



“Only Knowledge can provide salvation”

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# ACKNOWLEDGEMENT

In the accomplishment of this project successfully, many people have bestowed upon us their blessings and the heart pledges support, this time we are utilizing to thank all the people who have been concerned with this project.

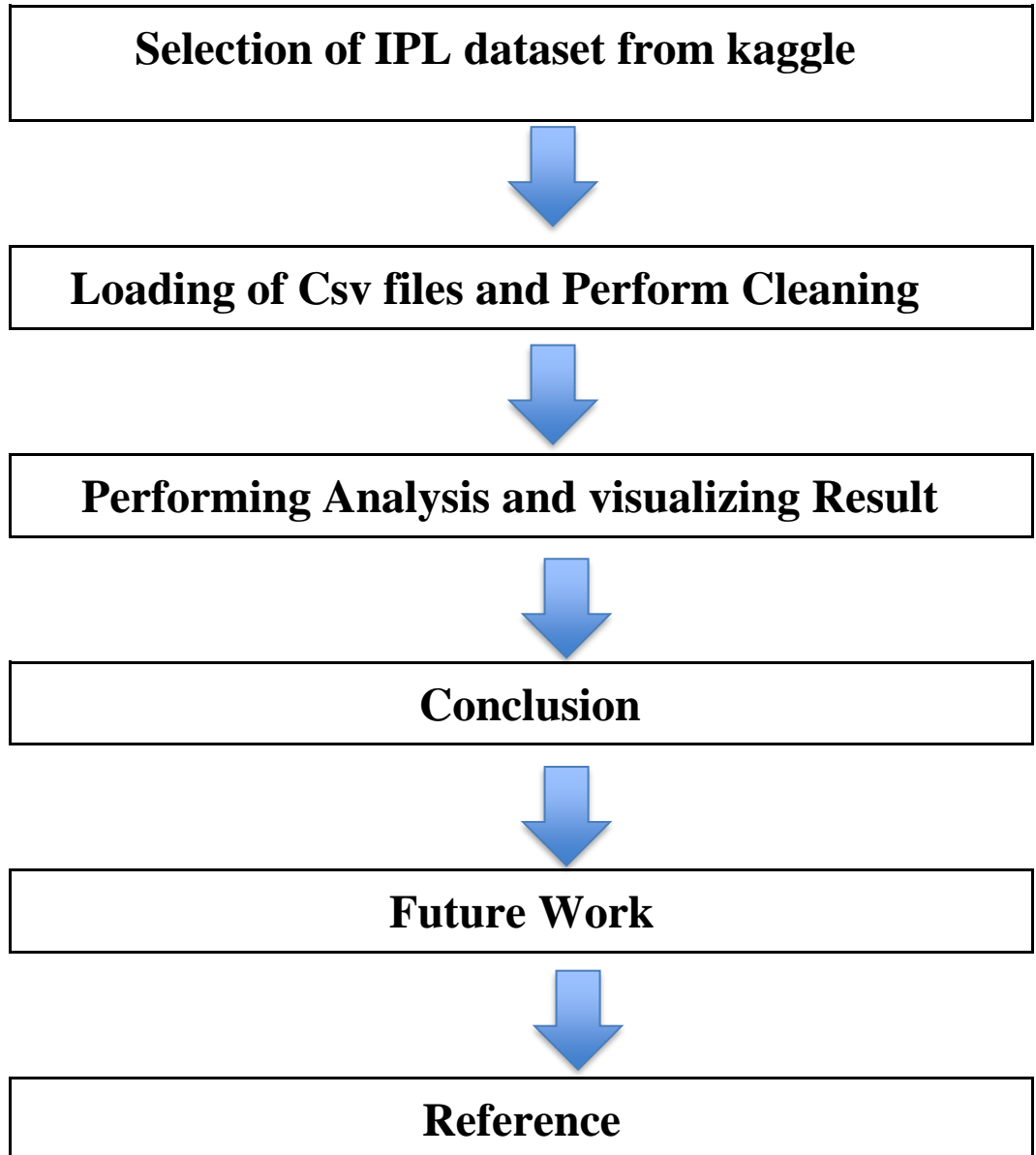
Primarily we would thank god for being able to complete this project with success. Then we would like to thank our principal ma'am Dr. Madhu Pruthi and our Data Analysis and Visualisation teacher Dr. Roli Bansal, whose valuable guidance has been the one that helped us patch this project and make it full proof success. The suggestions and instructions have served as the major contributor towards the completion of the project.

Then we would like to thank our parents and friends who have helped us with their valuable suggestions and guidance has been very helpful in various phases of the completion of the project. Last but not the least we would like to thank our fellow mates who have helped us a lot.

## **Table of Contents:**

- 1.) Block Diagram**
- 2.) Problem Statement**
- 3.) Narrative of analysis**
- 4.) Interpretation**
- 5.) Conclusion**
- 6.) Future work**
- 7.) Reference**

## **Block diagram**



# INDIAN PREMIER LEAGUE ANALYSIS

The Indian Premier League is a professional Twenty-20 cricket league, contested by eight teams based out of eight different Indian cities.

IPL has been a favourite sporting event among Indians since its inception. Whether it be Big Brands, Advertising Company, Players or Buyers of Players, or even a common man, everybody eagerly waits for this mega-event, for some it's a way to make money and for others, to invest money. And It is needless to mention that this whole process involves monetary risk. And as with the coming of Dream 11 and MPL like platforms, the common man has also started to take part in its monetary discipline. So it is wise-advice for everyone taking part, to analyse each and every stakeholder involved in the process.

So what we are going to do in our analysis is to make things simpler to understand for those who are going to be directly or indirectly involved in the IPL and help them to take a call upon the readings.

Our **PROBLEM STATEMENT** throughout the analysis would be focusing on some questions:

- *“How has each player performed in previous years?”*
- *“Whether the buyers should spend on him?”*
- *“How valuable is the player going to be for the team?”*
- *“How does a particular match venue affect the performance?”*
- *“What is the role of winning a toss?”*
- *“How well are their rival franchises performing?”*
- *“How does inning affect the wining?”*

### **Description of Analysis**

<b>Data Preparation &amp; Cleaning</b>
<b>Winning Toss effect</b>
<b>Batting Vs Bowling</b>
<b>Venue affect</b>
<b>Team Analysis</b>
<b>Individual player Analysis</b>
<b>Some basic analysis like most 6s, most wickets, ...</b>

# DATASET

## 1) IPL Ball-by-Ball 2008-2020.csv

id	inning	over	ball	batsman	non_striker	bowler	batsman_extra_run	total_run	non_bour	is_wicket	dismissal	player_dis	fielder	extras_ty	batting_team	bowling_team	
335982	1	6	5	RT Ponting	BB McCullum	AA Noffke	1	0	1	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	6	6	BB McCullum	RT Ponting	AA Noffke	1	0	1	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	7	1	BB McCullum	RT Ponting	Z Khan	0	0	0	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	7	2	BB McCullum	RT Ponting	Z Khan	1	0	1	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	7	3	RT Ponting	BB McCullum	Z Khan	1	0	1	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	7	4	BB McCullum	RT Ponting	Z Khan	1	0	1	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	7	5	RT Ponting	BB McCullum	Z Khan	1	0	1	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	7	6	BB McCullum	RT Ponting	Z Khan	1	0	1	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	8	1	BB McCullum	RT Ponting	JH Kallis	0	0	0	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	8	2	BB McCullum	RT Ponting	JH Kallis	0	0	0	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	8	3	BB McCullum	RT Ponting	JH Kallis	0	0	0	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	8	4	BB McCullum	RT Ponting	JH Kallis	1	0	1	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	8	5	RT Ponting	BB McCullum	JH Kallis	1	0	1	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	8	6	BB McCullum	RT Ponting	JH Kallis	2	0	2	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	9	1	RT Ponting	BB McCullum	SB Joshi	1	0	1	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	9	2	BB McCullum	RT Ponting	SB Joshi	1	0	1	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	9	3	RT Ponting	BB McCullum	SB Joshi	1	0	1	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	9	4	BB McCullum	RT Ponting	SB Joshi	0	0	0	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	9	5	BB McCullum	RT Ponting	SB Joshi	6	0	6	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	9	6	BB McCullum	RT Ponting	SB Joshi	1	0	1	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	10	1	BB McCullum	RT Ponting	JH Kallis	1	0	1	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	10	2	RT Ponting	BB McCullum	JH Kallis	4	0	4	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	10	3	RT Ponting	BB McCullum	JH Kallis	0	0	0	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	10	4	RT Ponting	BB McCullum	JH Kallis	6	0	6	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	10	5	RT Ponting	BB McCullum	JH Kallis	0	0	0	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	10	6	RT Ponting	BB McCullum	JH Kallis	0	4	4	0	0 NA	NA	NA	byes	Kolkata Knight	Royal Challengers Bangalore	
335982	1	11	1	BB McCullum	RT Ponting	SB Joshi	0	0	0	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	11	2	BB McCullum	RT Ponting	SB Joshi	6	0	6	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	11	3	BB McCullum	RT Ponting	SB Joshi	2	0	2	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	11	4	BB McCullum	RT Ponting	SB Joshi	1	0	1	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	11	5	RT Ponting	BB McCullum	SB Joshi	0	0	0	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	
335982	1	11	6	RT Ponting	BB McCullum	SB Joshi	1	0	1	0	0 NA	NA	NA	NA	Kolkata Knight	Royal Challengers Bangalore	

## 2) IPL Matches 2008-2020.csv

date	player_of_match	venue	neutral_venue	team1	team2	toss_winner	toss_decis	winner	result	result_mai	eliminator	method	umpire1	umpire2
#####	BB McCullum	M Chinnaswamy Stadium		0 Royal Challengers Ban	Kolkata Knight Riders	Royal Challengers Bang	field	Kolkata Kn runs	140	N	NA		Asad Rauf	RE Koertzen
#####	MEK Hussey	Punjab Cricket Association St		0 Kings XI Punjab	Chennai Super Kings	Chennai Super Kings	bat	Chennai S runs	33	N	NA		MR Benson	SL Shastri
#####	MF Maharoof	Feroz Shah Kotla		0 Delhi Daredevils	Rajasthan Royals	Rajasthan Royals	bat	Delhi Dare wickets	9	N	NA		Aleem Dar	GA Pratapkumar
#####	MV Boucher	Wankhede Stadium		0 Mumbai Indians	Royal Challengers Bangalore	Mumbai Indians	bat	Royal Chal wickets	5	N	NA		SJ Davis	DJ Harper
#####	DJ Hussey	Eden Gardens		0 Kolkata Knight Riders	Deccan Chargers	Deccan Chargers	bat	Kolkata Kn wickets	5	N	NA		BF Bowden	K Hariharan
#####	SR Watson	Sawai Mansingh Stadium		0 Rajasthan Royals	Kings XI Punjab	Kings XI Punjab	bat	Rajasthan wickets	6	N	NA		Aleem Dar	MR Tiffin
#####	V Sehwag	Rajiv Gandhi International St		0 Deccan Chargers	Delhi Daredevils	Deccan Chargers	bat	Delhi Dare wickets	9	N	NA		IL Howell	AM Saheba
#####	ML Hayden	MA Chidambaram Stadium, C		0 Chennai Super Kings	Mumbai Indians	Mumbai Indians	field	Chennai S runs	6	N	NA		DJ Harper	GA Pratapkumar
#####	YK Pathan	Rajiv Gandhi International St		0 Deccan Chargers	Rajasthan Royals	Rajasthan Royals	field	Rajasthan wickets	3	N	NA		Asad Rauf	MR Benson
#####	KC Sangakkara	Punjab Cricket Association St		0 Kings XI Punjab	Mumbai Indians	Mumbai Indians	field	Kings XI Pu runs	66	N	NA		Aleem Dar	AM Saheba
#####	SR Watson	M Chinnaswamy Stadium		0 Royal Challengers Ban	Rajasthan Royals	Rajasthan Royals	field	Rajasthan wickets	7	N	NA		MR Benson	IL Howell
#####	IDP Oram	MA Chidambaram Stadium, C		0 Chennai Super Kings	Kolkata Knight Riders	Kolkata Knight Riders	bat	Chennai S wickets	9	N	NA		BF Bowden	AV Jayaprakash
#####	AC Gilchrist	Dr DY Patil Sports Academy		0 Mumbai Indians	Deccan Chargers	Deccan Chargers	field	Deccan Ch wickets	10	N	NA		Asad Rauf	SL Shastri
#####	SM Katich	Punjab Cricket Association St		0 Kings XI Punjab	Delhi Daredevils	Delhi Daredevils	bat	Kings XI Pu wickets	4	N	NA		RE Koertzen	I Shivram
#####	MS Dhoni	M Chinnaswamy Stadium		0 Royal Challengers Ban	Chennai Super Kings	Chennai Super Kings	bat	Chennai S runs	13	N	NA		BR Doctrove	RB Tiffin
#####	ST Jayasuriya	Eden Gardens		0 Kolkata Knight Riders	Mumbai Indians	Kolkata Super Riders	bat	Mumbai In wickets	7	N	NA		BF Bowden	AV Jayaprakash
#####	GD McGrath	Feroz Shah Kotla		0 Delhi Daredevils	Royal Challengers Bangalore	Royal Challengers Bang	field	Delhi Dare runs	10	N	NA		Aleem Dar	I Shivram
#####	SE Marsh	Rajiv Gandhi International St		0 Deccan Chargers	Kings XI Punjab	Kings XI Punjab	field	Kings XI Pu wickets	7	N	NA		BR Doctrove	RB Tiffin
#####	SA Asnodkar	Sawai Mansingh Stadium		0 Rajasthan Royals	Kolkata Knight Riders	Rajasthan Royals	bat	Rajasthan runs	45	N	NA		RE Koertzen	GA Pratapkumar
#####	V Sehwag	MA Chidambaram Stadium, C		0 Chennai Super Kings	Delhi Daredevils	Chennai Super Kings	bat	Delhi Dare wickets	8	N	NA		BF Bowden	K Hariharan
#####	R Vinay Kumar	Rajiv Gandhi International St		0 Deccan Chargers	Royal Challengers Bangalore	Deccan Chargers	bat	Royal Chal wickets	5	N	NA		Asad Rauf	RE Koertzen
#####	IK Pathan	Punjab Cricket Association St		0 Kings XI Punjab	Kolkata Knight Riders	Kings XI Punjab	bat	Kings XI Pu runs	9	N	NA		DJ Harper	I Shivram
#####	SM Pollock	Dr DY Patil Sports Academy		0 Mumbai Indians	Delhi Daredevils	Delhi Daredevils	field	Mumbai In runs	29	N	NA		IL Howell	RE Koertzen
#####	Sohail Tanvir	Sawai Mansingh Stadium		0 Rajasthan Royals	Chennai Super Kings	Chennai Super Kings	bat	Rajasthan wickets	8	N	NA		Asad Rauf	AV Jayaprakash
#####	S Sreesanth	M Chinnaswamy Stadium		0 Royal Challengers Ban	Kings XI Punjab	Kings XI Punjab	field	Kings XI Pu wickets	6	N	NA		SJ Davis	BR Doctrove
#####	AC Gilchrist	MA Chidambaram Stadium, C		0 Chennai Super Kings	Deccan Chargers	Deccan Chargers	field	Deccan Ch wickets	7	N	NA		MR Benson	RB Tiffin
#####	A Nehra	Dr DY Patil Sports Academy		0 Mumbai Indians	Rajasthan Royals	Mumbai Indians	field	Mumbai In wickets	7	N	NA		DJ Harper	RE Koertzen
#####	MS Dhoni	Feroz Shah Kotla		0 Delhi Daredevils	Chennai Super Kings	Chennai Super Kings	field	Chennai S wickets	4	N	NA		Aleem Dar	RB Tiffin
#####	SC Ganguly	Eden Gardens		0 Kolkata Knight Riders	Royal Challengers Bangalore	Kolkata Knight Riders	bat	Kolkata Kn runs	5	N	NA		Asad Rauf	IL Howell
#####	YK Pathan	Sawai Mansingh Stadium		0 Rajasthan Royals	Deccan Chargers	Rajasthan Royals	field	Rajasthan wickets	8	N	NA		MR Benson	AM Saheba
#####	CRD Fernando	M Chinnaswamy Stadium		0 Royal Challengers Ban	Mumbai Indians	Mumbai Indians	field	Mumbai In wickets	9	N	NA		BF Bowden	AV Jayaprakash
#####	Balaji	MA Chidambaram Stadium, C		0 Chennai Super Kings	Kings XI Punjab	Kings XI Punjab	field	Chennai S runs	18	N	NA		AV Jayaprakash	BG Jerling
#####	SC Ganguly	Rajiv Gandhi International St		0 Deccan Chargers	Kolkata Knight Riders	Kolkata Knight Riders	bat	Kolkata Kn runs	23	N	NA		IL Howell	AM Saheba
#####	SR Watson	Sawai Mansingh Stadium		0 Rajasthan Royals	Delhi Daredevils	Rajasthan Royals	field	Rajasthan wickets	3	N	NA		SJ Davis	RE Koertzen
#####	SE Marsh	Punjab Cricket Association St		0 Kings XI Punjab	Royal Challengers Bangalore	Royal Challengers Bang	bat	Kings XI Pu wickets	9	N	NA		BR Doctrove	I Shivram

# DATA PREPARATION

Loading csv file **IPL Matches 2008-2020.csv** .

Out[76]:

	id	city	date	player_of_match	venue	neutral_venue	team1	team2	toss_winner	toss_decision	winner	result	result_ma
0	335982	Bangalore	2008-04-18	BB McCullum	Chinnaswamy Stadium	0	Royal Challengers Bangalore	Kolkata Knight Riders	Royal Challengers Bangalore	field	Kolkata Knight Riders	runs	1
1	335983	Chandigarh	2008-04-19	MEK Hussey	Punjab Cricket Association Stadium, Mohali	0	Kings XI Punjab	Chennai Super Kings	Chennai Super Kings	bat	Chennai Super Kings	runs	
2	335984	Delhi	2008-04-19	MF Maharoof	Feroz Shah Kotla	0	Delhi Daredevils	Rajasthan Royals	Rajasthan Royals	bat	Delhi Daredevils	wickets	
3	335985	Mumbai	2008-04-20	MV Boucher	Wankhede Stadium	0	Mumbai Indians	Royal Challengers Bangalore	Mumbai Indians	bat	Royal Challengers Bangalore	wickets	
4	335986	Kolkata	2008-04-20	DJ Hussey	Eden Gardens	0	Kolkata Knight Riders	Deccan Chargers	Deccan Chargers	bat	Kolkata Knight Riders	wickets	

In [9]: matches.info()

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 816 entries, 0 to 815
Data columns (total 17 columns):
#   Column                Non-Null Count  Dtype
---  -
0   id                     816 non-null   int64
1   city                   803 non-null   object
2   date                   816 non-null   object
3   player_of_match       812 non-null   object
4   venue                  816 non-null   object
5   neutral_venue         816 non-null   int64
6   team1                  816 non-null   object
7   team2                  816 non-null   object
8   toss_winner           816 non-null   object
9   toss_decision         816 non-null   object
10  winner                 812 non-null   object
11  result                 812 non-null   object
12  result_margin         799 non-null   float64
13  eliminator            812 non-null   object
14  method                19 non-null    object
15  umpire1               816 non-null   object
16  umpire2               816 non-null   object
dtypes: float64(1), int64(2), object(14)
memory usage: 108.5+ KB
```



# DELIVERIES

Loading csv file **IPL Ball-by-Ball 2008-2020.csv** .

```
In [21]: deliveries = pd.read_csv('IPL Ball-by-Ball 2008-2020.csv')
deliveries.head()
```

Out[21]:

	id	inning	over	ball	batsman	non_striker	bowler	batsman_runs	extra_runs	total_runs	non_boundary	is_wicket	dismissal_kind	player_dismissed
0	335982	1	6	5	RT Ponting	BB McCullum	AA Noffke	1	0	1	0	0	NaN	NaN
1	335982	1	6	6	BB McCullum	RT Ponting	AA Noffke	1	0	1	0	0	NaN	NaN
2	335982	1	7	1	BB McCullum	RT Ponting	Z Khan	0	0	0	0	0	NaN	NaN
3	335982	1	7	2	BB McCullum	RT Ponting	Z Khan	1	0	1	0	0	NaN	NaN
4	335982	1	7	3	RT Ponting	BB McCullum	Z Khan	1	0	1	0	0	NaN	NaN

```
In [22]: deliveries.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 193468 entries, 0 to 193467
Data columns (total 18 columns):
#   Column                Non-Null Count  Dtype
---  -
0   id                    193468 non-null  int64
1   inning                193468 non-null  int64
2   over                  193468 non-null  int64
3   ball                  193468 non-null  int64
4   batsman                193468 non-null  object
5   non_striker            193468 non-null  object
6   bowler                 193468 non-null  object
7   batsman_runs           193468 non-null  int64
8   extra_runs             193468 non-null  int64
9   total_runs             193468 non-null  int64
10  non_boundary           193468 non-null  int64
11  is_wicket              193468 non-null  int64
12  dismissal_kind          9495 non-null    object
13  player_dismissed        9495 non-null    object
14  fielder                 6784 non-null    object
15  extras_type             10233 non-null   object
16  batting_team            193468 non-null   object
17  bowling_team            193277 non-null   object
dtypes: int64(9), object(9)
memory usage: 26.6+ MB
```

# CLEANING DATA

- **Let's check if the dataset contains Nan values**

```
In [10]: match_na = matches.isna().sum()
         match_na[match_na > 0]
```

```
Out[10]: city          13
         player_of_match  4
         winner          4
         result          4
         result_margin   17
         eliminator       4
         method         797
         dtype: int64
```

---

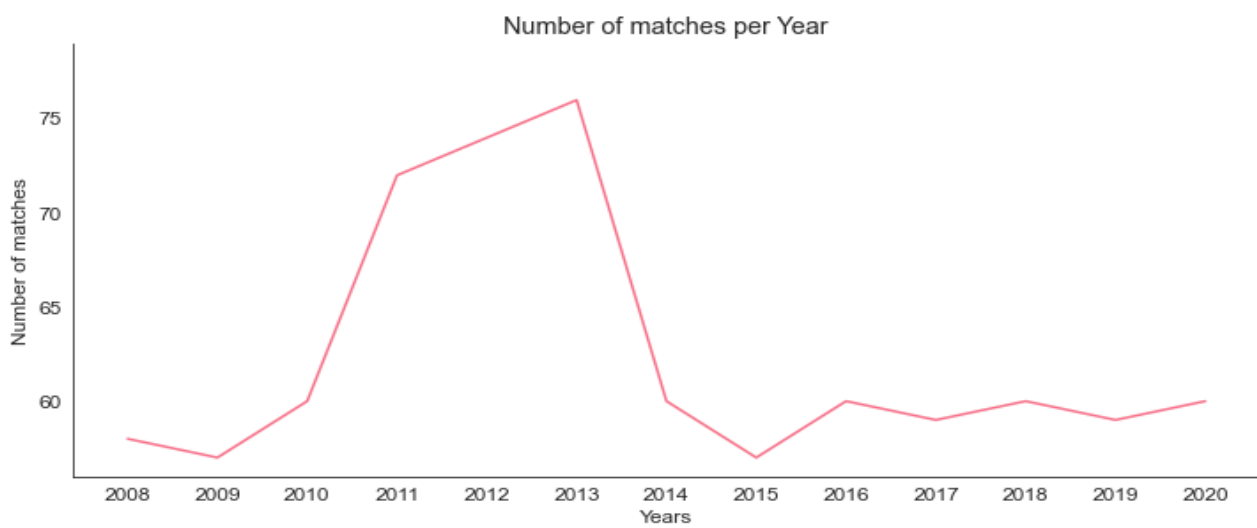
After inspecting the dataset we found that the columns winner, result, player\_of\_match has 4 nans. We found that the matches that were tied due to rains have nans in these columns. We can drop the nan rows as it will not affect our analysis.

The column 'method' has the highest number of NaNs in the dataset. The best course of action would probably be to drop the entire column. However, the rows where the 'method' column does have values are those matches where D/L method was used. Let us store it in another DataFrame and drop 'method' from matches.

Matches that were held in Dubai International Stadium had NaNs in their city column result\_margin has nans in matches that were tied

After inspecting the matches dataset and Deliveries dataset , we found that the team 'Rising Pune Supergiant' is written as 'Rising Pune Supergiants'. Also, Delhi Daredevils and Delhi Capitals are the same team.

- **How many matches are played each year in IPL?**

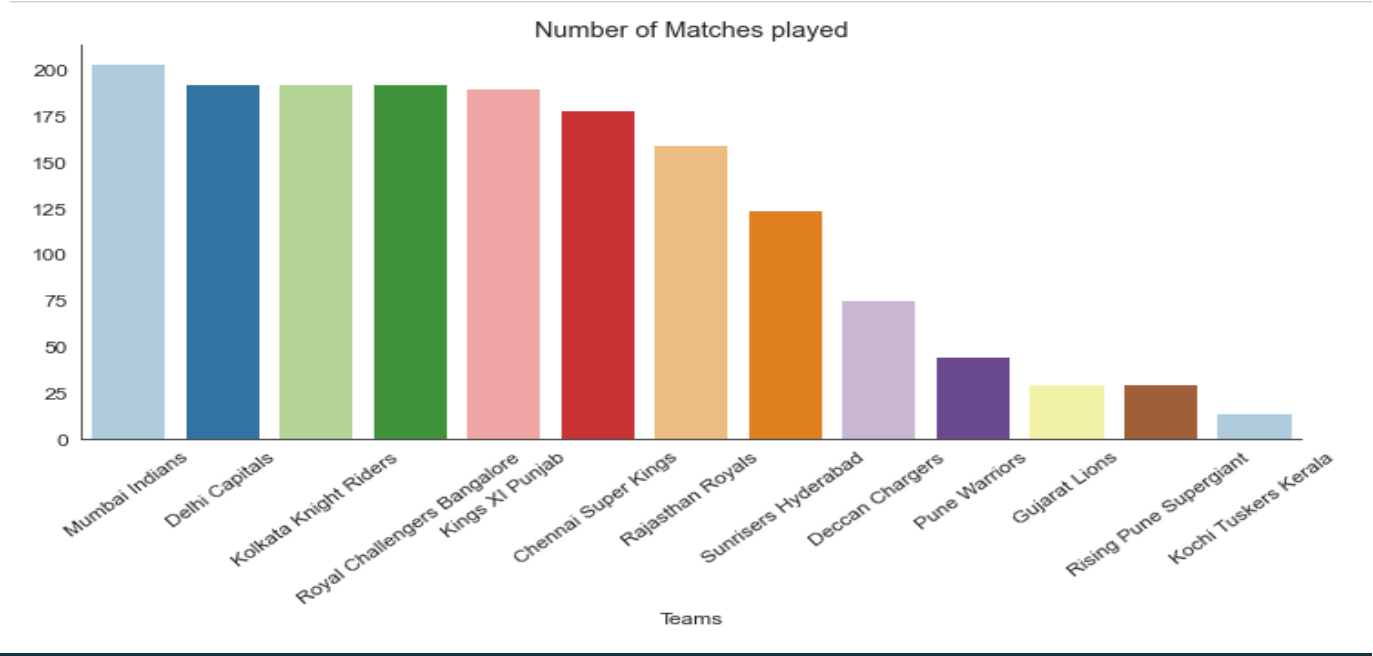


---

**Year 2013 witnessed the most matches throughout 2008 - 2020.**

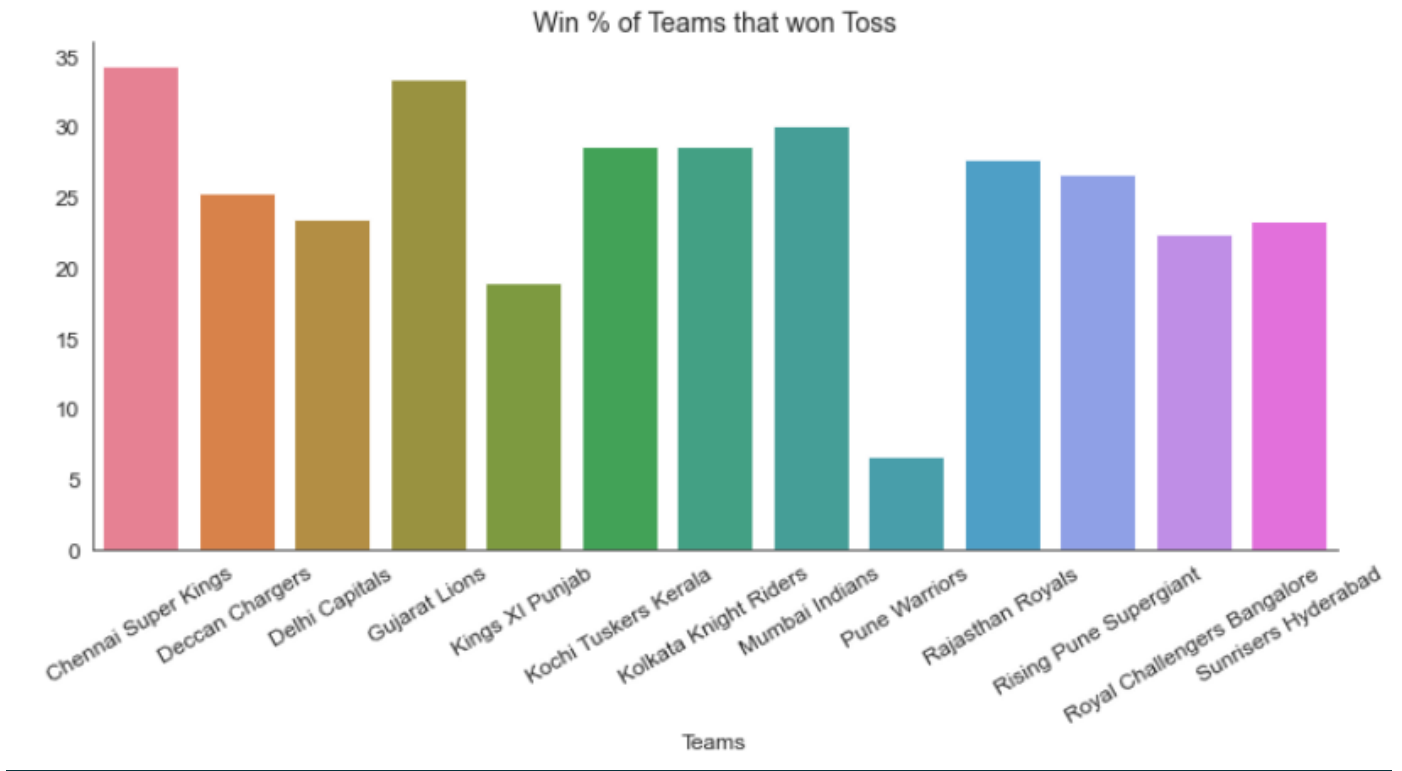
- **Number of matches played by the teams throughout the IPL(2008-2020)**

- **Graph:**



**Mumbai Indians Played the most number of matches throughout the IPL.**

- Does winning the toss affect the outcome of a match for a team?



All the percentages are below 50%

Hence there isn't any evidence that suggests that winning the toss would increase the chances of winning the match.

- When Teams won the toss as well as the match?

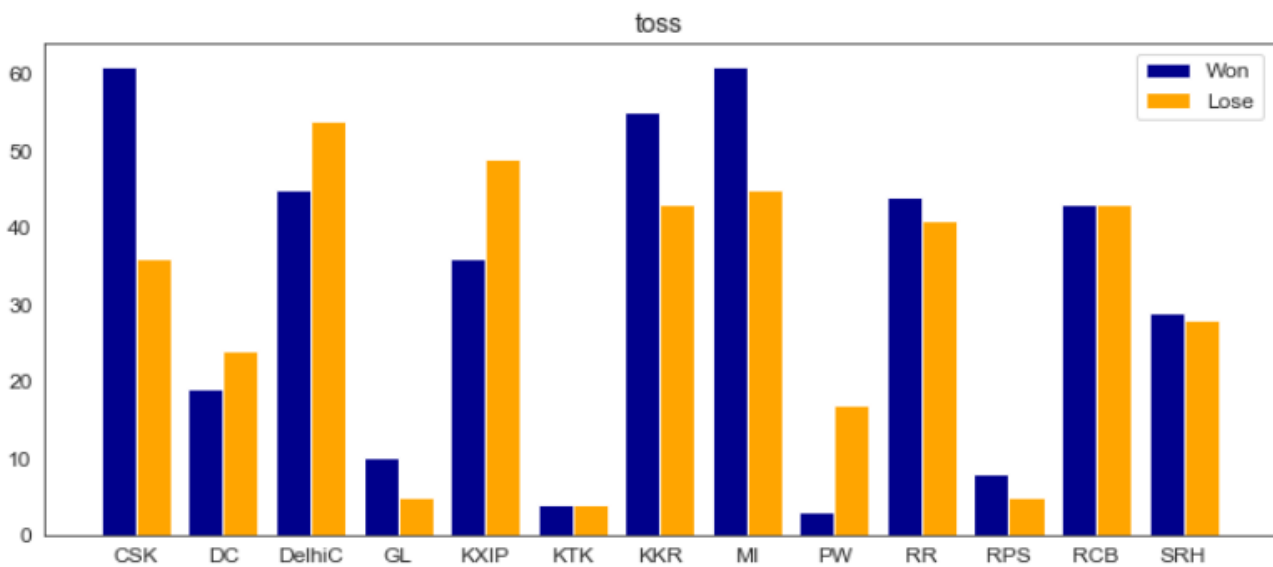
## Number of wins

```
In [68]: # When Teams won the toss as well as the match
match_win = matches.loc[matches['winner'] == matches['toss_winner'], 'toss_winner'].value_counts()
match_win
```

```
Out[68]: Mumbai Indians          61
Chennai Super Kings             61
Kolkata Knight Riders           55
Delhi Capitals                   45
Rajasthan Royals                44
Royal Challengers Bangalore     43
Kings XI Punjab                 36
Sunrisers Hyderabad            29
Deccan Chargers                 19
Gujarat Lions                   10
Rising Pune Supergiant          8
Kochi Tuskers Kerala            4
Pune Warriors                   3
Name: toss_winner, dtype: int64
```

---

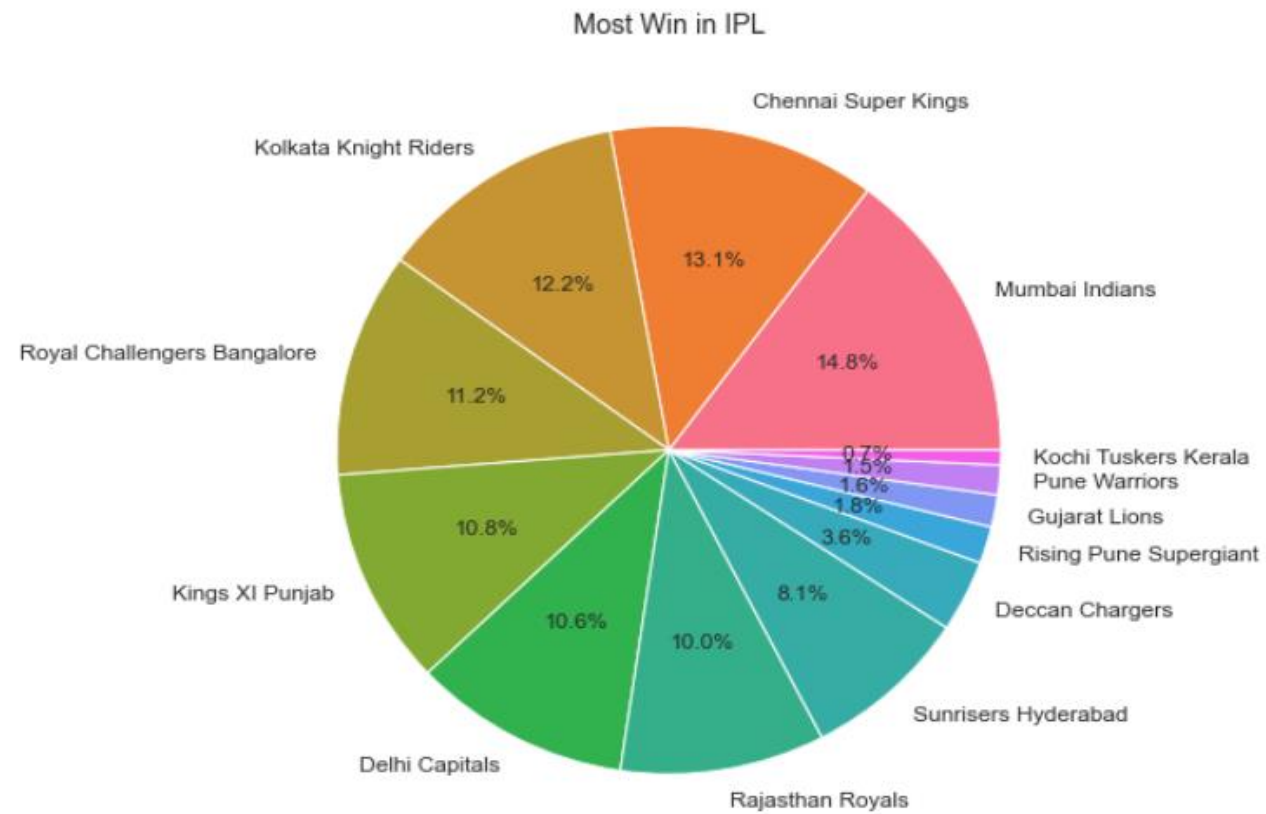
## Graph:



We can see that there are teams that have actually lost more matches than they have won after winning the toss.

- Which team has the highest win?

Pie chart ( percentage of wins throughout the IPL(2008-2020 ) ) :



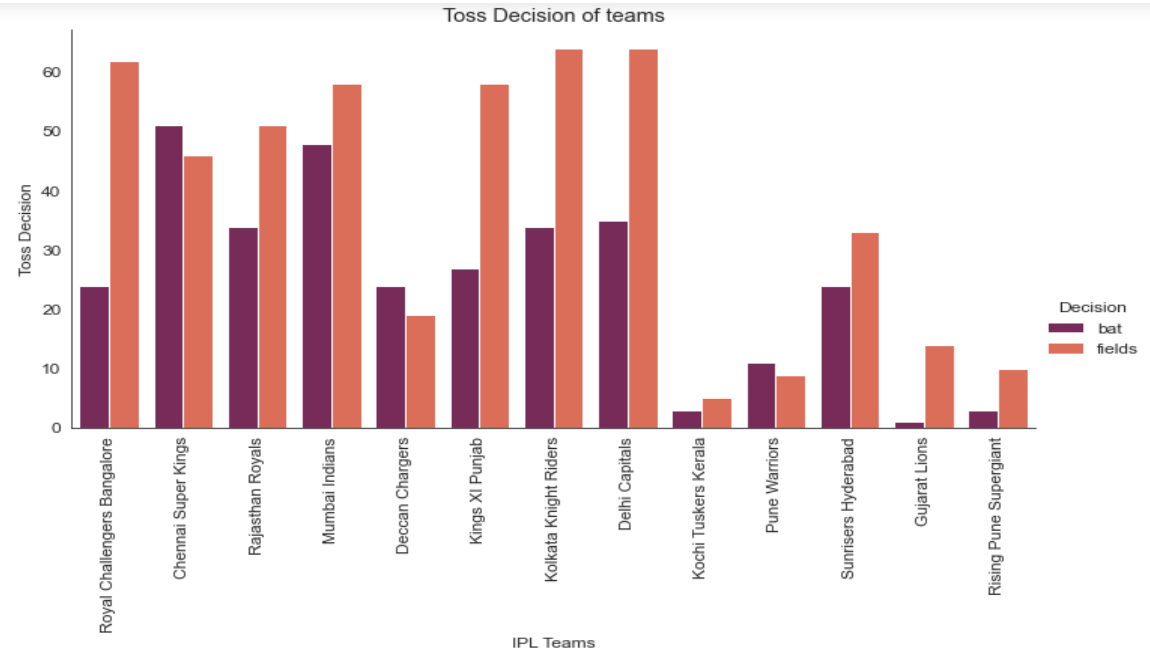
Mumbai Indians have the highest win percentage throughout the IPL.

- Toss Decision

Choosing batting or bowling after winning the toss:

	Toss Winner	Decision	Times
0	Royal Challengers Bangalore	bat	24
1	Royal Challengers Bangalore	fields	62
2	Chennai Super Kings	bat	51
3	Chennai Super Kings	fields	46
4	Rajasthan Royals	bat	34
5	Rajasthan Royals	fields	51
6	Mumbai Indians	bat	48
7	Mumbai Indians	fields	58
8	Deccan Chargers	bat	24
9	Deccan Chargers	fields	19
10	Kings XI Punjab	bat	27
11	Kings XI Punjab	fields	58
12	Kolkata Knight Riders	bat	34
13	Kolkata Knight Riders	fields	64
14	Delhi Capitals	bat	35
15	Delhi Capitals	fields	64
16	Kochi Tuskers Kerala	bat	3
17	Kochi Tuskers Kerala	fields	5

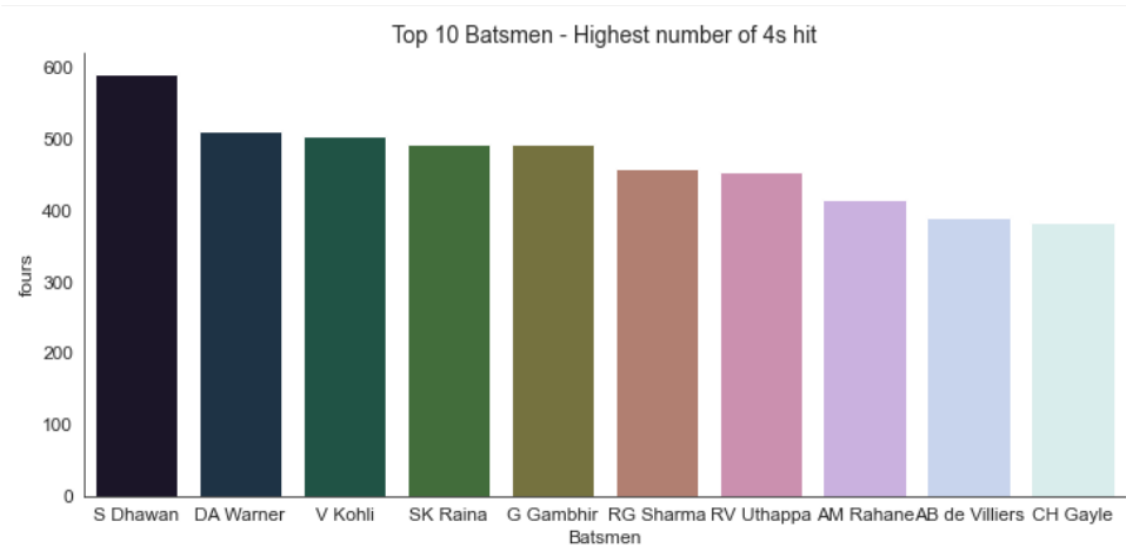
Graph:



After winning the toss: RCB decided to bat 24 and field 62 times.

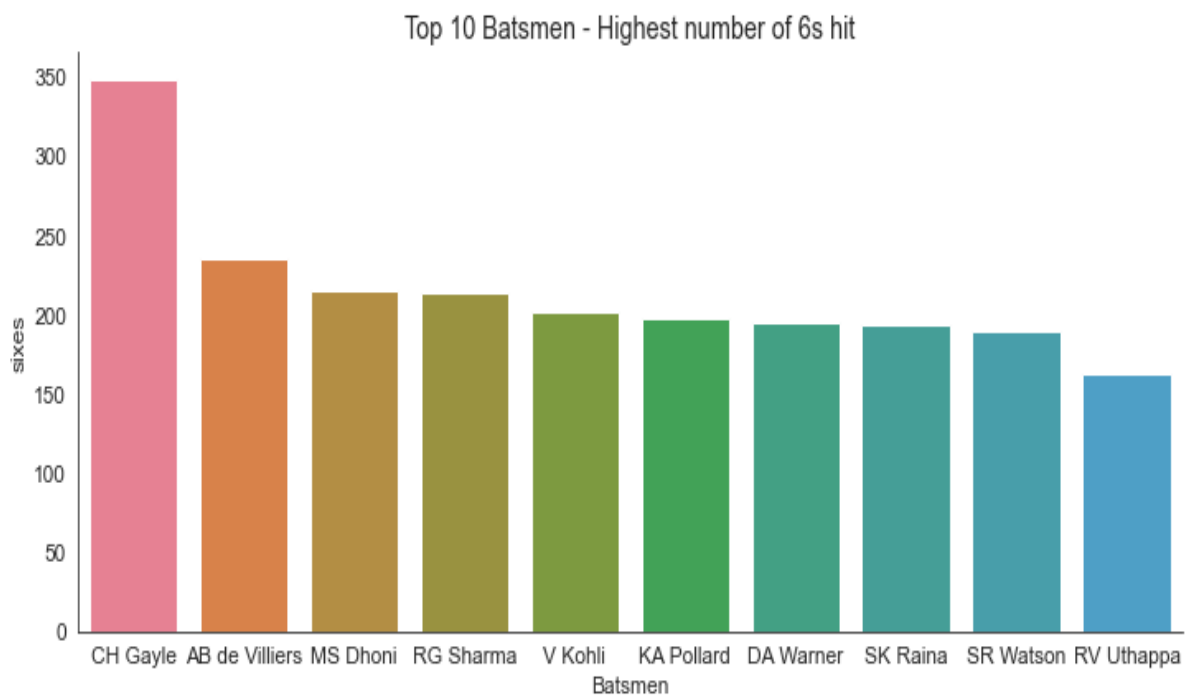


- Which batsman hit the most number of 4s?



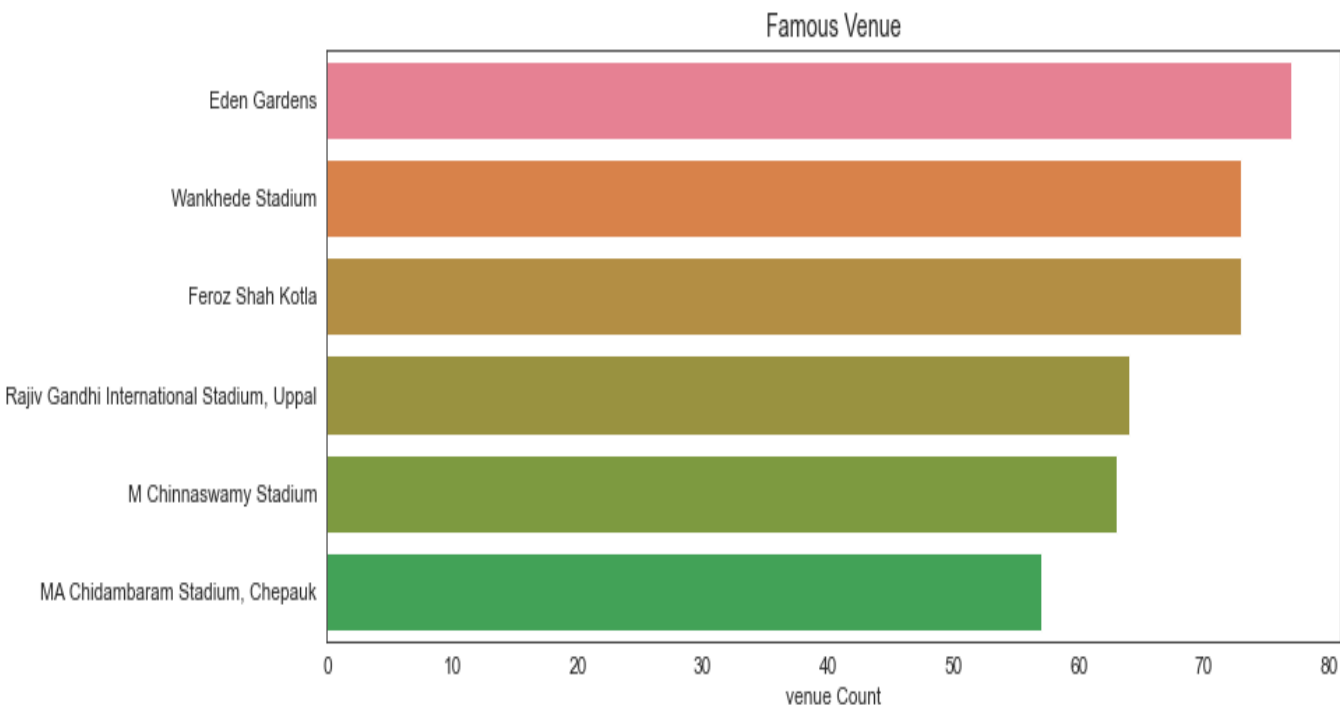
Shikhar Dhavan hit the most number of 4s.

- Which batsman hit the most number of sixes?



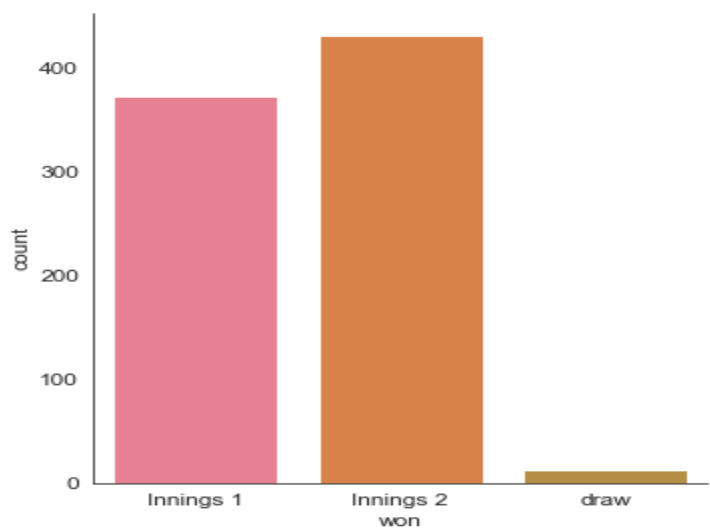
Chris Gayle hit the highest number of sixes during the IPL.

# FAMOUS VENUE



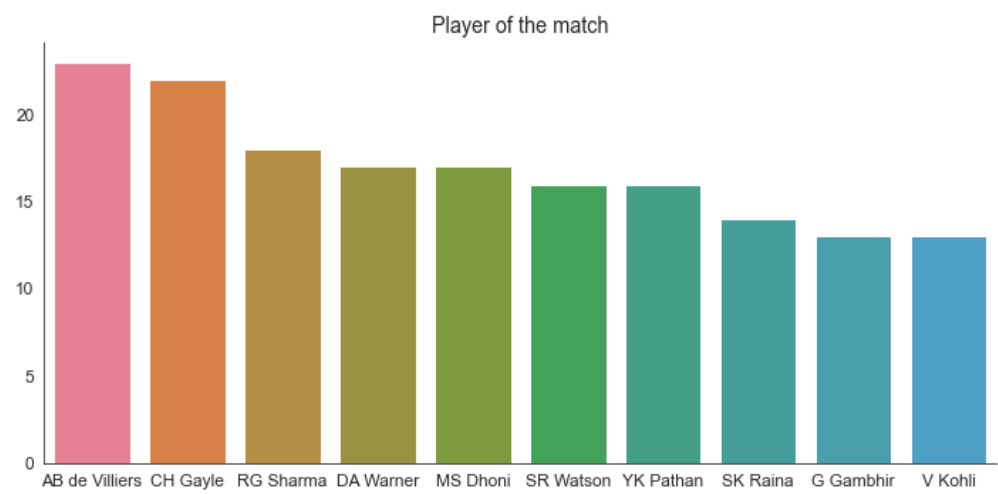
**Eden Gardens is the most famous venue followed by Wankhede and Feroz Shah Kotla.**

- Whether the teams batting in Inning1 have more advantage over their rival teams.



We can see that the teams playing in the second innings have a slightly better chance at winning.  
So getting to bat first may not always be the correct alternative.

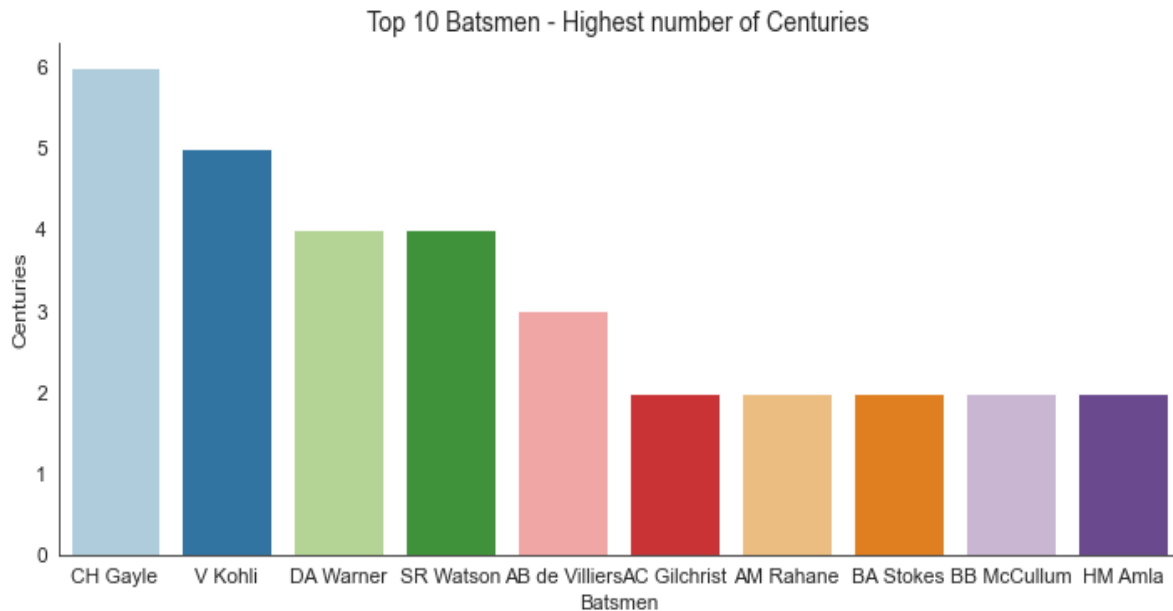
- Player of the Match most number of times?



**AB de Villiers** was awarded Player of the match most number of times.

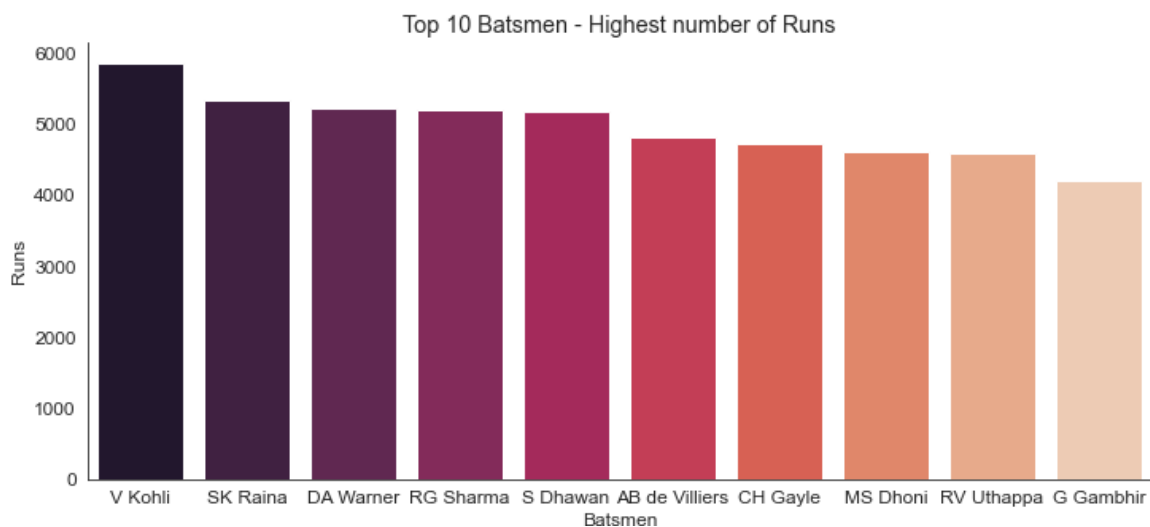
# PLAYER STATISTICS

- **Most number of centuries:**



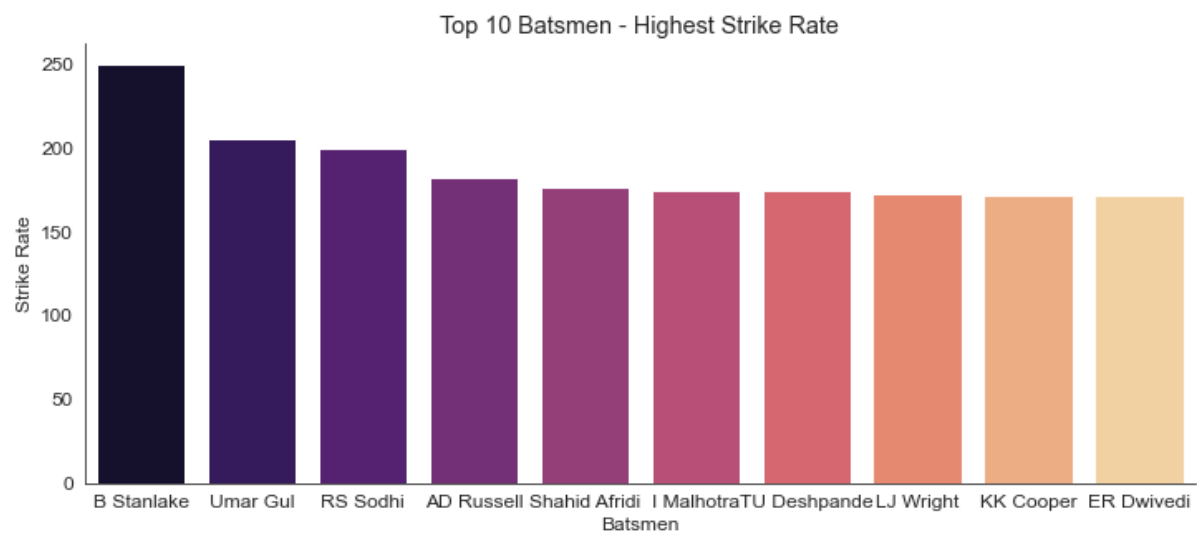
**Chris Gayle scored 6 centuries which is the highest of all.**

- **Which batsman has the highest runs?**



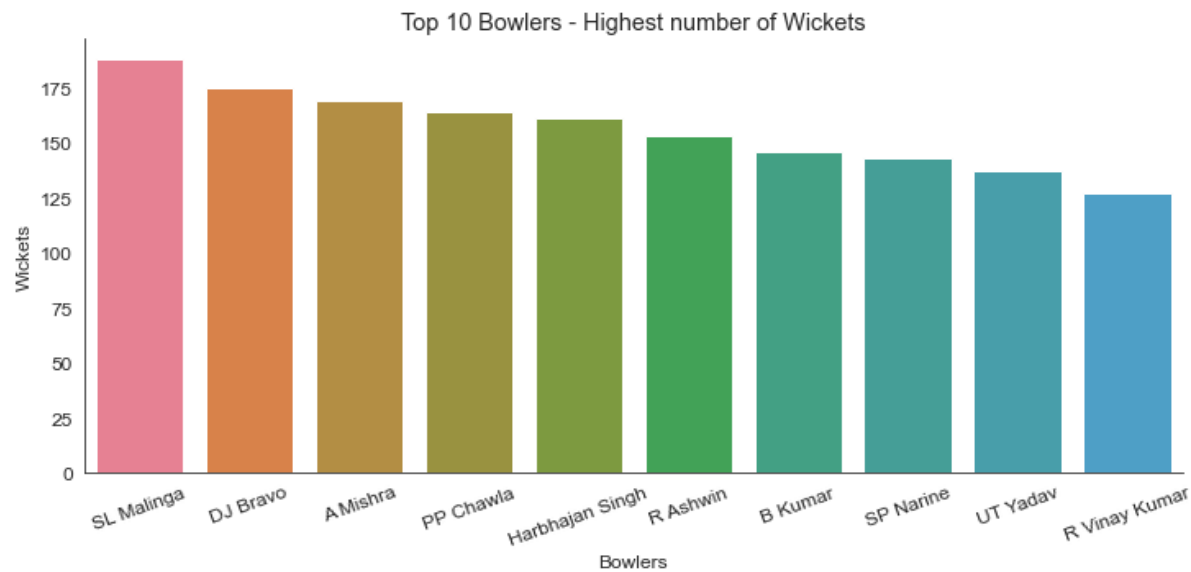
**Virat Kohli scored the highest number of runs throughout the IPL.**

- **Highest strike rate**



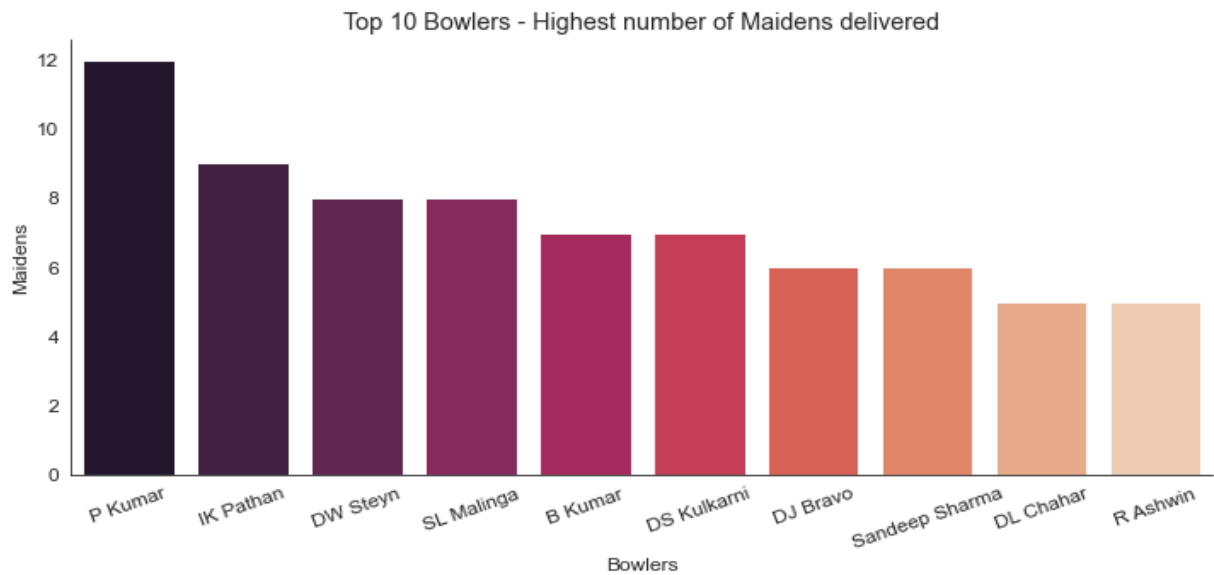
**B Stanlake *has the highest Strike rate.***

- **Most Wickets**



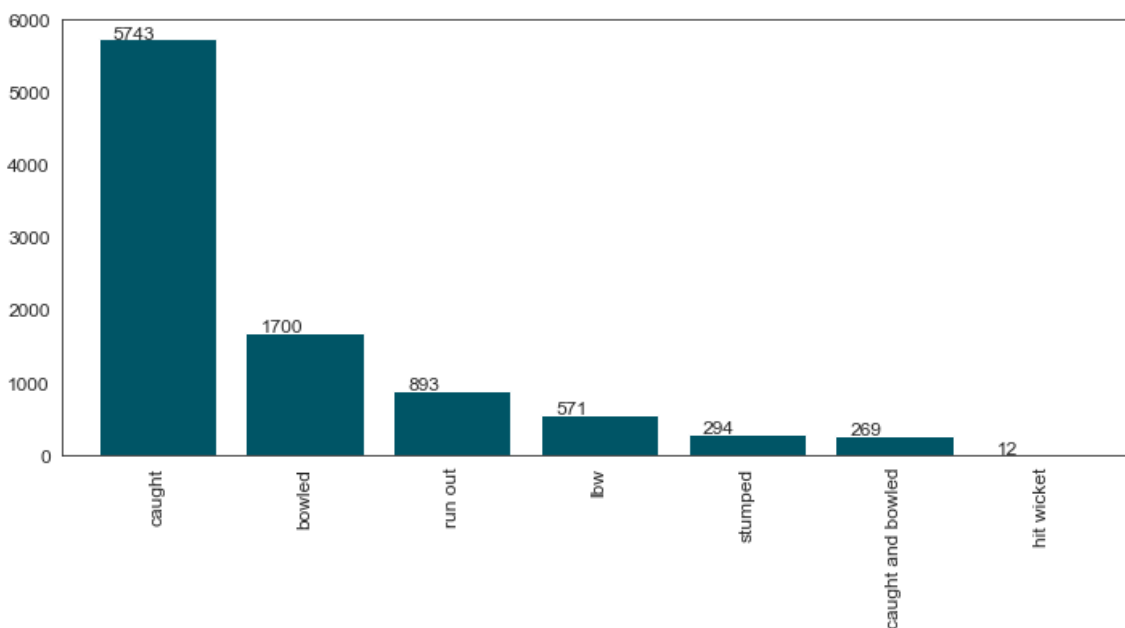
**SL Malinga *took the most number of wickets.***

- **Most number of Maidens**



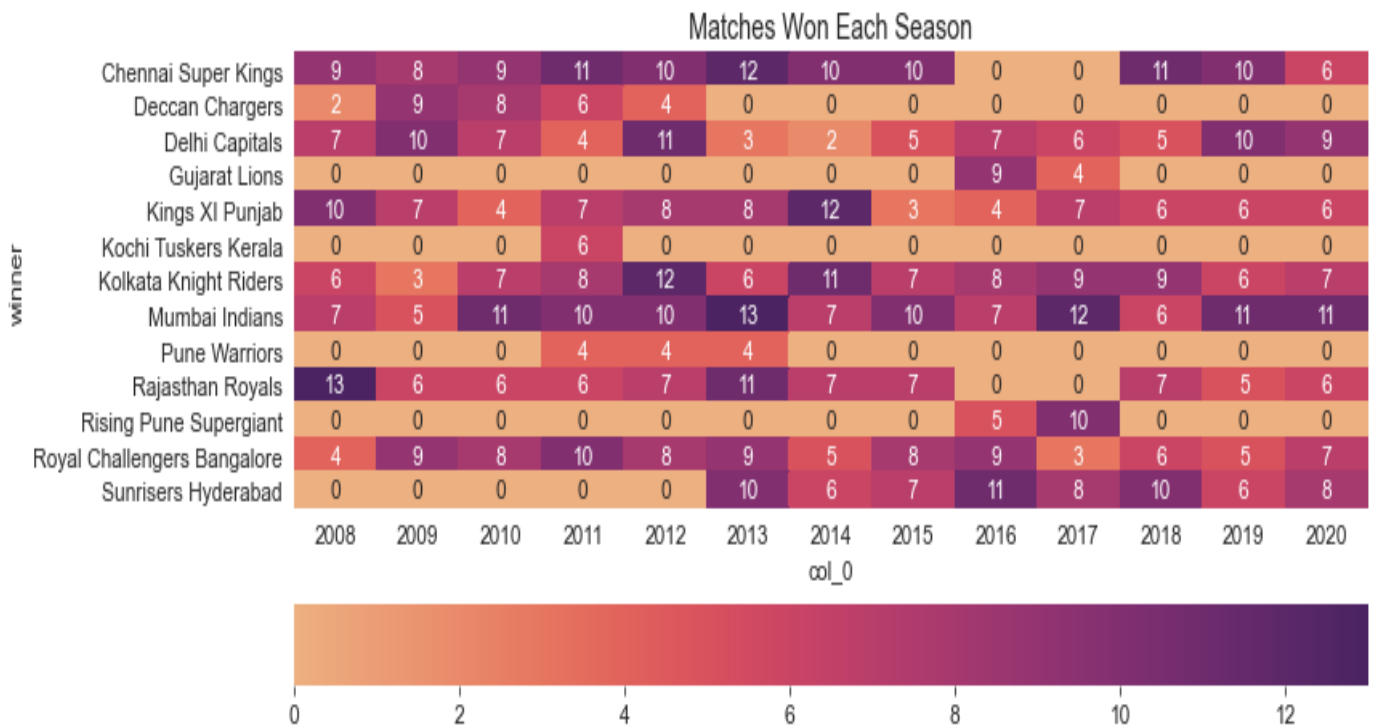
**P Kumar delivered the most number of maiden.**

- **How do wickets fall in IPL**



**As we can see from the graph, most of the wickets fall due to catch out.**

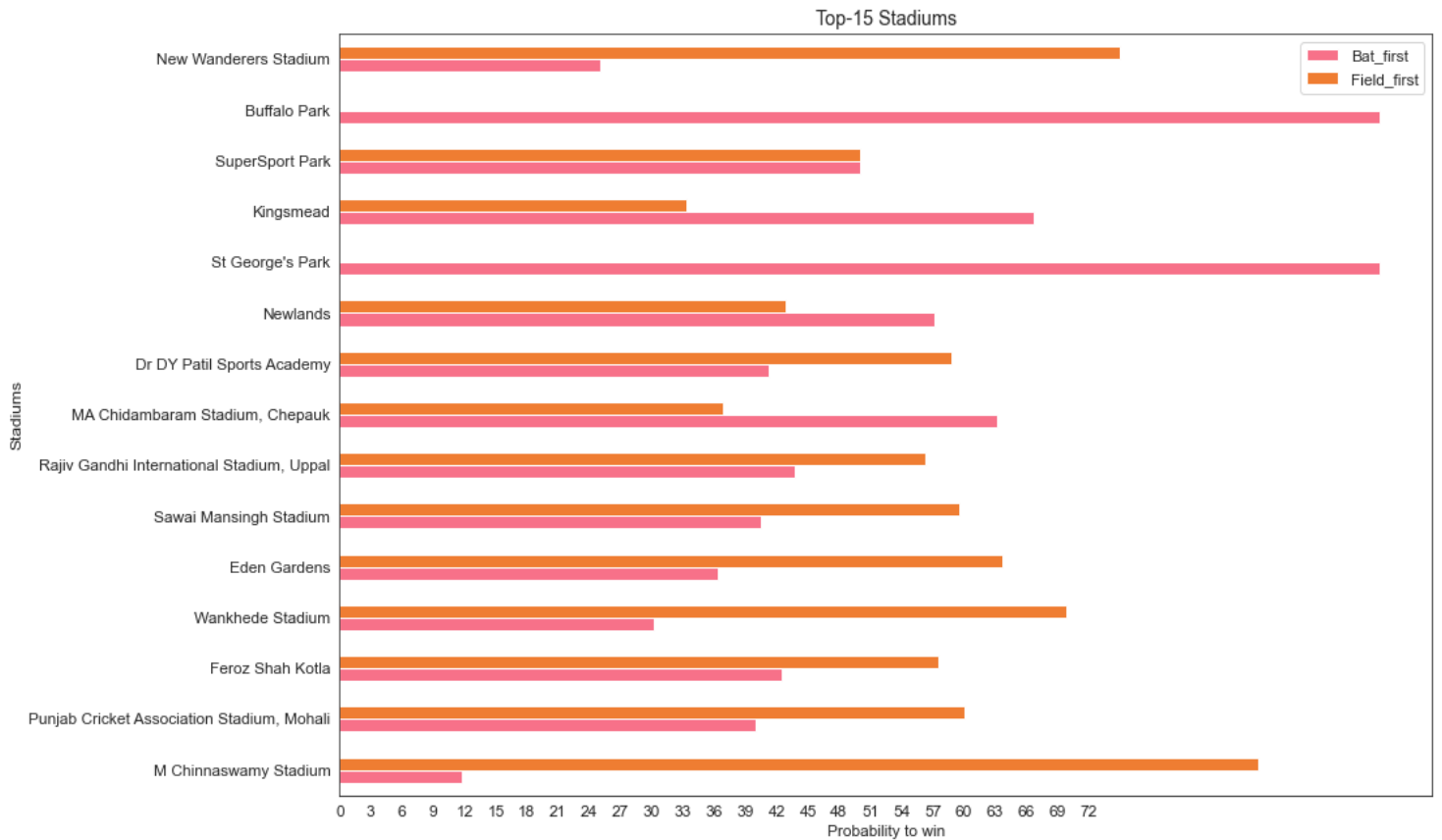
- Which are the most and least consistent teams across all seasons?



As we can see from the Heat map, the intensity in Chennai Super Kings is higher. Therefore, CSK is the most consistent team throughout the IPL.

Similarly, DC is one of the least consistent teams.

- **Probability of winning the match in different venue w.r.t Toss decision.**

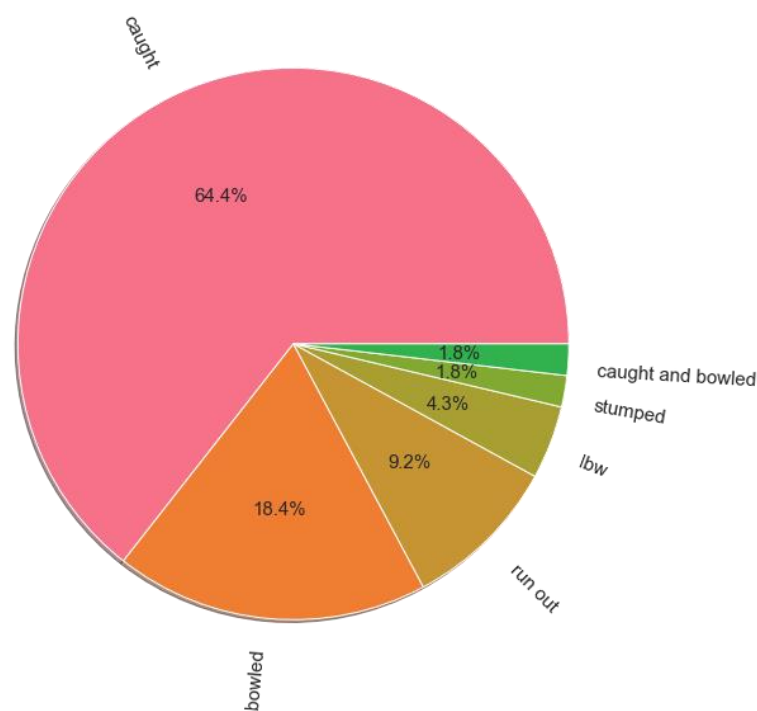


**As we can see from the graph, At M Chinnaswamy Stadium, the team who chooses to field first has better chances of winning the match.**

**At MA Chidambaram Stadium, the team who chooses to bat first has slightly better chances of winning the match.**

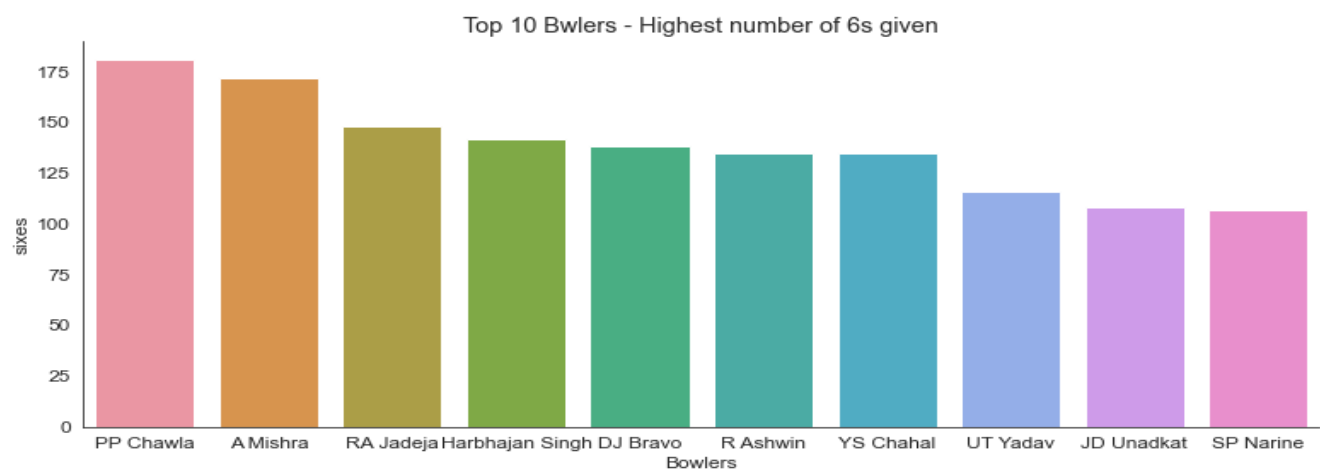


- **Checking stats of Virat Kohli.**



As we can see from the pie chart, Virat Kohli gets caught out most number of time.

- **Which bowler gave the most number of 6s?**



Piyush Chawla conceded most number of 6s throughout the IPL

# **CONCLUSION**

**After analysing of IPL dataset, We found out following conclusion:**

- 1) Winning toss will not guarantee win since win percentage after winning toss is less than 50%**
- 2) We found that losing a match after winning a toss is highly likely.**
- 3) Mumbai Indians have the highest win percentage of 14.3% throughout the IPL(2008-2020).**
- 4) Kings XI Punjab has won the most number of times in an Eliminator( 3 times).**
- 5) Chris Gayl has scored most no. of sixes and centuries , AB de Villiers has highest strike rate whereas Virat Kohli and Shikhar Dhawan had scored most runs and fours respectively.**
- 6) We can see that the teams playing in the second innings have a slightly better chance at winning.**
- 7) Chidambaram Stadium has 63% chances of match winning if you choose to bat first.**
- 8) Chinnaswamy Stadium has 88% chances of match winning if you choose to field first.**

## **FUTURE WORK**

**In the Upcoming future we would have more data and we may be able to predict results more precisely even ball by ball .**

**In the upcoming year we can go deep inside this analysis and maybe we can touch every aspect required for predicting the future of teams whether they are going to lose/win the tournaments by looking at their past results. In this way our analysis will help them to identify their weak points and perform better in tournaments.**

## **REFERENCES**

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- Book references: McKinney, W.2017 - Data Analysis and Visualization
- Python.org
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- EdX.org
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