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20018023

IPL PLAYER'S STATISTICS AND PERFORMANCE ANALYSIS

BIA 658-WS
SOCIAL NETWORK ANALYSIS
PROFESSOR – ELIZABETH GOMEZ



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INTRODUCTION

In this project I have analyzed the dataset of the players performance in the most celebrated cricket league of the world IPL(Indian Premier League).

- I have performed various data visualizations on the data set using tools like Python and Gephi to find out player's performance, their relationship with the teams they played, the effect of pay on the players performance, etc.
- In India we say "cricket is my religion cricketers are our gods" that is how crazy people are for cricket. I have always been a cricket fan all my life.
- I was very keen to know how a franchise works, how data visualization is used in sports specially in cricket as it makes complex data very simple to understand.

So, this project is all about exploring different scenarios to understand what affects a player performance and what motivates a player to play for a franchise for a long time.





DATA DESCRIPTION



Contents in the data set

- Player name
- Team name
- Years played
- Number of matches played
- Runs scored
- Highest score(HS)
- Price

In this data set I have considered key attributes to analyze the player performance. This data set contains 5 columns and 201 rows. Which contains the data about 14 players in different years they played and the teams they were part of.

View 125% Zoom Add Category Pivot Table

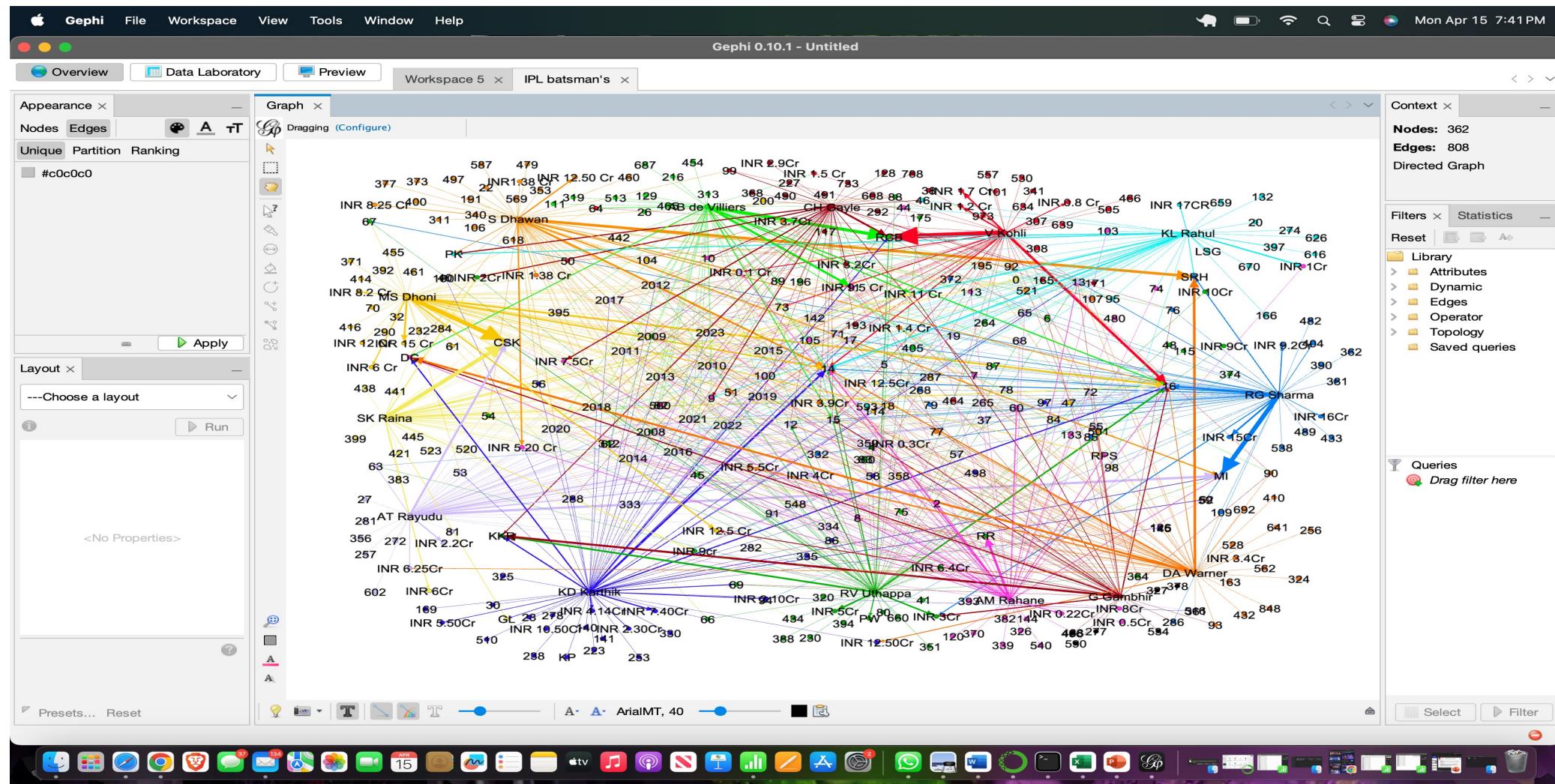
Sheet 1

Player	Teams	year	Mat	Runs	HS	Price
V Kohli	RCB	2008	13	165	38	INR 0.1 Cr
V Kohli	RCB	2009	16	264	50	INR 0.1 Cr
V Kohli	RCB	2010	16	307	58	INR 0.1 Cr
V Kohli	RCB	2011	16	557	71	INR 0.8 Cr
V Kohli	RCB	2012	16	364	73	INR 0.8 Cr
V Kohli	RCB	2013	16	634	99	INR 0.8 Cr
V Kohli	RCB	2014	14	359	73	INR 1.2 Cr
V Kohli	RCB	2015	16	505	82	INR 1.2 Cr
V Kohli	RCB	2016	16	973	113	INR 1.2 Cr
V Kohli	RCB	2017	10	308	64	INR 1.2 Cr
V Kohli	RCB	2018	14	530	92	INR 1.7 Cr
V Kohli	RCB	2019	14	464	100	INR 1.7 Cr
V Kohli	RCB	2020	15	466	90	INR 1.7 Cr
V Kohli	RCB	2021	15	405	72	INR 1.7 Cr
V Kohli	RCB	2022	16	341	73	INR 1.7 Cr
V Kohli	RCB	2023	14	639	101	INR 1.5 Cr
S Dhawan	DC	2008	14	340	68	INR 0.1 Cr
S Dhawan	MI	2009	5	40	22	INR 0.1 Cr
S Dhawan	SRH	2010	10	191	56	INR 0.1 Cr
S Dhawan	SRH	2011	14	400	95	INR 1.38 Cr
S Dhawan	SRH	2012	15	569	84	INR 1.38 Cr
S Dhawan	SRH	2013	10	311	73	INR 1.38 Cr
S Dhawan	SRH	2014	14	377	64	INR 12.50 Cr
S Dhawan	SRH	2015	14	353	54	INR 12.50 Cr
S Dhawan	SRH	2016	17	501	82	INR 12.50 Cr
S Dhawan	SRH	2017	14	479	77	INR 12.50 Cr
S Dhawan	SRH	2018	16	497	92	INR 5.20 Cr
S Dhawan	MI	2019	16	521	97	INR 5.20 Cr
S Dhawan	MI	2020	17	618	106	INR 5.20 Cr
S Dhawan	MI	2021	16	587	92	INR 5.20 Cr



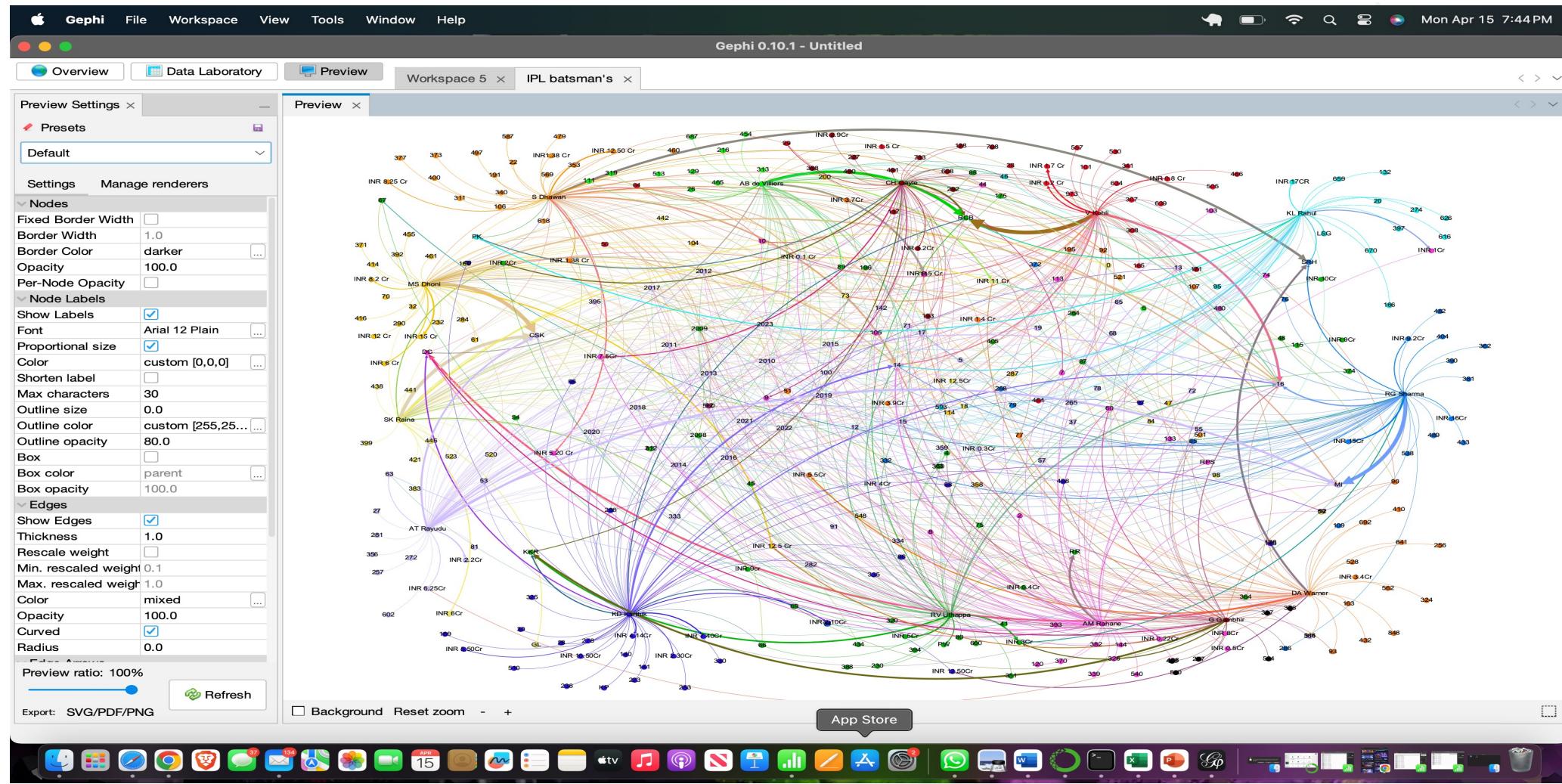
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SOCIAL NETWORK ANALYSIS USING GEPHI





SOCIAL NETWORK ANALYSIS USING GEPHI





Data loading and Descriptive Analysis

[42]:

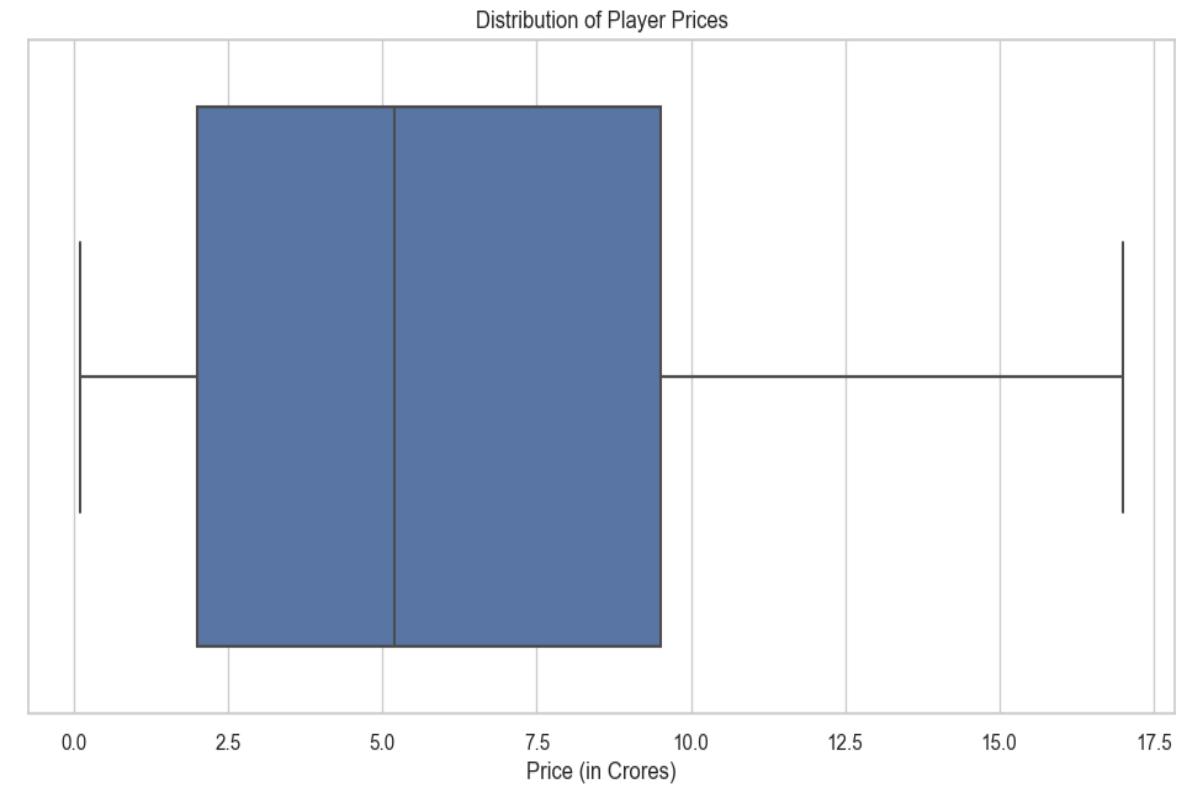
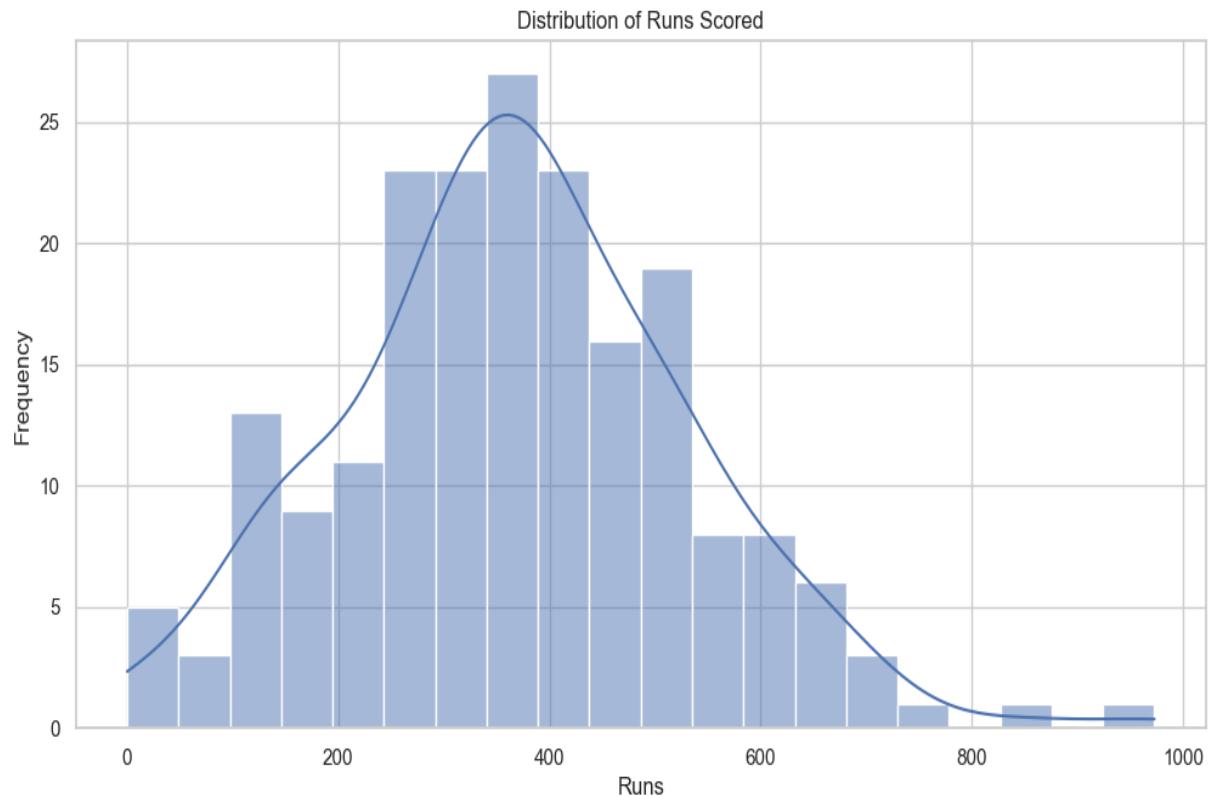
	Player	Teams	year	Mat	Runs	HS	Price
0	V Kohli	RCB	2008	13	165	38	INR 0.1 Cr
1	V Kohli	RCB	2009	16	264	50	INR 0.1 Cr
2	V Kohli	RCB	2010	16	307	58	INR 0.1 Cr
3	V Kohli	RCB	2011	16	557	71	INR 0.8 Cr
4	V Kohli	RCB	2012	16	364	73	INR 0.8 Cr

	year	Mat	Runs	HS
count	200.000000	200.000000	200.000000	200.000000
mean	2015.405000	13.760000	369.105000	72.625000
std	4.389455	3.285785	162.856517	24.514469
min	2008.000000	0.000000	0.000000	0.000000
25%	2012.000000	13.000000	276.250000	58.000000
50%	2015.000000	14.000000	366.000000	72.000000
75%	2019.000000	16.000000	479.250000	88.250000
max	2023.000000	19.000000	973.000000	175.000000

- Importing necessary libraries and reading the dataset into a Data Frame.
- Printing basic information about the dataset such as column names, data types, and non-null counts.
- Calculating summary statistics for numerical columns using 'describe()'.



DISTRIBUTION OF RUNS SCORE & DISTRIPUTION OF THE PRICE





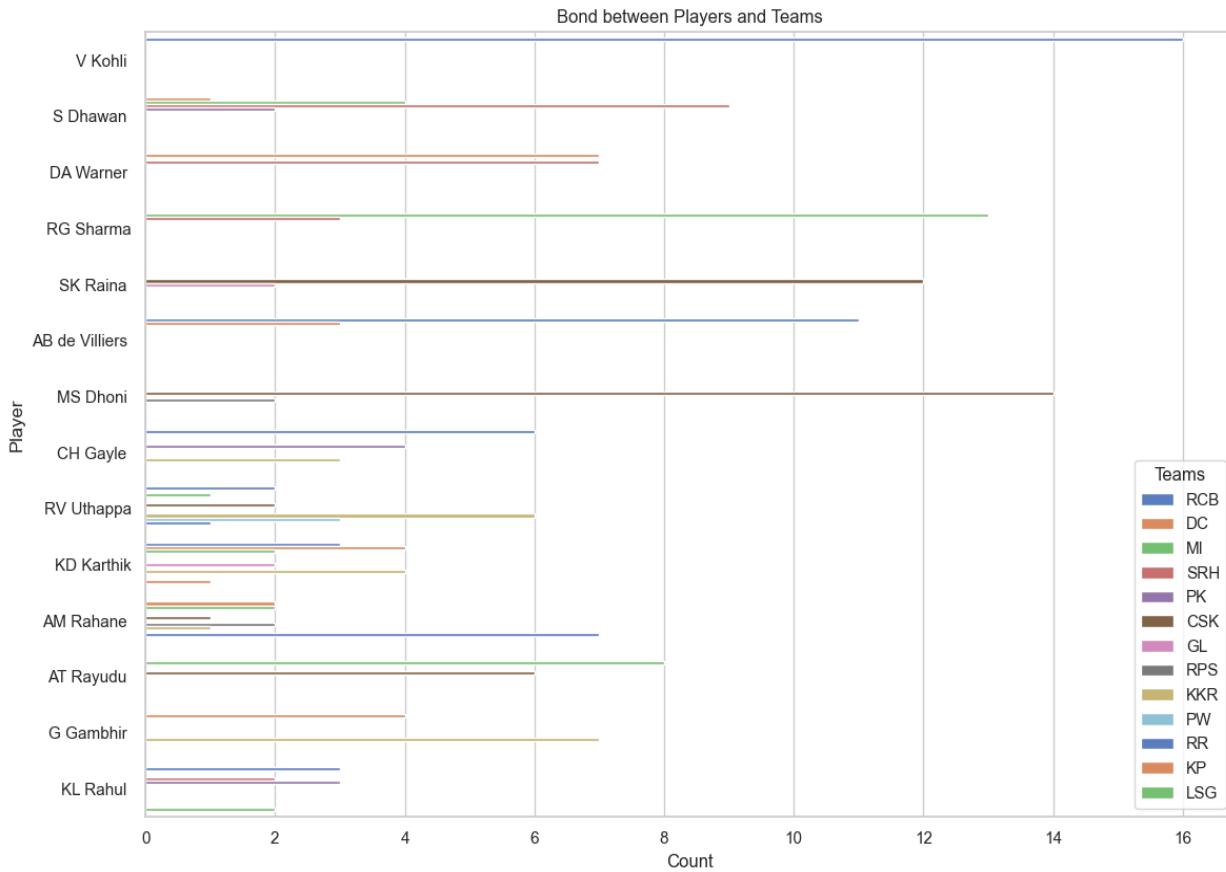
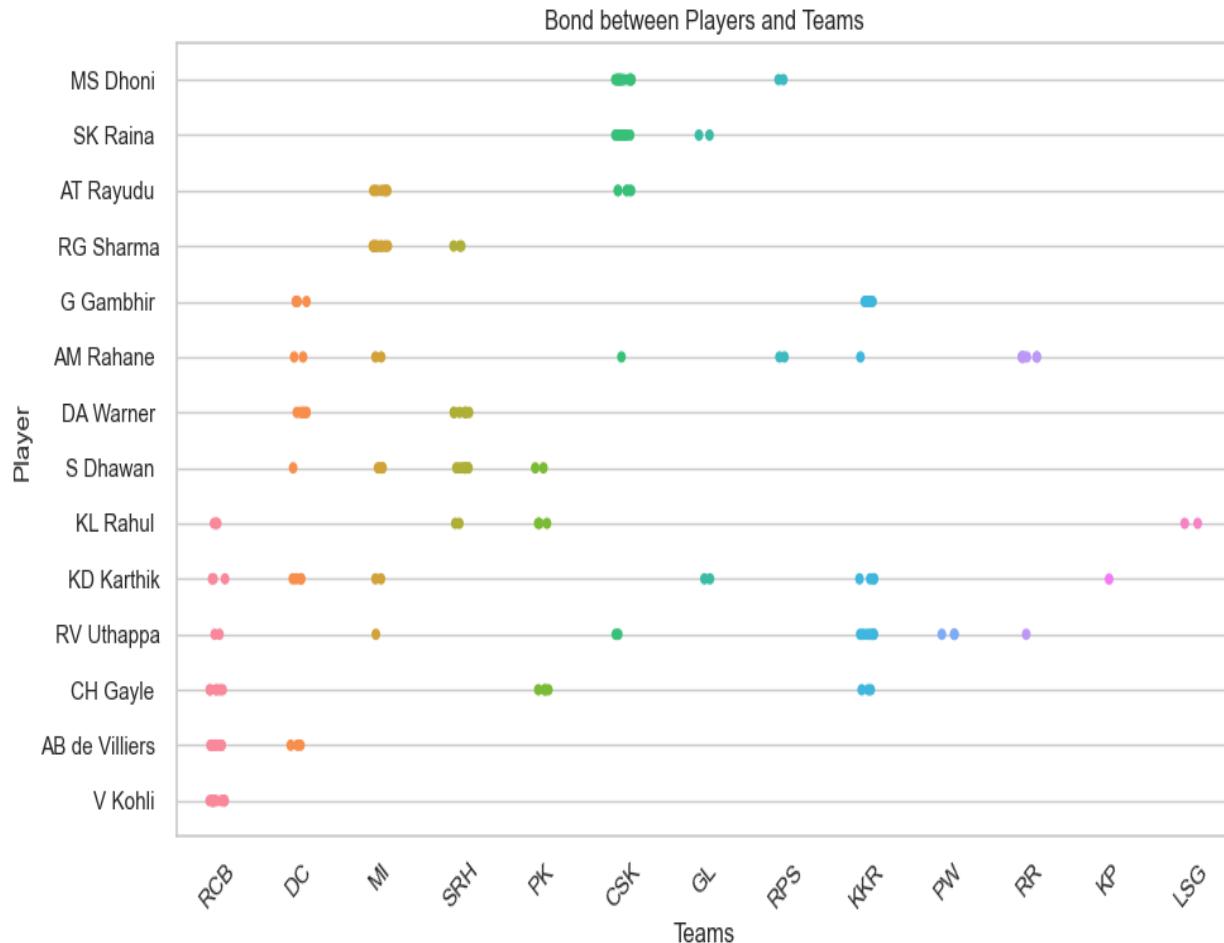
PLAYER PERFORMANCE METRICS



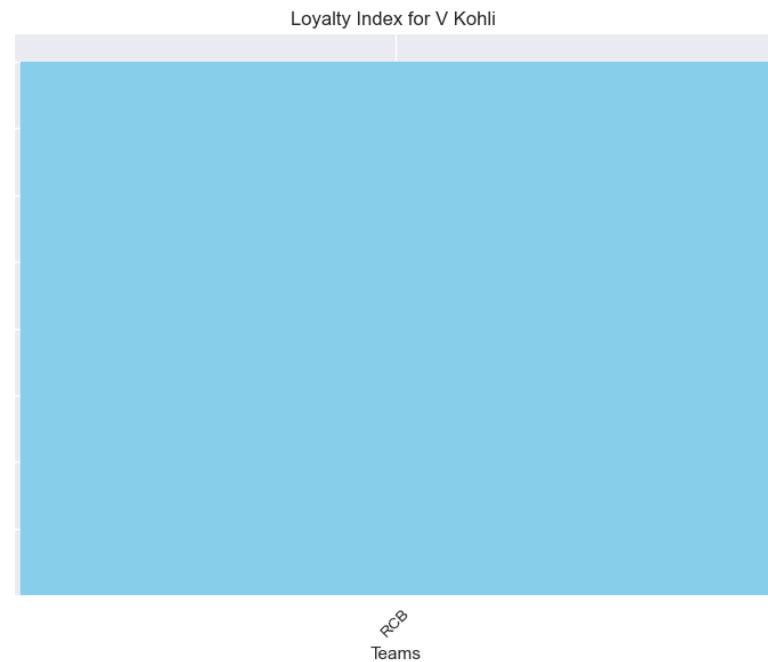
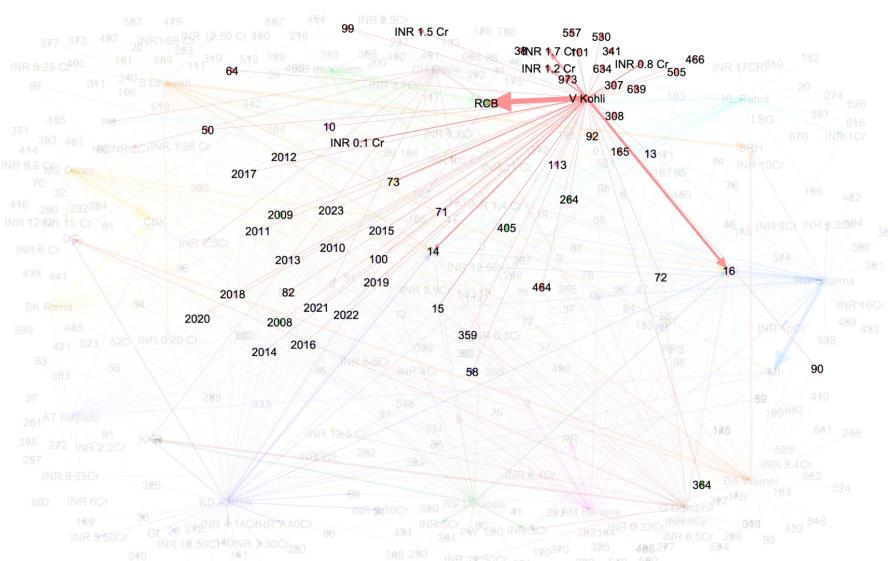
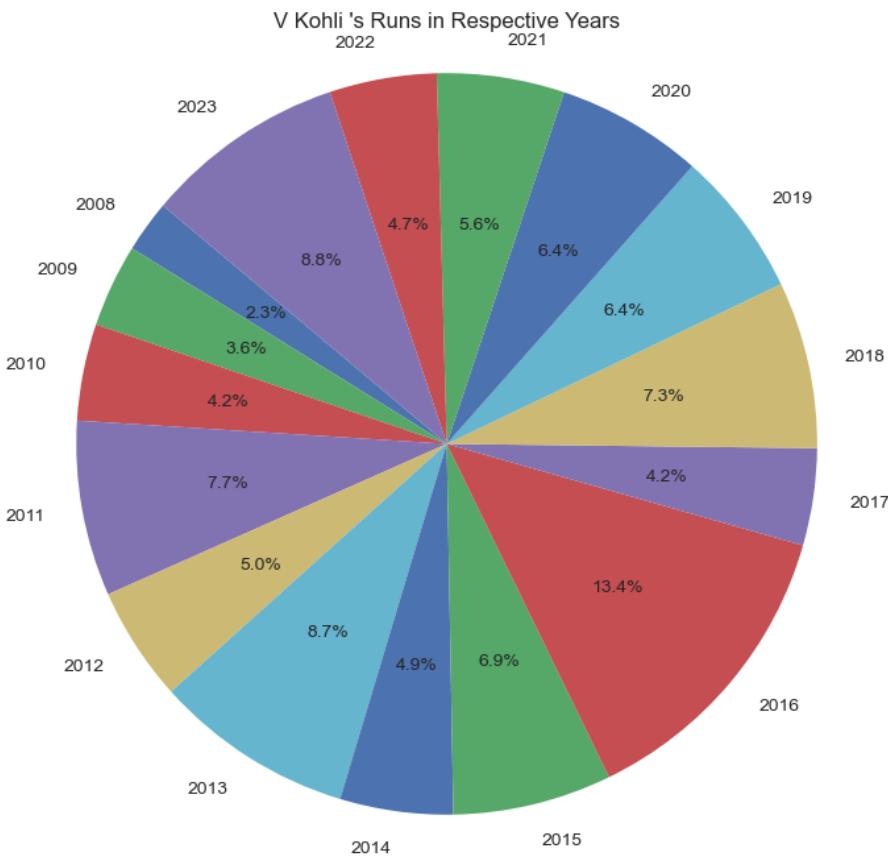
Player	Total Runs	Mean Runs	Median Runs	Teams Played	Mean Salary	Total Matches
V Kohli	7281	455.062500	434.5	RCB	1.093750	237
S Dhawan	6617	413.562500	430.0	DC, MI, SRH, PK	5.733750	217
DA Warner	6397	456.928571	474.0	DC, SRH	6.127143	176
RG Sharma	6211	388.187500	385.5	SRH, MI	11.318750	243
SK Raina	5528	394.857143	436.0	CSK, GL	7.678571	205
AB de Villiers	5162	368.714286	377.5	RCB, DC	8.185714	184
MS Dhoni	5082	317.625000	345.0	CSK, RPS	11.225000	248
CH Gayle	4965	381.923077	292.0	KKR, RCB, PK	4.223077	142
RV Uthappa	4952	330.133333	351.0	MI, RCB, PW, KKR, RR, CSK	5.093333	205
KD Karthik	4516	282.250000	280.0	RCB, KKR, GL, DC, MI, KP	5.432500	242
AM Rahane	4400	293.333333	339.0	CSK, KKR, DC, RR, RPS, MI	3.550667	177
AT Rayudu	4330	309.285714	307.5	CSK, MI	2.735714	204
G Gambhir	4217	383.363636	378.0	DC, KKR	6.554545	154
KL Rahul	4163	416.300000	495.0	LSG, PK, RCB, SRH	7.110000	118



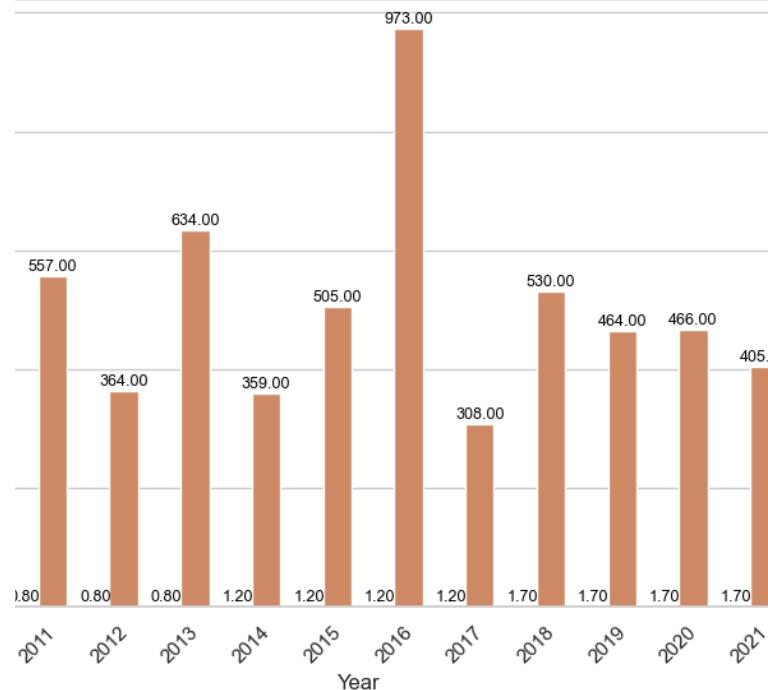
PLAYER BOND AND LOYALTY TOWARD THE TEAMS THEY PLAYED



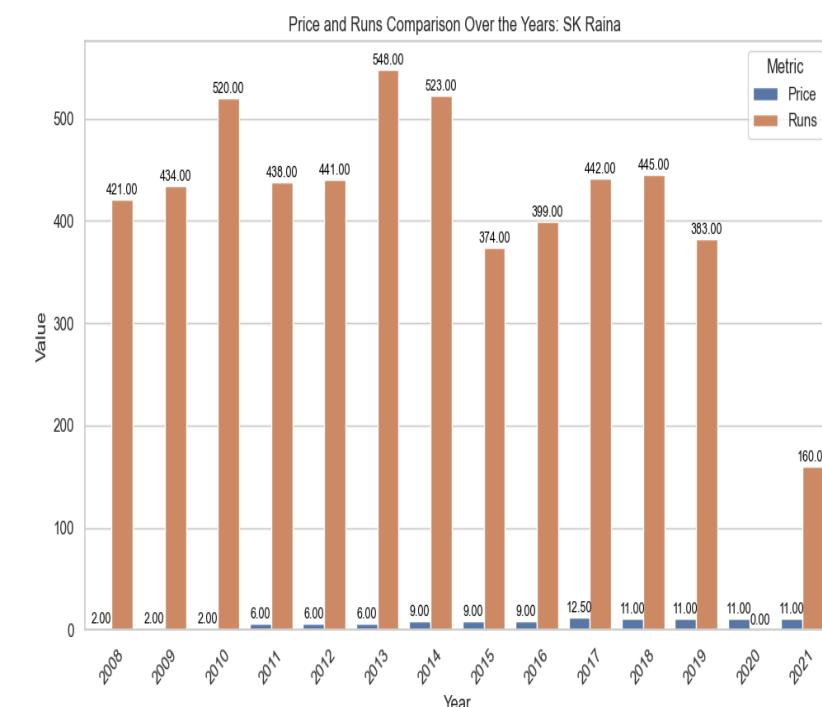
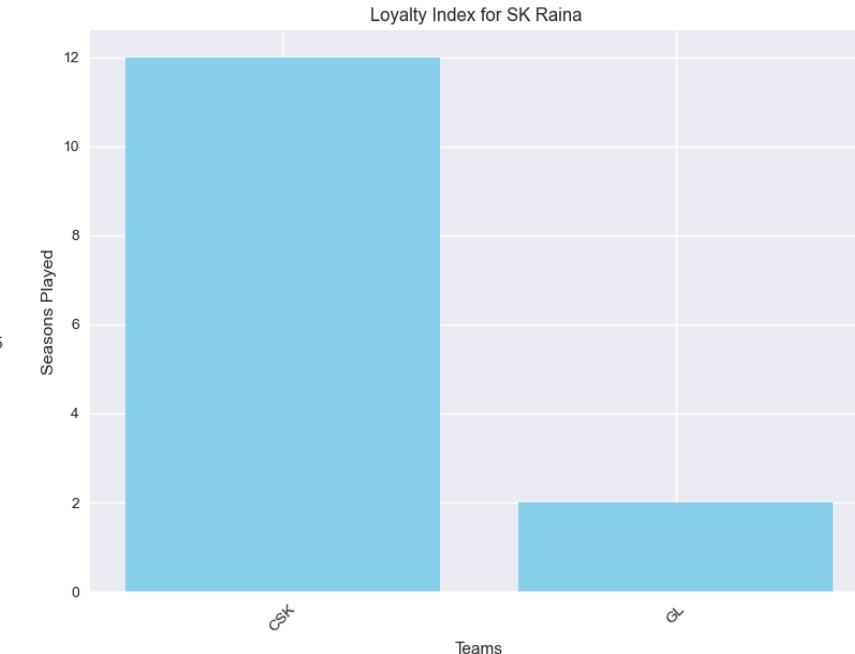
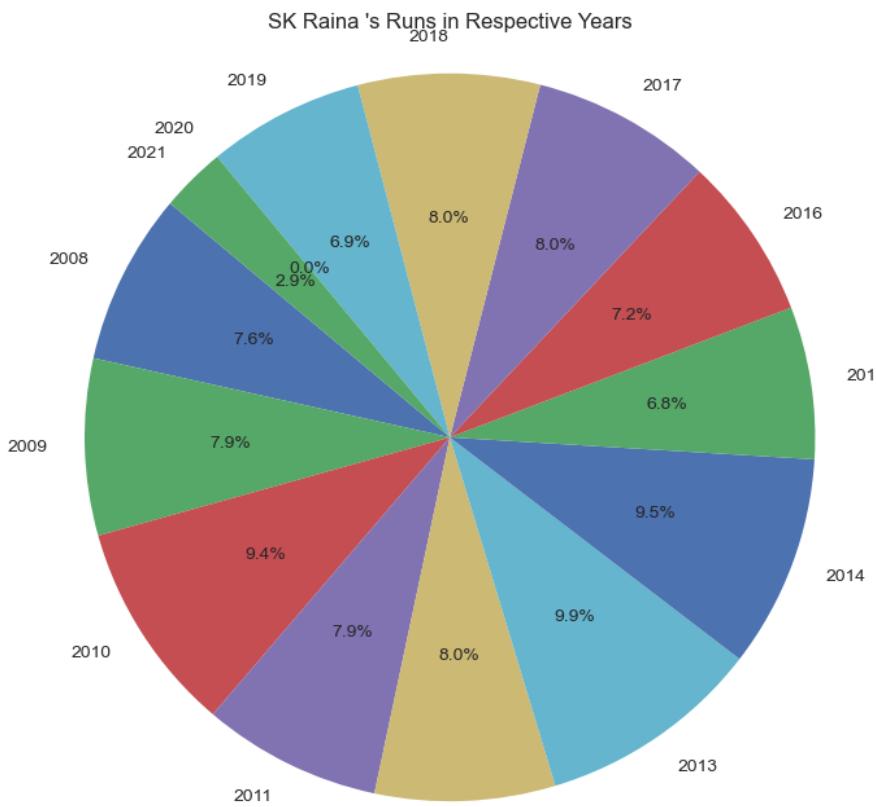
VIRAT KOHLI



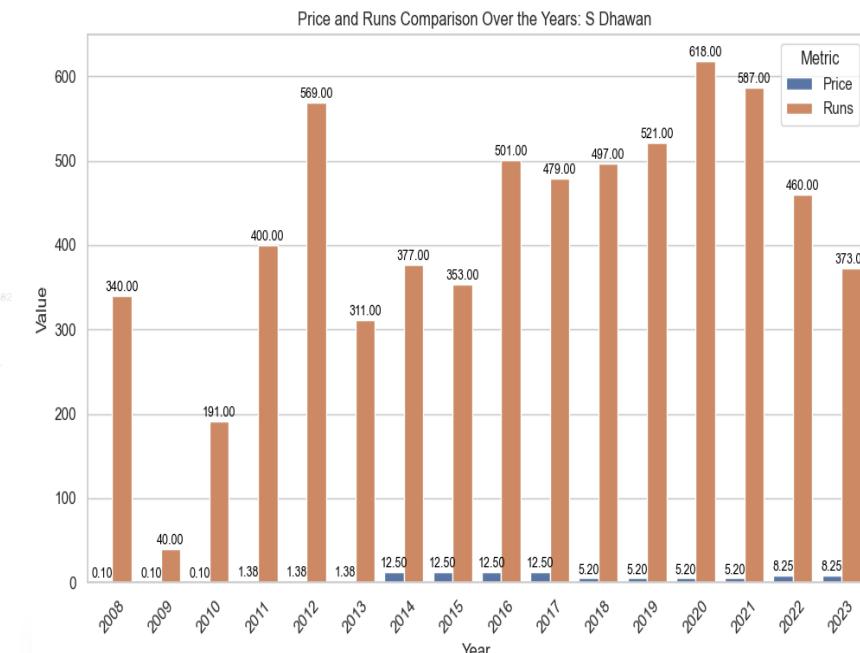
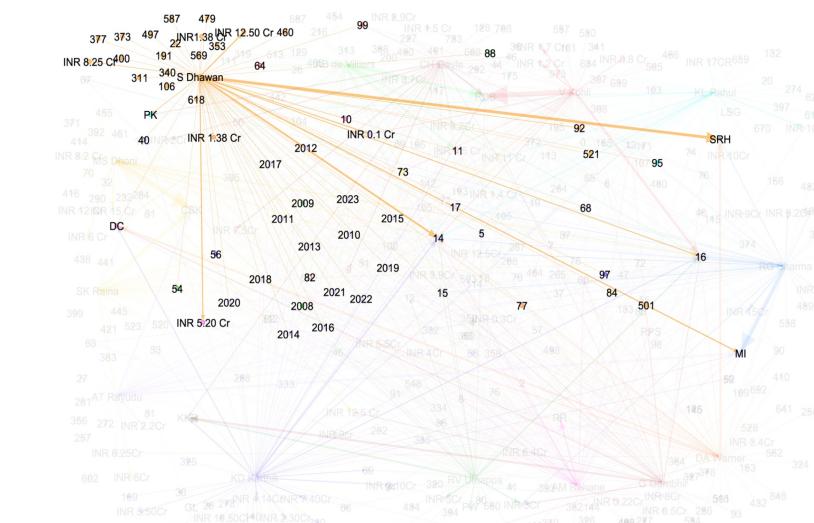
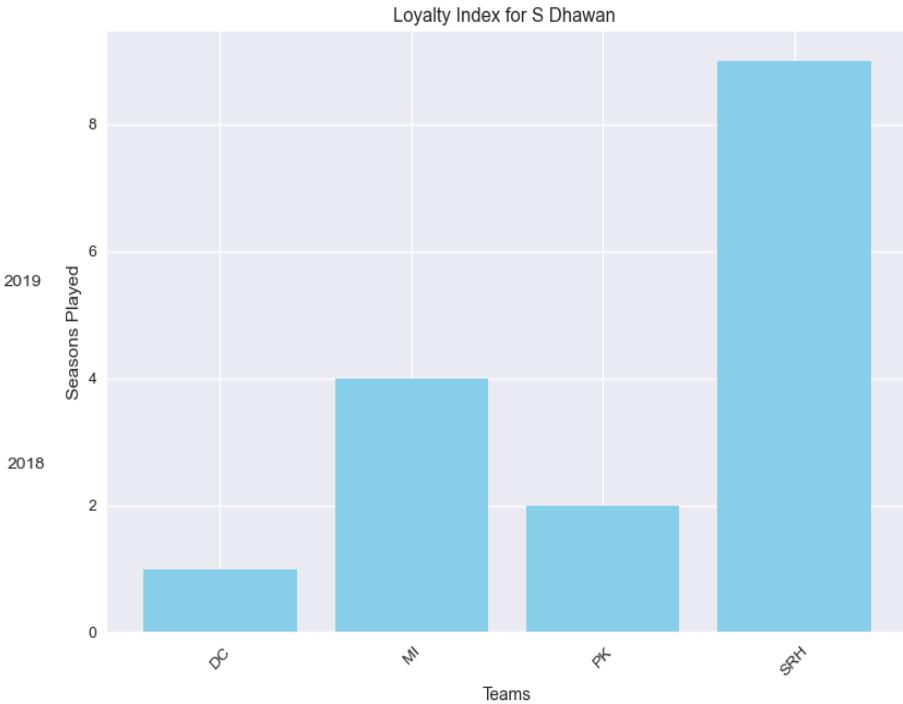
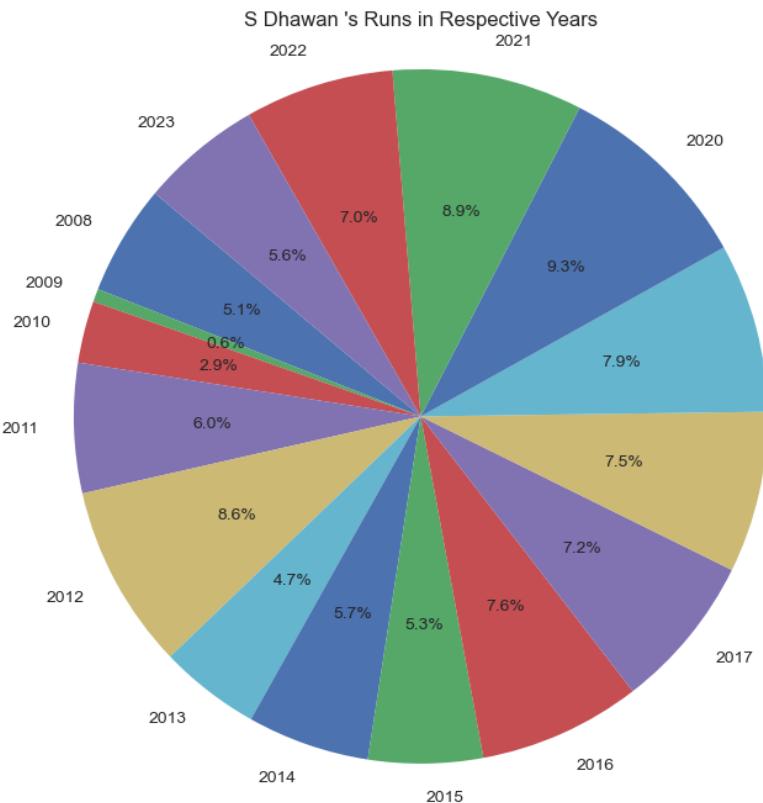
Price and Runs Comparison Over the Years: V Kohli



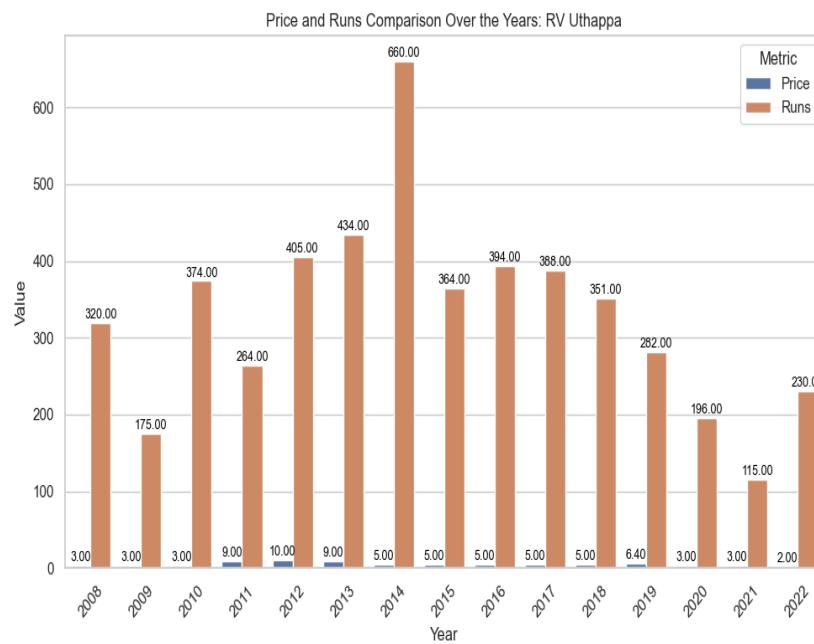
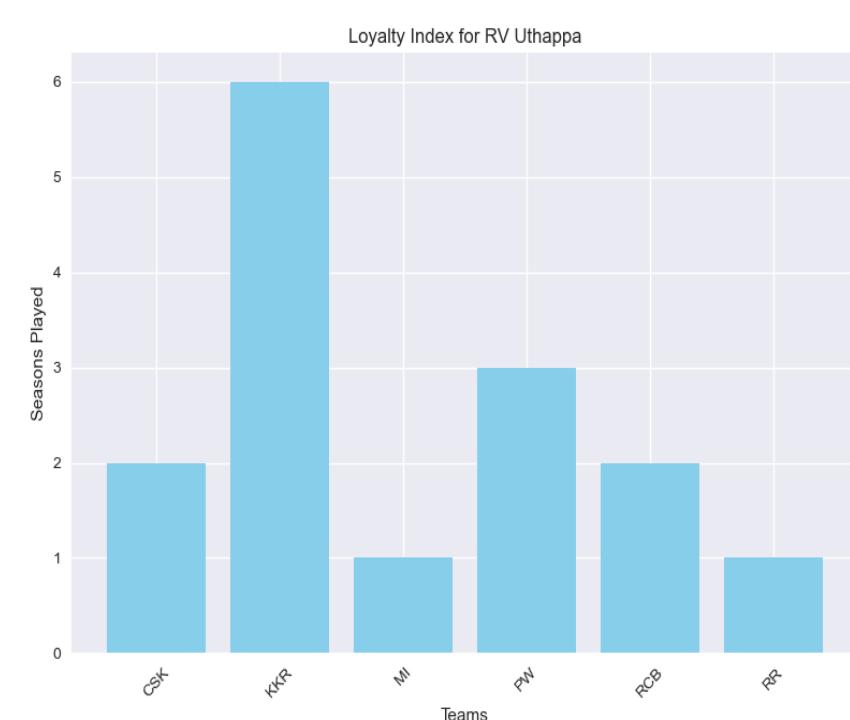
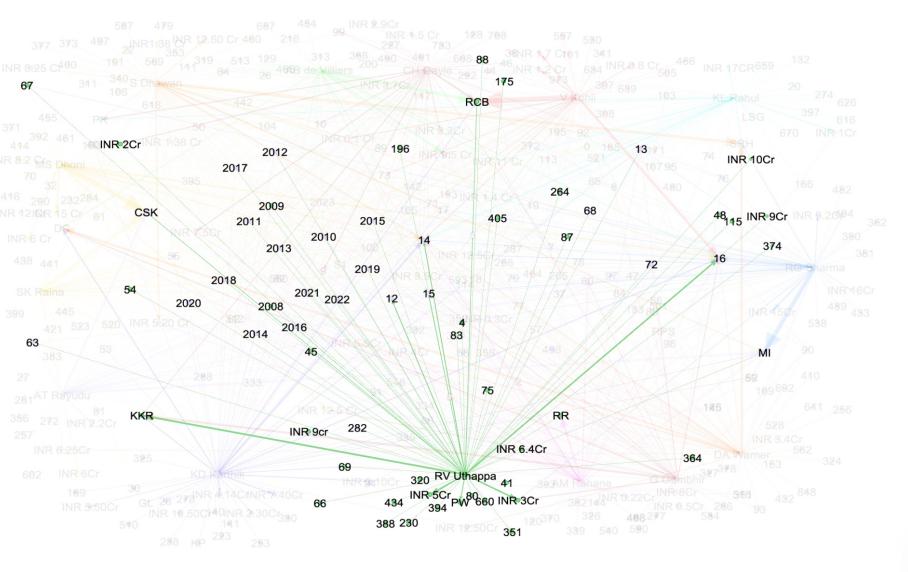
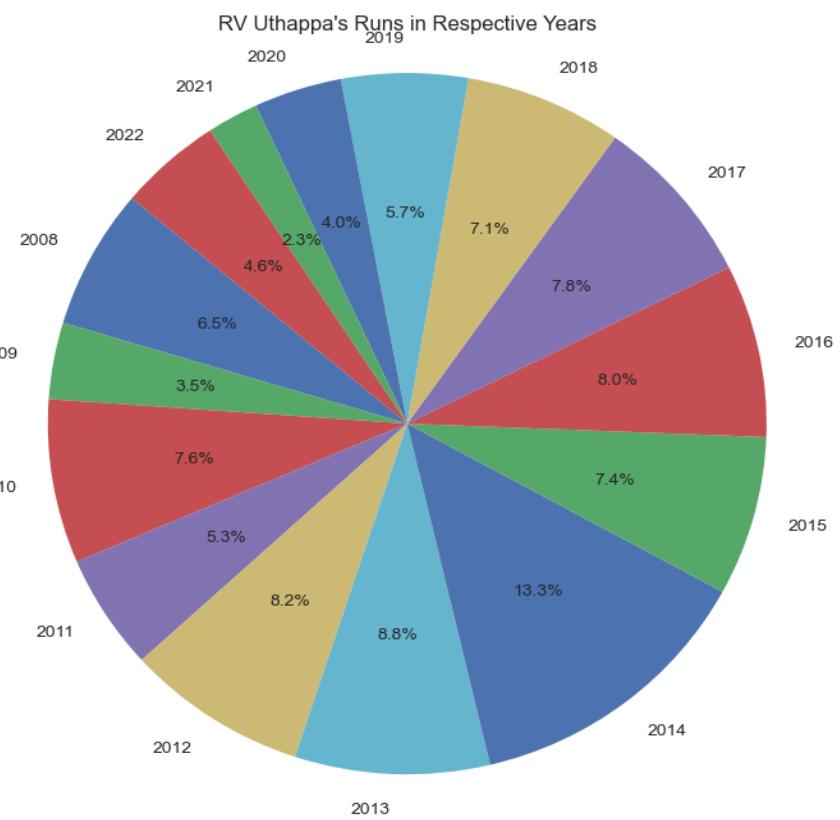
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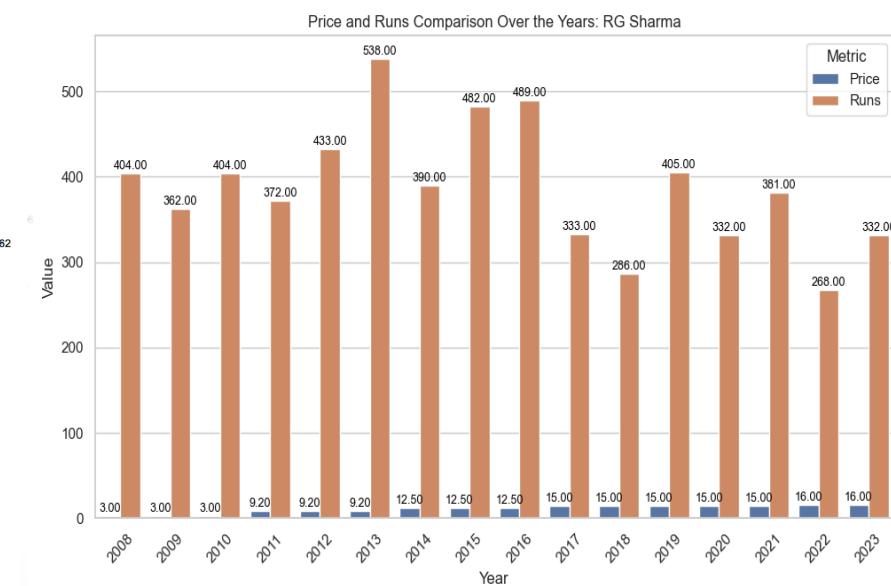
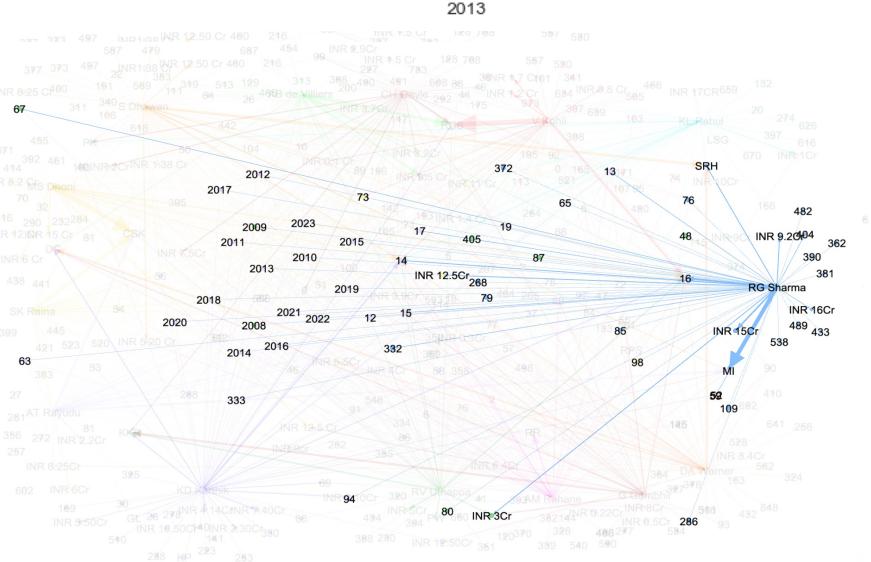
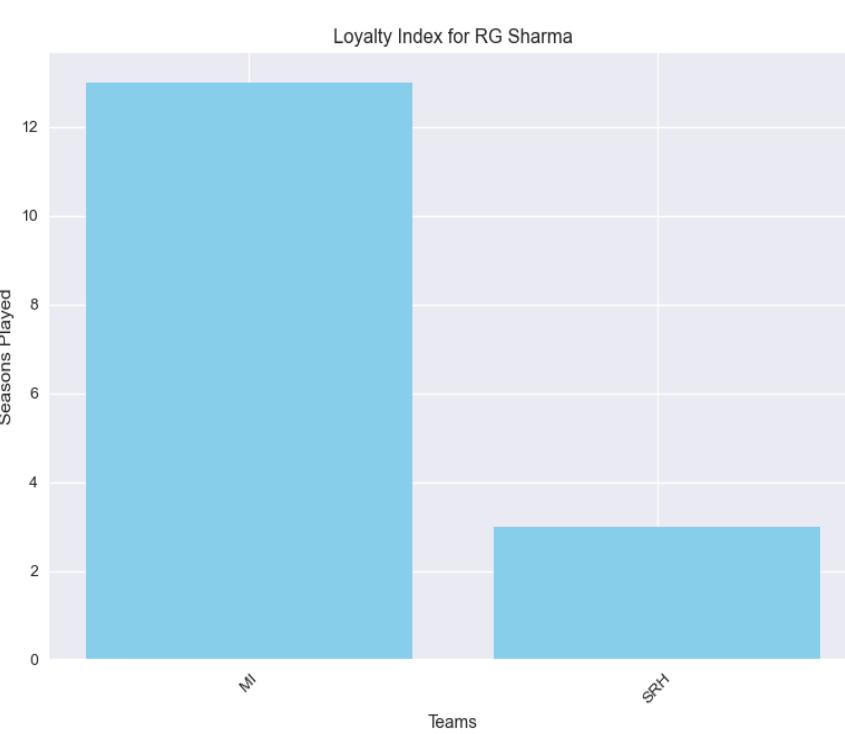
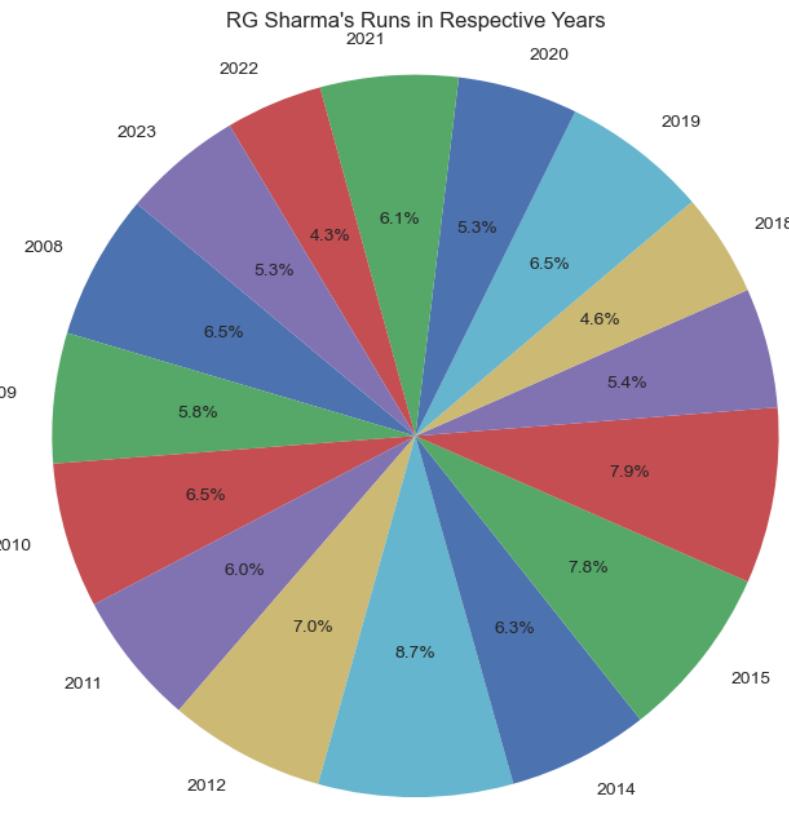
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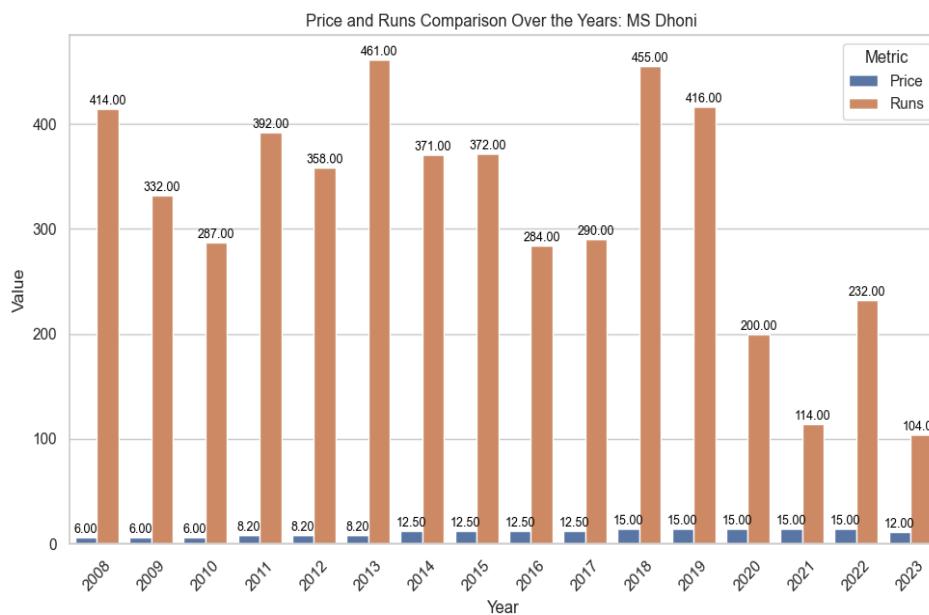
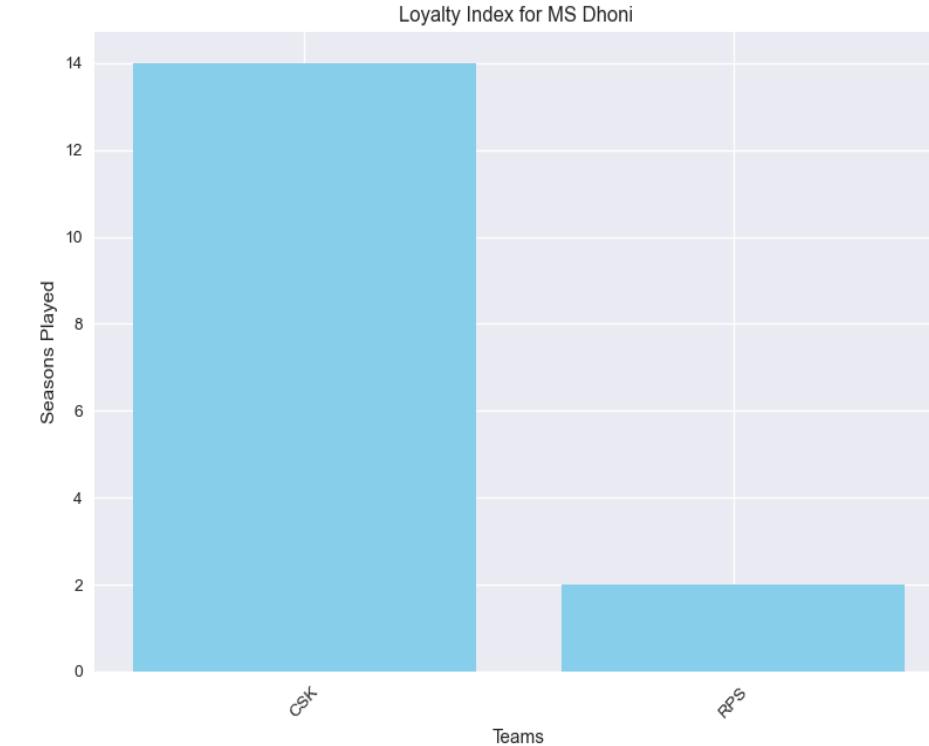
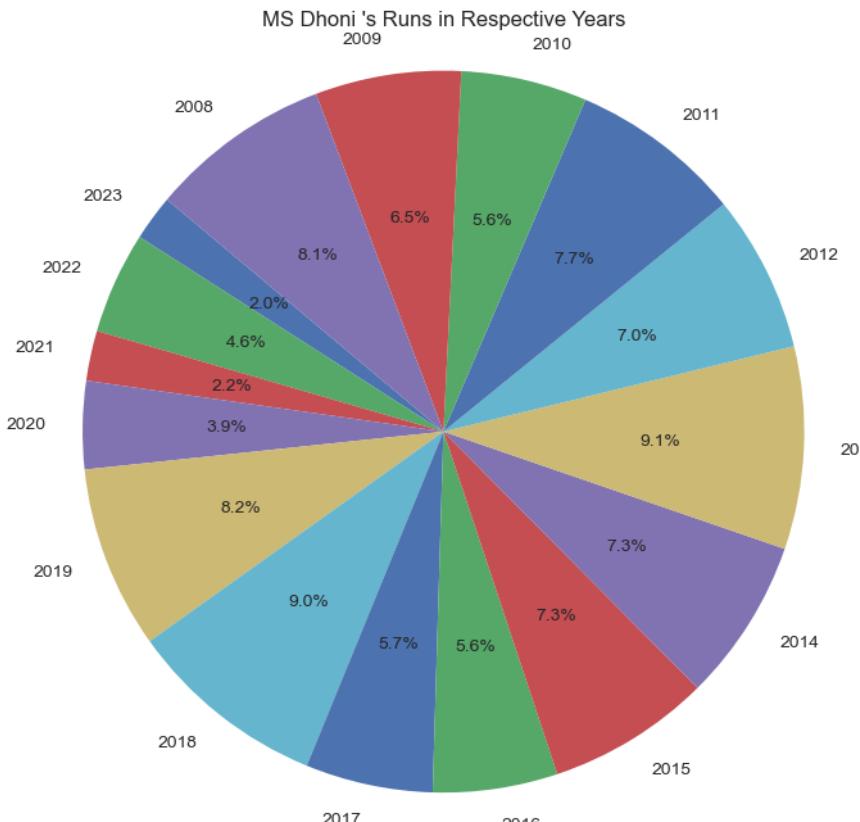
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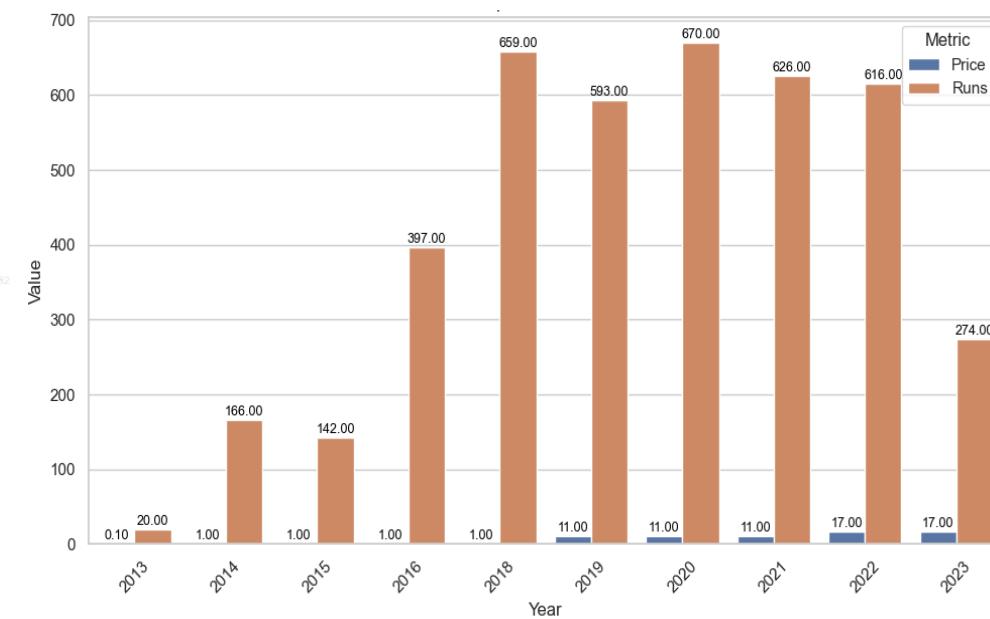
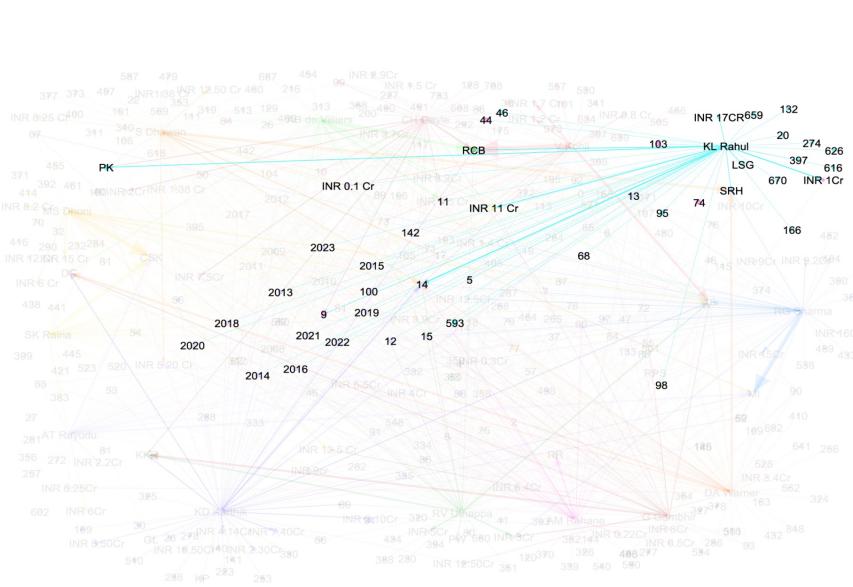
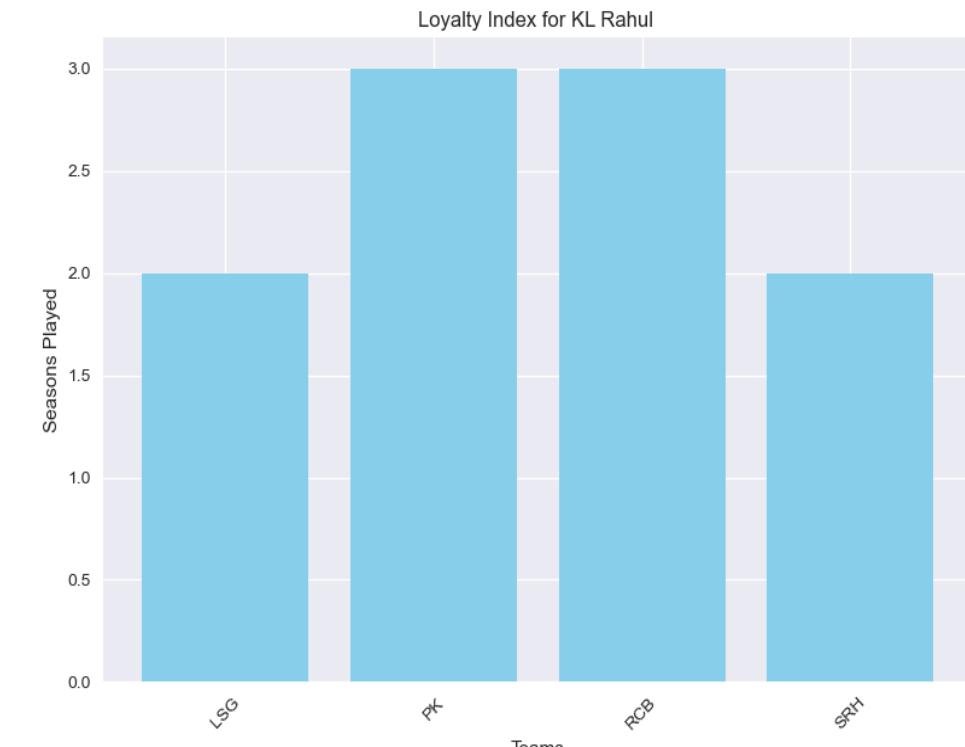
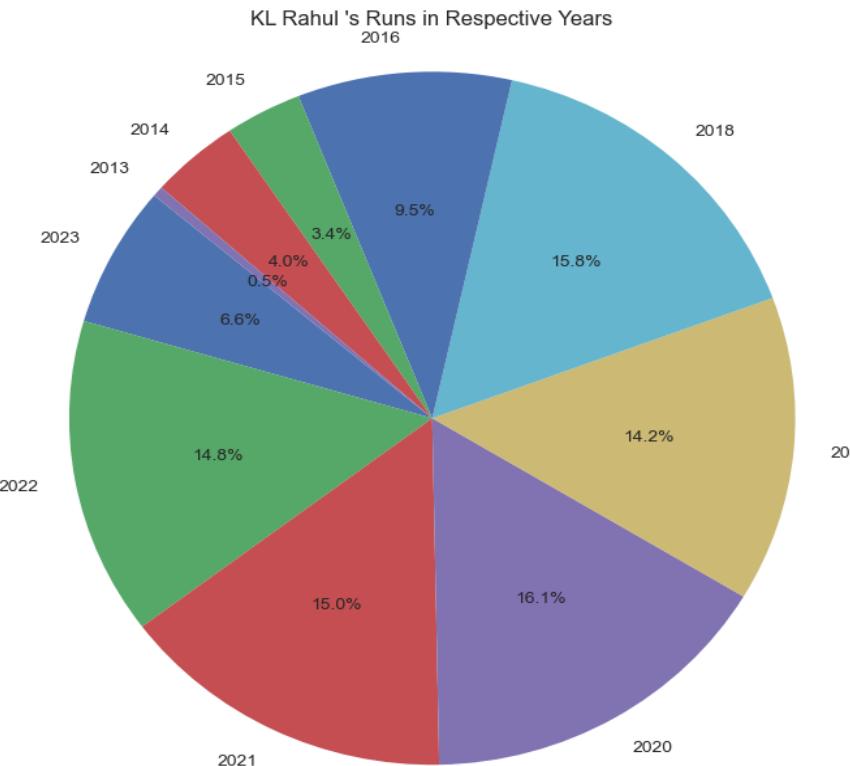
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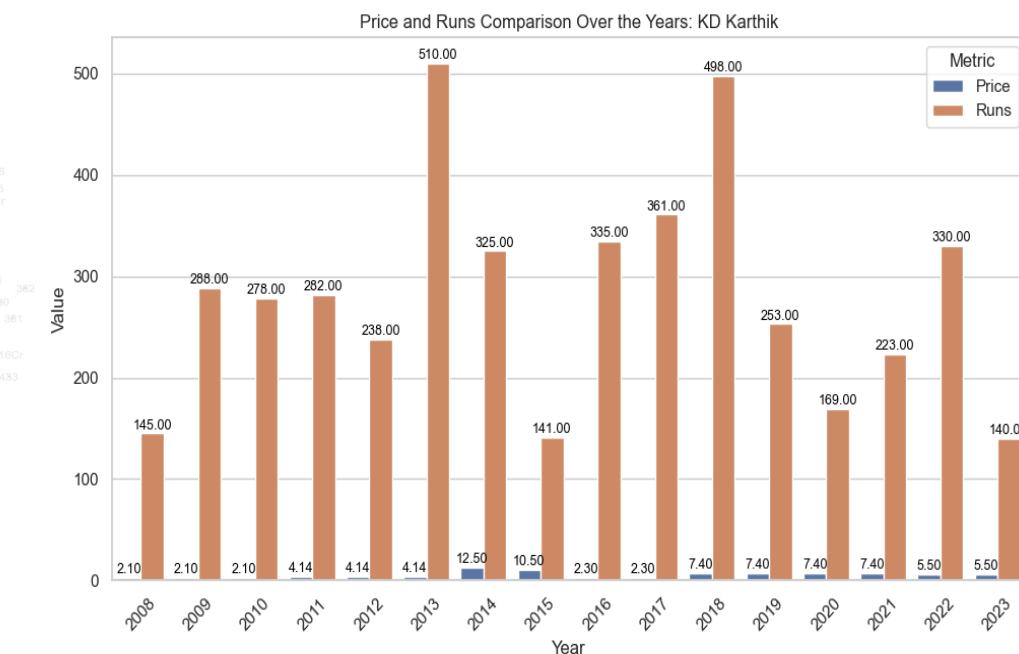
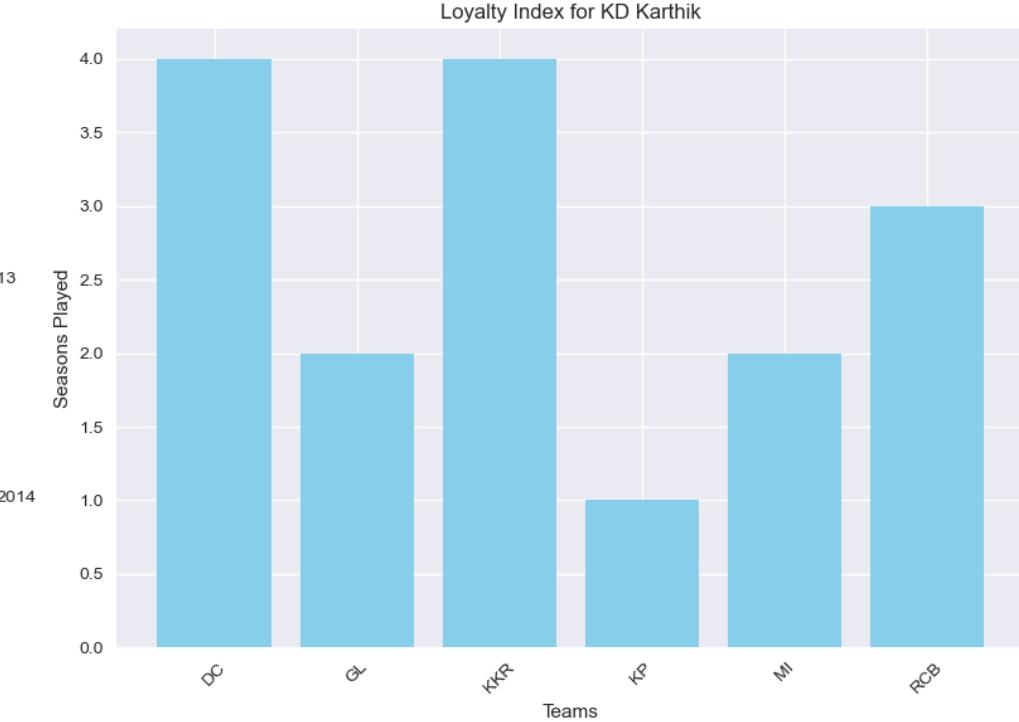
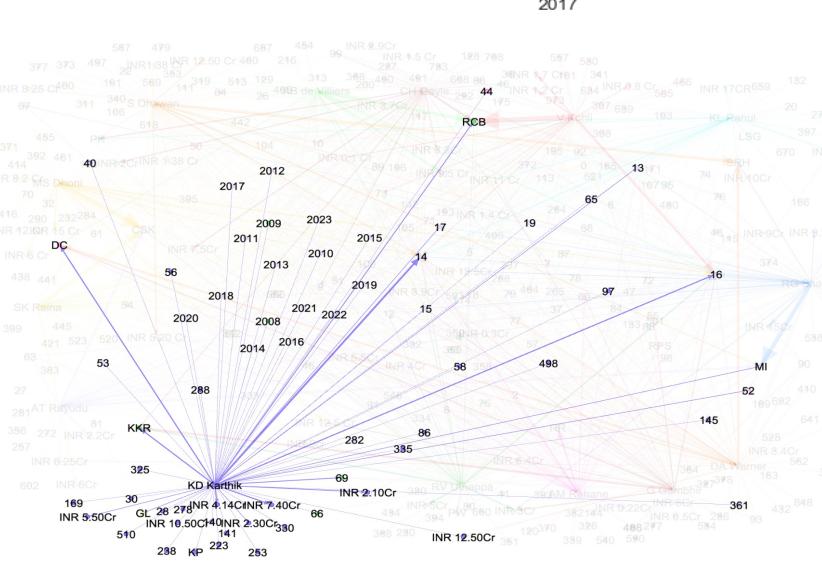
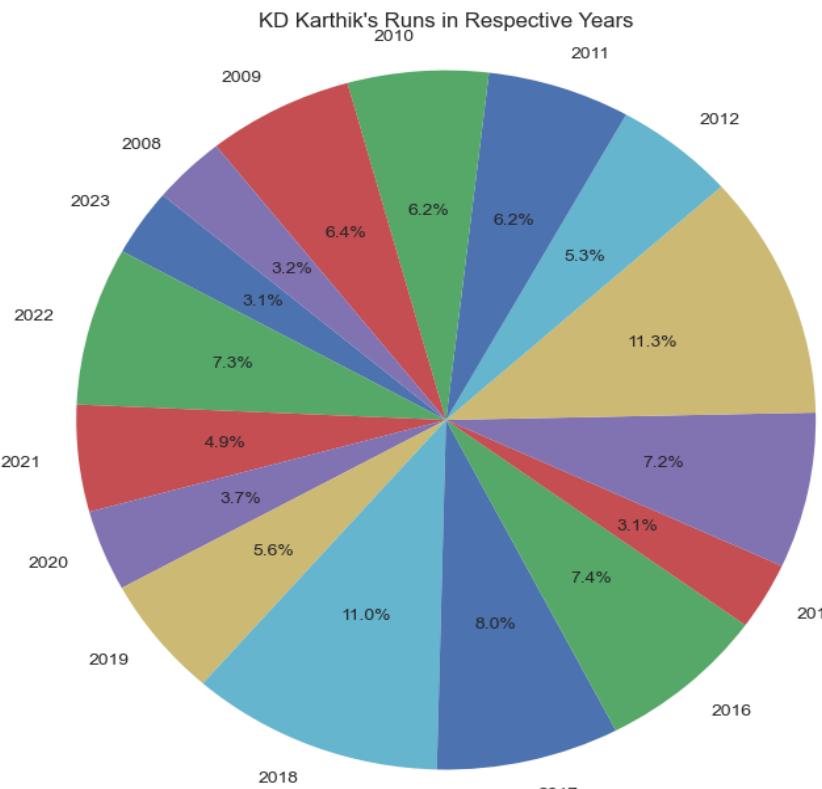
MS DHONI



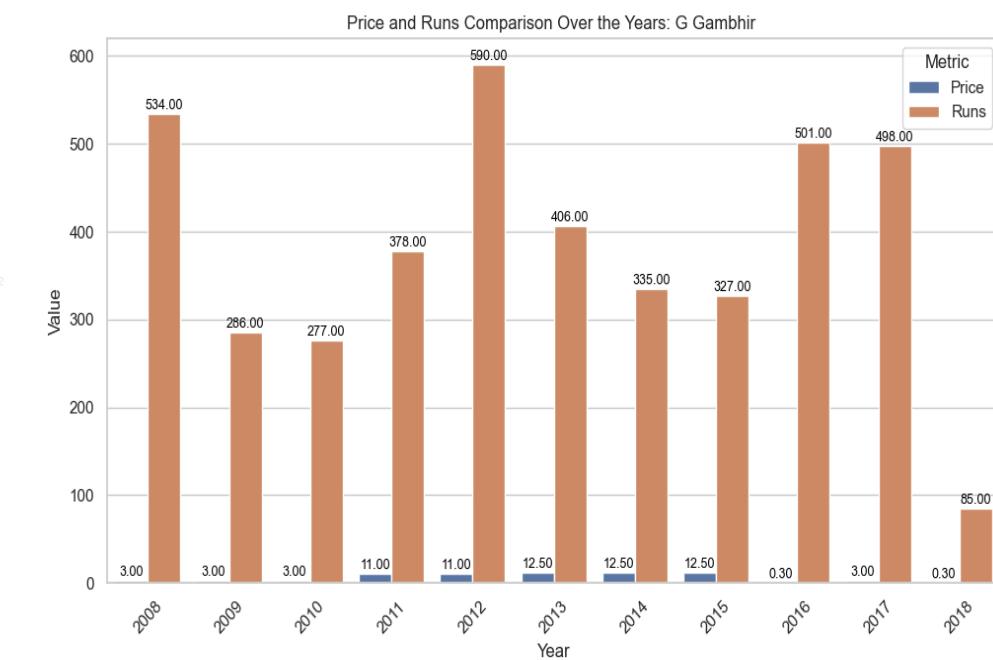
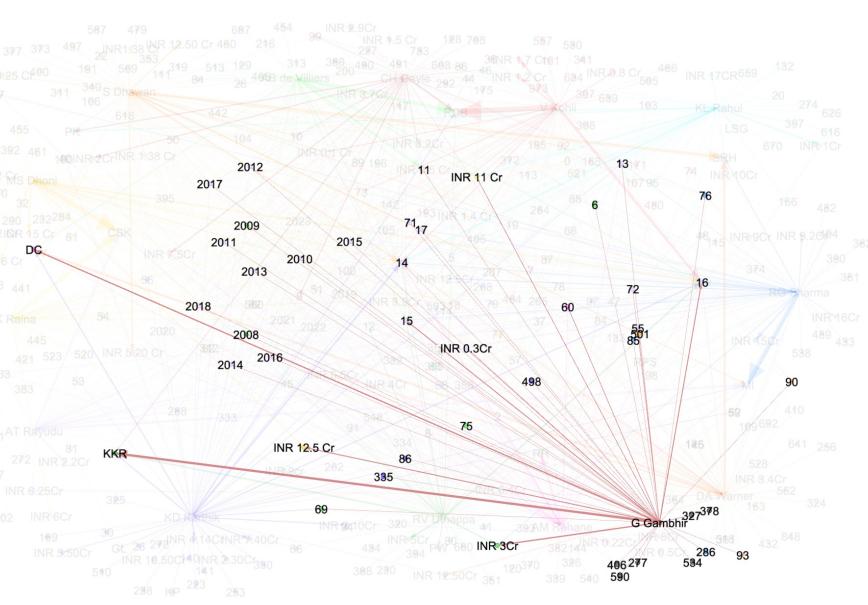
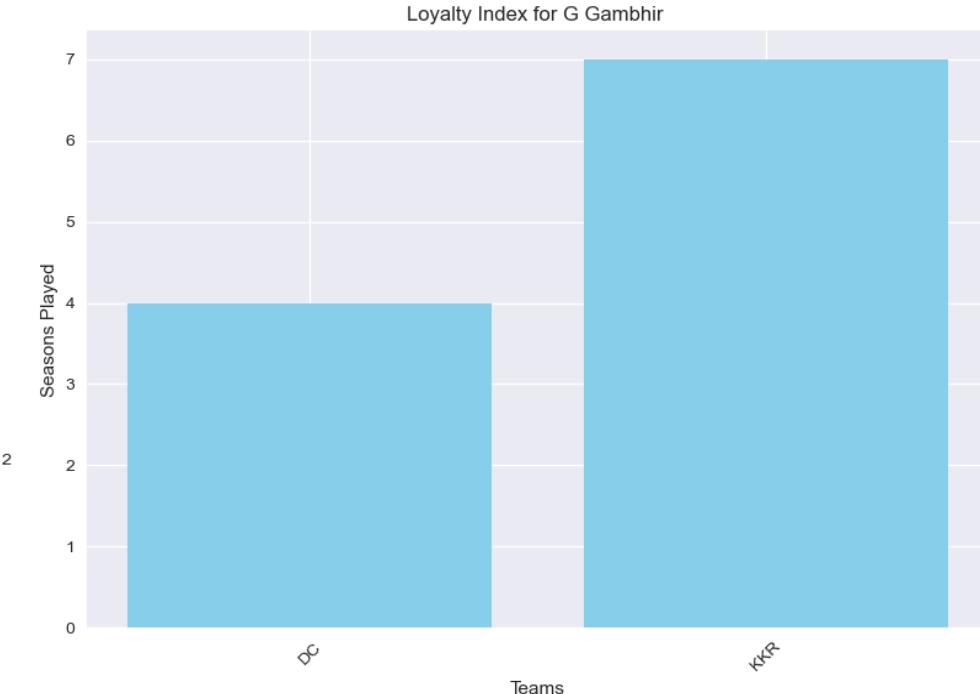
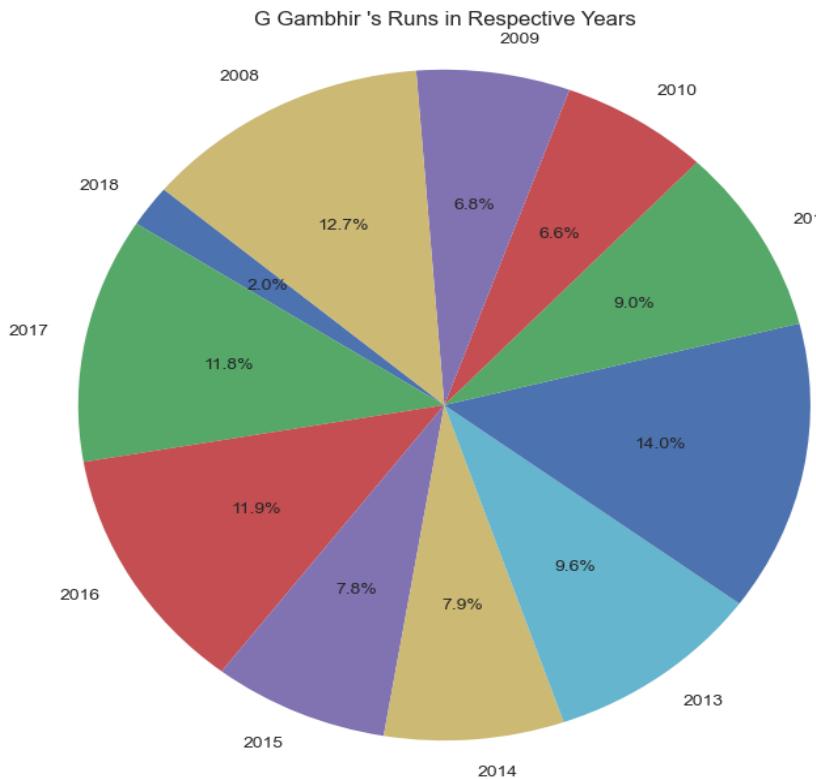
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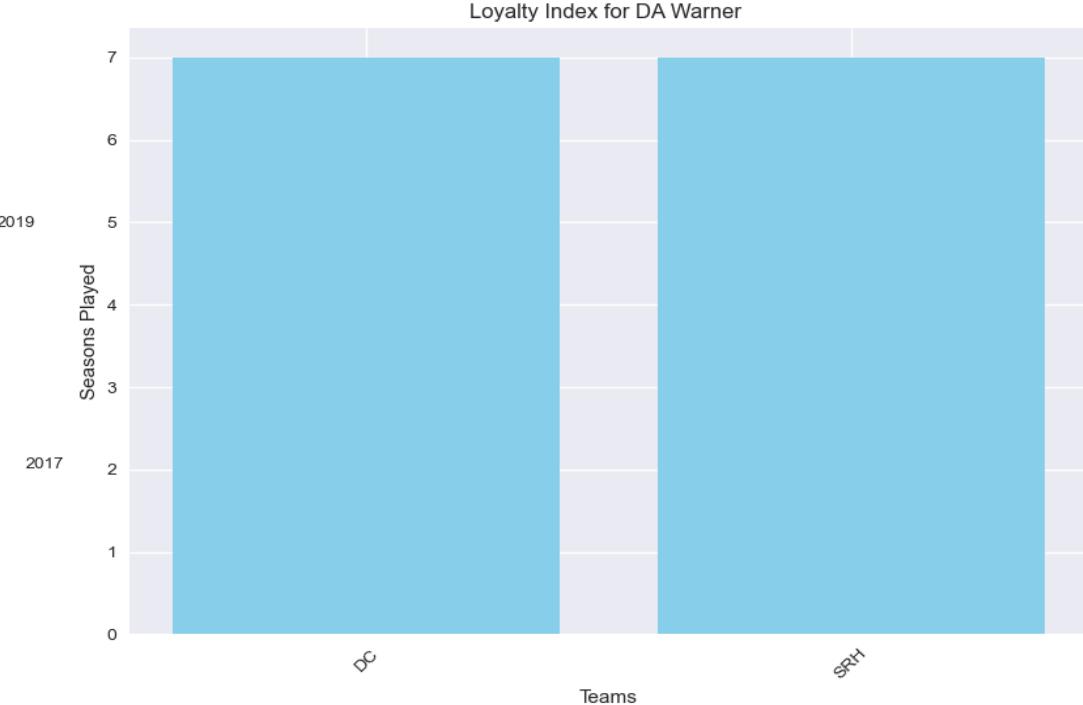
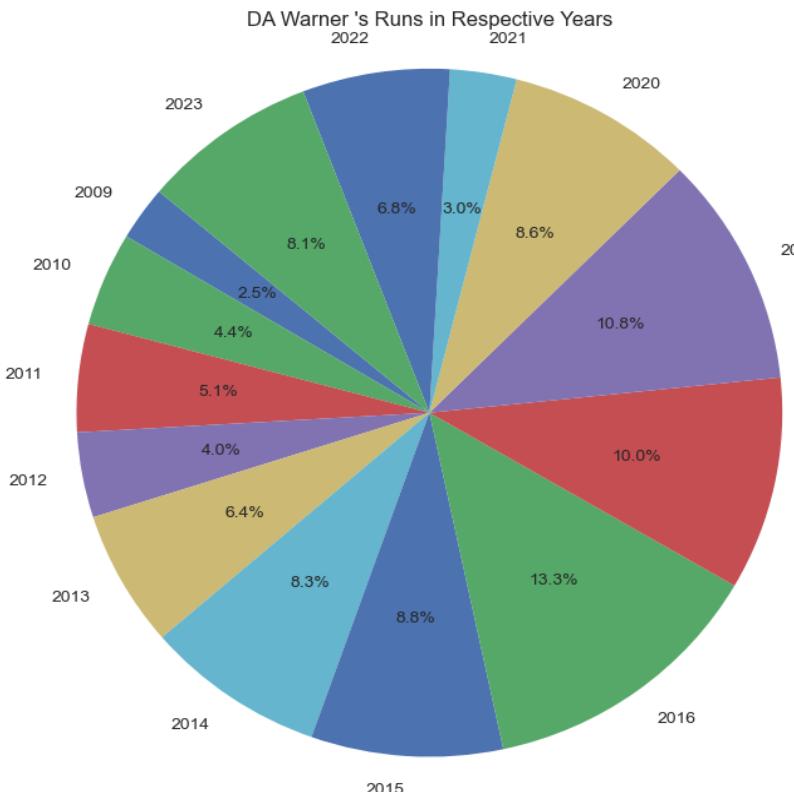
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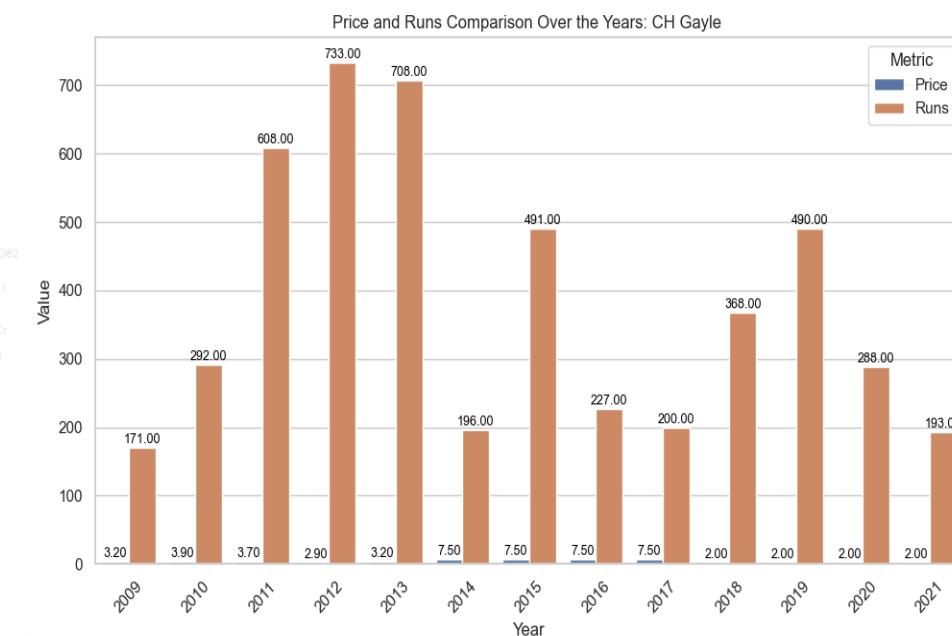
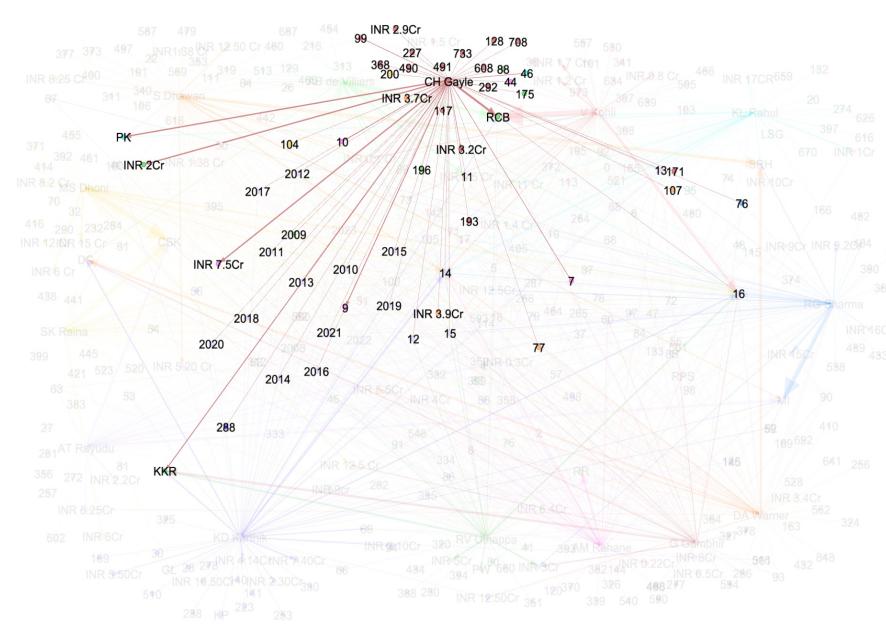
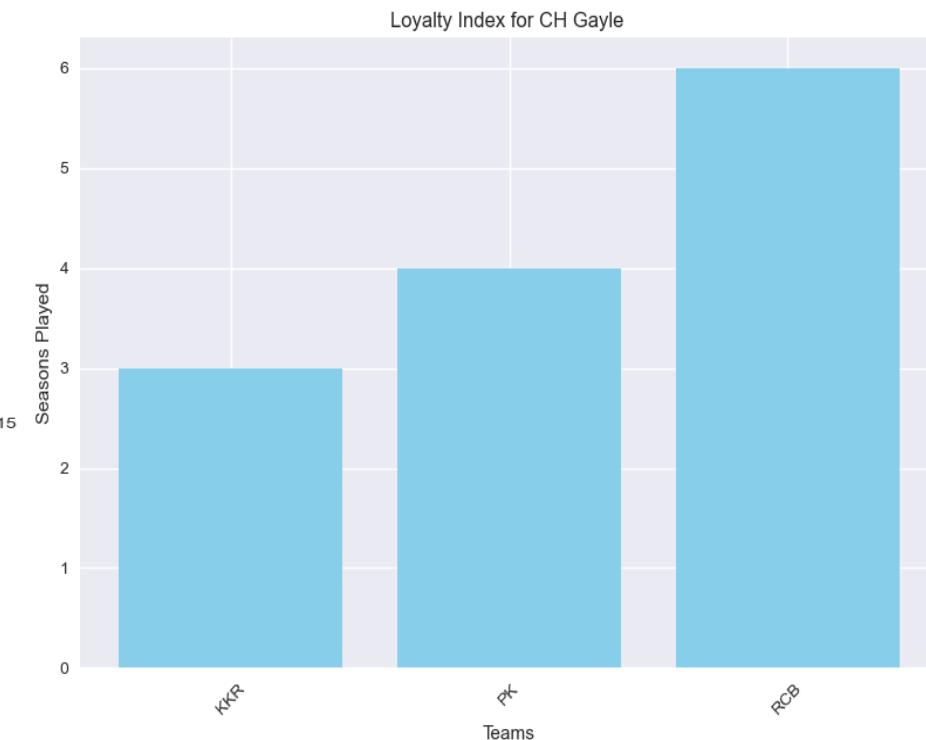
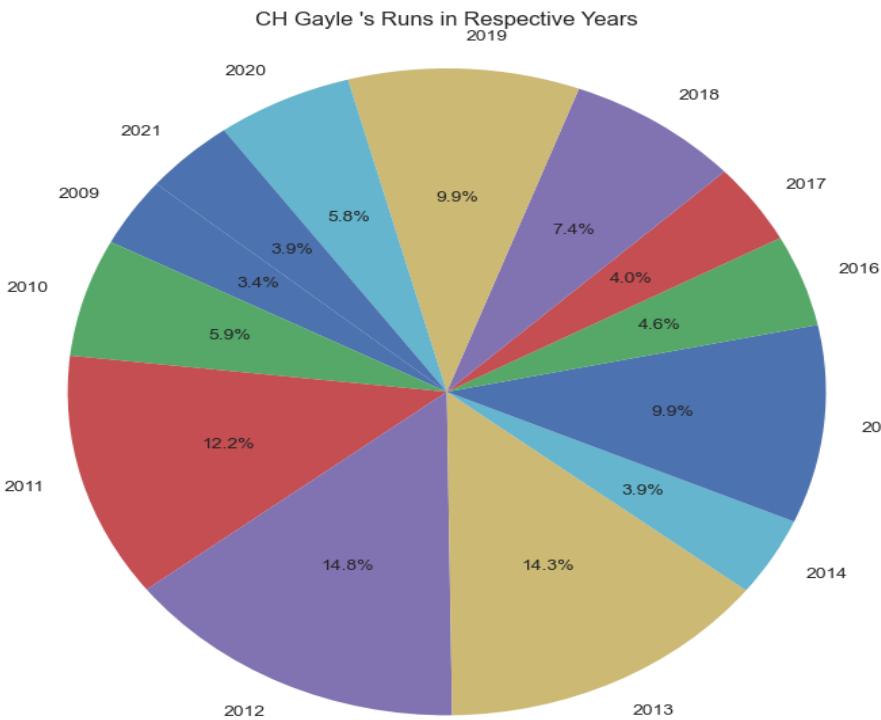
G GAMBHIR



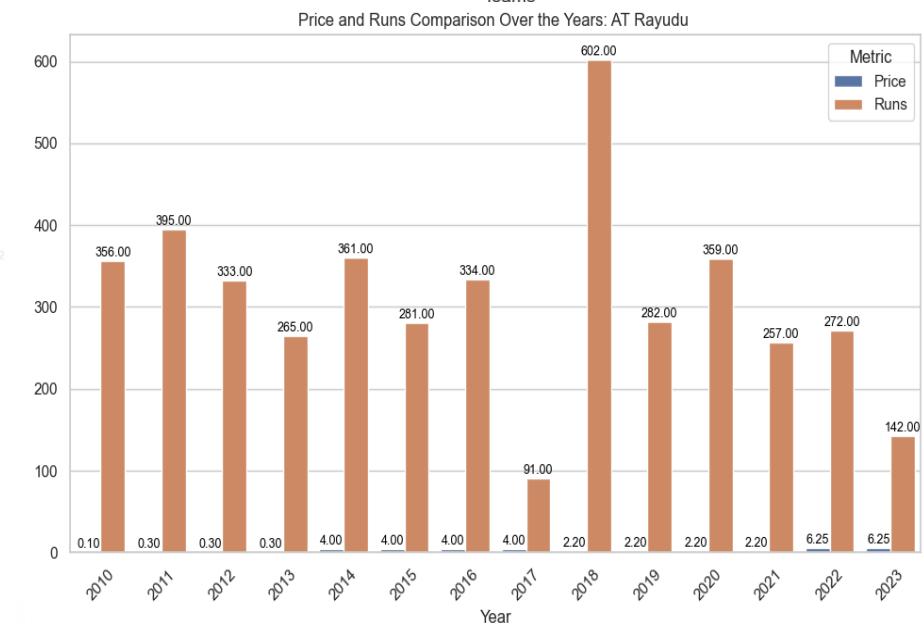
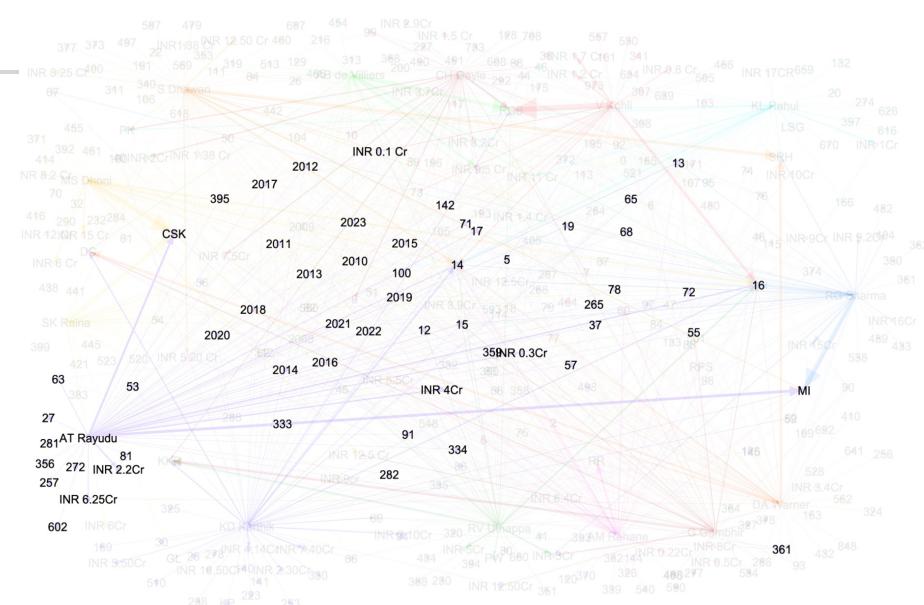
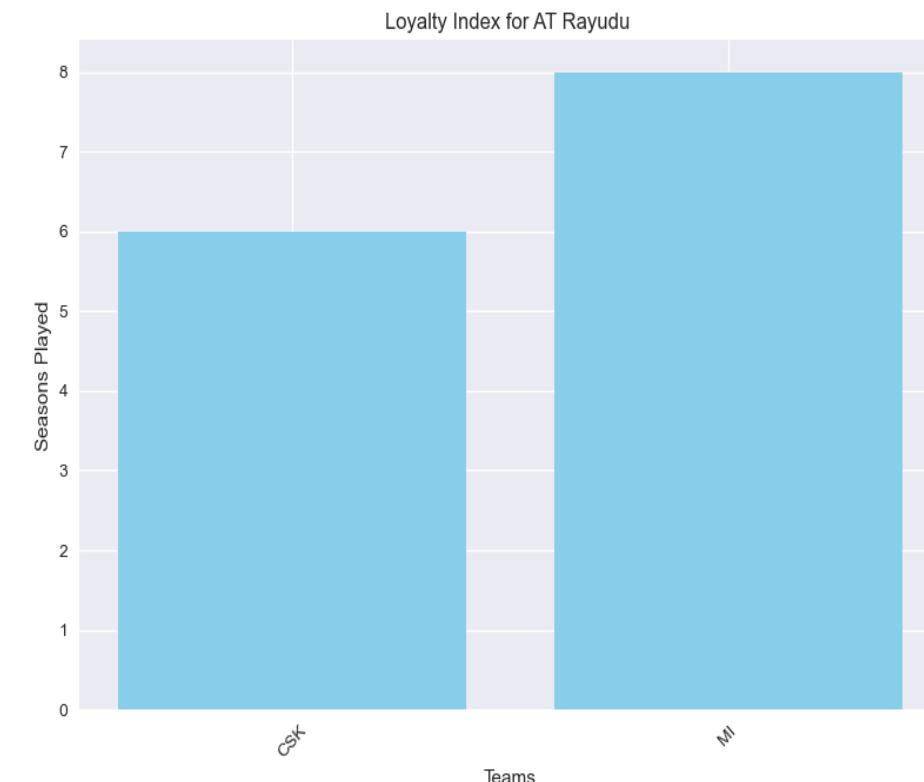
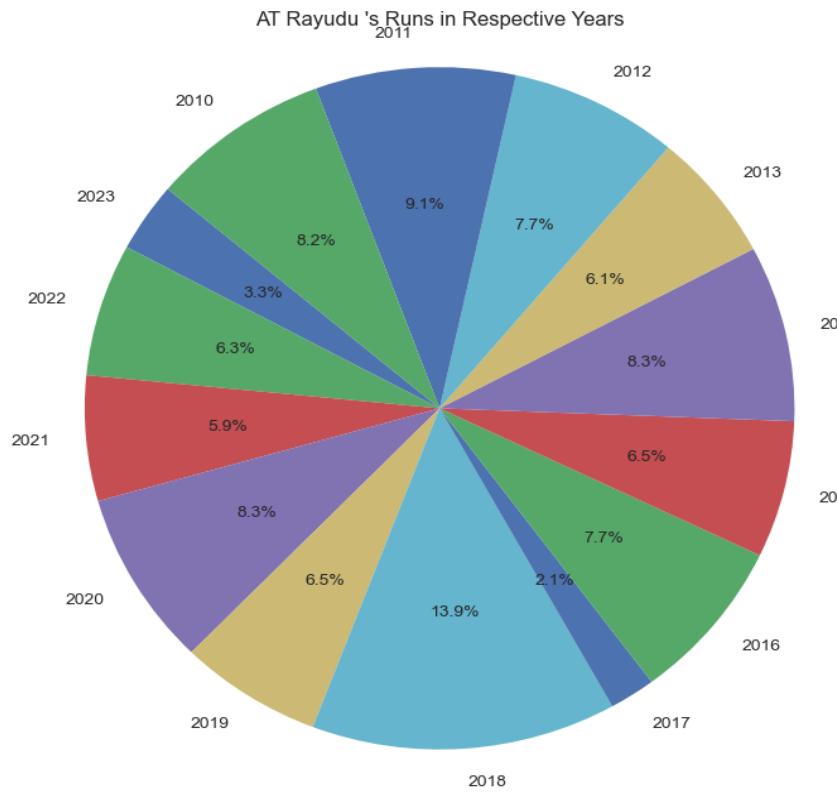
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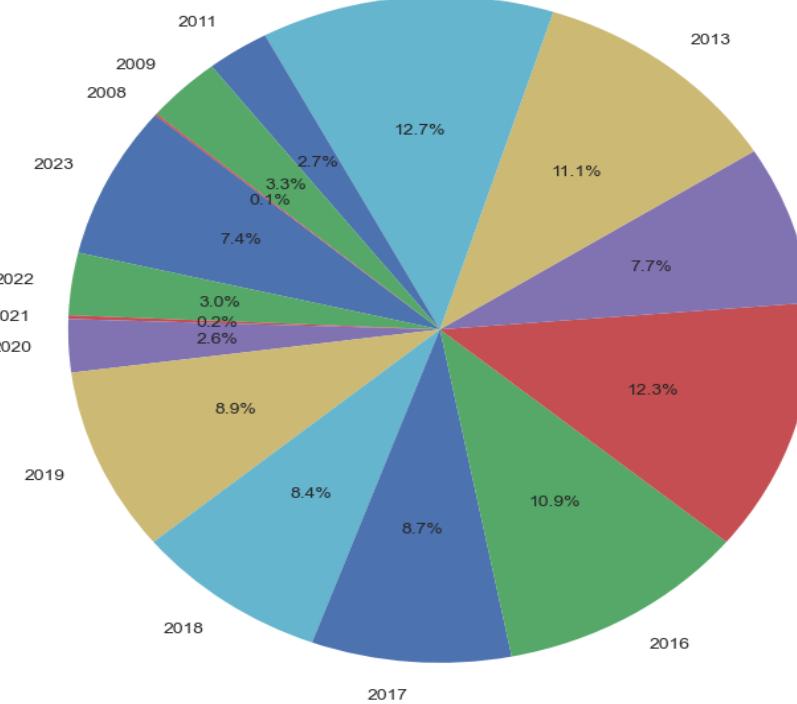
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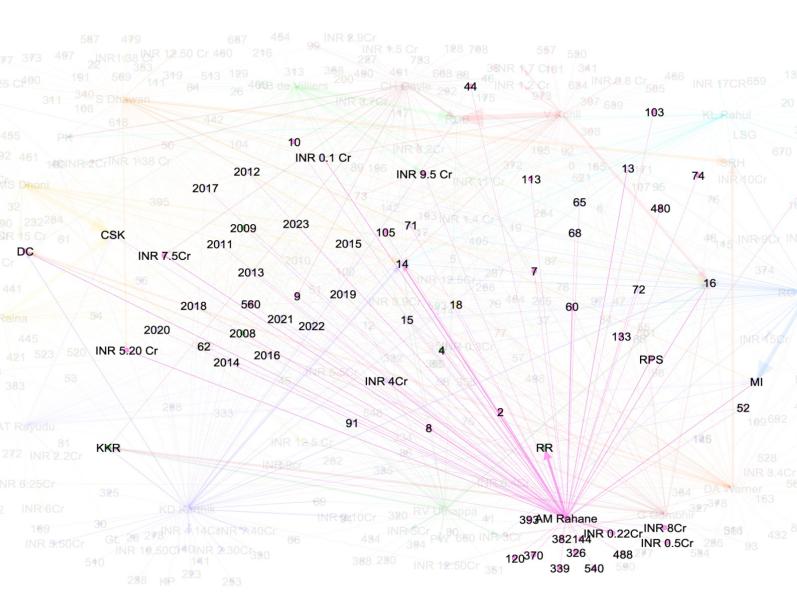
A RAYUDU



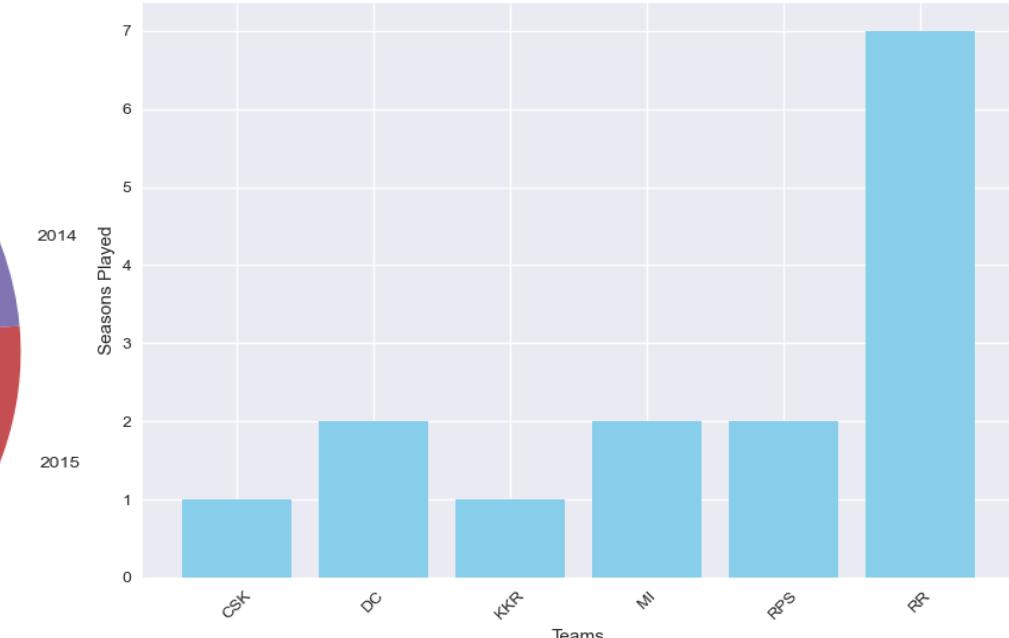
AM Rahane's Runs in Respective Years
2012



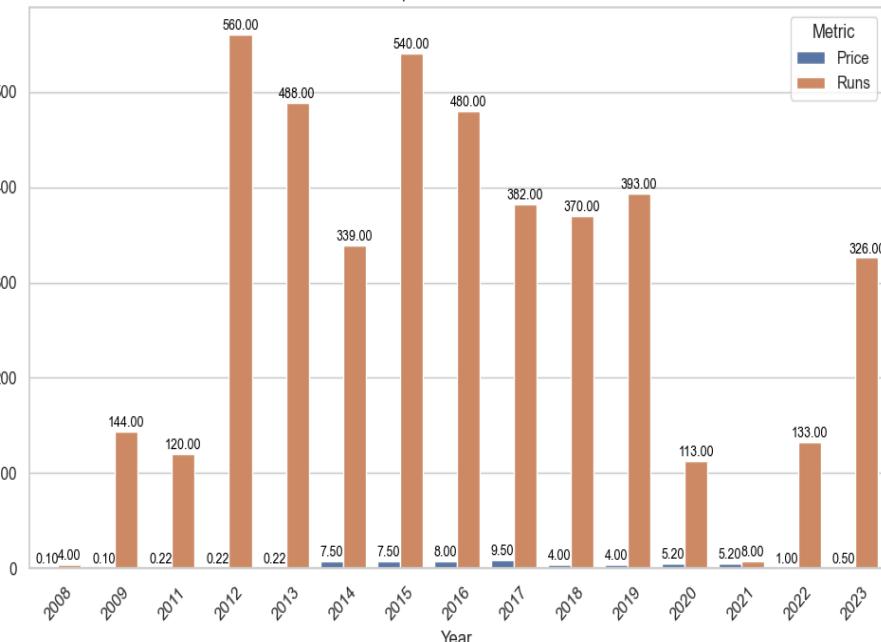
A RAHANE



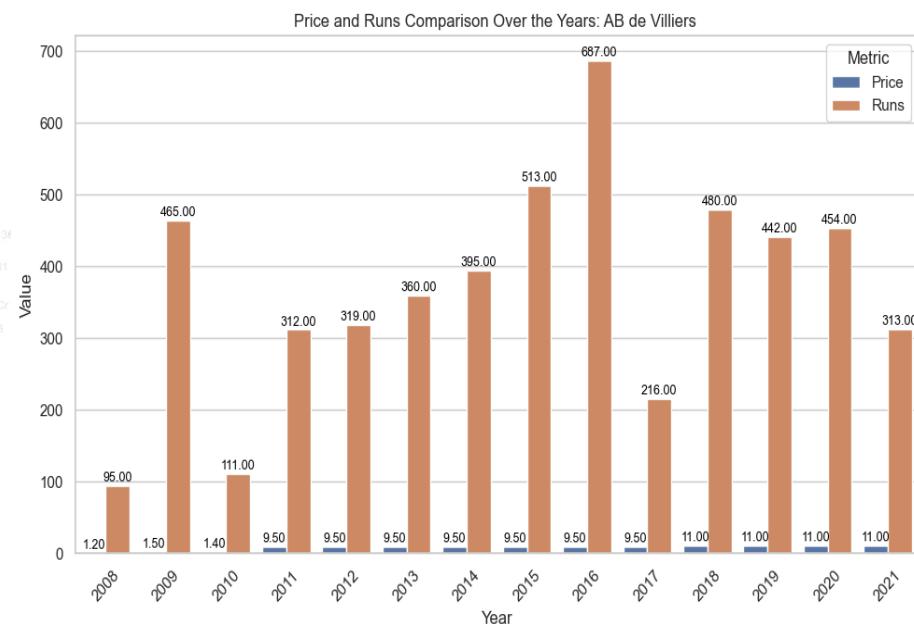
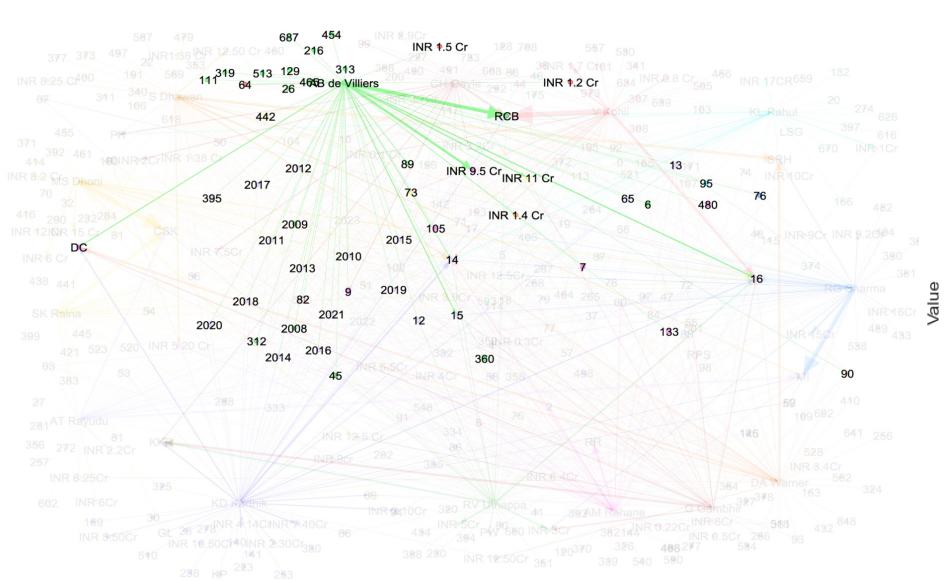
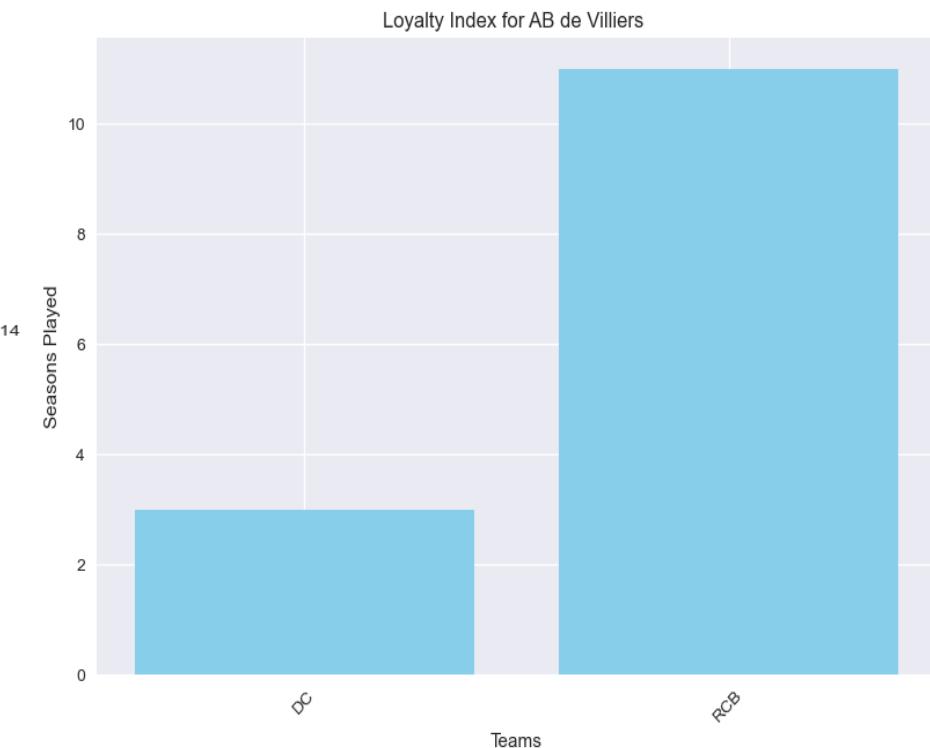
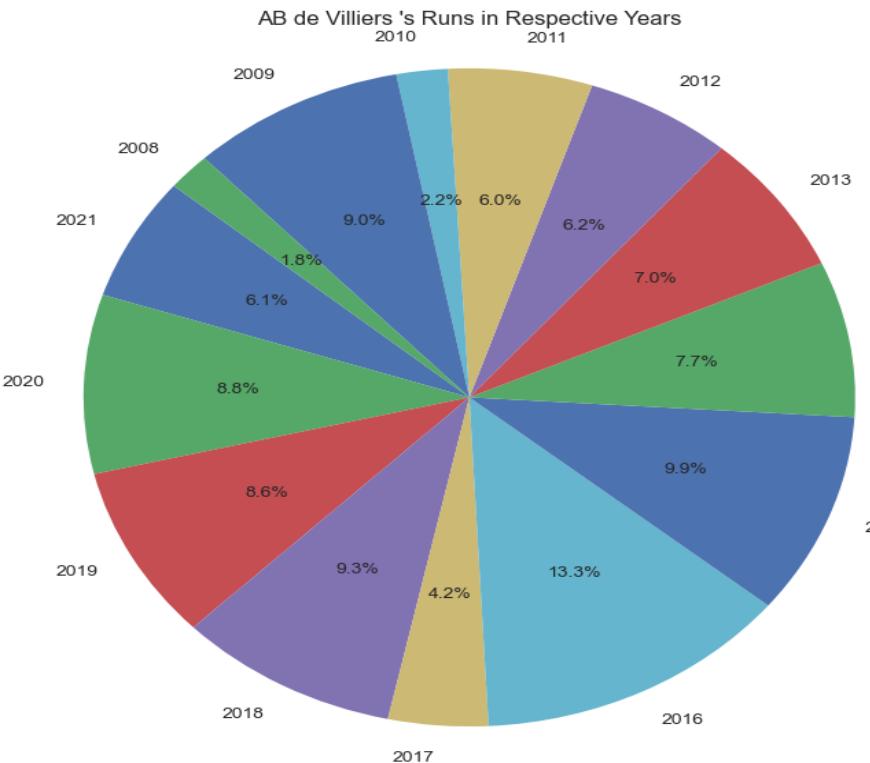
Loyalty Index for AM Rahane



Price and Runs Comparison Over the Years: AM Rahane



AB DE VILLERS





CONCLUSION

After performing the above data analysis and visualising the data I can clearly see that, players performance is dependent on many factors out of which pay is one of the major factor. I cannot completely say that an overrated player in terms of pay will perform badly but in most of the cases it is the scenario, there are very few players who could soak in the pressure of the big bucks from the franchise and perform better with the increment of the pay.

- When I performed the social network analysis in Gephi it made me realise the bond between a player and a franchise, which reflected in their performance.
- Where few players were playing in one franchise for more than 10 years. In contrast there were few who changed their franchise for every 2 years.
- Players who remain loyal to one franchise tend to show steady growth, reaching peak performance within a few years, while those switching teams experience fluctuating performance due to adjustment periods in new environments.



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