



IPL Data Visualisation

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Brief Overview

The Indian Premier League, or IPL, is a T20 cricket league, which was founded in 2008 and is held every year. It sees participation from both national and international players, and eight teams representing eight Indian cities compete with each other in a double round-robin format in the league stages, which are followed by playoffs. Over the years, IPL has become one of the most-watched and most attended live sporting events all over the world.

We were given 2 datasets:

1. Deliveries.csv: It contained match-level information for each, and every match held in IPL from 2008 to 2017.
2. Matches.csv: It contained ball-by-ball information for each of the matches.

The dashboards created are:

1. Match Statistics Dashboard

- Toss outcome vs Match outcome (for each Ground/Venue)
- Biggest wins (by runs and by wicket)
- Highest totals (across all the seasons)

2. Player Statistics Dashboards

- Orange Cap contenders (The batsmen who have scored the maximum number of runs in a particular season)
- Purple Cap contenders (The bowlers who have taken the maximum number of wickets in a particular season)
- Batsmen who have hit most number of fours and sixes (per season and overall)

3. Team Statistics Dashboard

- Season-wise team performance (wins vs losses)
- Win %age (home vs away)

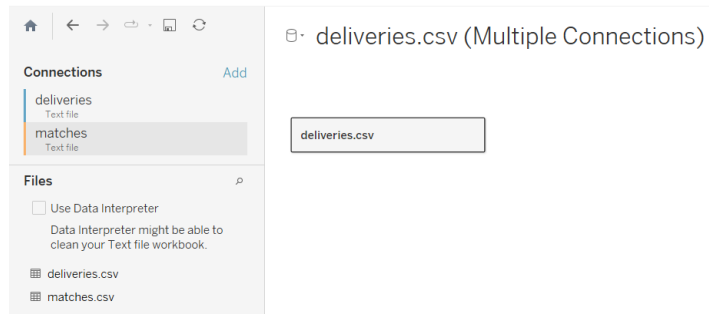
Pre-Visualisation Activities

1. Analysed and understood all the data present in both deliveries.csv as well as matches.csv

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	match_id	inning	battling_team	bowling_team	over	ball	batsman	non_striker	bowler	is_super_over	wide_runs	bye_runs	legbye_runs	no_ball_runs
2	1	1	Sunrisers I	Royal Chal		1	DA Warner S Dhawan	TS Mills		0	0	0	0	0
3	1	1	Sunrisers I	Royal Chal		1	DA Warner S Dhawan	TS Mills		0	0	0	0	0
4	1	1	Sunrisers I	Royal Chal		1	3 DA Warner S Dhawan	TS Mills		0	0	0	0	0
5	1	1	Sunrisers I	Royal Chal		1	4 DA Warner S Dhawan	TS Mills		0	0	0	0	0
6	1	1	Sunrisers I	Royal Chal		1	5 DA Warner S Dhawan	TS Mills		0	2	0	0	0
7	1	1	Sunrisers I	Royal Chal		1	6 S Dhawan	DA Warner TS Mills		0	0	0	0	0
8	1	1	Sunrisers I	Royal Chal		1	7 S Dhawan	DA Warner TS Mills		0	0	0	1	0
9	1	1	Sunrisers I	Royal Chal		2	1 S Dhawan	DA Warner A Choudha		0	0	0	0	0
10	1	1	Sunrisers I	Royal Chal		2	2 DA Warner S Dhawan	A Choudha		0	0	0	0	0
11	1	1	Sunrisers I	Royal Chal		2	3 DA Warner S Dhawan	A Choudha		0	0	0	0	1
12	1	1	Sunrisers I	Royal Chal		2	4 DA Warner S Dhawan	A Choudha		0	0	0	0	0
13	1	1	Sunrisers I	Royal Chal		2	5 DA Warner S Dhawan	A Choudha		0	0	0	0	0
14	1	1	Sunrisers I	Royal Chal		2	6 MC Henriq S Dhawan	A Choudha		0	0	0	0	0
15	1	1	Sunrisers I	Royal Chal		2	7 MC Henriq S Dhawan	A Choudha		0	0	0	0	0
16	1	1	Sunrisers I	Royal Chal		3	1 S Dhawan	MC Henriq TS Mills		0	0	0	0	0
17	1	1	Sunrisers I	Royal Chal		3	2 MC Henriq S Dhawan	TS Mills		0	0	0	0	0
18	1	1	Sunrisers I	Royal Chal		3	3 MC Henriq S Dhawan	TS Mills		0	0	0	0	0
19	1	1	Sunrisers I	Royal Chal		3	4 MC Henriq S Dhawan	TS Mills		0	0	0	0	0
20	1	1	Sunrisers I	Royal Chal		3	5 S Dhawan	MC Henriq TS Mills		0	0	0	0	0
21	1	1	Sunrisers I	Royal Chal		3	6 MC Henriq S Dhawan	TS Mills		0	0	0	0	0
22	1	1	Sunrisers I	Royal Chal		4	1 MC Henriq S Dhawan	YS Chahal		0	0	0	0	0
23	1	1	Sunrisers I	Royal Chal		4	2 MC Henriq S Dhawan	YS Chahal		0	0	0	0	0
24	1	1	Sunrisers I	Royal Chal		4	3 S Dhawan	MC Henriq YS Chahal		0	0	0	0	0
25	1	1	Sunrisers I	Royal Chal		4	4 S Dhawan	MC Henriq YS Chahal		0	0	0	0	0
26	1	1	Sunrisers I	Royal Chal		4	5 MC Henriq S Dhawan	YS Chahal		0	0	0	0	0

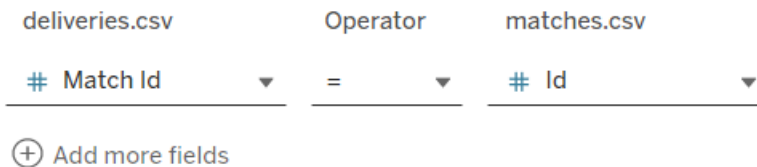
	A	B	C	D	E	F	G	H	I	J	K	L	M	N			
1	id	season	city	date	team1	team2	loss	winner	toss	decis	result	dt_applied	winner	win_by	run	win_by	player_of
2	1	2017	Hyderabad	#####	Sunrisers I	Royal Chal	Royal Chal	field	normal	0	Sunrisers I	35	0	Yuvraj Sing	0	0	
3	2	2017	Pune	#####	Mumbai In	Rising Pun	Rising Pun	field	normal	0	Rising Pun	0	7	SPD Smith	0	0	
4	3	2017	Rajkot	#####	Gujarat Lic	Kolkata Kn	Kolkata Kn	field	normal	0	Kolkata Kn	0	10	CA Lynn	0	0	
5	4	2017	Indore	#####	Rising Pun	Kings XI Pu	Kings XI Pu	bat	normal	0	Kings XI Pu	0	6	GI Maxwell	0	0	
6	5	2017	Bangalore	#####	Royal Chal	Delhi Dare	Royal Chal	bat	normal	0	Royal Chal	15	0	KM Jadhav	0	0	
7	6	2017	Hyderabad	#####	Gujarat Lic	Sunrisers I	Sunrisers I	field	normal	0	Sunrisers I	0	9	Rashid Khe	0	0	
8	7	2017	Mumbai	#####	Kolkata Kn	Mumbai In	Mumbai In	field	normal	0	Mumbai In	0	4	N Rana	0	0	
9	8	2017	Indore	#####	Royal Chal	Kings XI Pu	Royal Chal	bat	normal	0	Kings XI Pu	0	8	AA Patel	0	0	
10	9	2017	Pune	#####	Delhi Dare	Rising Pun	Rising Pun	field	normal	0	Delhi Dare	97	0	SI Samson	0	0	
11	10	2017	Mumbai	#####	Sunrisers I	Mumbai In	Mumbai In	field	normal	0	Mumbai In	0	4	JJ Bumrah	0	0	
12	11	2017	Kolkata	#####	Kings XI Pu	Kolkata Kn	Kolkata Kn	field	normal	0	Kolkata Kn	0	8	SP Narine	0	0	
13	12	2017	Bangalore	#####	Royal Chal	Mumbai In	Mumbai In	field	normal	0	Mumbai In	0	4	KA Pollard	0	0	
14	13	2017	Rajkot	#####	Rising Pun	Gujarat Lic	Gujarat Lic	field	normal	0	Gujarat Lic	0	7	AI Tye	0	0	
15	14	2017	Kolkata	#####	Kolkata Kn	Sunrisers I	Sunrisers I	field	normal	0	Kolkata Kn	17	0	RI Unwagg	0	0	
16	15	2017	Delhi	#####	Delhi Dare	Kings XI Pu	Delhi Dare	bat	normal	0	Delhi Dare	51	0	CI Andersen	0	0	
17	16	2017	Mumbai	#####	Gujarat Lic	Mumbai In	Mumbai In	field	normal	0	Mumbai In	0	6	N Rana	0	0	
18	17	2017	Bangalore	#####	Rising Pun	Royal Chal	Royal Chal	field	normal	0	Rising Pun	27	0	BA Stokes	0	0	
19	18	2017	Delhi	#####	Delhi Dare	Kolkata Kn	Delhi Dare	bat	normal	0	Kolkata Kn	0	4	NM Couthe	0	0	
20	19	2017	Hyderabad	#####	Sunrisers I	Kings XI Pu	Kings XI Pu	field	normal	0	Sunrisers I	5	0	B Kumar	0	0	
21	20	2017	Rajkot	#####	Royal Chal	Gujarat Lic	Gujarat Lic	field	normal	0	Royal Chal	21	0	CH Gayle	0	0	
22	21	2017	Hyderabad	#####	Sunrisers I	Delhi Dare	Sunrisers I	bat	normal	0	Sunrisers I	15	0	KS William	0	0	
23	22	2017	Indore	#####	Kings XI Pu	Mumbai In	Mumbai In	field	normal	0	Mumbai In	0	8	JC Buttler	0	0	
24	23	2017	Kolkata	#####	Kolkata Kn	Gujarat Lic	Gujarat Lic	field	normal	0	Gujarat Lic	0	4	SK Raina	0	0	
25	24	2017	Mumbai	#####	Mumbai In	Delhi Dare	Delhi Dare	field	normal	0	Mumbai In	14	0	MI McClen	0	0	
26	25	2017	Pune	#####	Sunrisers I	Rising Pun	Rising Pun	field	normal	0	Rising Pun	0	6	MS Dhoni	0	0	
matches																	

2. Uploaded both the csv files



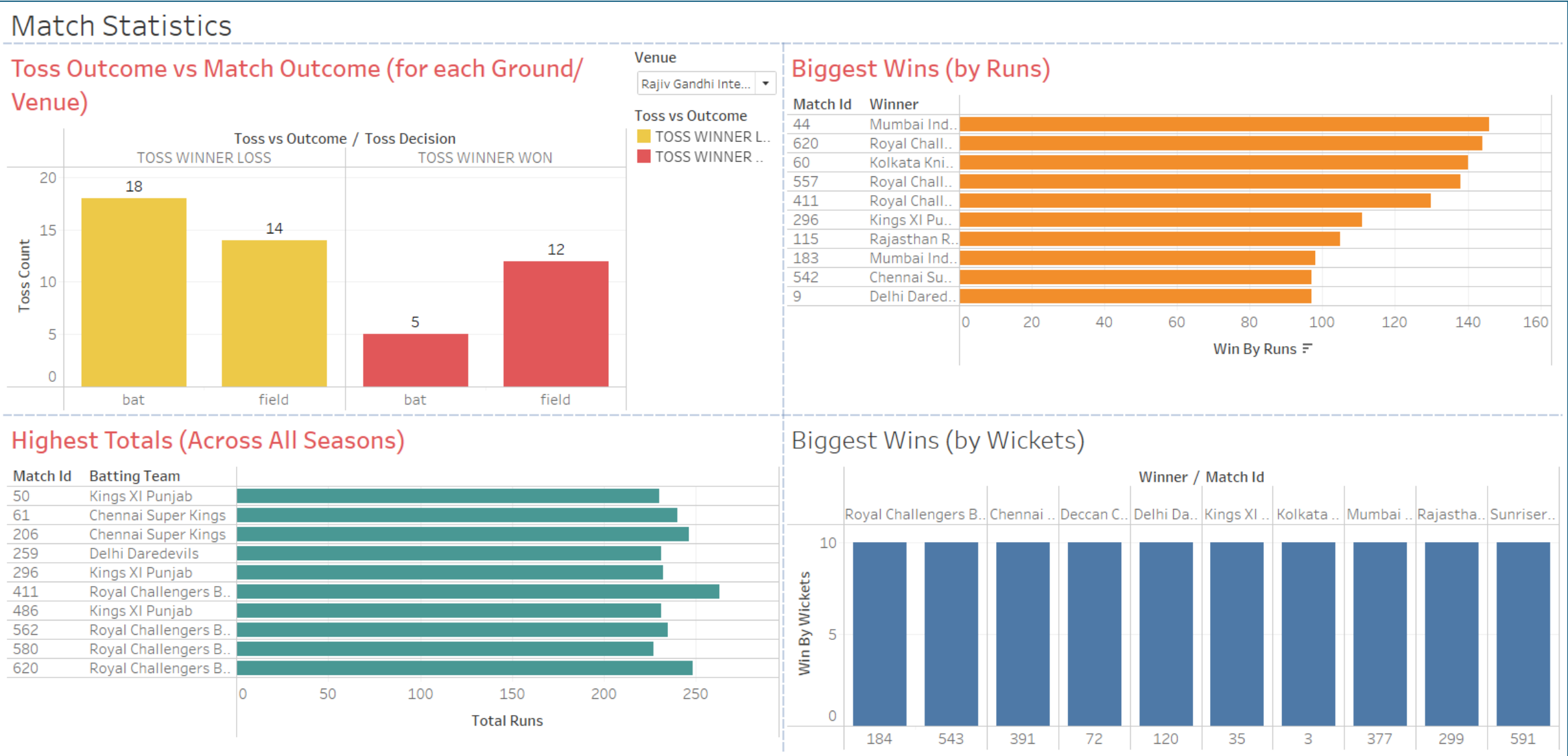
3. Identified the common column in both csv files to create a join for more efficient visualisation

How do relationships differ from joins? [Learn more](#)



Match Statistics Dashboard

Match statistics dashboard contains data about toss outcomes across the venues, highest total runs across all seasons and the greatest number of wins based on wickets and run.



Toss outcome vs Match outcome (for each Ground/Venue)

This bar graph created is used to observe the toss outcome (bat or field) v/s match outcome (win or loss)

I have created a calculated field to check if the toss winner was the actual winner or vice versa. As the data needs to be visualized for each venue, a filter has been added to look at the results based on per venue.

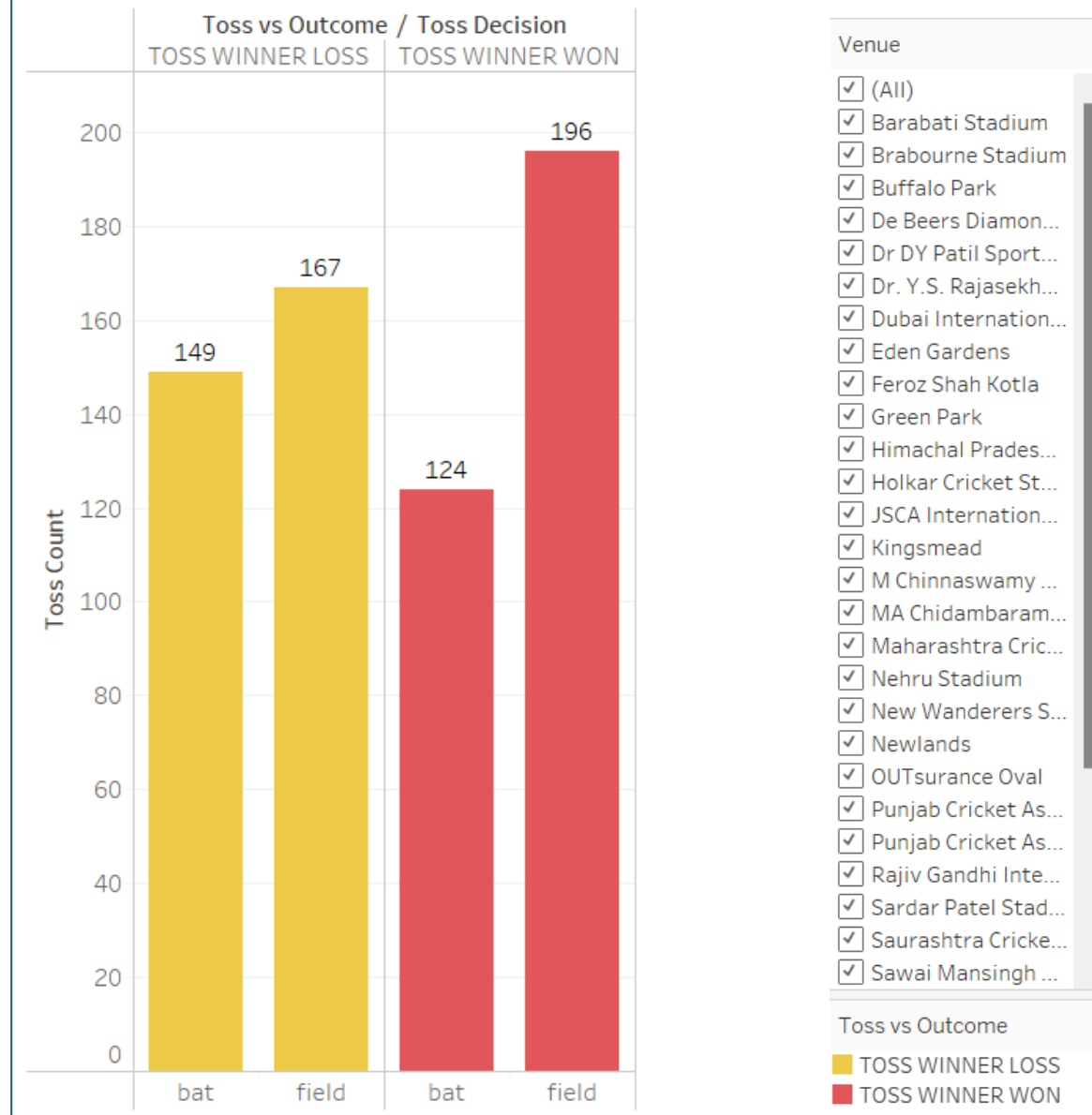
Maximum number of matches were played at M Chinnaswamy stadium. Toss winners who chose to field have won the matches the most.

Maximum matches were lost at Rajiv Gandhi International stadium

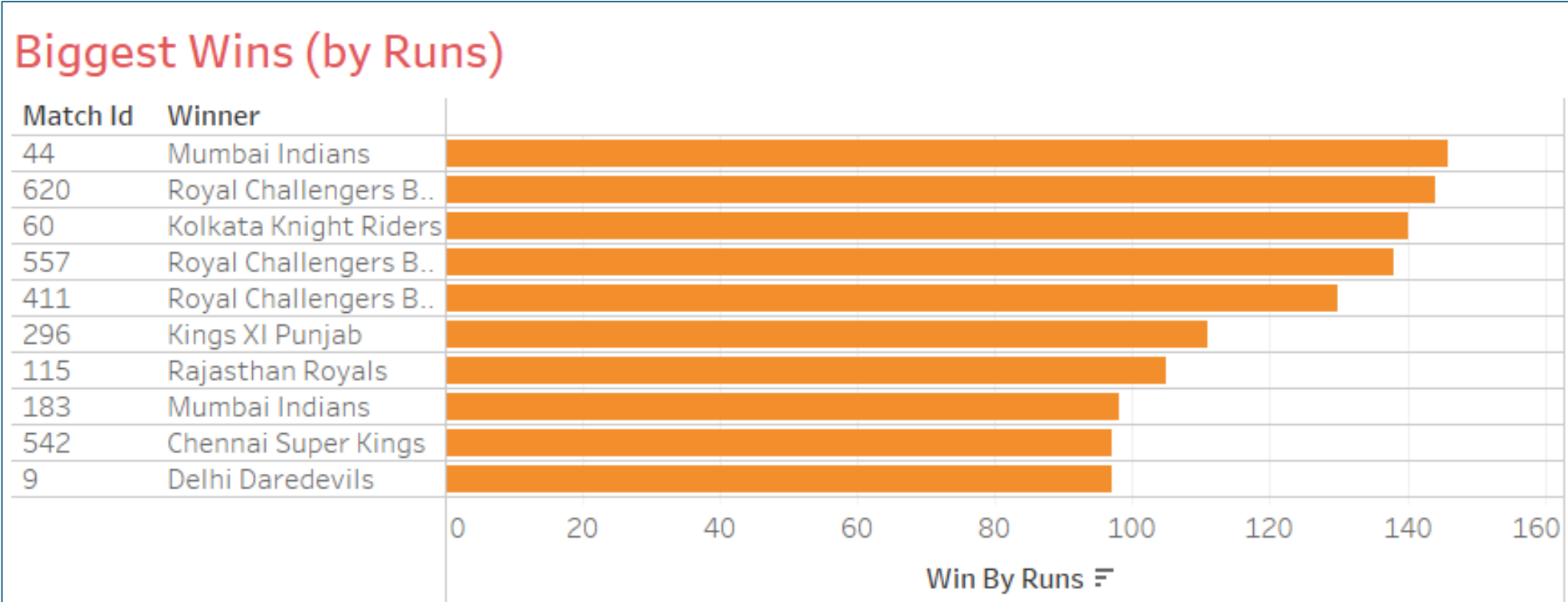
But when you see the overall insight, we can see that the toss outcome does not decide the match outcome. Despite that the toss winners who won the match chose field, we can see that in toss winners lost, the number of teams who chose to field is also high.

So, ultimately there are various other factors such as player and overall team's performance, weather and the opponent team as well.

Toss Outcome vs Match Outcome (for each Ground/Venue)



Biggest wins (by runs)



The above graph has match id, winner team’s name and their corresponding runs for that match.

From the bar graph above, we can observe that Mumbai Indians have score the highest wins by run. A filter has been added here to view only the top 10 teams by summing up their runs for the particular match id.

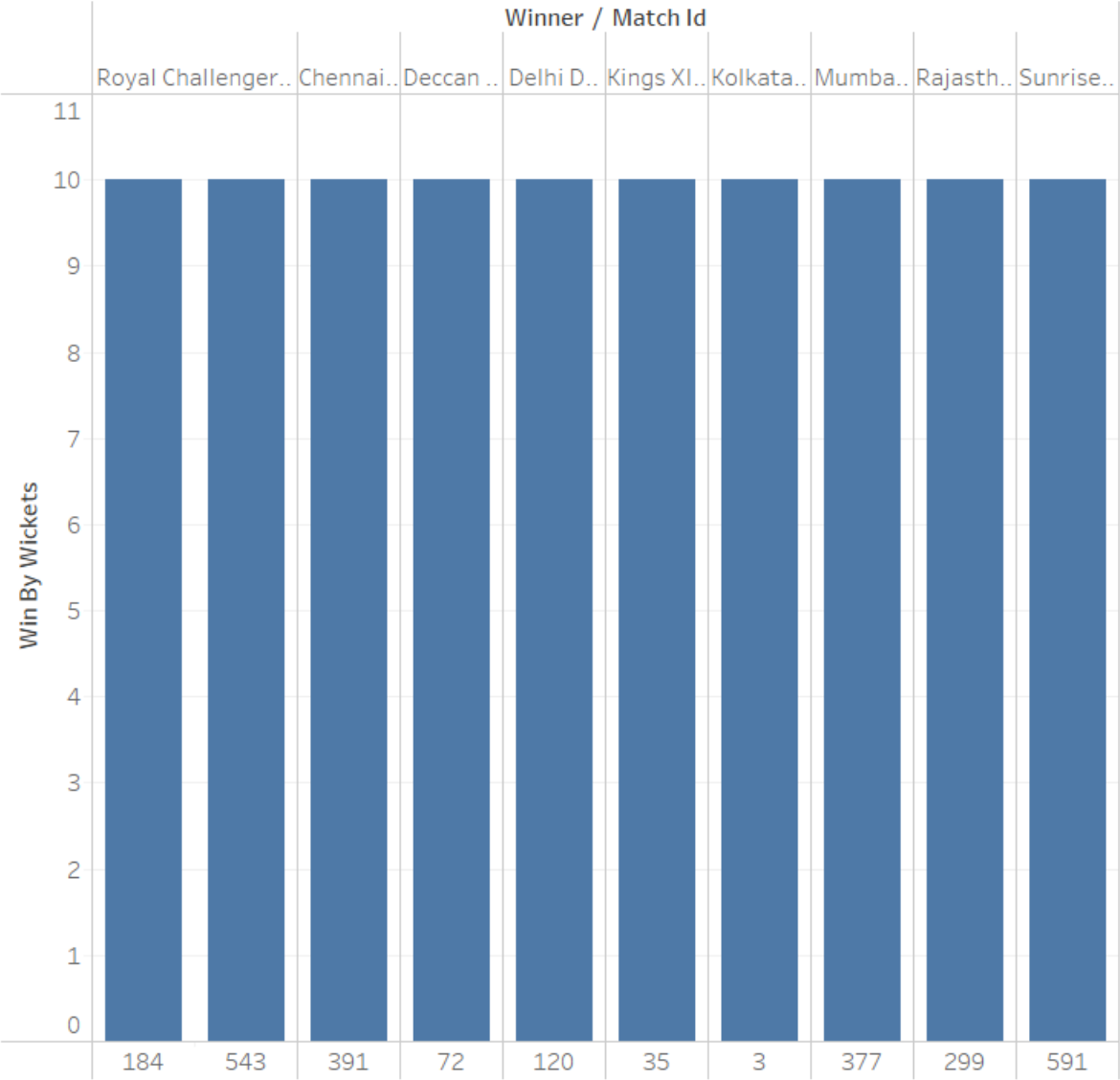
Biggest wins (by wickets)

In the bar graph, we can see the highest wins by wickets is 10 scored by different teams on different matchs (match id which you can see on the x-axis)

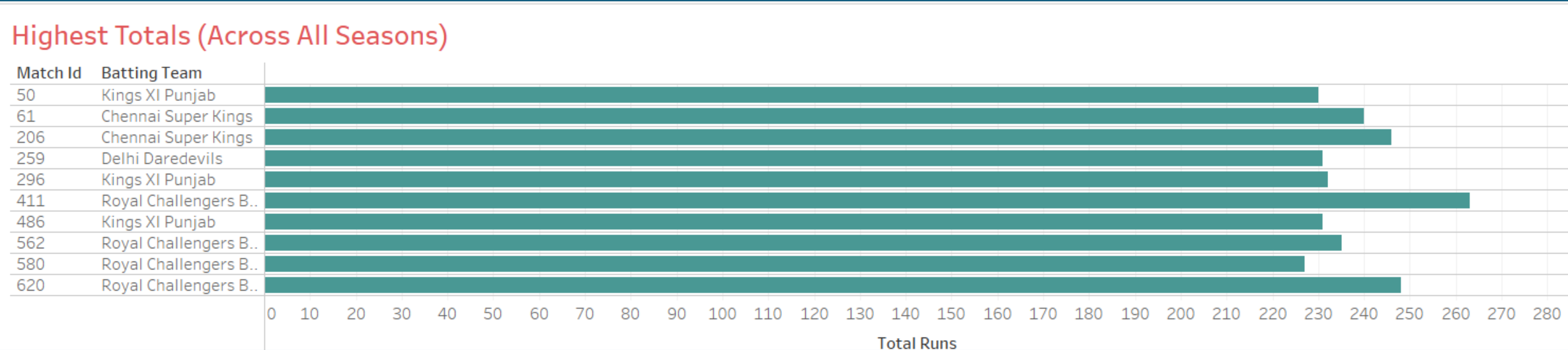
We can change the graph if we want to see overall wickets the we will obersve that the highest wickets scored are by “Kolkata Knight Riders” team.

Overall, when you count the runs and wicket wins “Mumbai Indians” is at the top.

Biggest Wins (by Wickets)



Highest totals (across all the seasons)



This bar graph depicts the highest total runs scored across all the team by the different teams in IPL. The filter used here is the match innings which I created as a calculated field.

The parameters used her are match id, batting team and the runs they scored. Here, you can see the top 10 totals across all the seasons.

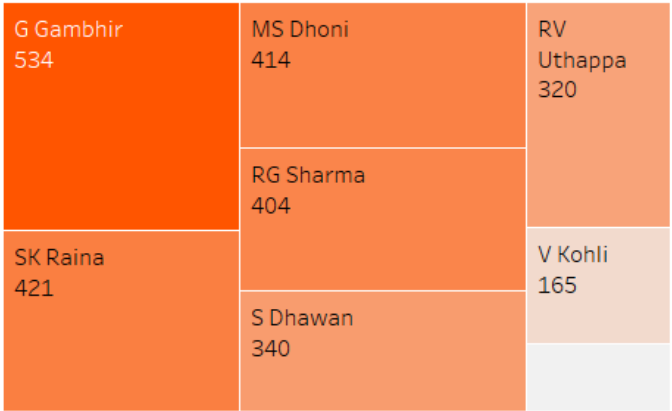
Royal Challengers Bengaluru has been scoring the highest total 4 times till now and is at the top for match is 411.

Player Statistics Dashboard

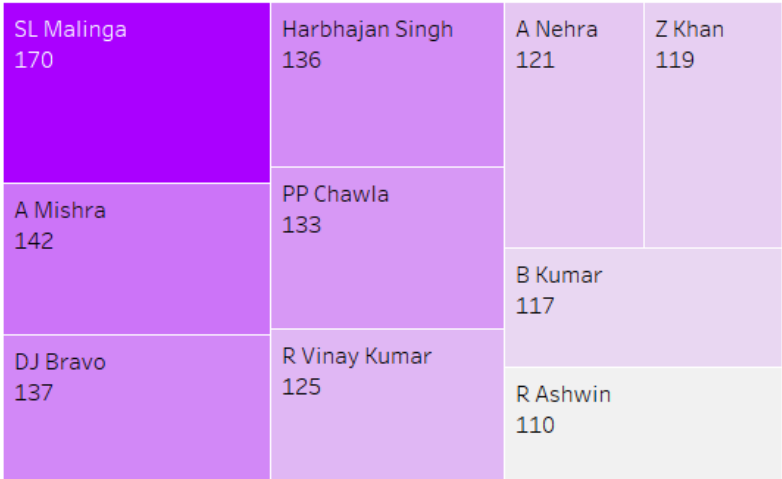
Player statistics dashboard gives us an overview of the player's performance based on the batsmen who hit the most fours or sixes, batsmen who scored the maximum runs and bowlers who took the most wickets.

Player Statistics

Orange Cap Contenders



Purple Cap Contenders

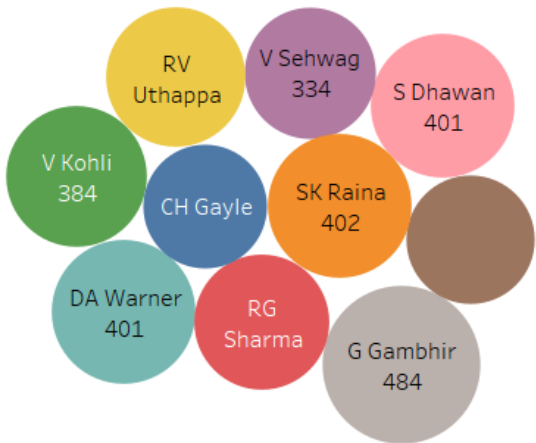


Batsman.. 95 534

Season

- ☐ (All)
- ☒ 2008
- ☐ 2009
- ☐ 2010
- ☐ 2011
- ☐ 2012
- ☐ 2013
- ☐ 2014
- ☐ 2015
- ☐ 2016
- ☐ 2017

Batsmen who have hit the most number of fours



Year of Date

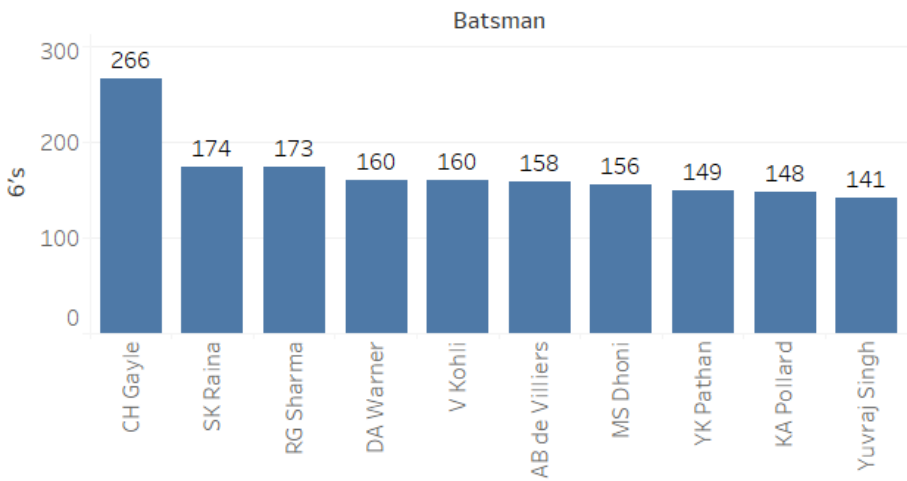
- ☒ (All)
- ☒ 2008
- ☒ 2009
- ☒ 2010
- ☒ 2011
- ☒ 2012
- ☒ 2013
- ☒ 2014
- ☒ 2015
- ☒ 2016
- ☒ 2017

Count of Player Dis.. 110 170

Year of Date

- ☒ (All)
- ☒ 2008
- ☒ 2009
- ☒ 2010
- ☒ 2011
- ☒ 2012
- ☒ 2013
- ☒ 2014
- ☒ 2015
- ☒ 2016
- ☒ 2017

Batsmen who have hit the most number of sixes



Batting Team

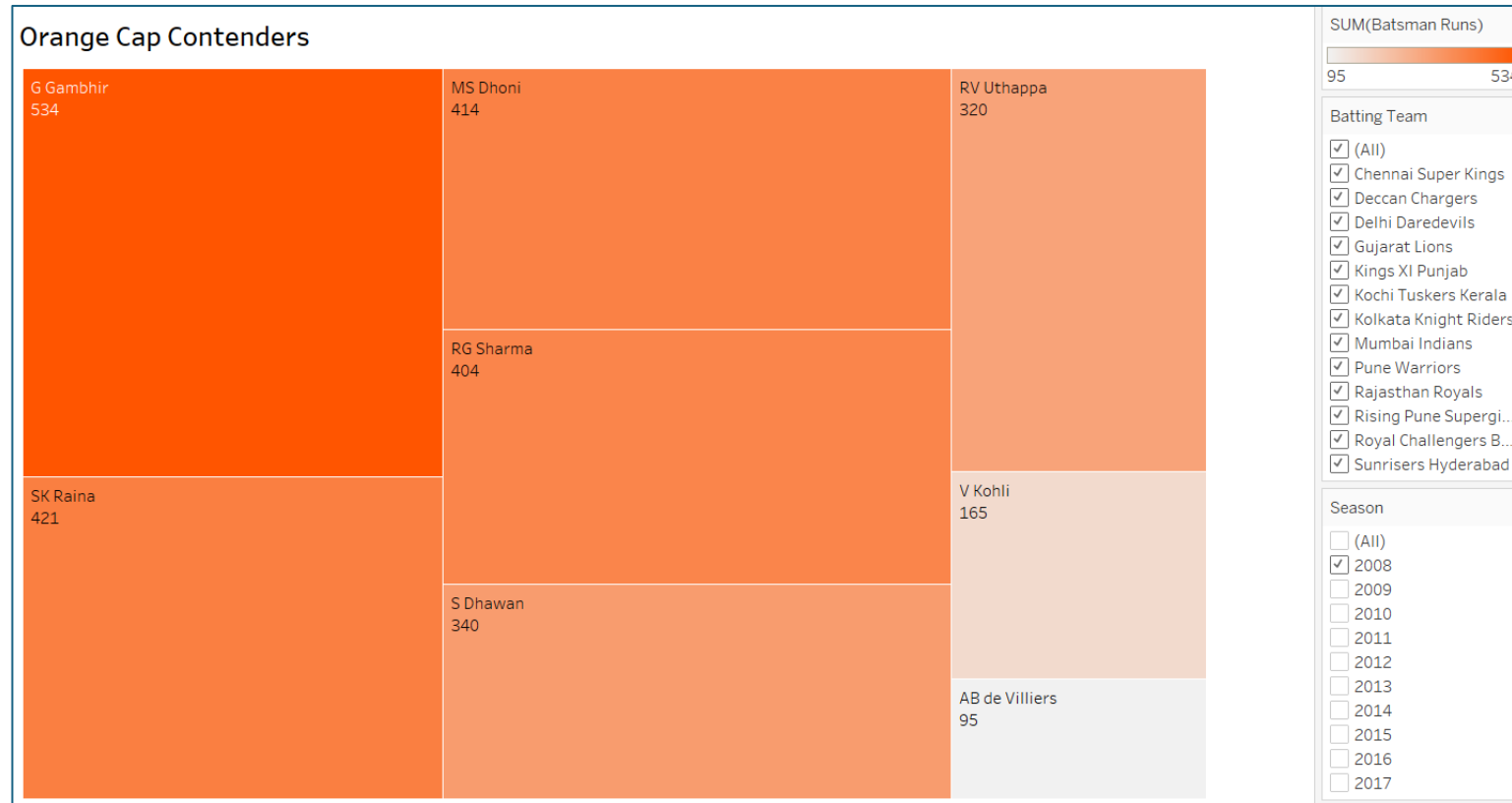
- ☒ (All)
- ☒ Chennai Su...
- ☒ Deccan Cha...
- ☒ Delhi Dared...
- ☒ Gujarat Lions
- ☒ Kings XI Pu...
- ☒ Kochi Tuske...
- ☒ Kolkata Kni

Year of Date

- ☒ (All)
- ☒ 2008
- ☒ 2009
- ☒ 2010
- ☒ 2011
- ☒ 2012
- ☒ 2013
- ☒ 2014

Orange Cap Contenders

The batsmen who have scored the maximum number of runs in a particular season

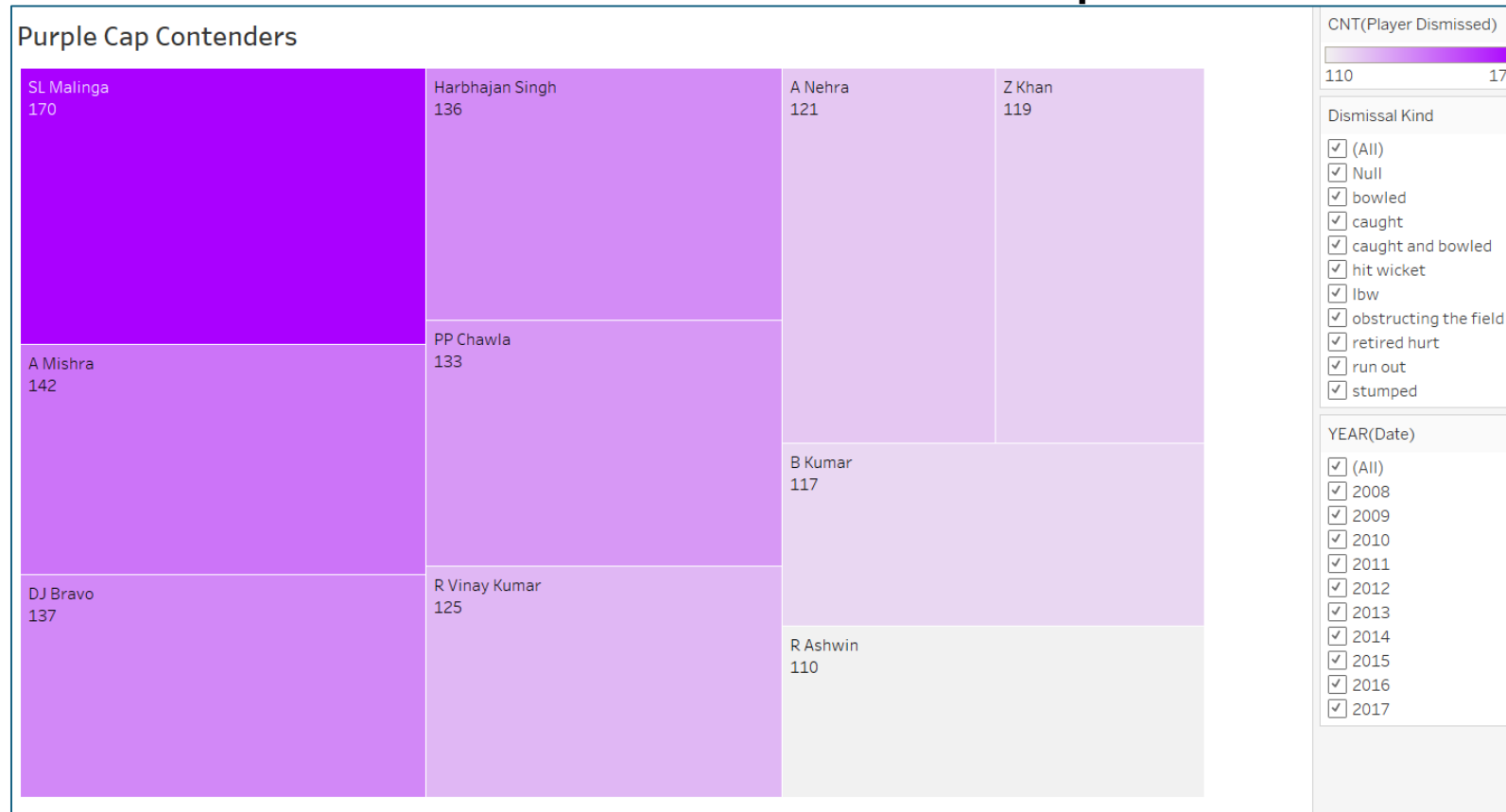


I have used a treemap to show the names of the batsmen and the total runs they scored. I have added filter to show only the top 10 batsmen because if we want to analyse the maximum number of runs then there is no need to show all batsmen data. This gives us insight about the maximum runs which is 4548 here scored by SK Raina. The top 3 batsmen who scored the maximum runs were SK Raina, Virat Kohli and RG Sharma. The least runs from the top 10 are of AB de Villiers.

But you can also filter the data based on a particular season and the batting team or you can use both in conjunction to derive insight about a particular season with 2 or 3 batting teams.

Purple Cap Contenders

The bowlers who have taken the maximum number of wickets in a particular season



I have used a treemap to show the names of the bowler and the total wickets they were able to take. I have added filter to show only the top 10 bowlers because if we want to analyse the maximum number of wickets then there is no need to show all bowlers' data.

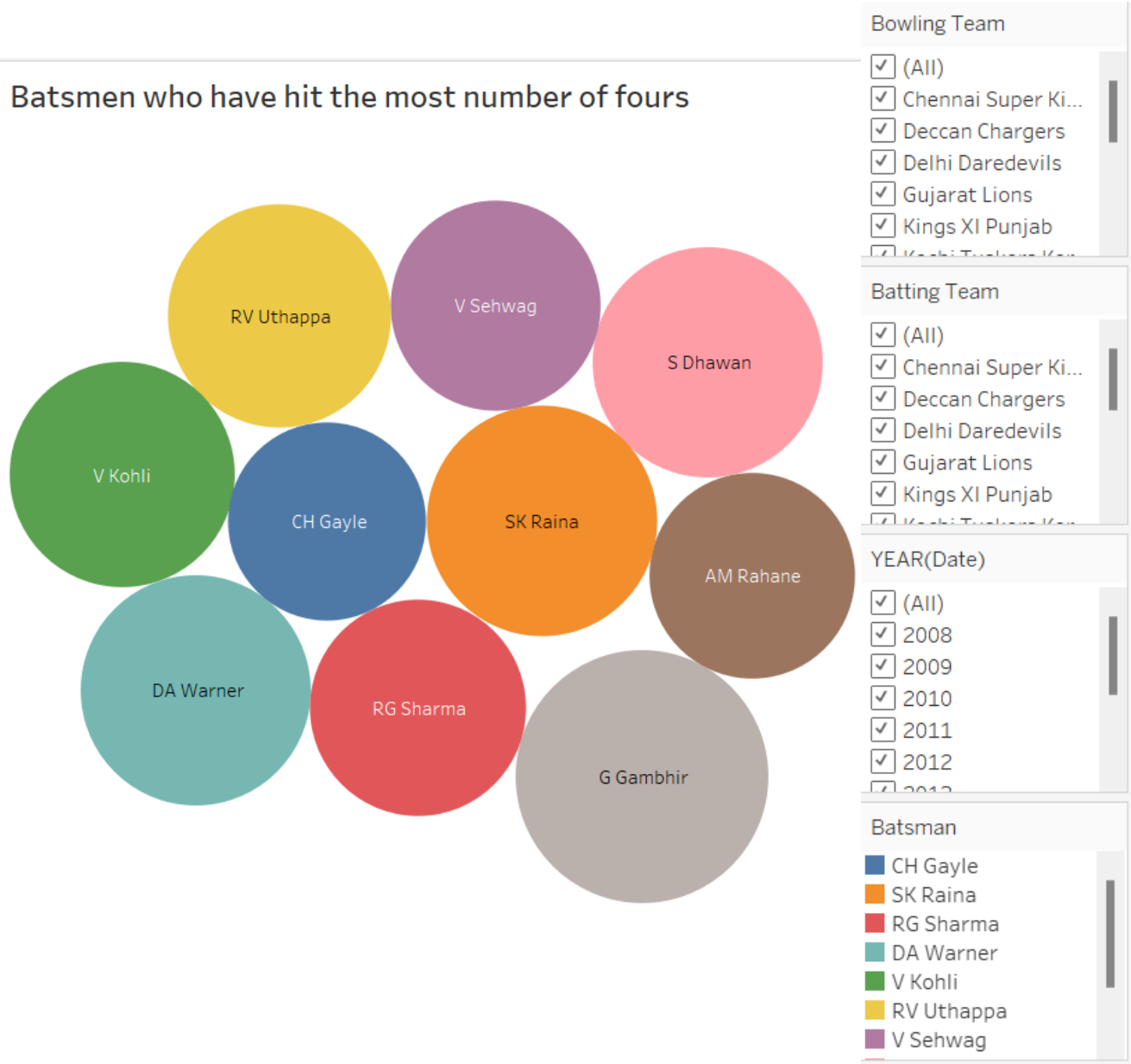
This gives us insight about the maximum wickets which is 170 here were taken by SL Malinga. The top 3 batsmen who took the maximum wickets were SL Malinga, A Mishra and DJ Bravo. The least wickets from the top 10 were taken by R Ashwin. But you can also filter the data based on the season and the dismissal kind!

Batsmen who have hit the most number of fours (per season and overall)

With the thought of engaging the user with a different chart, I have used the bubble chart here. This chart shows the top 10 batsmen who scored 4s for all the seasons.

Despite the data shown here, you can also filter it based on the bowling and batting team or the season they played in.

Most 4's are scored by G Gambhir while the least are scored by .



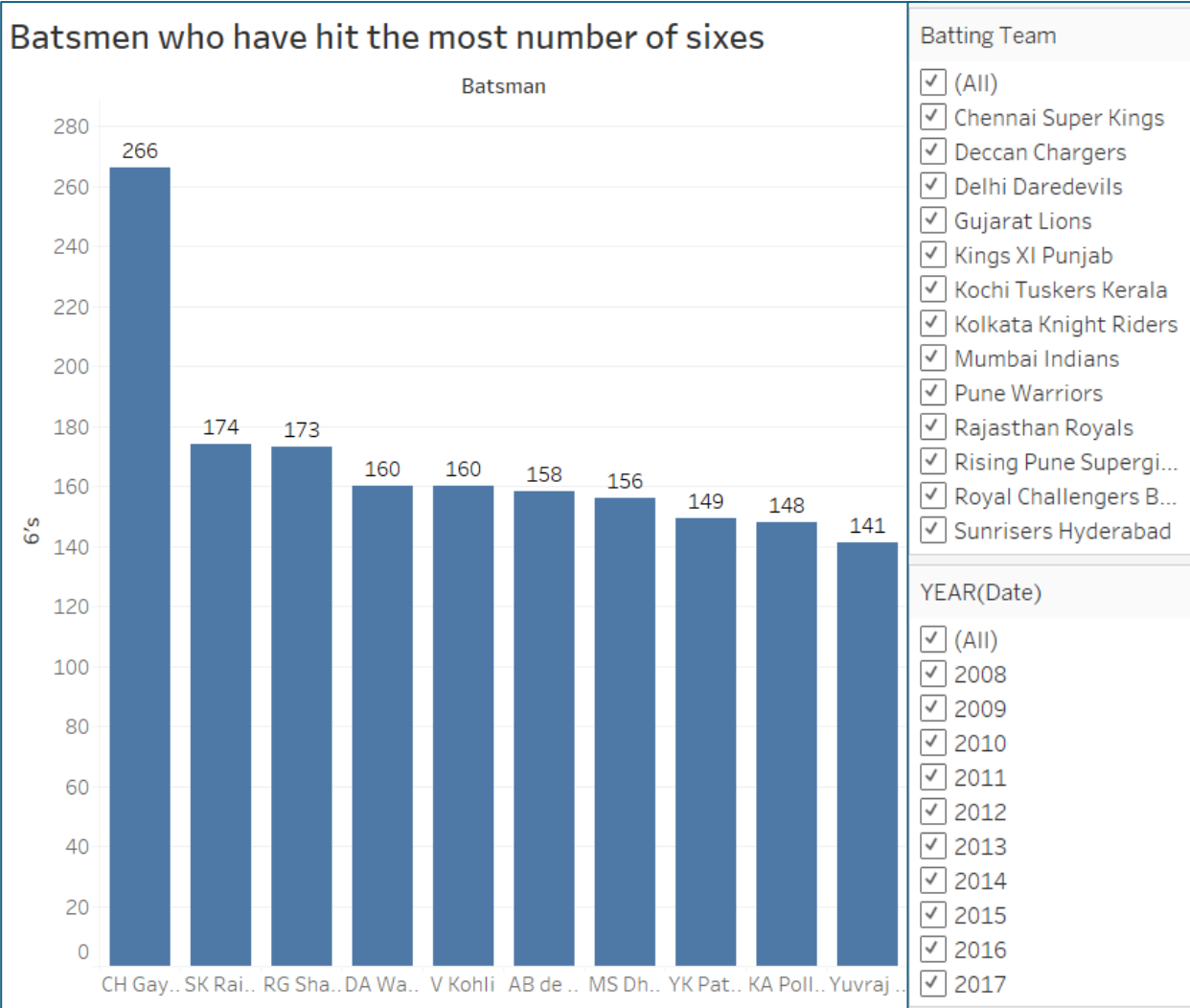
Batsmen who have hit the most number of sixes (per season and overall)

In the bar chart, we can observe that most number of 6s i.e. 266 are scored by CH Gayle.

We can see the top 10 batsmen here but we can filter the data based on the seasons or the batting team.

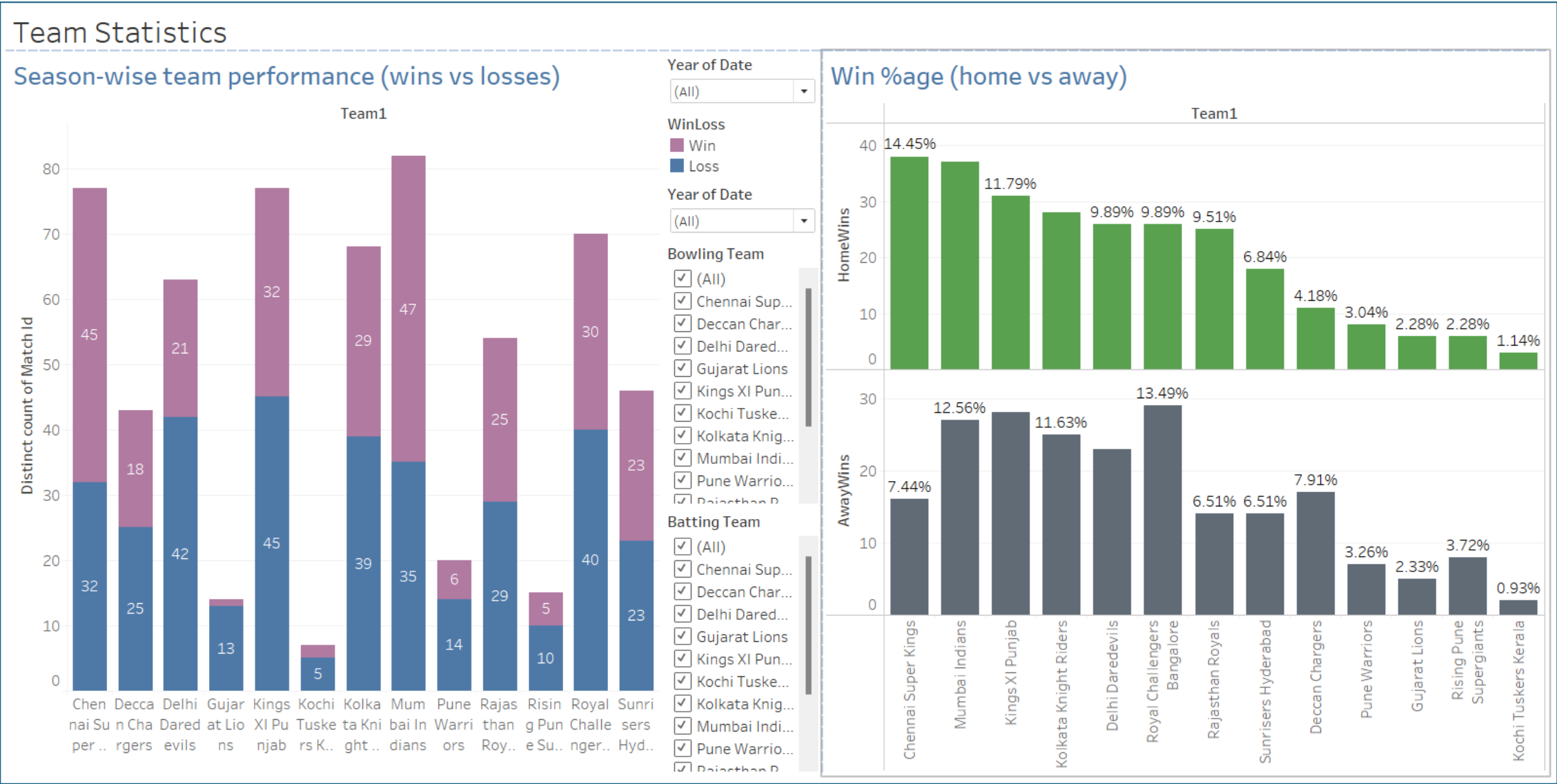
But, when we total out the 6s and 4s, we observe that SK Raina has the maximum combined score i.e. $174+402=576$.

This gives us an insight that SK Raina is great player.

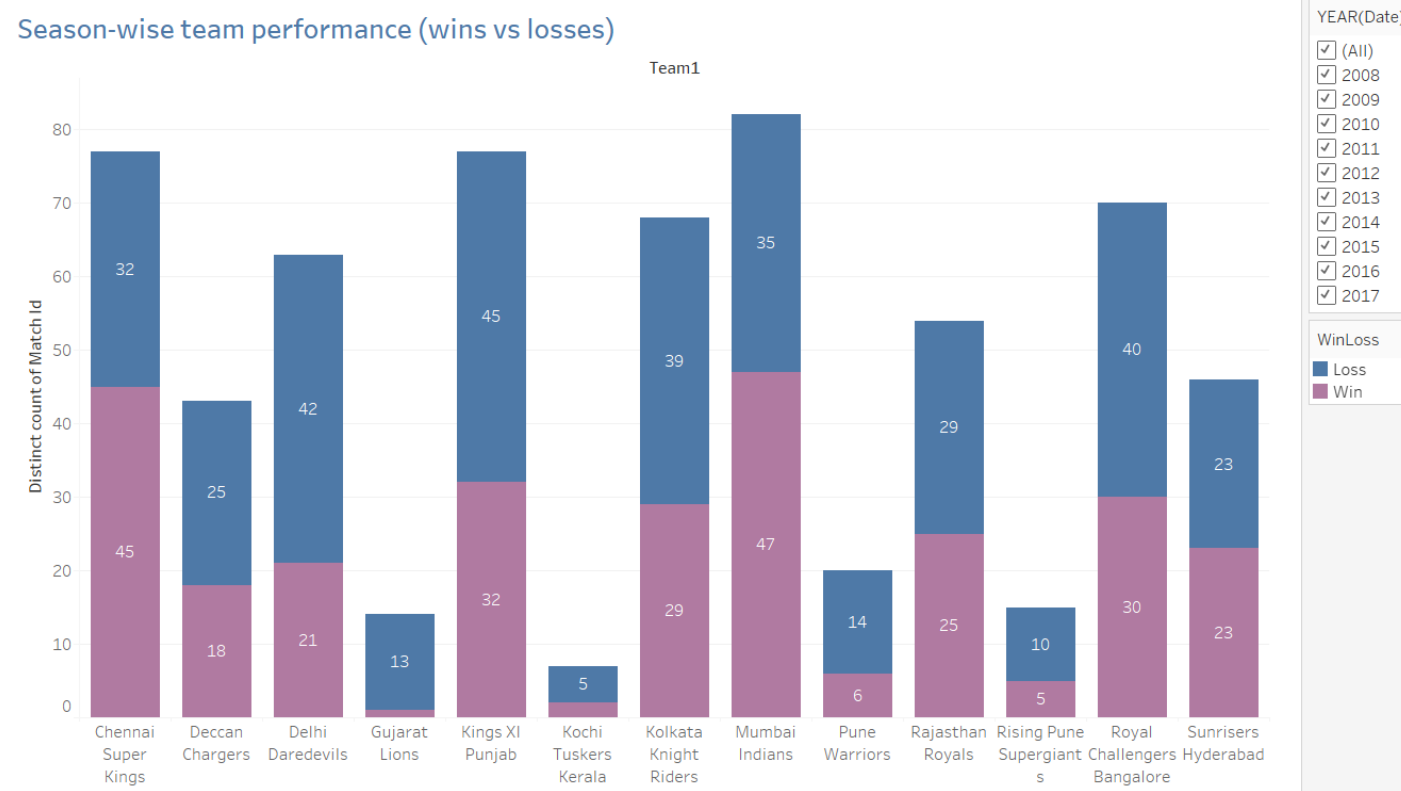


Team Statistics Dashboard

Team statistics dashboard gives us an overview of the teams' performance based on their season wise performance accounting their wins as well as losses and the winning percentage when they playing on their home ground as well away.



Season-wise team performance (Wins vs Losses)



I have created a simple bar graph here which shows the total number of wins and loss across all the teams.

To see the season-wise performance we can use the filter on the right-hand side.

Overall, the highest performance or number of win is of Mumbai Indians while the highest number of losses is of Kings XI Punjab.

Win %age (home vs away)

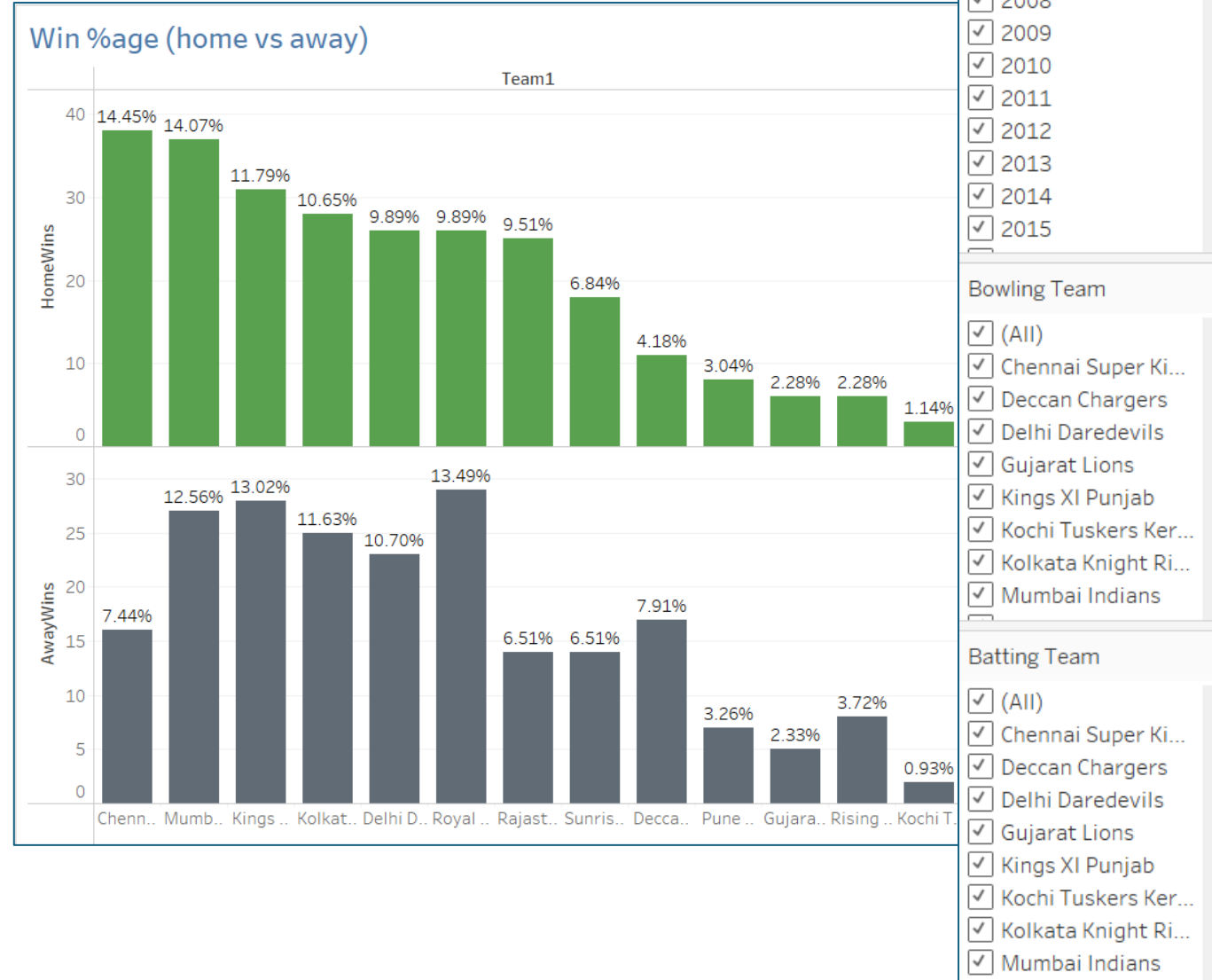
I have used a dual axis bar chart here to compare the home win percentage as well as the away win percentage of all the team in the overall seasons. We can filter the data season wise or use bowling and batting team to filter the data.

The highest home wins % is of Chennai Super Kings with Mumbai Indians coming 2nd while the lowest % is of Kochi Tuskers Kerala.

The highest away wins % is of Royal Challengers Bengaluru while the lowest is again the same as above.

Kochi Tuskers Kerala has not performed very well when compared to other teams.

Mumbai Indians have a good percentage maintained for win on home ground as well as when away.



SUMMARY

- Mumbai Indians has been a good team according to their performance and runs they scored.
- Maximum number of matches were played at M Chinnaswamy stadium. Toss winners who chose to field have won the matches the most
- RCB holds the highest score in the IPL history of 263 & 248 in the year 2013 and 2016.
- The maximum win by wickets is 10 and the maximum win by runs is by Mumbai Indians. Overall, 10 teams have won the matches by 10 wickets.
- V Kohli holds the record for highest runs in a single season of IPL.
- SL Malinga holds the record for taking highest number of wickets in a single season of IPL.
- The highest number of matches won in a season is 13 and this was achieved by Rajasthan Royals in 2008 and Mumbai Indians in 2013.
- The highest number of matches lost in a season is 13 and Delhi Daredevils performed the worst in 2013.

THANK YOU!!!!