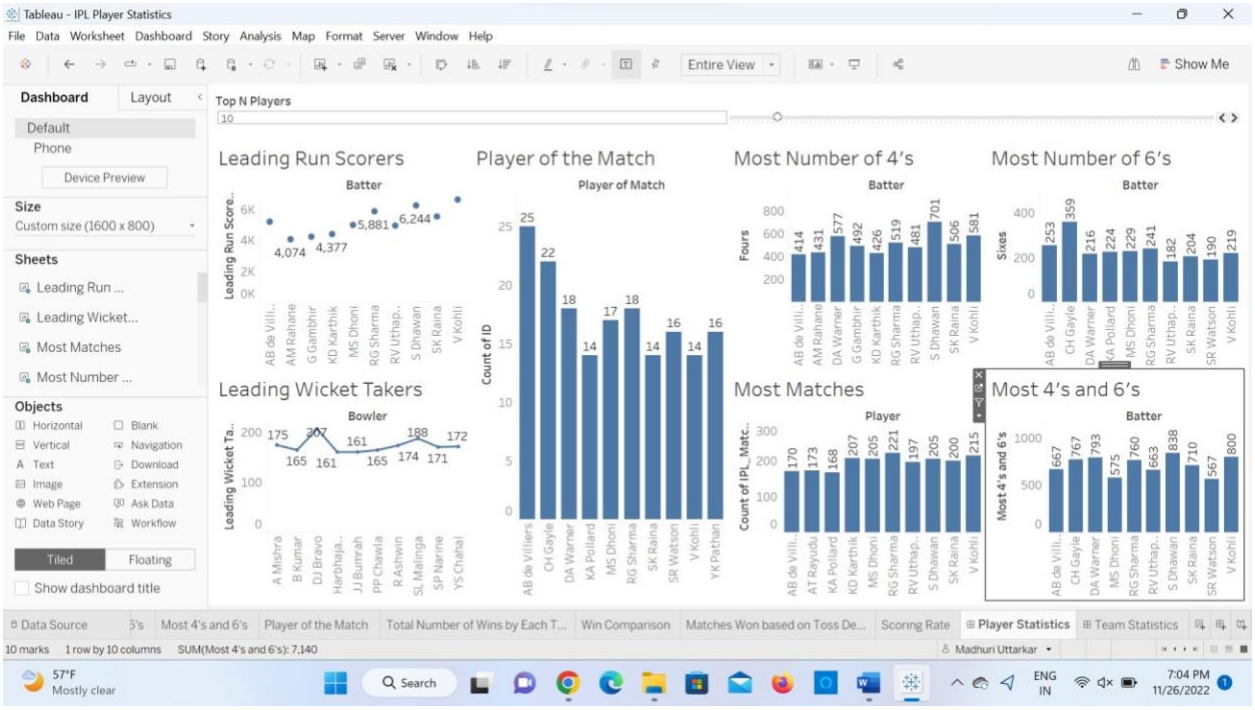
There are a total of 11 visualizations created to analyze the player's and team performance. Team Statistics dashboard has the four visualizations which are used to analyze the performance of team:

1. **Total Number of Wins by Each Team:** This visualization shows the number of matches won by each team in the IPL from 2008 – 2022.
2. **Win Comparison:** This visualization compares the number of runs scored and number of wickets taken by each team in IPL from 2008 – 2022.
3. **Matches won based on the Toss Decision:** This visualization shows the number of matches won by each team based on their toss decision (matches won by the team when they won the toss and decided to bat first/ field first) in IPL from 2008 – 2022.
4. **Scoring rate in powerplay and in death overs:** This visualization is used to analyze the team performance i.e., runs scored by each team in the powerplay(1-6 overs) and death overs (16-20) in IPL from 2008 - 2022.

Player Statistics dashboard has the seven visualizations which are used to analyze the performance of player:

1. **Leading Run Scorers:** This visualization shows the top 10 players with the highest number of runs in IPL from 2008 – 2022.
2. **Leading Wicket Takers:** This visualization shows the top 10 players with the highest number of wickets in IPL from 2008 – 2022.
3. **Player of the match:** This visualization shows the top 10 players who has performed well in the match and won the highest number of player of the match awards in IPL from 2008 – 2022.

4. **Most Number of 4's:** This visualization helps to know the player who had hit the highest number of boundaries in IPL from 2008 – 2022.
5. **Most Number of 6's:** This visualization helps to know the player who had hit the highest number of sixes in IPL from 2008 – 2022.
6. **Most Matches:** Players who had played highest number of matches in IPL from 2008 – 2022 is shown in this visualization.
7. **Most 4's and 6's:** Players with most number of 4's and 6's combined in IPL from 2008 – 2022 is shown in this visualization.



Section 2: The Dataset

There are two data files one is created by scraping ball-by-ball data of all IPL matches from 2008-2022 and the other data file consists of the detailed summary of each match played in IPL from 2008 - 2022. The ball-by-ball data file consists of over number, ball number, bowler names who has bowled the over, batsman name who is on strike and who is at the non-striker end, runs scored by batsman, extra runs if conceded by bowling team, batting team name. The matches data files consists of city where the match is played, date on which match is played, season in which match is played, team names (team1, team2) who played in that match, venue is the stadium name where the match is being held, Toss Winner and Toss decision of the team who won the toss, Winning Team name, Margin by which the team won, player of the match is the player who performed well in the match.

Dataset and attributes:

#	Attribute	Description	Datatype
1.	ID	Unique identity number given for the match	Interval
2.	Teams	Name of team who participated in the IPL	Nominal
3.	Date	On which date the match is held	Interval
4.	WonBy	In which perspective the team has won the match. The perspectives are by wickets, by runs or in super over.	Nominal
5.	Margin	Margin by which the team has won the match (by runs, by wickets)	Interval
6.	Player of the Match	Player who performed well in the match	Ratio
7.	Toss Decision	Decision of the team who had won the toss (bat first, field first)	Ordinal
8.	Season	Year in which the match is played	Ordinal
9.	Extra_type	Type of extra (Wide, Leg Bye, Bye, No Ball)	Nominal
10.	Total_run	Total numbers of runs scored in that over	Interval
11.	Batsman_run	Runs scored by the batsman which does not include the extra runs	Interval

Section 3:Dashboard Users

Franchise Owners:

Every year, the teams are changed by auctioning off every player. The original team may decide to keep a player or put him up for auction. Making decisions about which players to keep and which to put up for auction will be aided by the dashboard.

Franchises have a set amount they can spend to assemble the entire team while bidding on players. Therefore, having a dashboard that will enable them to maximize their spending while selecting players would be useful.

Fantasy League Players: IPL viewers have access to a fantasy league where they can select players from an upcoming game and receive points based on how well those players perform.

Participants could use this dashboard to optimize their picks since they have a limited budget for building their fantasy teams, similar to the auction.

Section 4:List of final set of questions

1. Who are the top 10 highest run scorers in the history of IPL?
2. Who are the top 10 leading wicket takers in the history of IPL?
3. Who are the top 10 batsmans to hit highest number of boundaries in the history of IPL?
4. Who are the top 10 batsmans to hit highest number of sixes in the history of IPL?
5. Who are the top 10 players to get the most number of player of the match awards?
6. Total numbers of wins by each team in the IPL till now?
7. What are the runs scored and wickets taken by each team in all the seasons?
8. Who are the top 10 players to play most number of matches in the IPL?
9. How many number of matches won by each team based on their Toss Decision?
10. Death Over(16-20) and Powerplay(1-6) Scoring rates of each team who has played minimum of 100 matches?

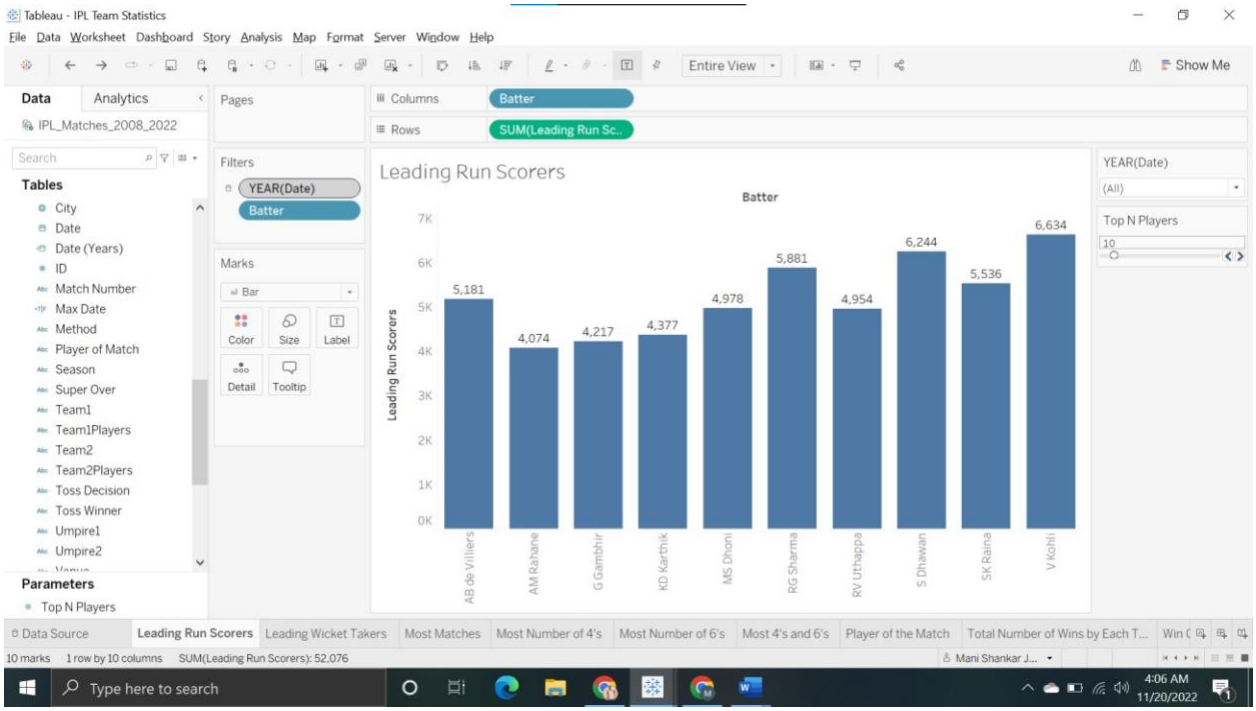
Section 5: Dashboard plots

1. Who are the top 10 highest run scorers in the history of IPL?

   Bar char is used visualize the top 10 highest run scorers in the IPL.

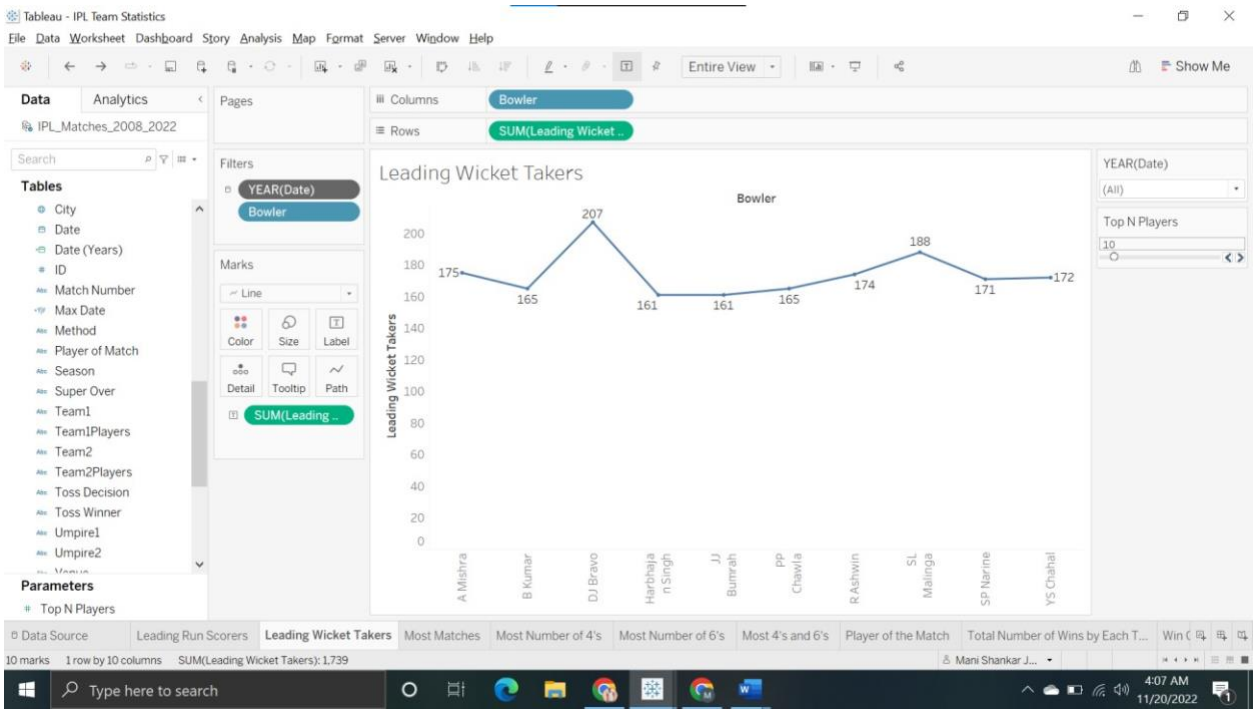
   Pre attentive attribute – length

   Color – blue



2. Who are the top 10 leading wicket takers in the history of IPL?

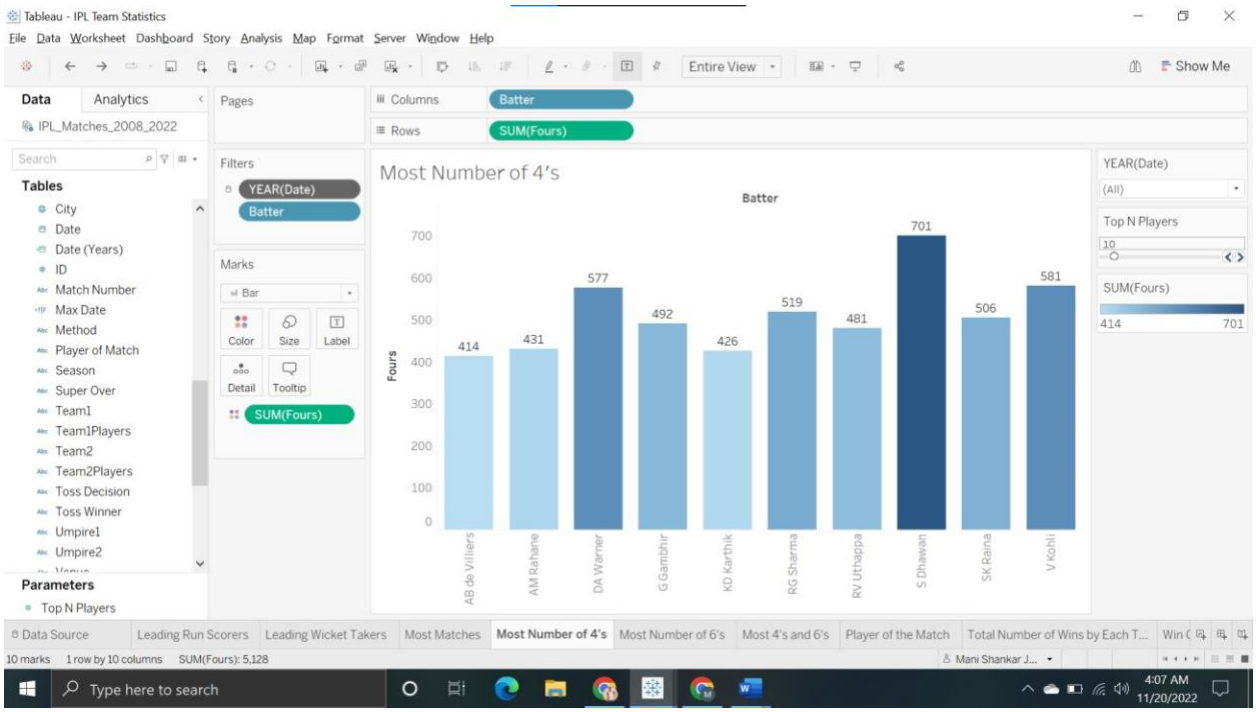
   Line Chart is used as visualization to show top 10 leading wicket takers in IPL



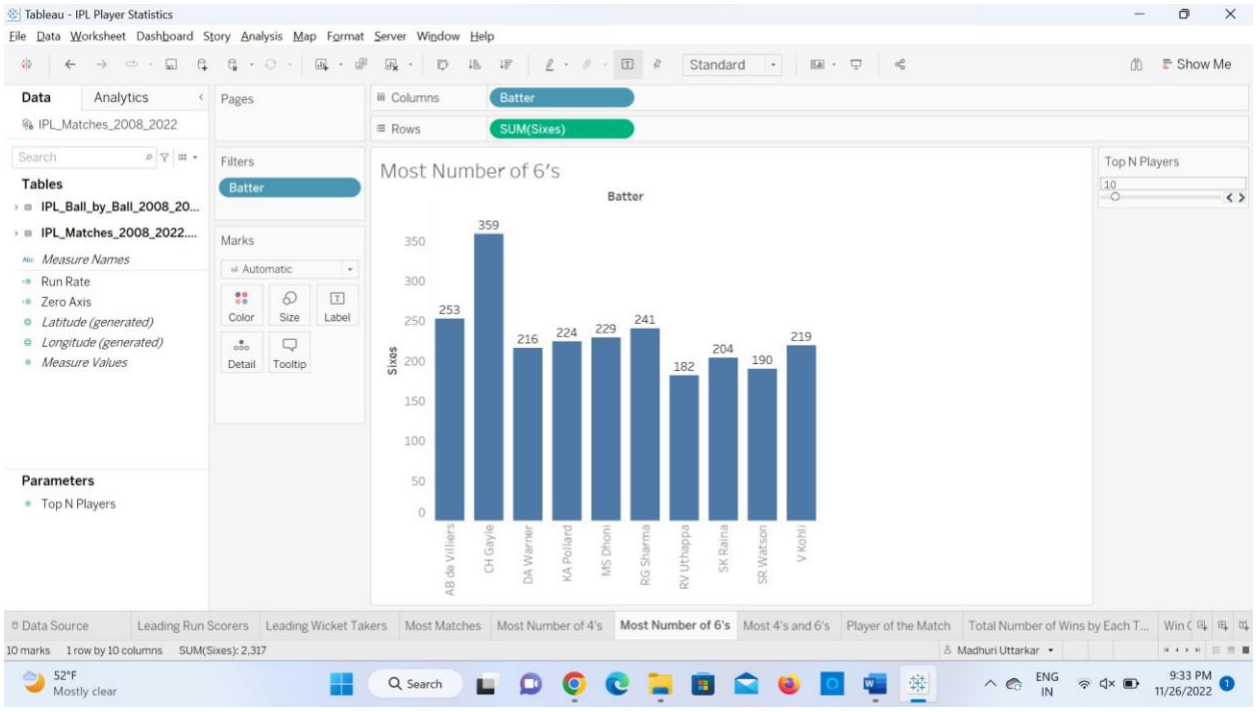
3. Who are the top 10 batsmans to hit highest number of boundaries in the history of IPL?

   Bar char is used visualize the top 10 batsmans to hit more 4's in IPL

   Pre attentive attribute – Color and length



4. Who are the top 10 batsmans to hit highest number of sixes in the history of IPL?

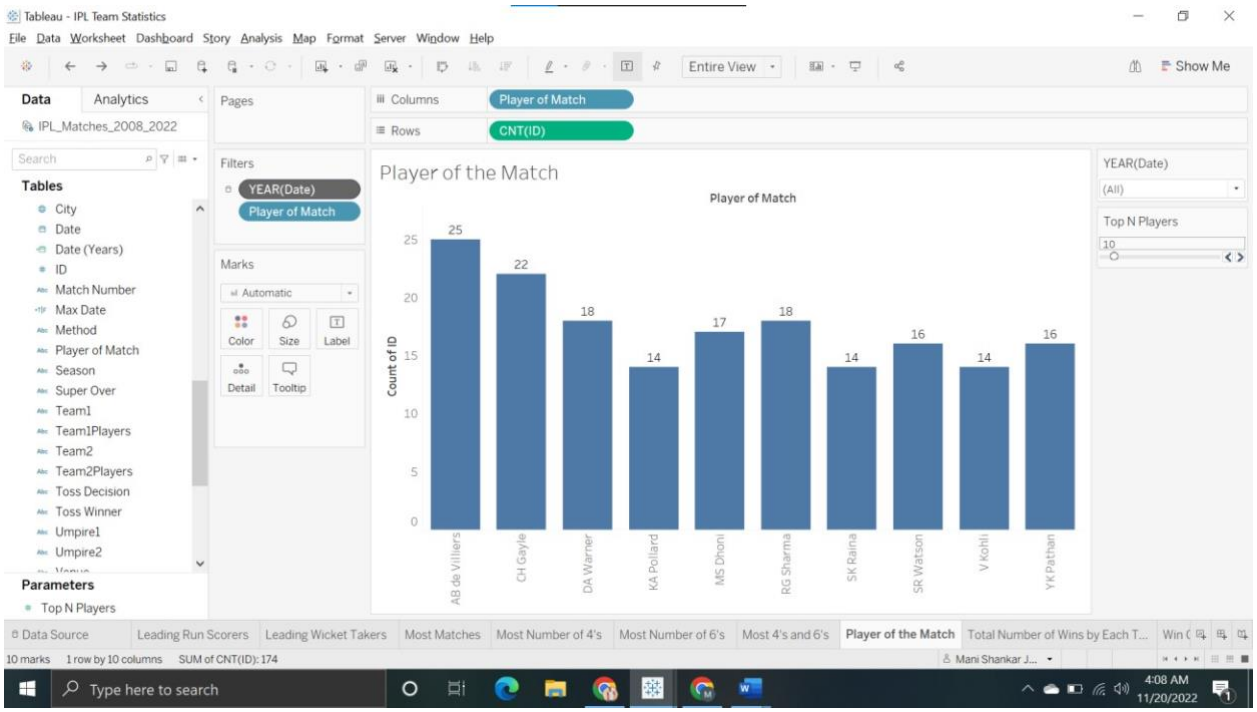


5. Who are the top 10 players to get the most number of player of the match awards?

   Bar char is used visualize the top 10 highest run scorers in the IPL.

   Pre attentive attribute – length

   Color – blue

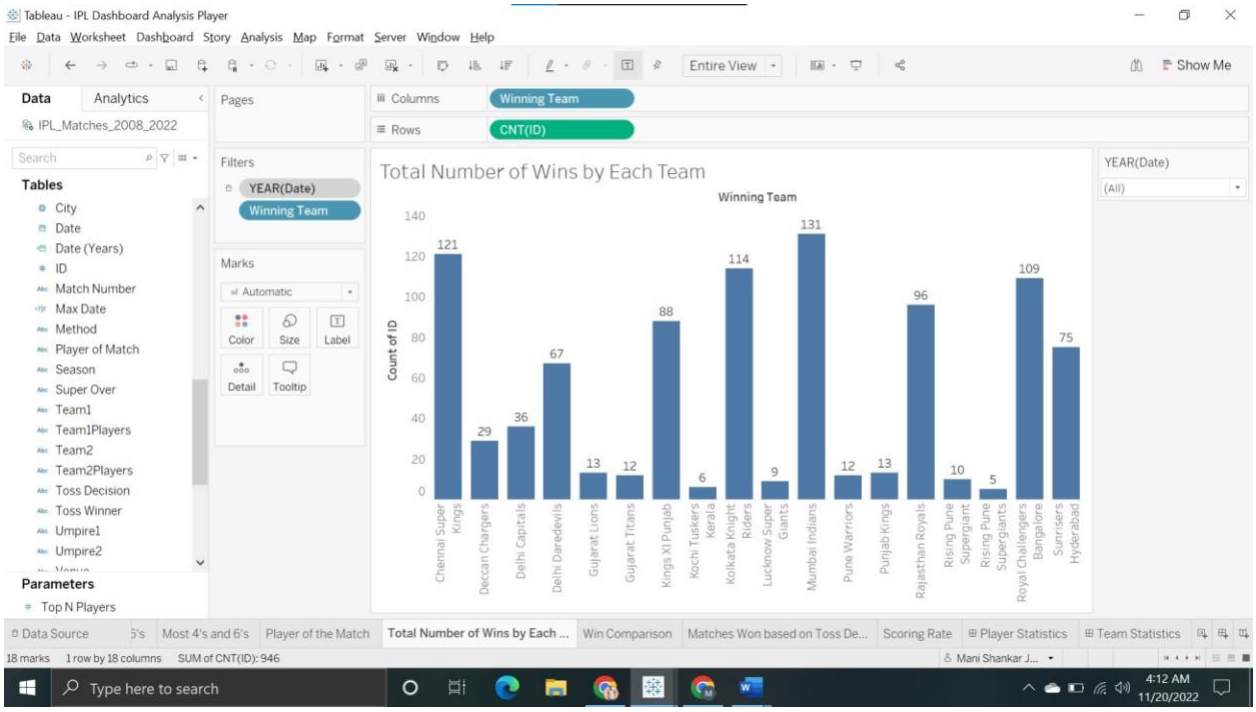


6. Total numbers of wins by each team in the IPL till now?

   Bar char is used visualize the top 10 highest run scorers in the IPL.

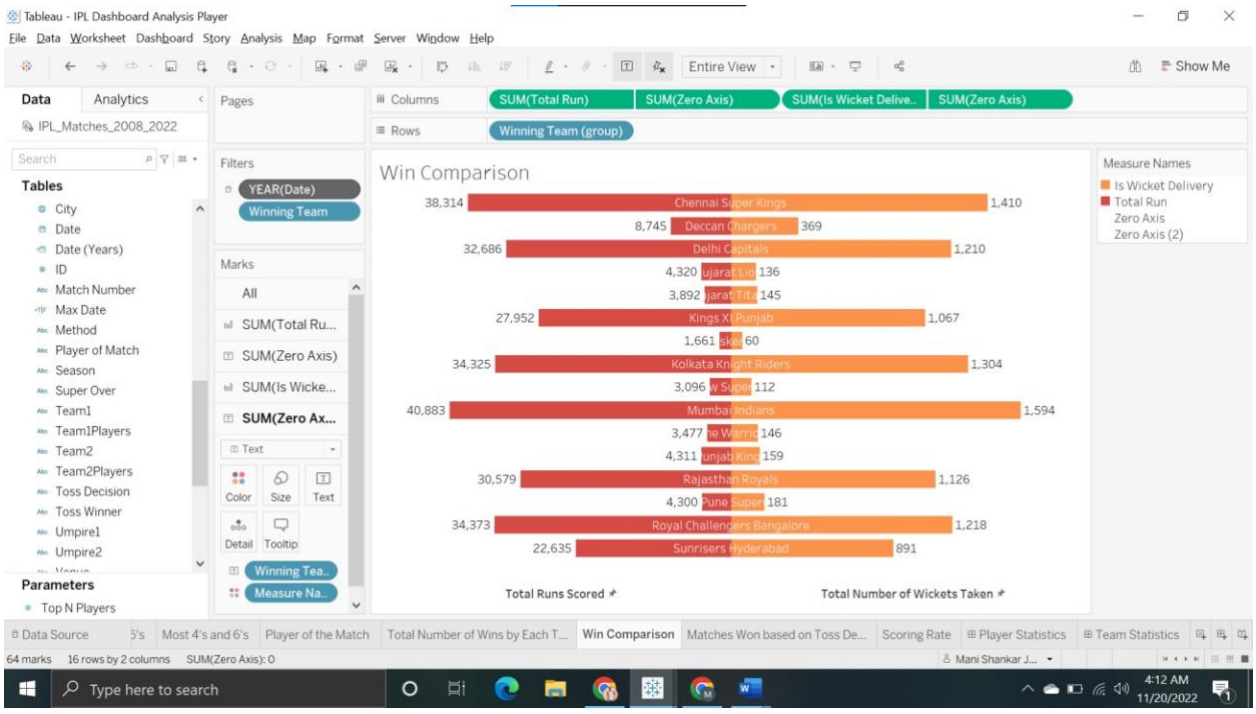
   Pre attentive attribute – length

   Color – blue

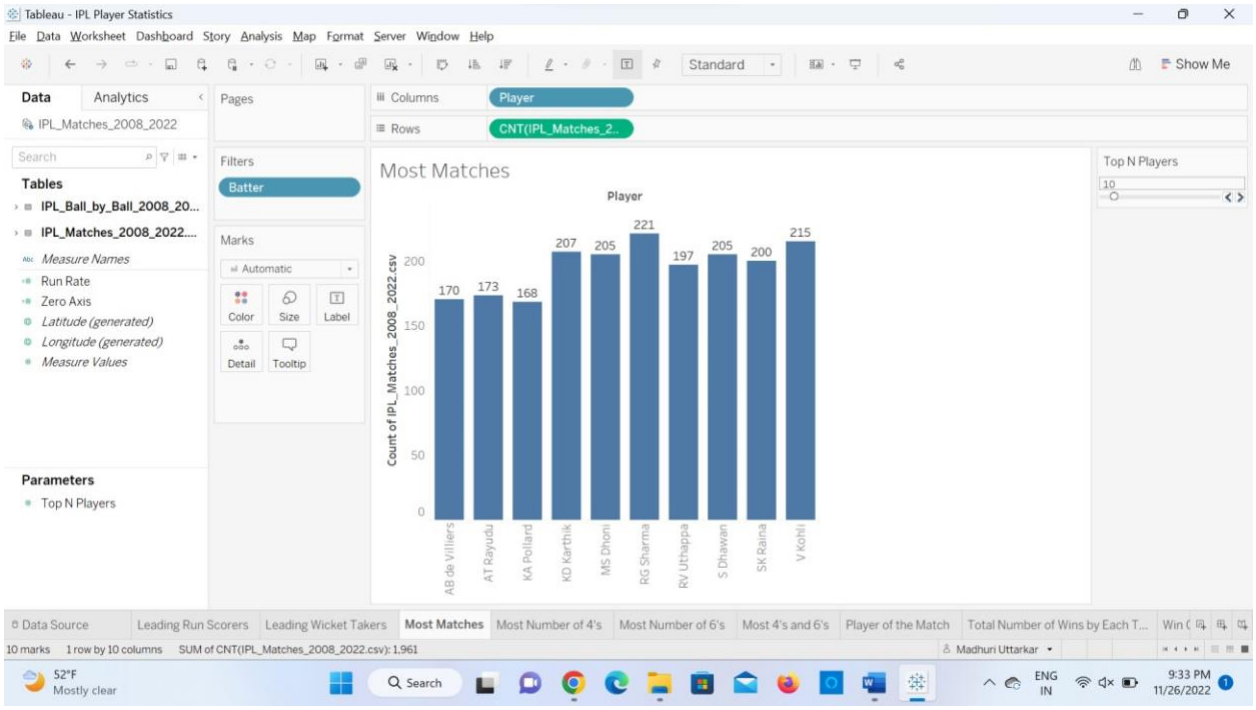


7. What are the runs scored and wickets taken by each team in all the seasons?

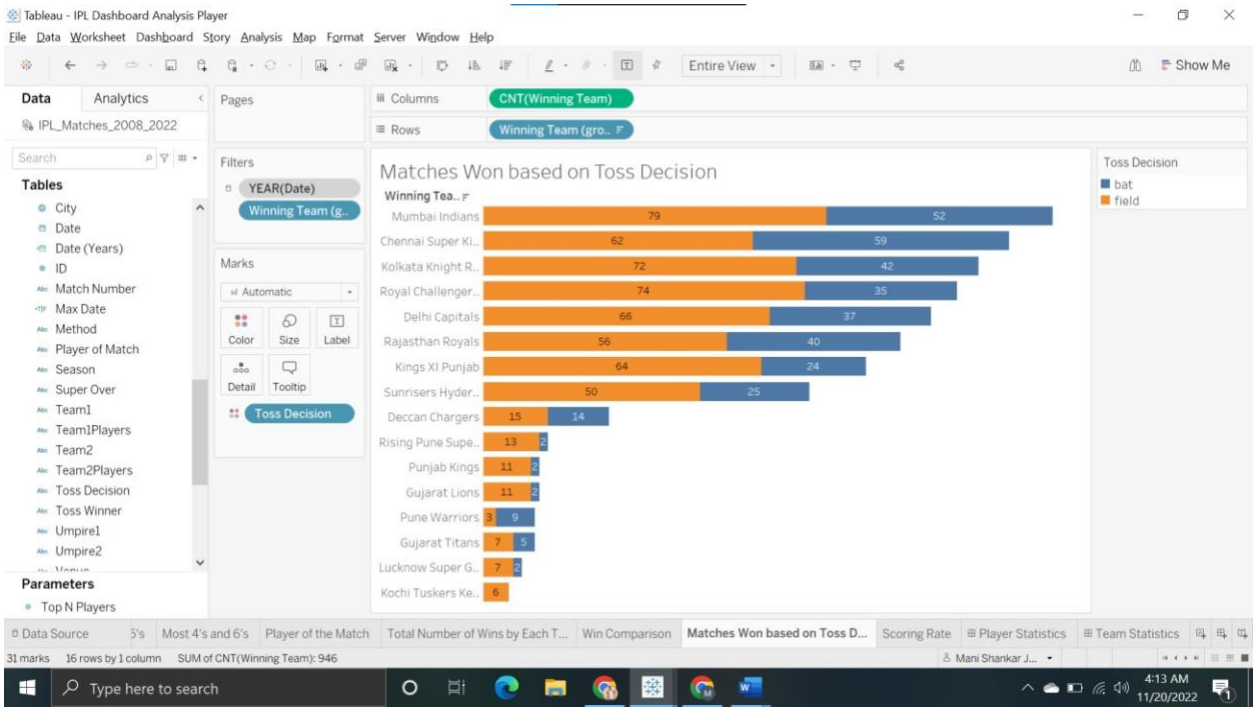
   Butterflychart is used to visualize the runs scored and wickets taken by each team.



8. Who are the top 10 players to play most number of matches in the IPL?

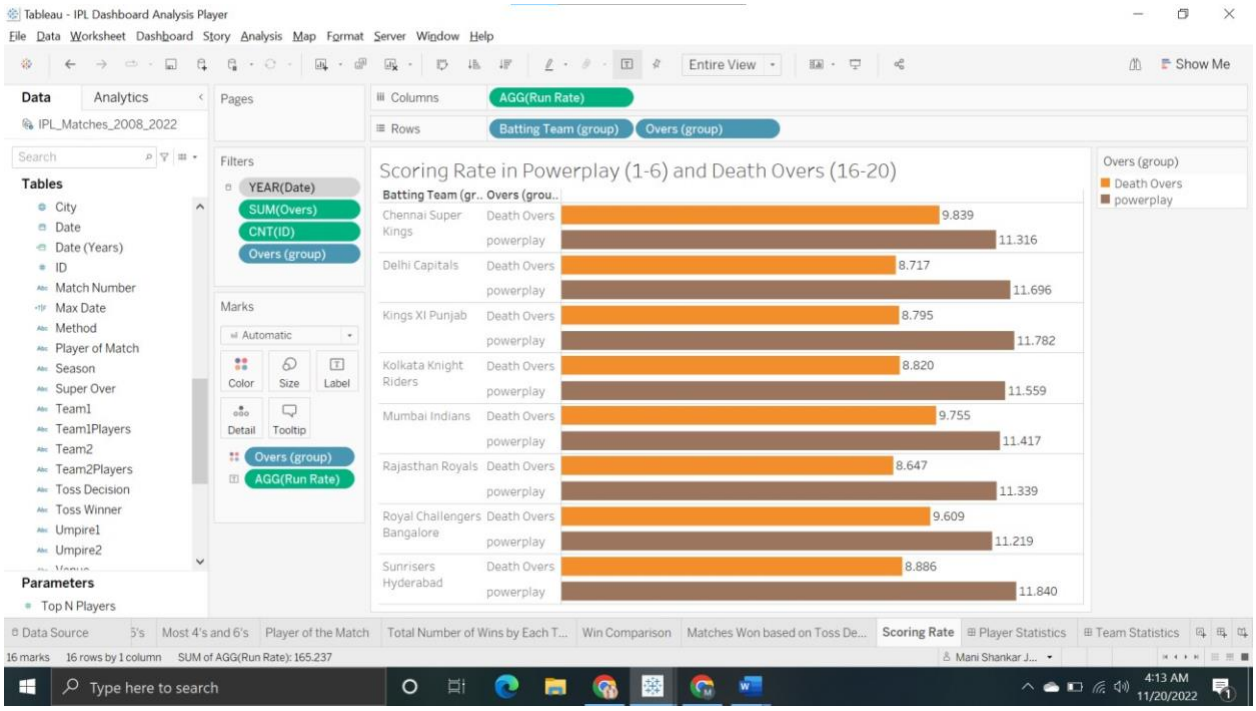


9. How many number of matches won by each team based on their Toss Decision? Stacked Bar char is used as the visualization to show the number of matches won by each team based on their Toss Decision



10. Death Over(16-20) and Powerplay(1-6) Scoring rates of each team who has played minimum of 100 matches?

    Horizational bar chart is used to show the visualization for the death over and powerplay scoring rate of each team.



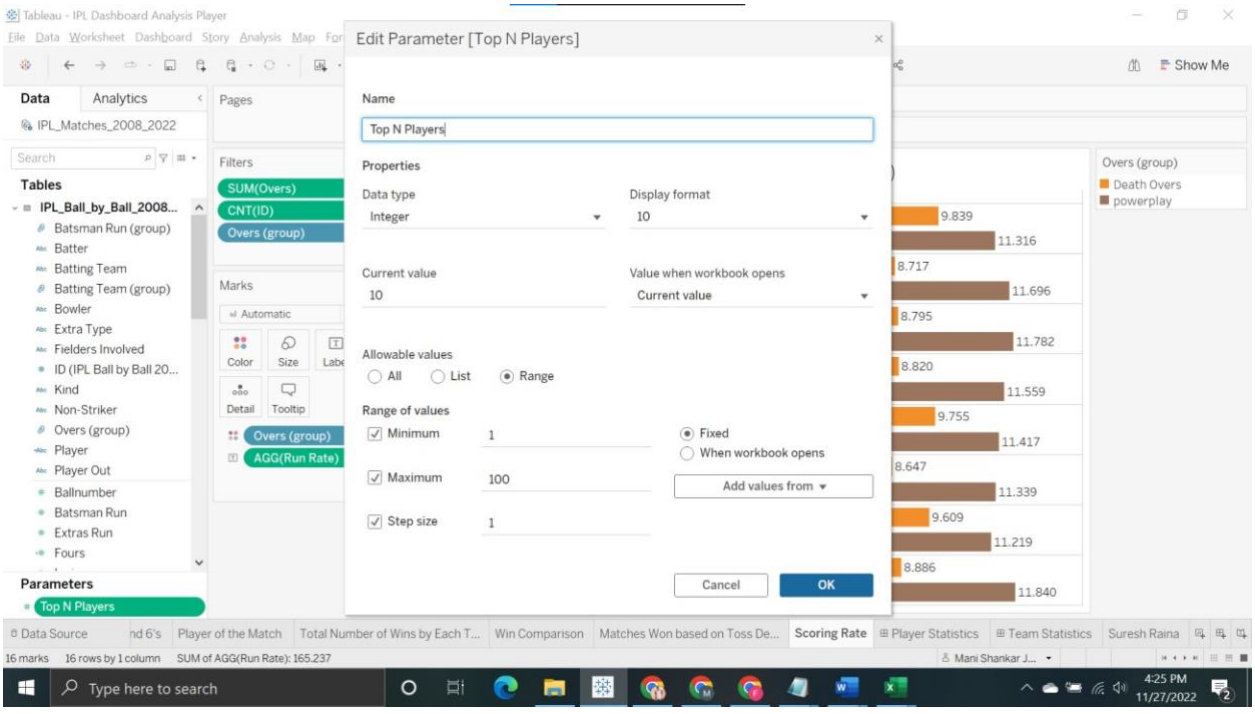
Section 6: Dashboard Interactivity

You can explore and filter operational data using an interactive dashboard, giving you the chance to view the data from different perspectives or in greater detail. Dashboards provide a precise and understandable summary of key business metrics, assisting data-driven organizational decisions.

Filters: In order to reduce overall data frequency and speed up processing, filters are a clever way to gather and group data based on its dimensions and sets. In tableau desktop, there are six main categories of filters, each with a distinct set of objectives and methods for carrying them out.

Here we are using two filters:

1. Top-N filter for displaying the players list.



2. Year filter to filter the data based on each year.