

# Part 1

## Exploratory Analytics and Visualization of Data via Information Dashboard

### Introduction:

The datasets which are used in this exploratory analytics are IPL datasets that are taken from the data.world.gov and we took the data from 2009-2017 and also used another excel sheet that took from article for listing of all the IPL cup winners from 2008-2019. I used inner joins for some sheets and also blended many sheets and made relationships in between those sheets.

The screenshot shows the Tableau interface with a data source connection between 'ball\_by\_ball.csv' and 'match.csv'. The connection is labeled 'ball\_by\_ball+'. The interface includes a 'Connections' pane on the left, a 'Files' pane, and a main view area displaying a table of data. The table has columns for Match Id, Over Id, Ball Id, Innings No, Team Batting, Team Bowling, Striker Battin..., Extra Type, Runs Scored, Extra Runs, Wides, Legbyes, Byes, and N. The table is sorted by Match Id in ascending order.

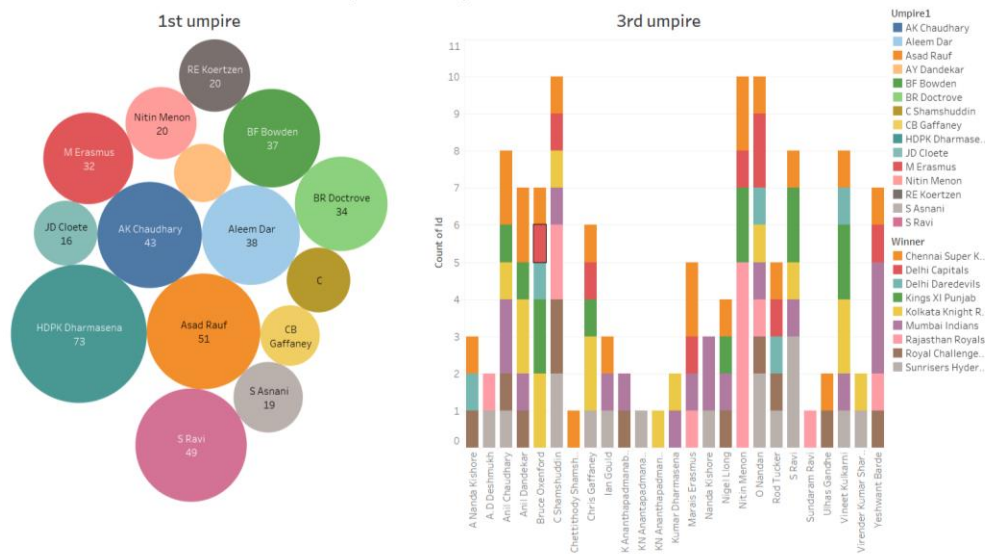
Match Id	Over Id	Ball Id	Innings No	Team Batting	Team Bowling	Striker Battin...	Extra Type	Runs Scored	Extra Runs	Wides	Legbyes	Byes	N
598028	15	6	1	5	2	6	No Extras	4	0	0	0	0	0
598028	14	1	1	5	2	5	No Extras	1	0	0	0	0	0
598028	14	2	1	5	2	3	No Extras	1	0	0	0	0	0
598028	14	3	1	5	2	5	No Extras	1	0	0	0	0	0
598028	14	4	1	5	2	3	No Extras	0	0	0	0	0	0
598028	14	5	1	5	2	3	No Extras	4	0	0	0	0	0
598028	14	6	1	5	2	3	No Extras	2	0	0	0	0	0
598028	13	1	1	5	2	5	No Extras	1	0	0	0	0	0
598028	13	2	1	5	2	3	No Extras	4	0	0	0	0	0
598028	13	3	1	5	2	3	No Extras	1	0	0	0	0	0
598028	13	4	1	5	2	5	No Extras	0	0	0	0	0	0

I used inner join to club these two datasets to obtain the information required to visualize the data as there is a match id which is unique for all the data and same for the data sets I used that variable to merge the data.

What Questions users might ask?

- 1.) Which team won many cups in IPL?
- 2.) Which player did more runs in whole data?
- 3.) What is the name of the bowler who bowled more no balls?
- 4.) What is the name of the captain who played as a captain for more winning team?

## Dashboard 1: 1<sup>st</sup> umpire & 3<sup>rd</sup> umpire with no of matches



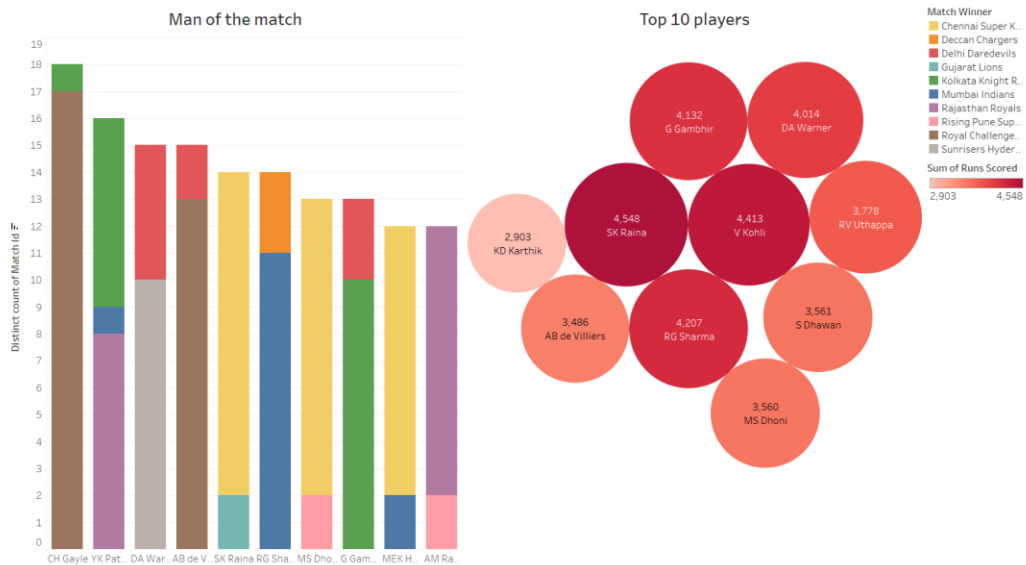
In the IPL, umpires plays a key role for match. In the above analysis it shows which umpires are mostly doing umpiring in the IPL from 2008 to 2017. From this analysis we can know that HDPK Dharmasena has done umpiring for 73 matches for 1<sup>st</sup> umpiring and for 3<sup>rd</sup> umpiring C shamshuddin, Nitin menon, o Nandan made umpiring for 10 matches.

### Outcome:

For 1<sup>st</sup> umpire: HDPK Dharmasena most favorable umpire

For 3<sup>rd</sup> umpire: C shamshuddin, Nitin menon, o Nandan are most favorable 3<sup>rd</sup> umpires.

## Dashboard 2: Man of the Match and Top 10 players.



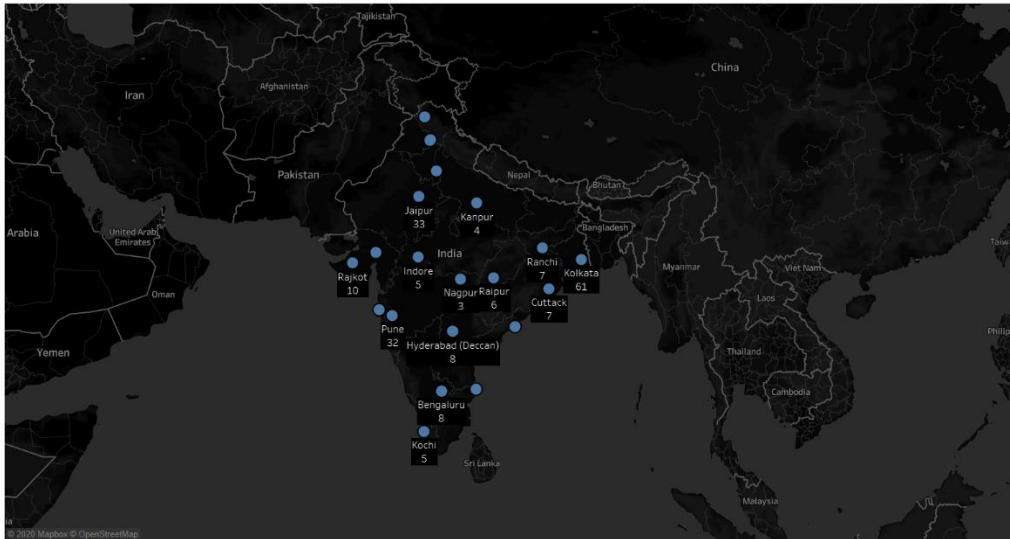
From the above analysis we can clearly see that CH Gayle is continuously going for man of the match for 17 times .Most of the matches are played under Royal challengers Bangalore . And for Top 10 players Raina and kohli are close each other with highest number of runs.

### Outcome:

Most man of the matches: CH Gayle for 18 times

Top 10 players: SK Raina is at top with 4548 runs.

### Dashboard 3: City with no of matches

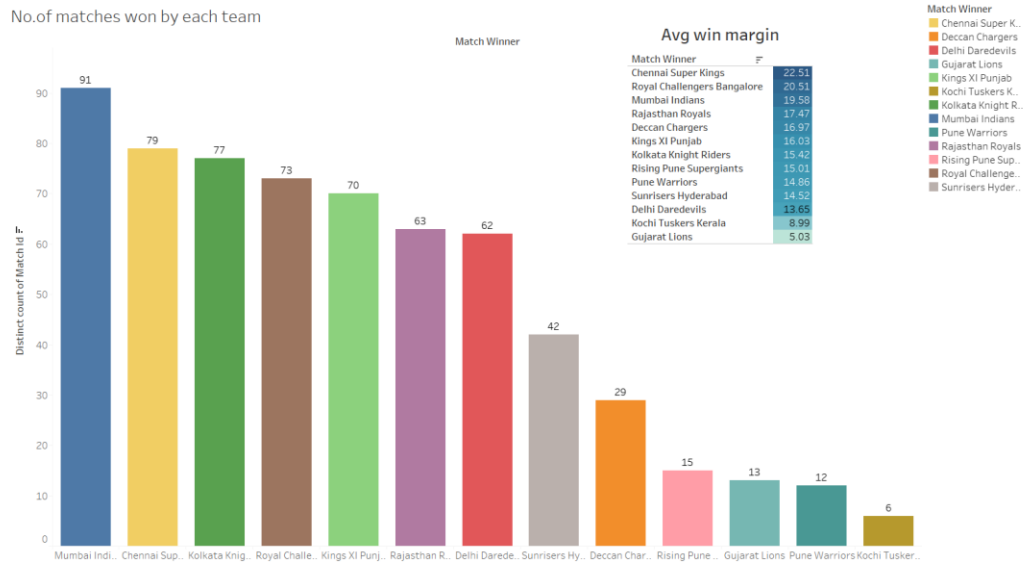


In the above map it points that city with no of matches are held by IPL and it shows the city and no of matches .In this map Mumbai has venue to 81 no of matches place top for held IPL. Next one goes to Kolkata.

#### Outcome:

Mumabi places top for held Ipl venue for most number of matches.

## Dashboard 4: No of matches won by each team and Avg win margin



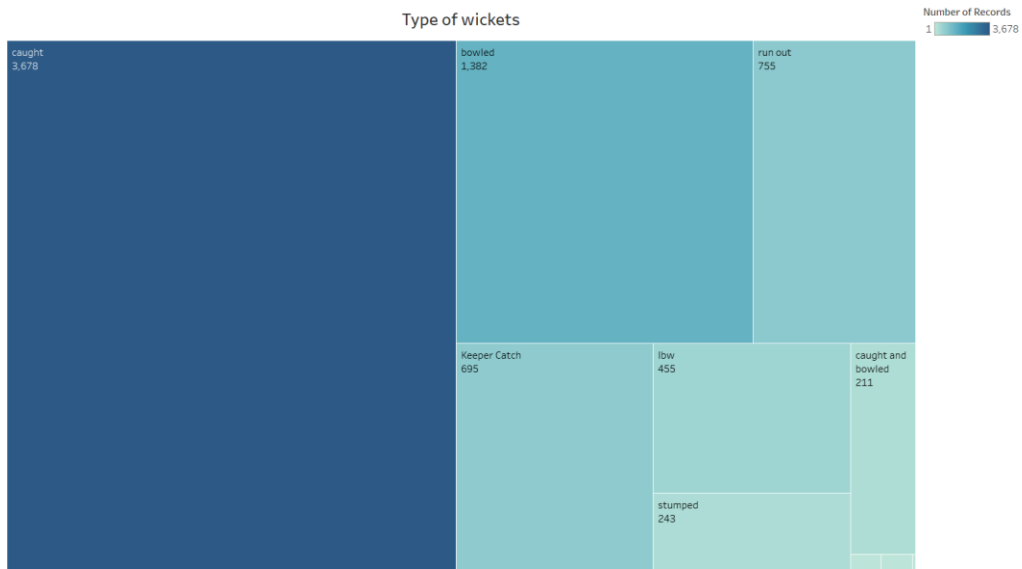
We already know that in ipl Mumbai Indians and Chennai super kings are always competitor for each other. While coming to most number of win matches Mumbai Indians wins 91 matches followed to this Chennai super kings won 79 matches. While coming to average margin win Chennai super kings places top with 22.51 runs to win against other.

### Outcome:

Mumbai places top by most winning matches

Chennai tops by avg win margin by 22.51 runs

## Dashboard 5: Type of wickets

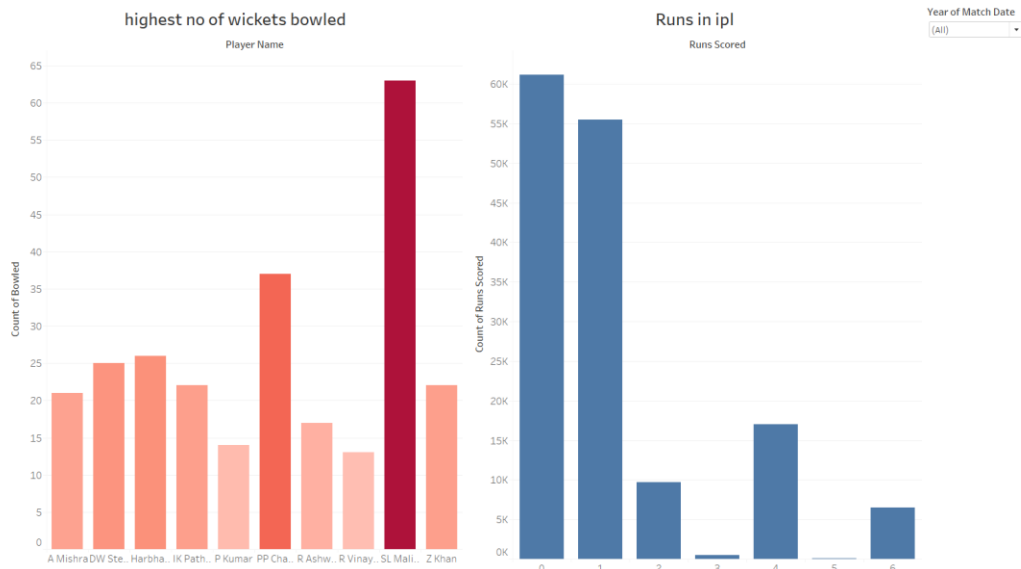


In the IPL the wickets took by bowlers mostly by catches, after to the catches the wickets mostly fallen by bowled. But there is large margin between the two, it is around 1500 wickets . Least wicket taken by hit wicket and retire hurt.

### Outcome :

Most number of wickets are took by bowled that are 1382.

## Dashboard 6: Highest number of wickets bowled by bowler and runs in IPL.



In the above analysis it shows the top 10 bowlers by most wicket takers and runs in ipl.

By coming to bowlers malinga took 91 wickets places top position . Next to him pp chawla places in second with 37 wickets.

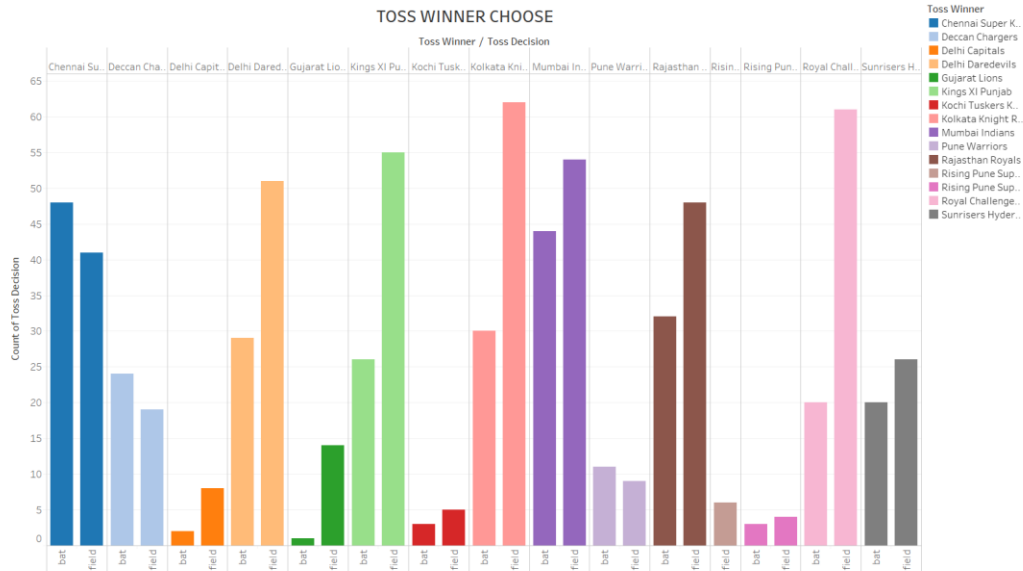
While coming to runs mostly of runs took by batsmens are singles and fours.

### Outcome:

SL malinga places tops with most number of wicket takers.

Singles are the runs most batsmens taken.

## Dashboard 7: Toss winner chosen



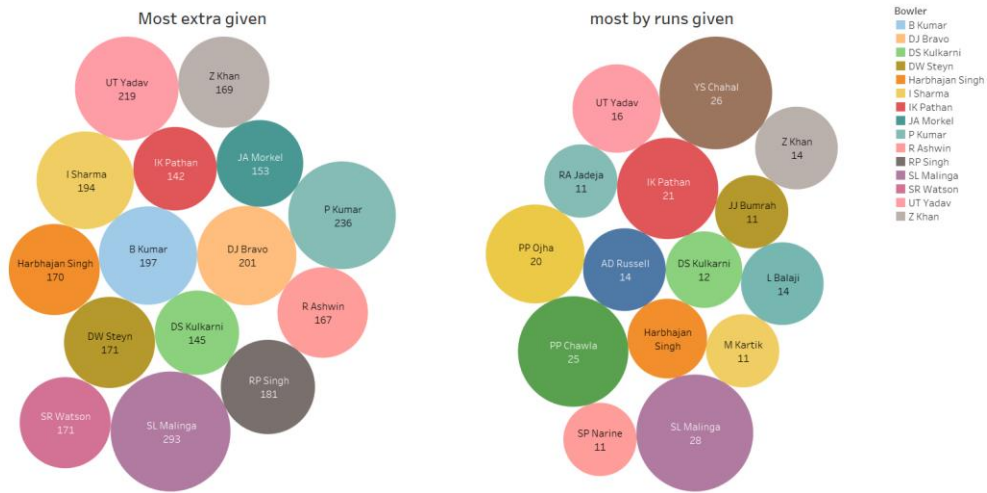
In the above analysis it shows toss winner choose bat or field most of the times Kolkata won the toss with more number times and choose too field. Next to that Royal challengers banglore won many times and choose field .It shows that most of teams want field first.

### Outcome:

Most of time Kolkata knight riders won the match and choose to field



## Dashboard 8: Most extra runs and most by runs given by bowler



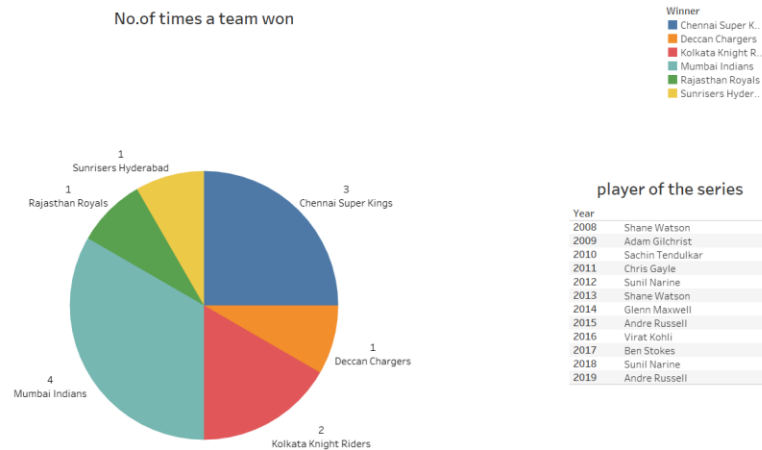
In the above analysis it shows that Most extra runs given by bowler and most by runs given by bowler.

In both of that SL malinga places top with 293 extra runs and 28 by runs.

### Outcome:

Malinga gives most extra runs and most by runs given and also he tooks most number of wickets.

## Dashboard 9: Most Number of IPL Cups Won



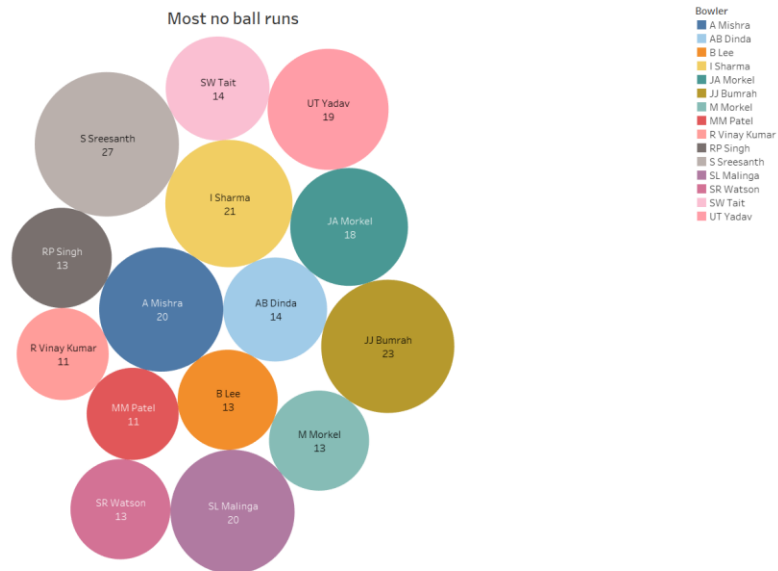
In this dashboard we can find which team won more IPL cups and Mumbai Indians is the team which one cup 4 times from 2008 to 2019 and also we have a table of player of series which gives us the year and name of the player.

### Outcome:

Most no. of Cups won: Mumbai Indians

Player of the series from 2008-2019.

## Dashboard 10: Most no ball runs



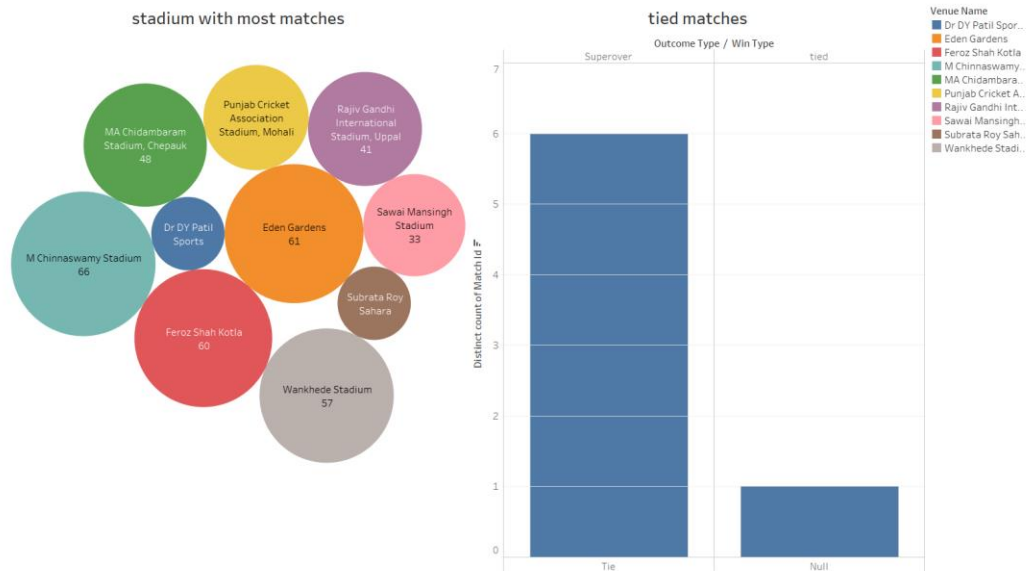
This dashboard gives the details of bowlers who bowled most no balls in IPL and gave runs, we can see S.sreesanth is the player who bowled 27 no balls and gave 27 runs to opposite team and we can also see the only top bowlers who gave most number of no ball runs.

### Outcome:

Most no ball runs given: S.sreesanth

Most no ball runs bowled by bowlers and no of bowls bowled.

## Dashboard 11: Stadium hosted most matches and no. of matches got tied



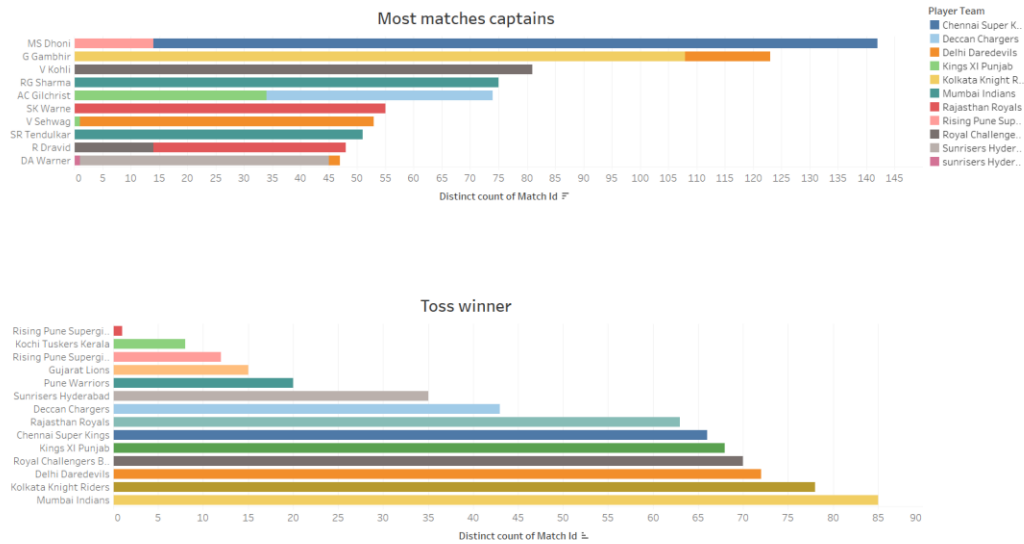
This dashboard gives the data which stadium in India hosted more no of matches for IPL from 2008-2017. We can see that M.Chinnaswamy stadium hosted 66 matches and we can also that the matches are tied and played super yet for some matches the results are not announced.

### Outcome:

Stadium hosted more number of matches: M.Chinnaswamy Stadium

Number of matches tied and got result from super over.

## Dashboard 12: Most matches captain& Toss winner



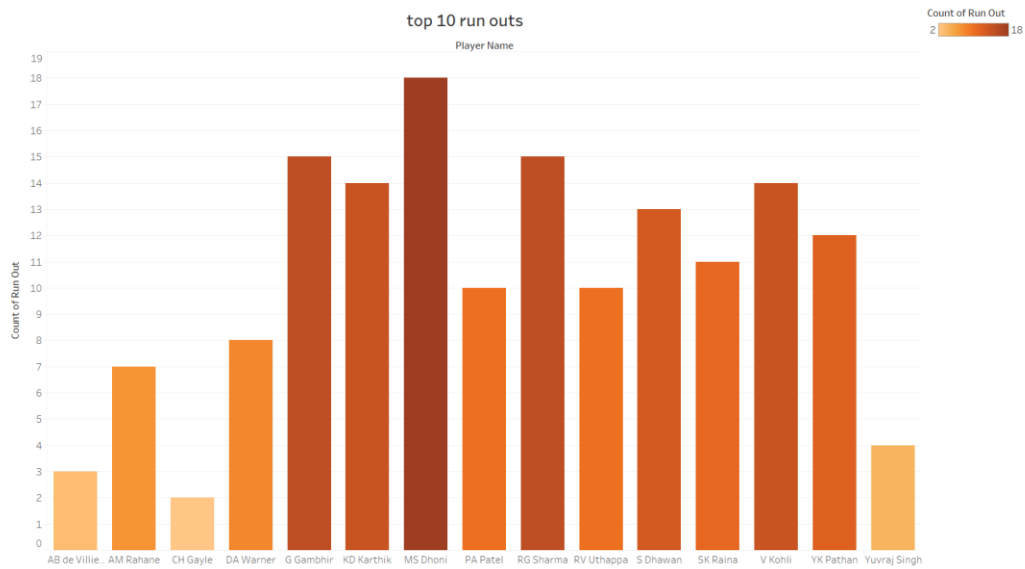
This dashboard shows which player is captain for most number of matches and which team won the toss. From the above figure we can see that MS Dhoni is the senior captain and done captaincy for over 143 matches and Mumbai Indians is the team which won toss most number of times from 2008-2017.

### Outcome:

Most Number of matches captain: MS Dhoni

Most Tosses Won: Mumbai Indians

### Dashboard 13: Top 10 run outs

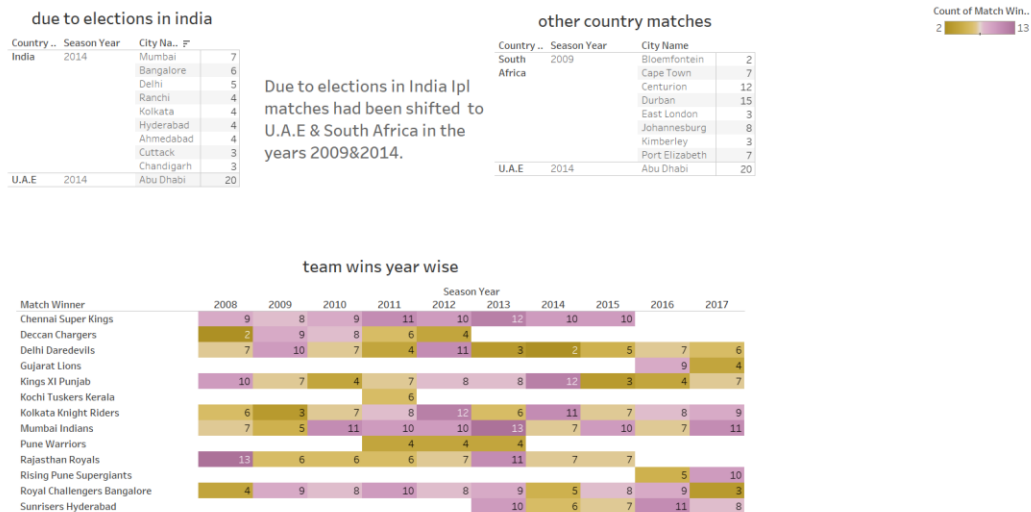


This dashboard shows us the data of top 10 players who are run outs in the IPL from 2008-2017. We can see MS Dhoni is the player who have most number of run outs and we used color intensity to represent which players have more number of run outs.

#### Outcome:

Most Number of runouts: MS Dhoni

## Dashboard 14:



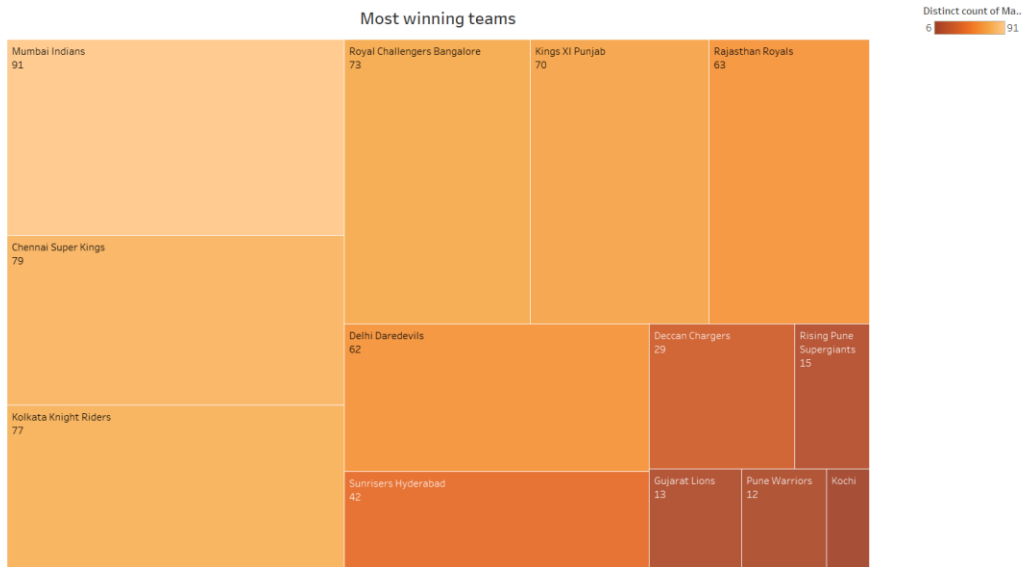
In this dashboard we can see some matches are played in other countries that is U.A.E & South Africa in the years 2009 and 2014 that is due to elections in India the games that should be played in India Had changed the venue to South Africa and U.A.E and the rest of the matches had happened there. We can also see team wins year wise that is which team won how many matches in that year regardless of final, semi-final and normal matches.

### Outcome:

Matches Played in Other countries

Team wins year wise.

## Dashboard 15: Most winning team



From the above dashboard we can see that which team won most number of times in the IPL from 2008-2017 and it is Mumbai Indians team which won 91 times and is the most winning team in whole IPL series from 2008-2017.

### Outcome:

Most winning team: Mumbai Indians.



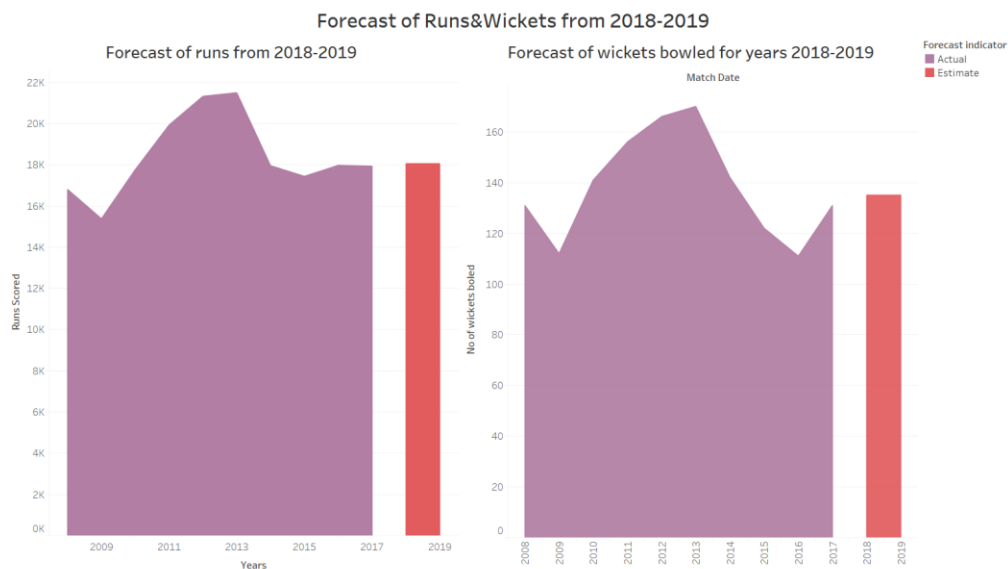
## Part 2

### Predictive Analytics and Visualization insights

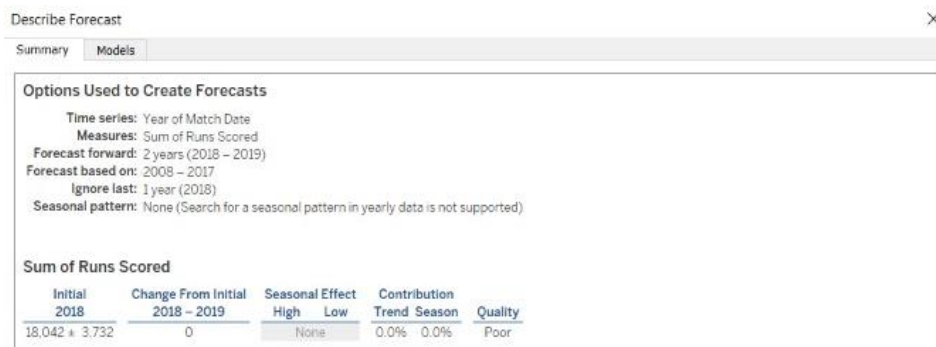
What questions users might ask?

- 1.) What are the runs scored in future?
- 2.) How many wickets may be bowled in the future?
- 3.) What is the trend line/pattern over runs in whole data from 2009-2017?
- 4.) What is the trend line/pattern over Wickets Bowled in whole data from 2009-2017?

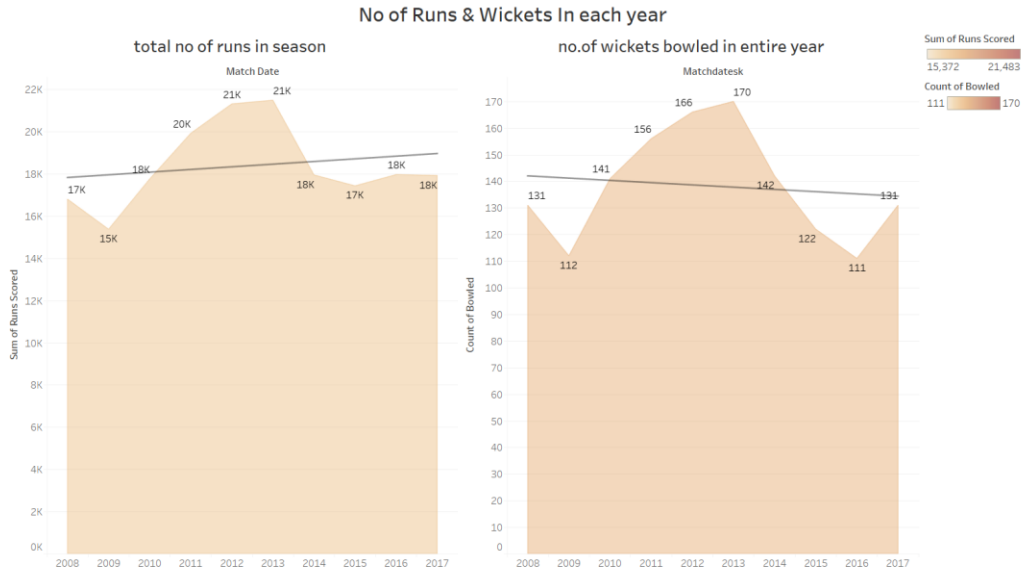
#### 1.) Forecast of runs & wickets in Future



To answer the first 2 questions we are seeing the insights that I created from 2009-2017 and we can see that the curve had increases few years and then decreased over few years and when I used forecast function for 2 periods I saw that the runs that will be scored in the year 2018 and 2019 are similar and equal to 1.8k and the results are accurate when we checked the original result. And even no of wickets bowled in the year will be equal to 135.



## 2.) Trend lines/Patterns of Runs & Wickets from 2009-2017



We can observe the trend patterns from the above graph that the line is not linear it is some-times increasing and some-times decreasing that means the runs are not consistent in every year and even bowling is not consistent and we can also learn that there is no pattern in the above two graphs but we can find an insight that tells about the how many runs and how many wickets have been bowled during each year.