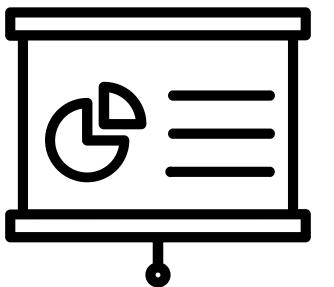


CRICKET WORLD CUP 2023 EDA

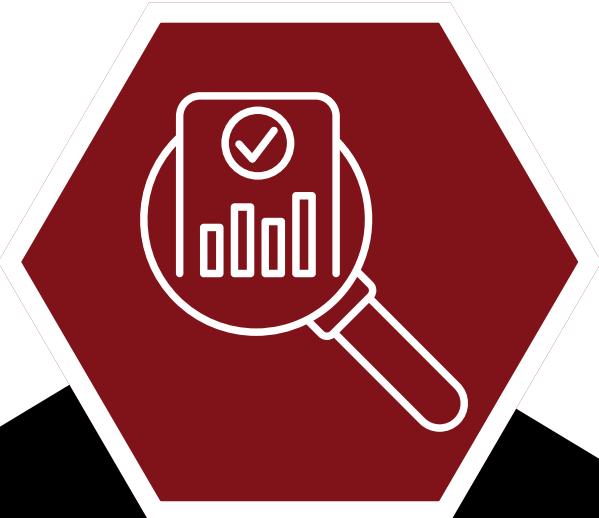
Internship Project Presentation



Presented by Bisma Azeem



Delving into the Cricket World: Project Goals



- Analyze World Cup 2023 data
- Conduct exploratory data analysis (EDA)
- Extract valuable insights on team and player performance
- Explore batting and bowling aspects

A large, ornate silver trophy with a tall, flared base, resting on a white rectangular pedestal. The pedestal features a decorative border at the bottom with colorful icons. The background is a blurred image of a stadium at night with spectators.

About the dataset

The World Cup 2023 Data Analysis project dives deep into the heart of the prestigious cricket tournament, examining player and team performance. This dataset offers a rich resource for exploratory data analysis (EDA), allowing you to unearth valuable insights. We'll be focusing on a comprehensive array of features encompassing both batting and bowling aspects. This includes runs scored, wickets taken, strike rate, economy rate, and other key metrics that paint a detailed picture of team and player performance. Through this analysis, we aim to uncover patterns, trends, and notable statistics that provide a nuanced understanding of the cricketing strategies and outcomes that unfolded during the World Cup 2023.

Unveiling the Champions: What We Aim to Discover

- Uncover patterns and trends in team and player performance
- Analyze key metrics like runs, wickets, strike rate, economy rate
- Identify top performers and their strengths
- Gain a deeper understanding of team and player dynamics



Unpacking Performance : Our Analytical Approach

- **Team Performance Analysis:** Explore team-wise metrics, identify strengths.
- **Player Performance Analysis:** Evaluate individual batting/bowling statistics.
- **Opposition and Ground Analysis:** Investigate performance against different teams & grounds.
- **Temporal Analysis:** Study trends over time, considering start dates and overs played.

Divided the dataset into three different datasets to perform analysis on each group thoroughly

Unpacking Performance: Our Analytical Approach

Teams dataset:

	team	Total Runs Scored	Total Fours	Total Sixes	Highest Individual Score	Total Wickets Taken	Average Economy Rate	Total Balls Bowled	Total overs played	Average Batting Strike Rate	Total Boundaries	Boundary Percentage
0	AFG	1990	178.0	42.0	129	53.0	5.763818	2394.6	399.1	83.193980	220.0	0.888566
1	AUS	2722	265.0	92.0	201	77.0	5.661129	2689.8	448.3	97.667743	357.0	1.441900
2	BAN	1944	188.0	43.0	111	51.0	6.095769	2382.0	397.0	79.056527	231.0	0.932994
3	ENG	2135	216.0	51.0	140	65.0	6.068302	2332.2	388.7	93.763724	267.0	1.078396
4	IND	2810	265.0	89.0	131	94.0	4.963793	2492.4	415.4	104.655493	354.0	1.429783
5	NED	1728	163.0	33.0	78	63.0	6.170339	2497.2	416.2	75.130435	196.0	0.791631
6	NZ	2712	265.0	82.0	152	71.0	6.237143	2695.2	449.2	103.669725	347.0	1.401511
7	PAK	2220	220.0	60.0	131	65.0	6.286923	2475.6	412.6	96.145518	280.0	1.130902
8	SA	2773	243.0	99.0	174	88.0	5.682778	2547.0	424.5	99.497668	342.0	1.381316
9	SL	1942	201.0	45.0	122	50.0	6.606111	2253.0	375.5	86.043420	246.0	0.993578

Unpacking Performance: Our Analytical Approach

Batsman dataset:

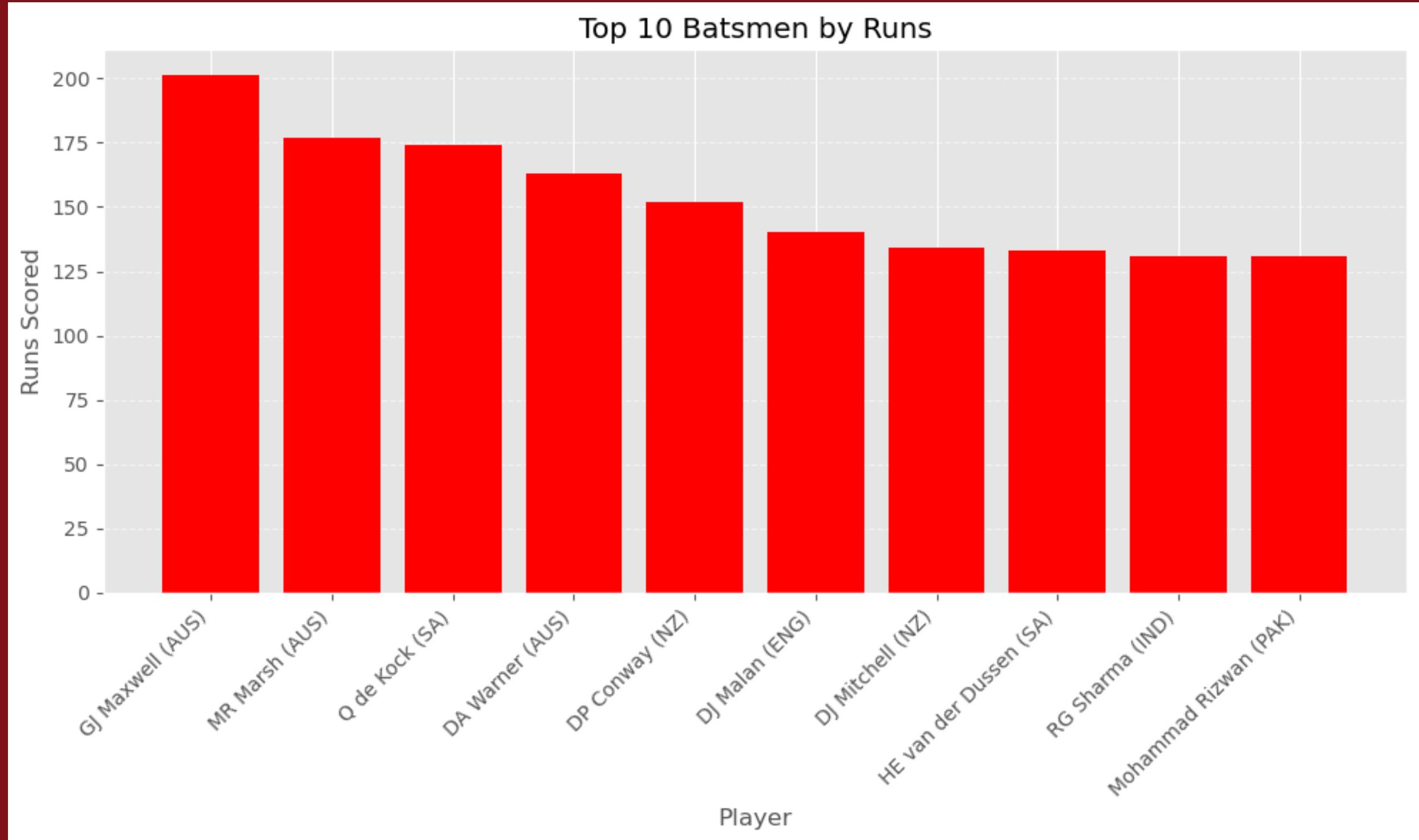
batsman_df															
team	player	bat_or_bowl	bb_bf	runs	runs_per_ball	inns	4s	6s	sr	not_out	strike_rate	batting_average	impact_score	ground	start_date
AUS	Maxwell (AUS)	bat	128	201	1.5703	2	21.0	10.0	157.03	1.0	1.570312	100.5	111.021094	Wankhede	2023-11-07
SA	Q de Kock (SA)	bat	140	174	1.2428	1	15.0	7.0	124.28	0.0	1.242857	174.0	122.172857	Wankhede	2023-10-24
AUS	DA Warner (AUS)	bat	124	163	1.3145	1	14.0	9.0	131.45	0.0	1.314516	163.0	114.494355	Bengaluru	2023-10-21
NZ	DP Conway (NZ)	bat	121	152	1.2561	2	19.0	3.0	125.61	1.0	1.256198	76.0	83.976860	Ahmedabad	2023-10-06
ENG	DJ Malan (ENG)	bat	107	140	1.3084	1	16.0	5.0	130.84	0.0	1.308411	140.0	98.392523	Dharamsala	2023-10-10

Unpacking Performance: Our Analytical Approach

Bowlers dataset:

bowler_df													
	team	player	bb_bf	bat_or_bowl	wkts	overs	mdns	econ	bowling_eco	bowling_eco_avg	bowling_strike_rate	ground	start_date
0	PAK	Shaheen Shah Afridi (PAK)	60	bowl	3.0	10.0	0.0	4.50	45.00	53.431111	20.0	Chennai	2023-10-27
1	ENG	DJ Willey (ENG)	60	bowl	3.0	10.0	2.0	4.50	45.00	43.150000	20.0	Lucknow	2023-10-29
2	NZ	MJ Henry (NZ)	60	bowl	3.0	10.0	1.0	4.80	48.00	44.481857	20.0	Ahmedabad	2023-10-05
3	NZ	LH Ferguson (NZ)	60	bowl	3.0	10.0	0.0	4.90	49.00	42.981429	20.0	Chennai	2023-10-13
4	AFG	Noor Ahmad (AFG)	60	bowl	3.0	10.0	0.0	4.90	49.00	45.480000	20.0	Chennai	2023-10-23
...
400	402	ML Pichlani (IND)	80	bowl	0.0	10.0	4.0	5.40	51.00	44.750000	20.0	Chennai	2023-11-01

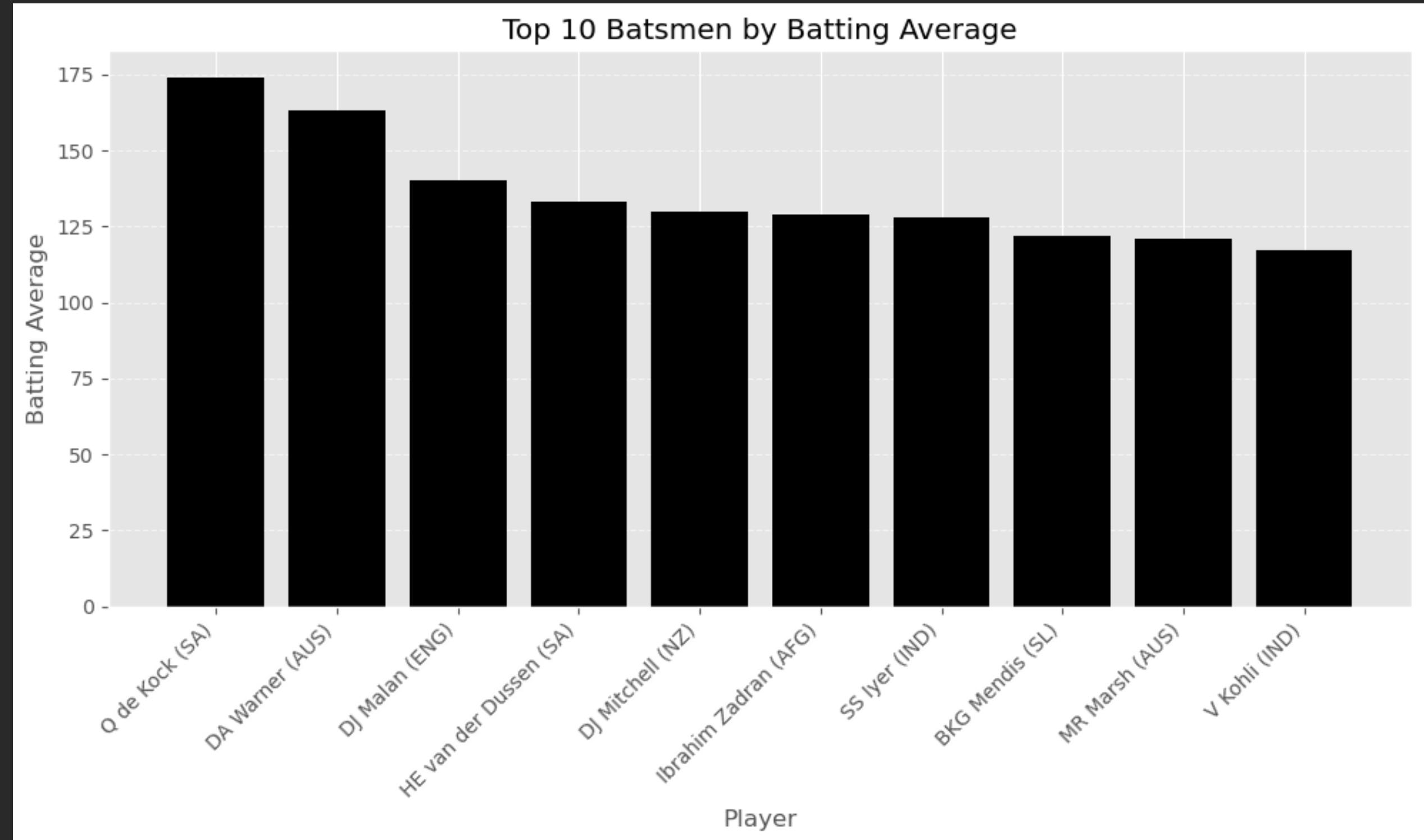
Stars of the Show: Evaluating Batsmen Performance



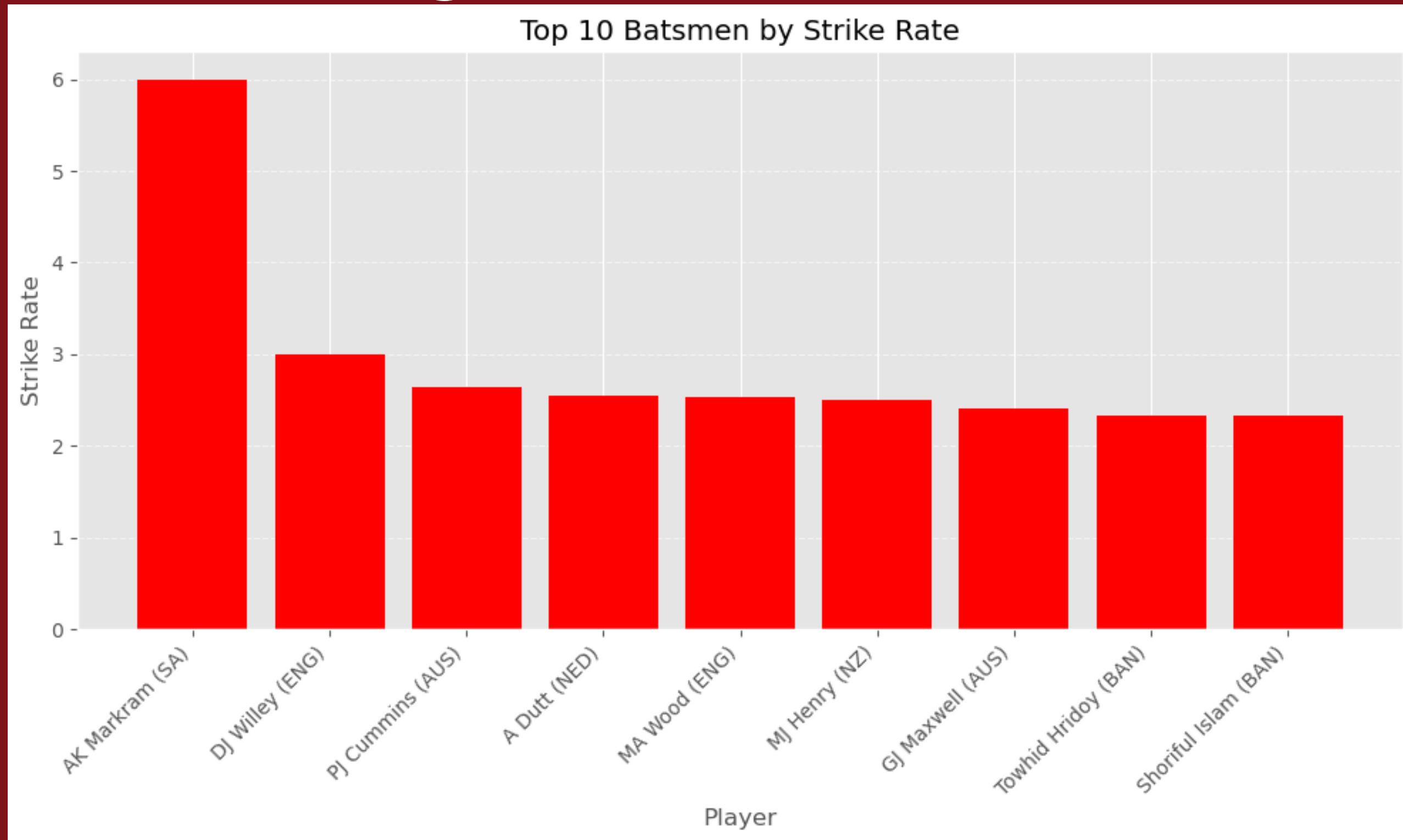
The graph
clearly
depicts
top 10
Batsmen by
runs
made in
single match

The graph clearly depicts top 10 Batsmen by batting average

Stars of the Show: Evaluating Batsmen Performance



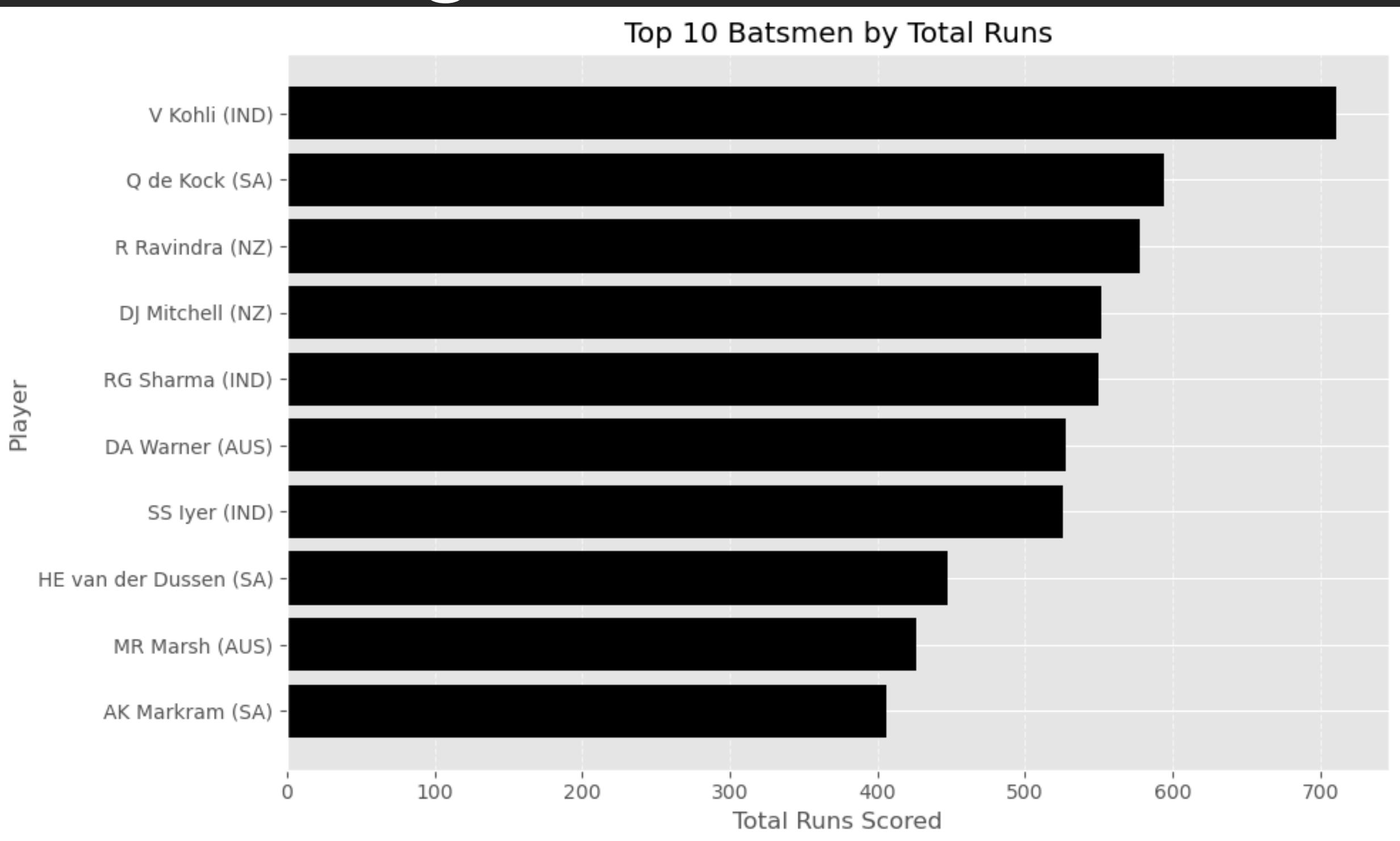
Stars of the Show: Evaluating Batsmen Performance



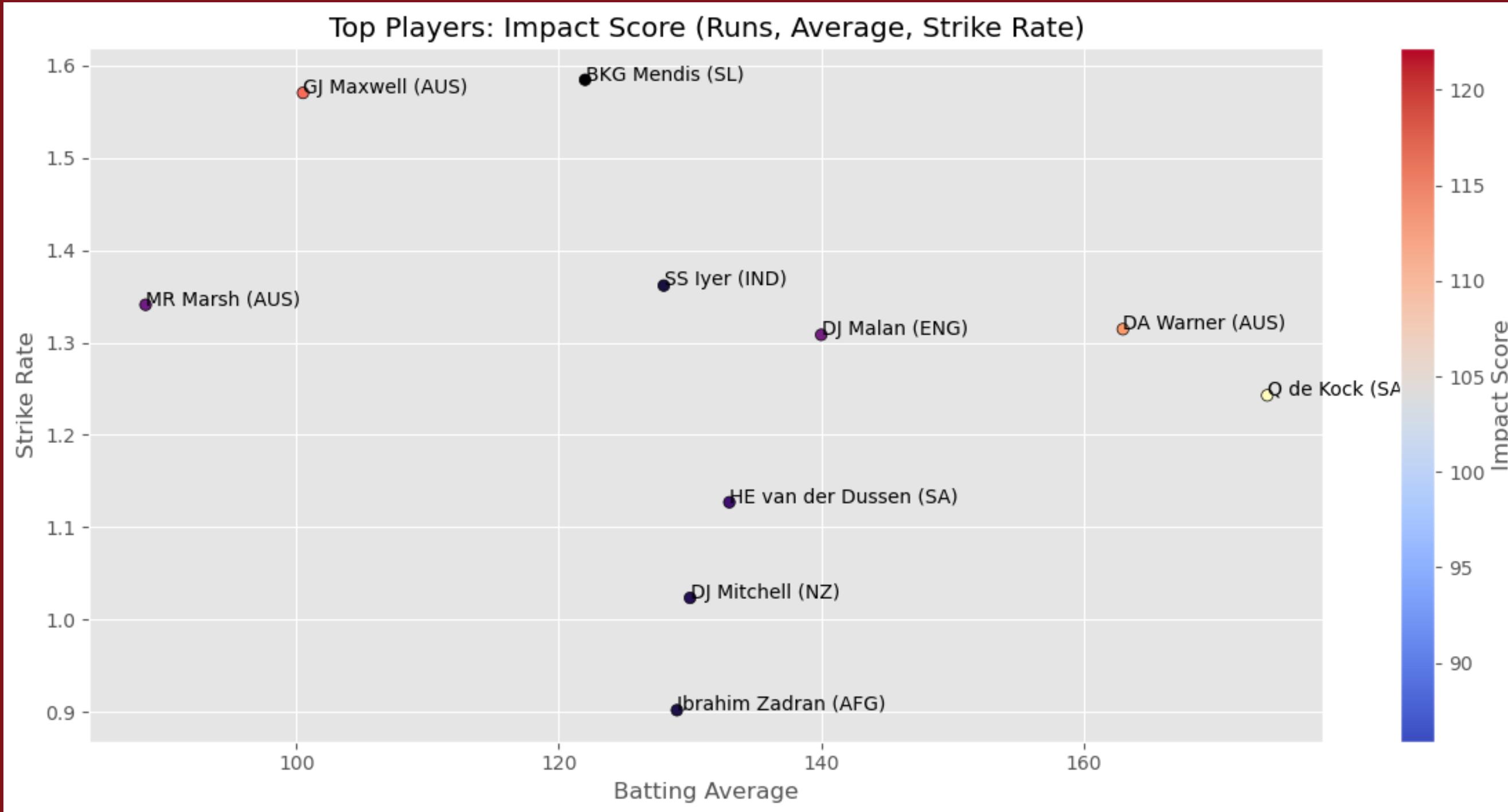
The graph
clearly
depicts
top 10
Batsmen by
strike
rate

The graph clearly depicts top 10 Batsmen by total runs throughout the tournament

Stars of the Show: Evaluating Batsmen Performance



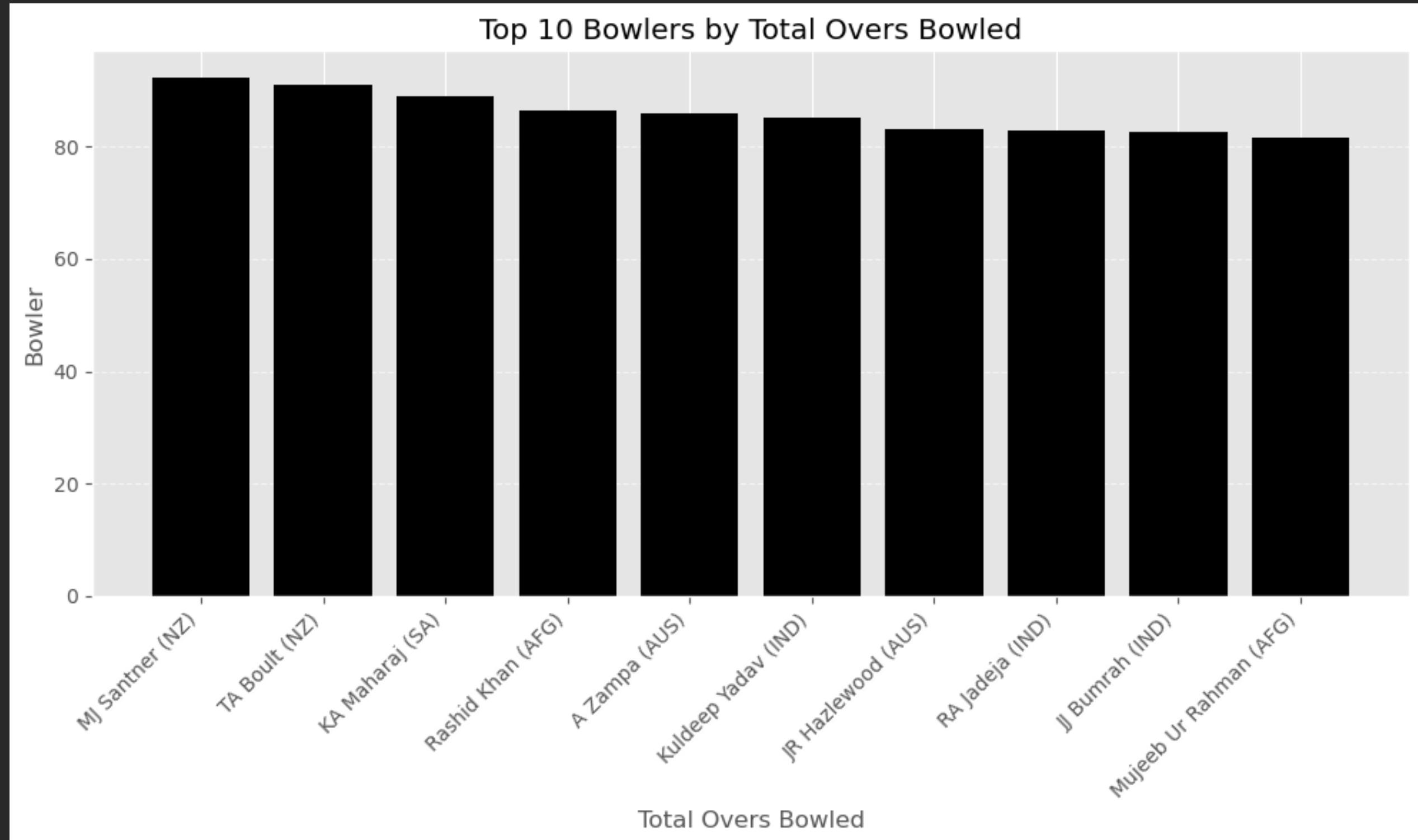
Stars of the Show: Evaluating Batsmen Performance



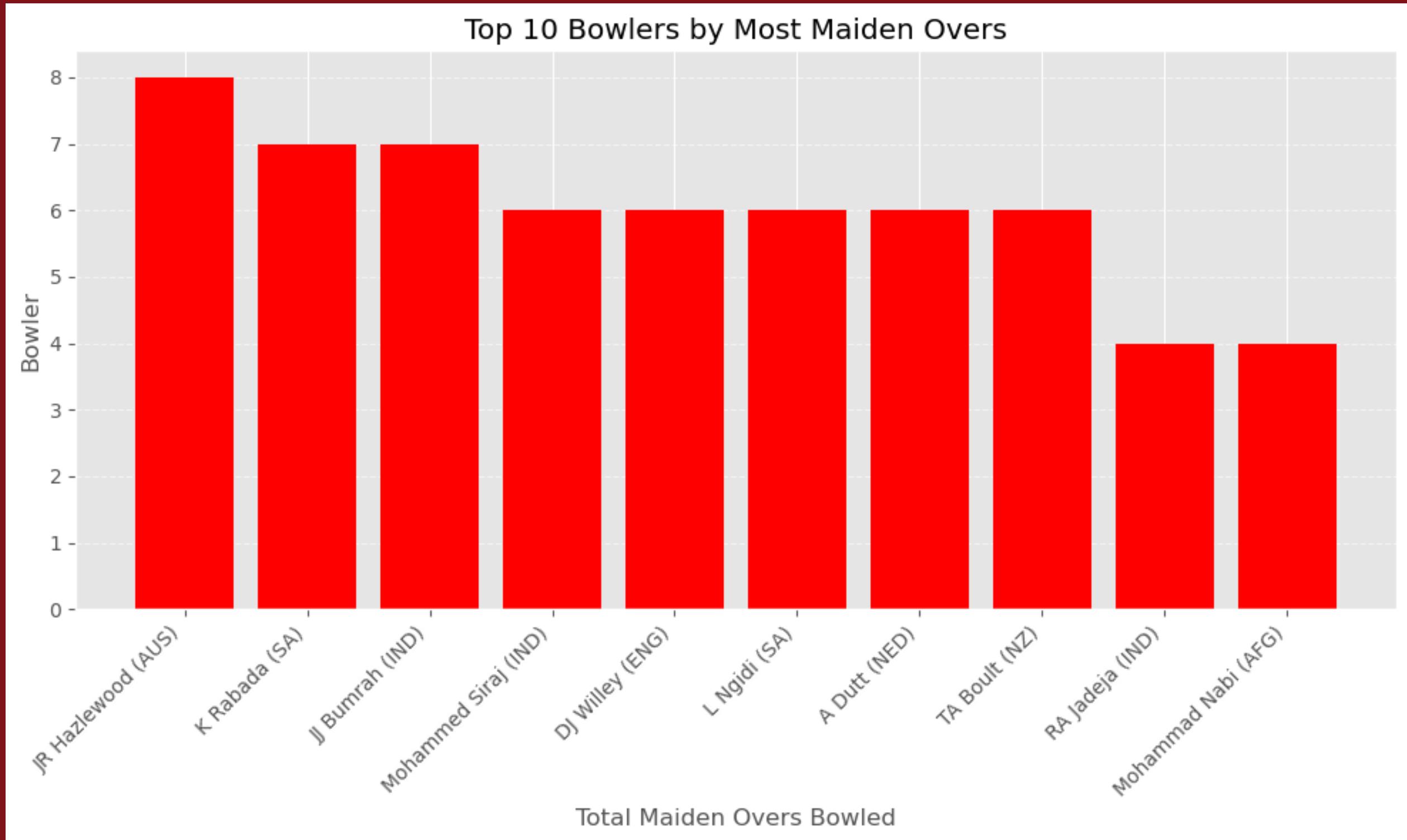
The graph clearly depicts top 10 players by impact score on their respective teams

The graph clearly depicts top 10 bowlers by total overs bowled throughout the tournament

Stars of the Show: Evaluating Bowlers Performance



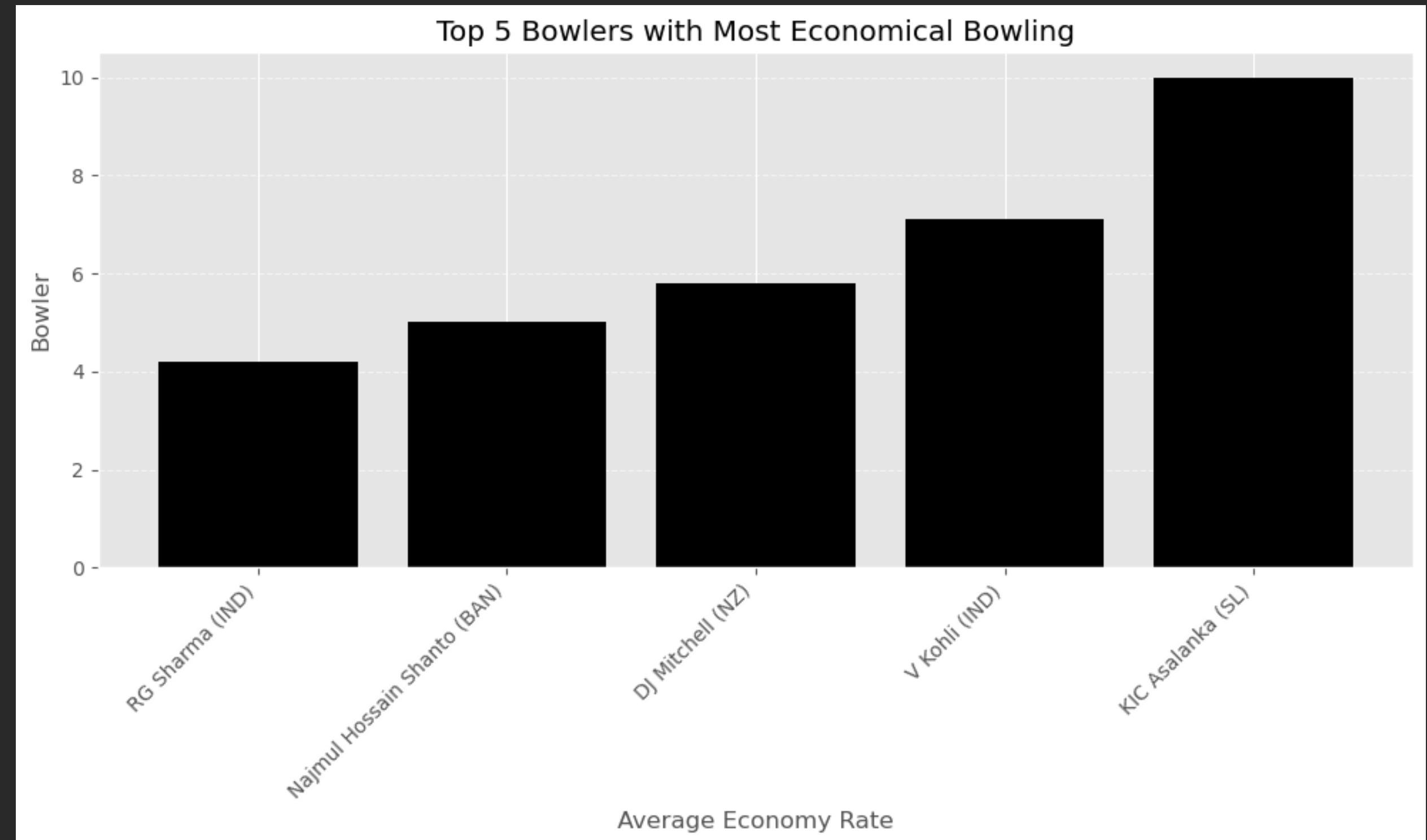
Stars of the Show: Evaluating Bowlers Performance



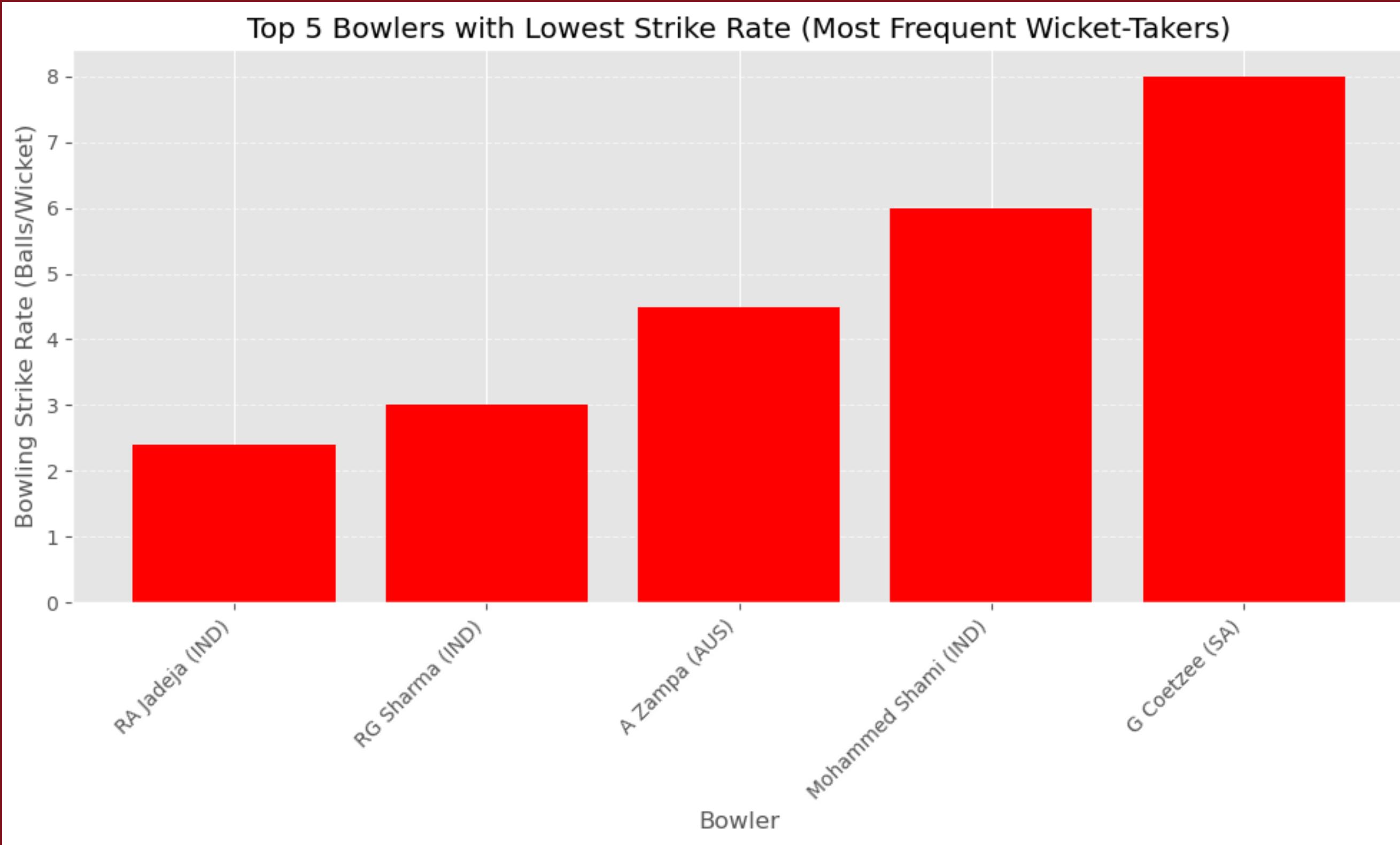
The graph clearly depicts top 10 bowlers by most Maiden overs

The graph
clearly
depicts
top 5
bowlers with
most
economical
bowling

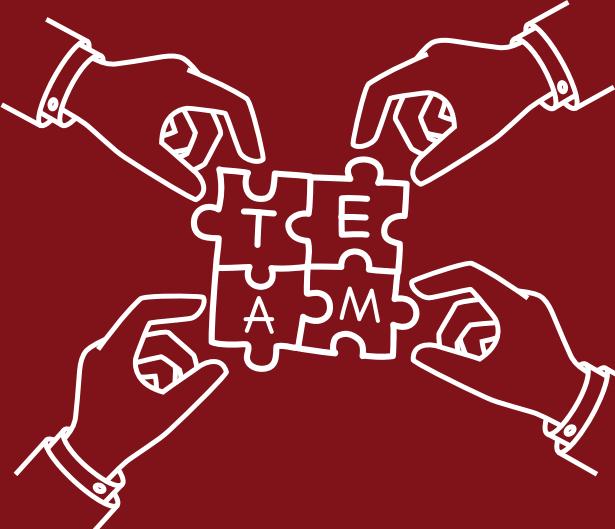
Stars of the Show: Evaluating Bowlers Performance



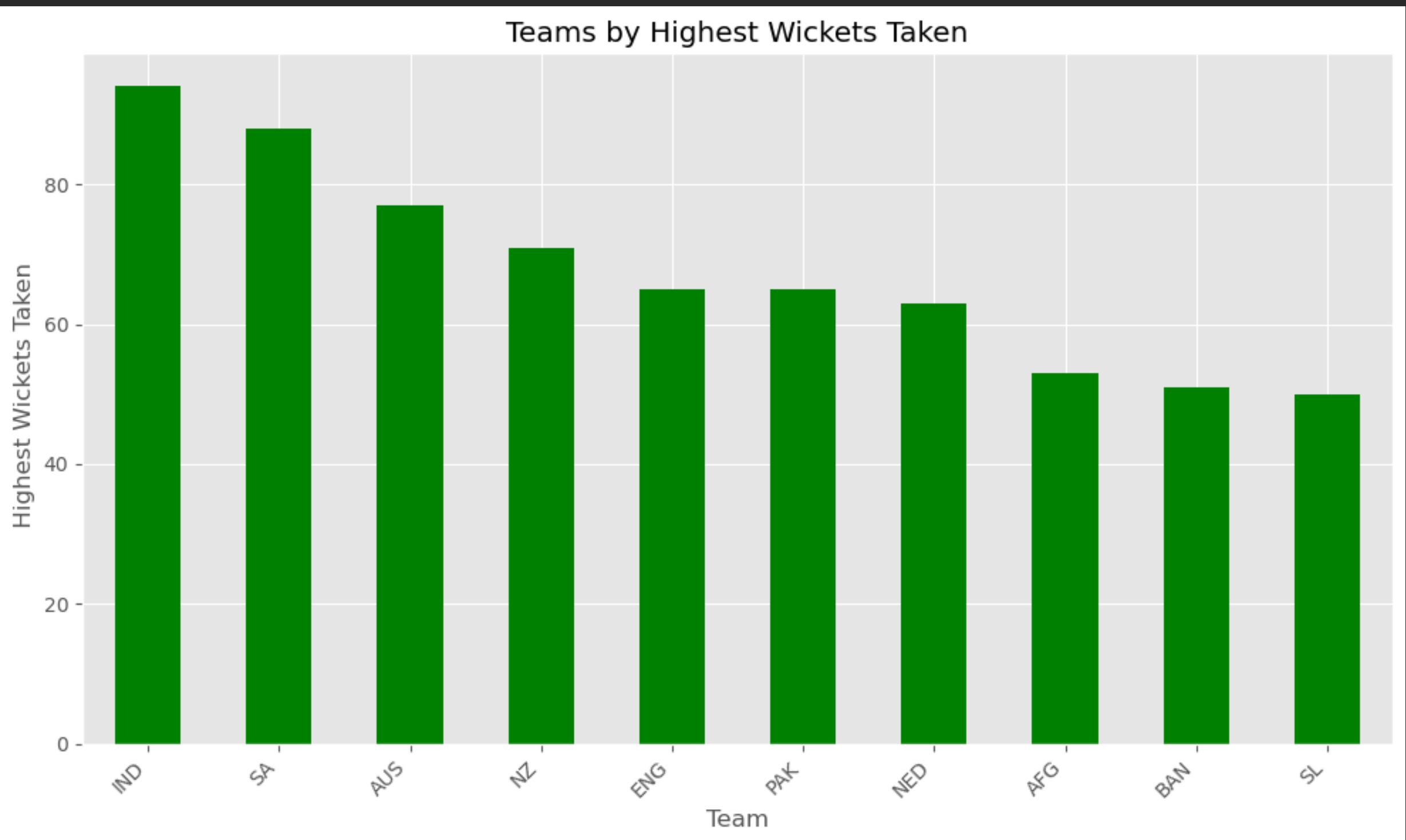
Stars of the Show: Evaluating Bowlers Performance



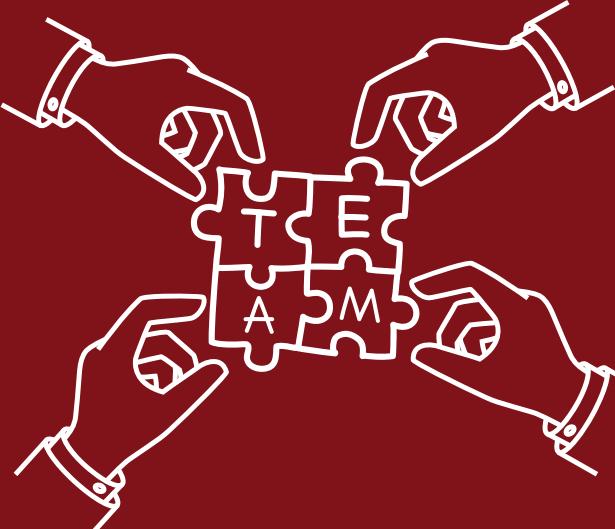
The graph clearly depicts top 5 bowlers with lowest strike rate



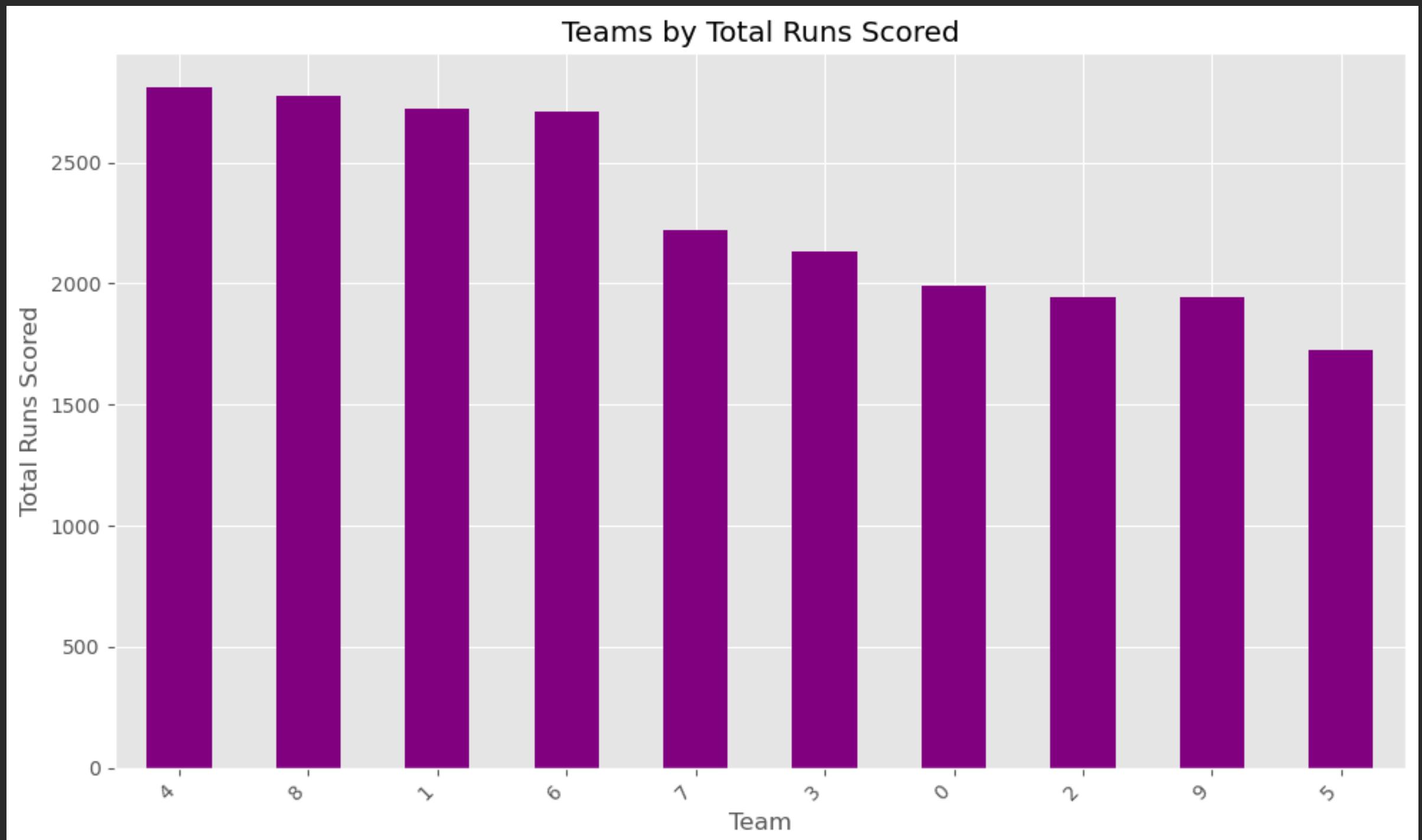
Team Standings: A Statistical Breakdown



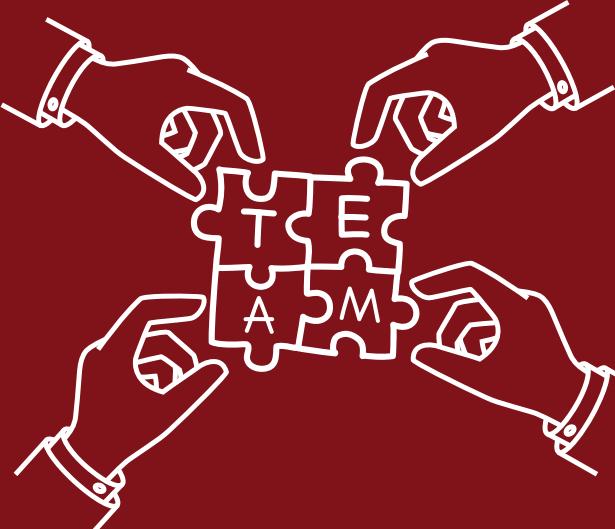
Teams'
rankings by
highest
wickets
taken



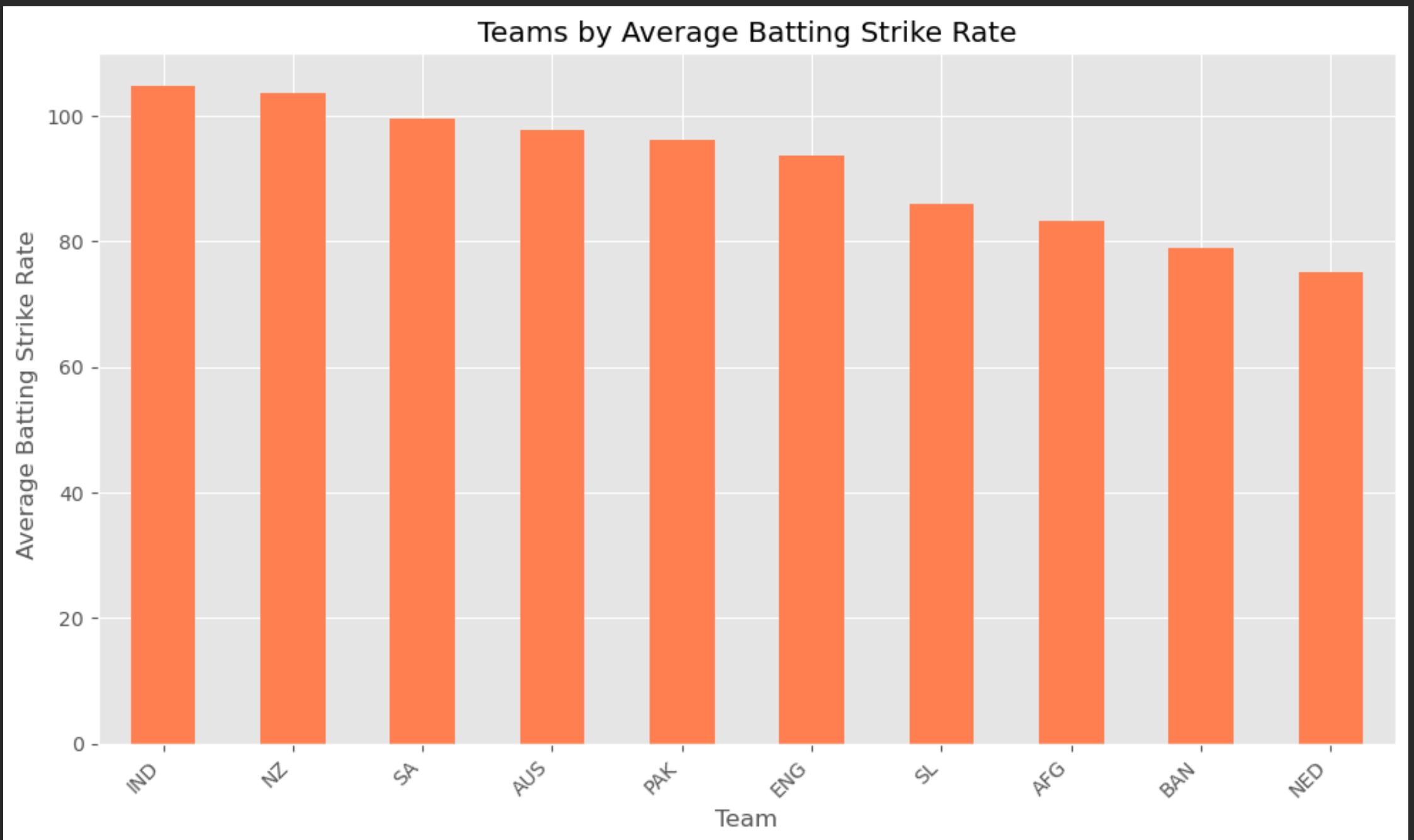
Team Standings: A Statistical Breakdown



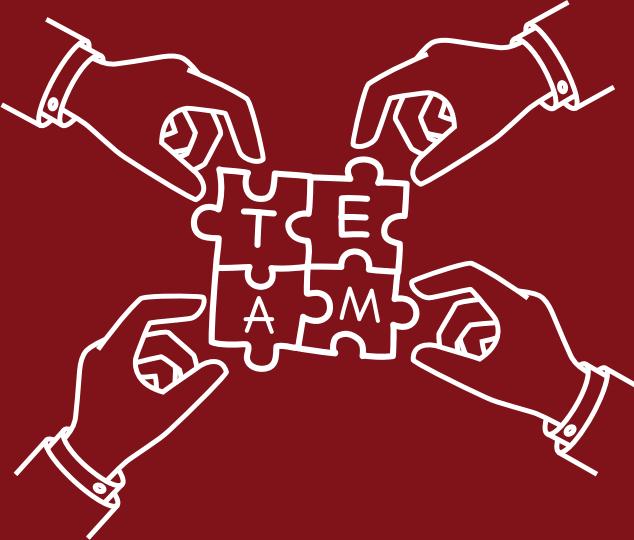
Teams'
rankings by
total runs
scored



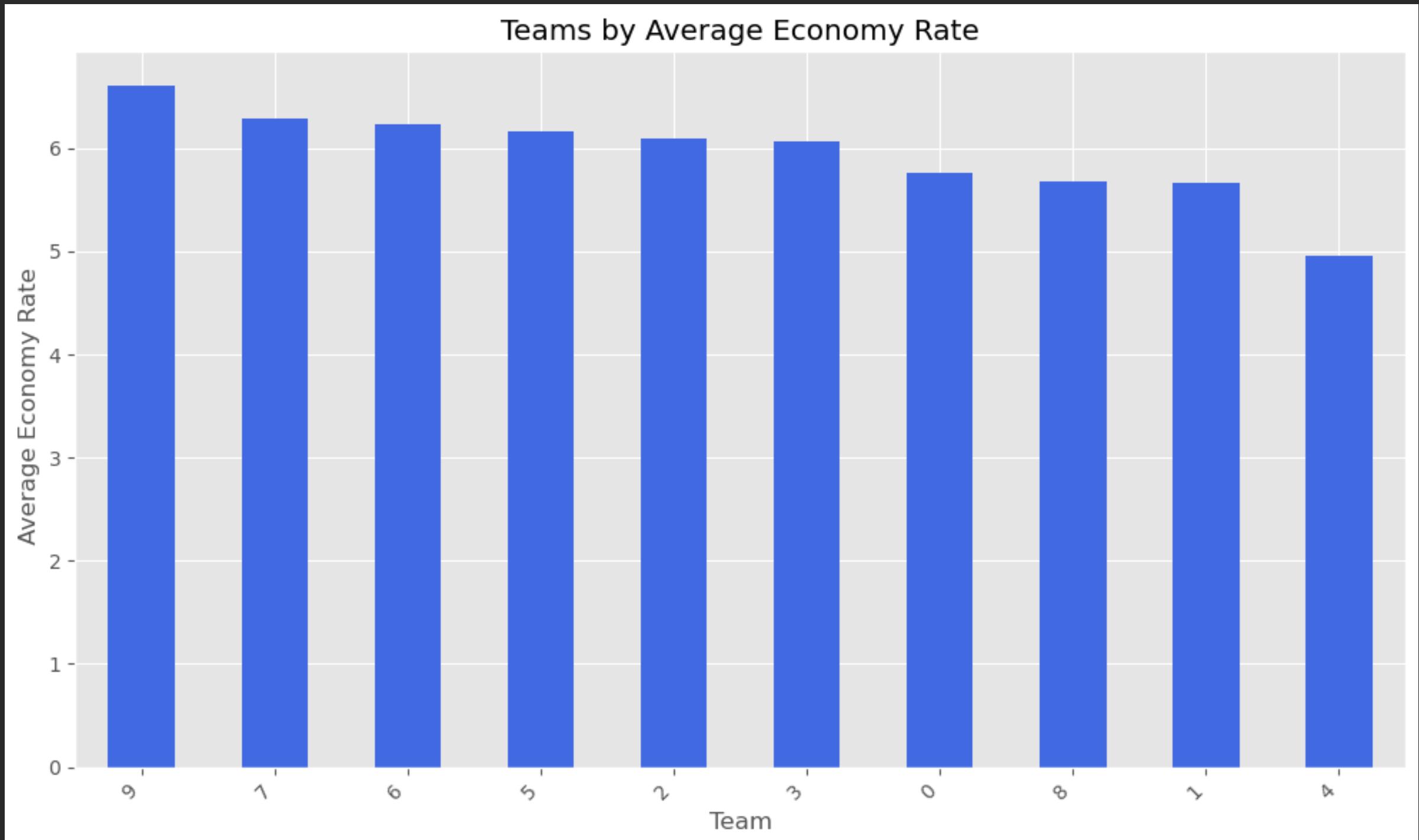
Team Standings: A Statistical Breakdown



Teams' rankings by average batting strike rate

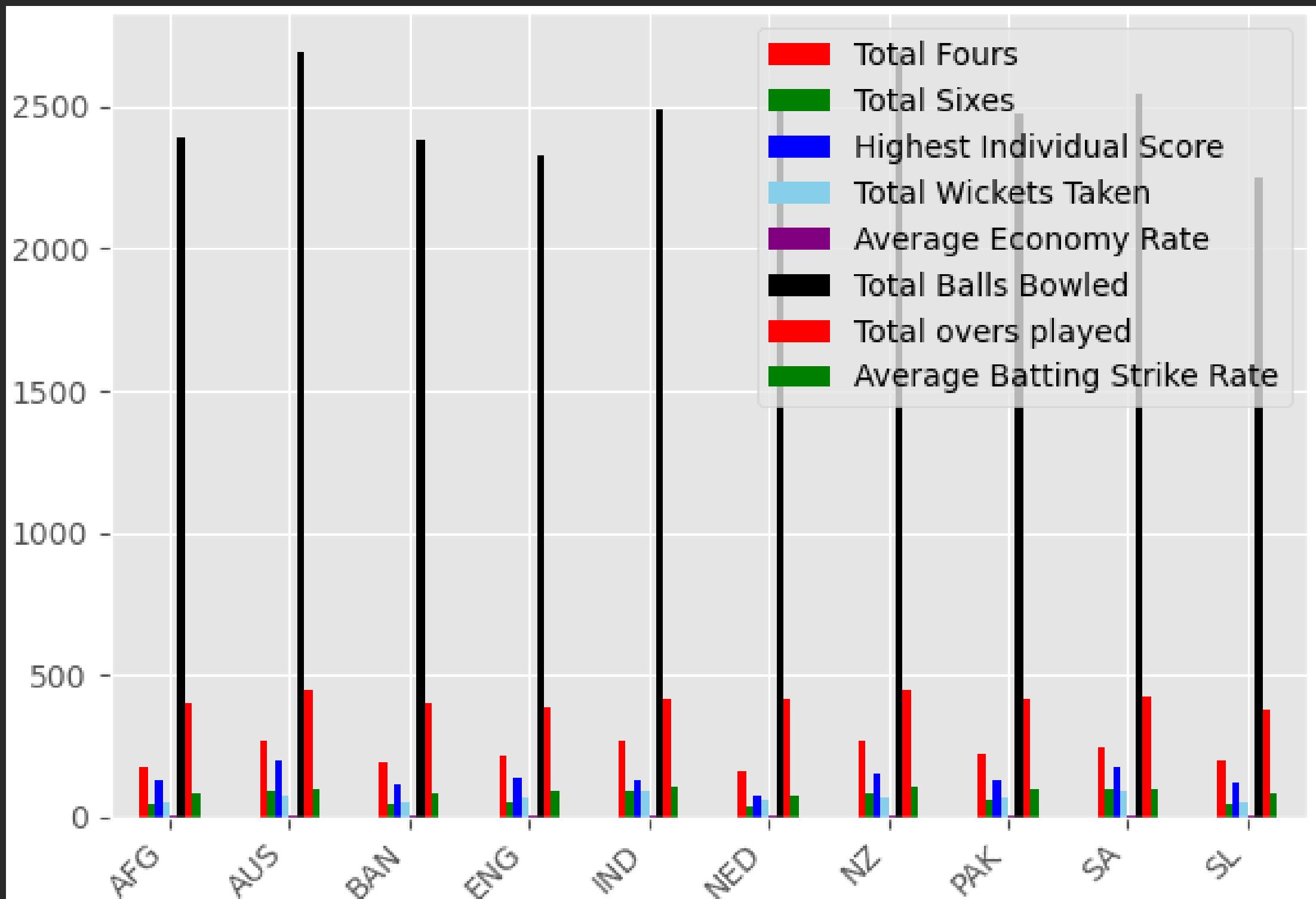
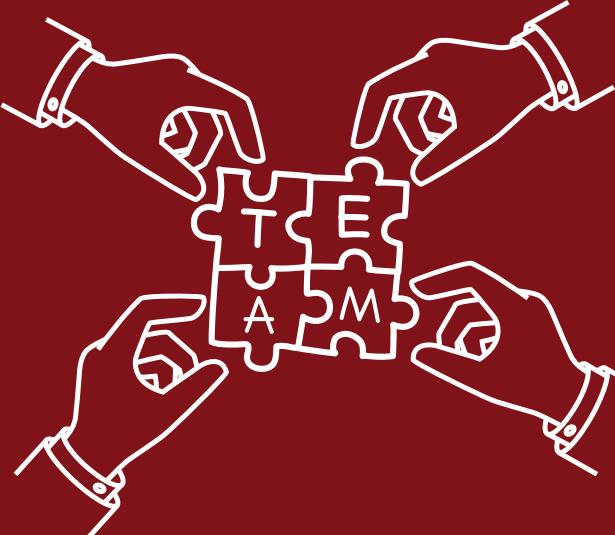


Team Standings: A Statistical Breakdown



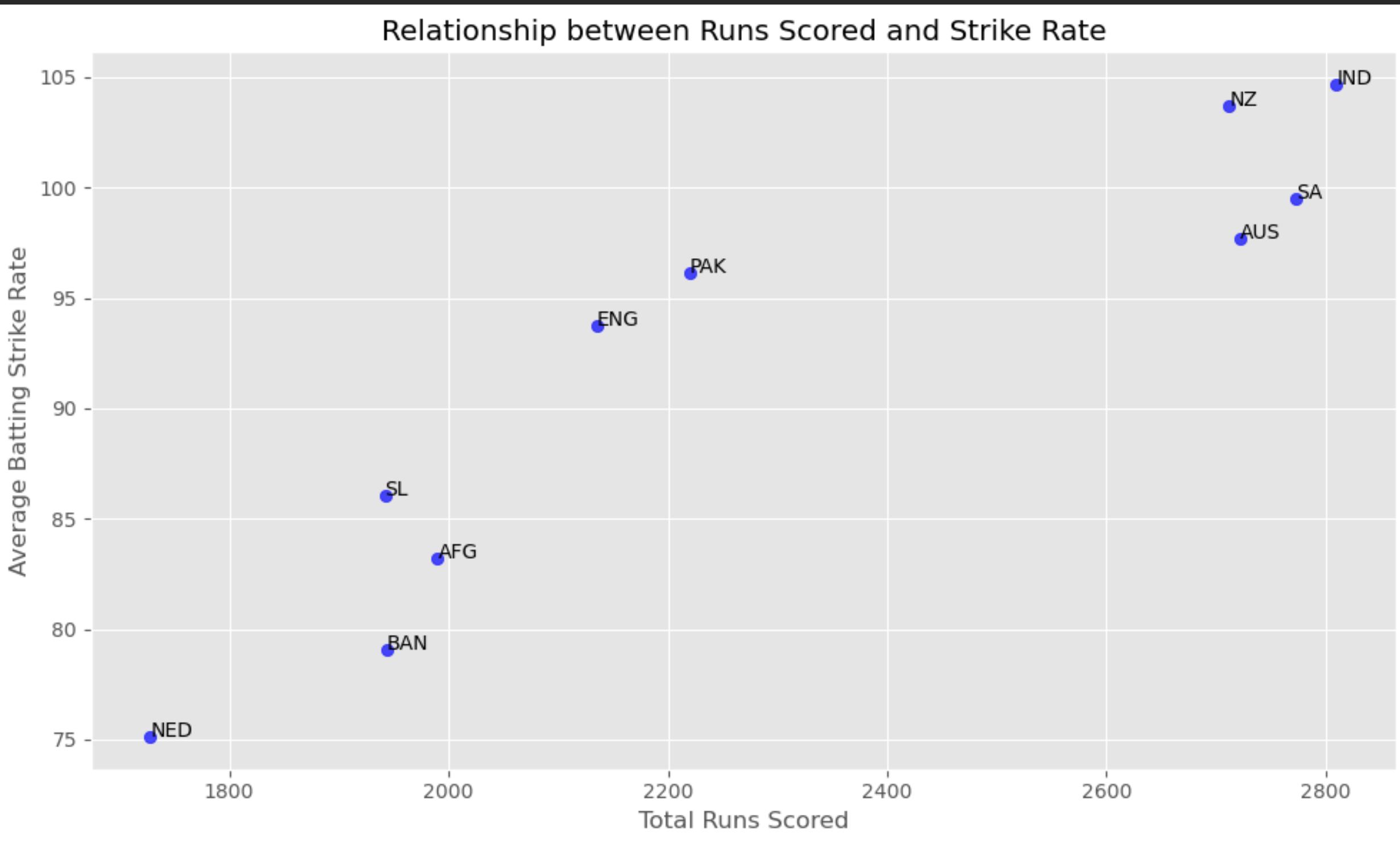
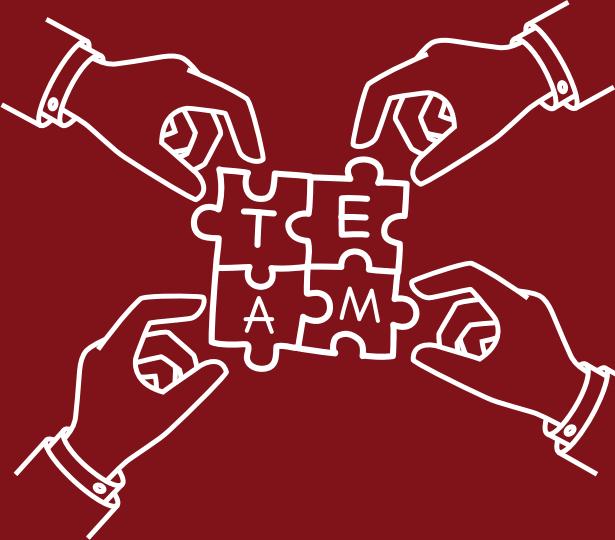
Teams' rankings by average economy rate

Team Standings: A Statistical Breakdown

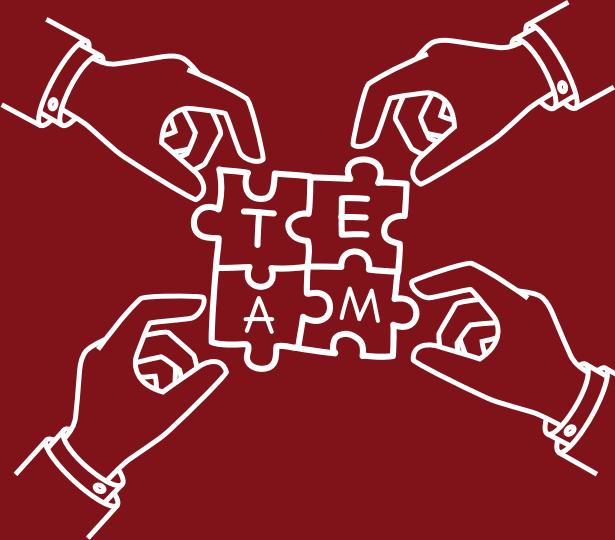


Teams' overall performances by total runs scored

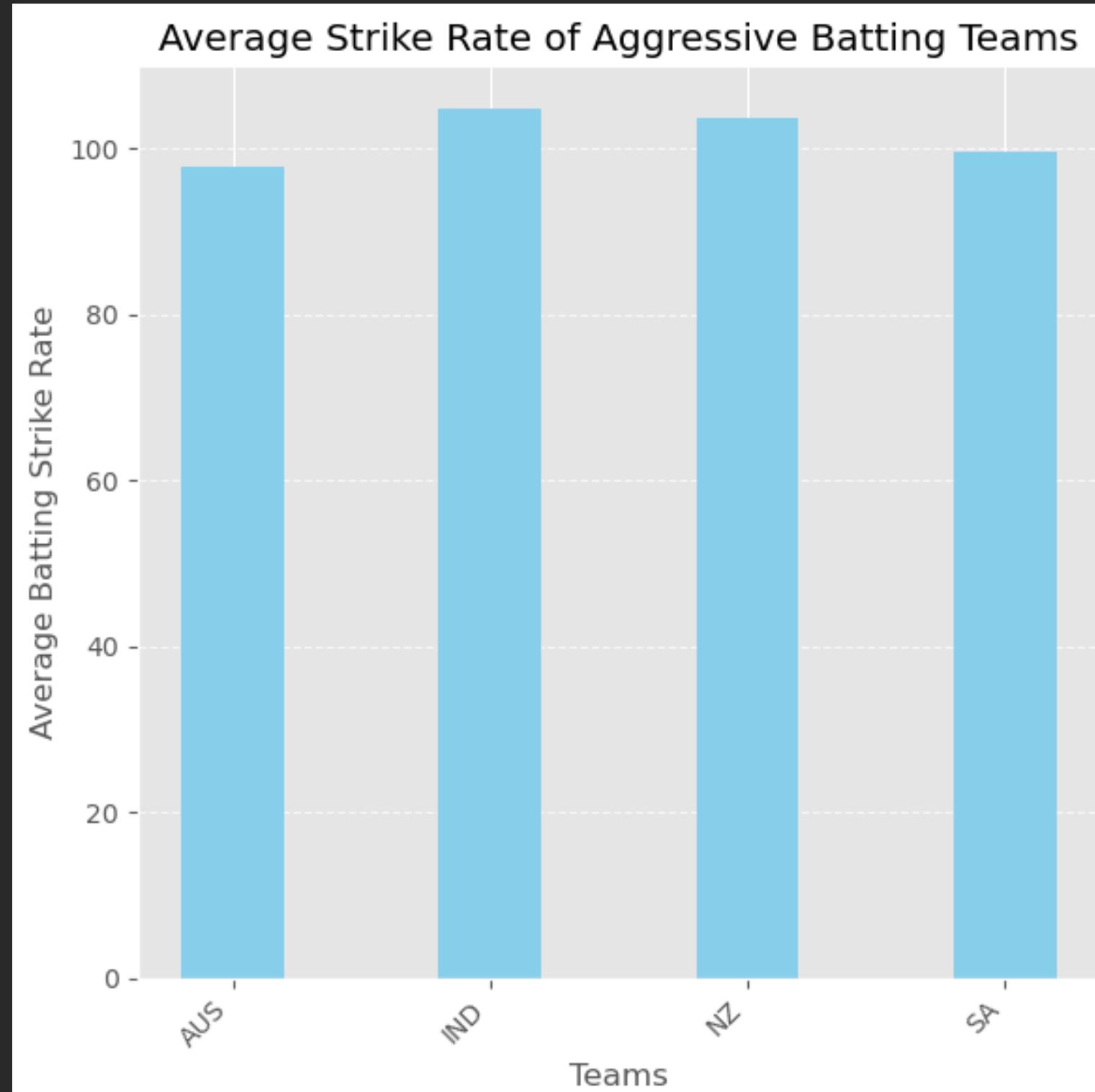
Team Standings: A Statistical Breakdown



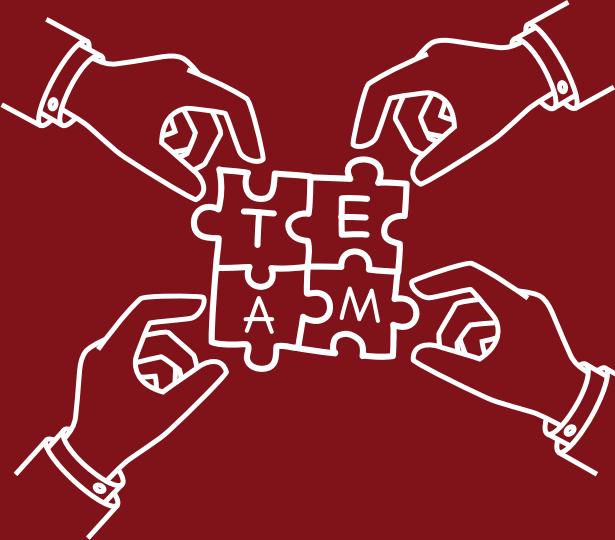
Teams' overall ranks based on the relationship btw their runs scored and strike rate



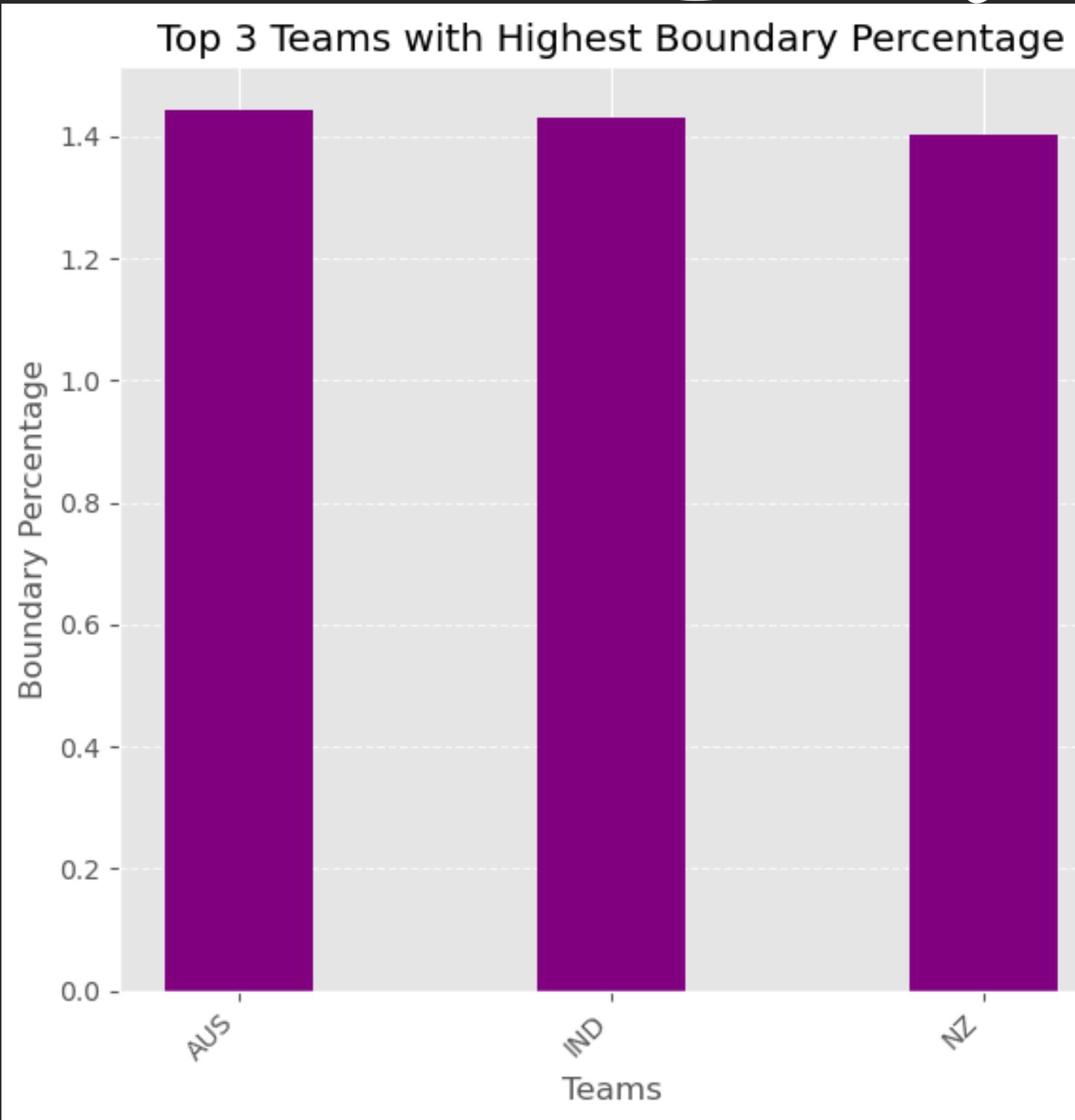
Team Standings: A Statistical Breakdown



Average strike
rates of
Aggressive
batting teams



Team Standings: A Statistical Breakdown



Top 3 teams
by highest
boundary
percentage

Team Standings Against different opponents: A Statistical Breakdown

	team	opposition	avg_runs	avg_strike_rate	avg_fours	avg_sixes	avg_wickets	avg_economy	bowling_strike_rate
79	SA	v New Zealand	57.500000	214.605000	4.333333	2.500000	2.000000	4.520000	0.043127
81	SA	v Sri Lanka	57.857143	155.805714	6.428571	2.000000	2.000000	7.090000	0.037122
76	SA	v England	42.666667	125.748667	4.222222	1.444444	1.800000	8.156000	0.073889
75	SA	v Bangladesh	53.142857	114.141429	3.714286	2.714286	2.000000	4.986000	0.036026
80	SA	v Pakistan	22.727273	89.363636	1.909091	0.727273	1.666667	5.641667	0.031930
73	SA	v Afghanistan	34.000000	83.218571	2.142857	1.285714	1.500000	4.950000	0.027171
78	SA	v Netherlands	18.090909	75.870909	1.818182	0.454545	1.600000	5.452000	0.031019
74	SA	v Australia	27.722222	67.472778	2.333333	0.888889	1.545455	4.683636	0.031135
77	SA	v India	7.383636	58.269091	0.909091	0.000000	0.833333	6.796667	0.014540

Team Standings Against different opponents: A Statistical Breakdown

	team	opposition	avg_runs	avg_strike_rate	avg_fours	avg_sixes	avg_wickets	avg_economy	bowling_strike_rate
85	SL	v England	38.250000	96.200000	4.250000	0.750000	1.333333	5.476667	0.034286
90	SL	v South Africa	27.818182	90.557273	2.636364	1.545455	0.833333	8.491667	0.013889
87	SL	v Netherlands	34.142857	85.307143	3.285714	0.428571	1.500000	4.991667	0.026618
82	SL	v Afghanistan	23.000000	72.691000	1.900000	0.200000	0.500000	5.390000	0.008951
89	SL	v Pakistan	33.000000	69.522000	3.600000	0.900000	0.571429	7.588571	0.010128
84	SL	v Bangladesh	27.200000	66.429000	2.700000	0.700000	1.166667	6.970000	0.022258
88	SL	v New Zealand	15.181818	63.898182	1.909091	0.272727	0.800000	7.708000	0.029762
83	SL	v Australia	19.600000	56.373000	2.300000	0.100000	0.666667	6.328333	0.012235
86	SL	v India	4.090909	25.455455	0.545455	0.000000	1.000000	6.530000	0.016667

Team Standings Against different opponents: A Statistical Breakdown

	team	opposition	avg_runs	avg_strike_rate	avg_fours	avg_sixes	avg_wickets	avg_economy	bowling_strike_rate
61	NZ	v Pakistan	46.875000	130.921250	5.750000	1.000000	0.188887	7.021887	0.005556
63	NZ	v Sri Lanka	24.285714	121.335714	3.285714	0.714286	1.888887	3.805000	0.030163
60	NZ	v Netherlands	34.333333	120.561111	3.333333	1.111111	1.500000	4.825000	0.026471
56	NZ	v Australia	35.700000	118.571000	3.300000	1.200000	1.428571	9.375714	0.034712
55	NZ	v Afghanistan	34.750000	102.096250	2.375000	1.375000	1.888887	4.115000	0.041822
57	NZ	v Bangladesh	47.400000	99.334000	4.000000	1.200000	1.285714	5.868571	0.030952
58	NZ	v England	91.888887	84.576667	10.000000	2.888887	1.500000	5.760000	0.037963
59	NZ	v India	26.476190	73.976667	2.238095	0.857143	0.750000	6.815000	0.013349
62	NZ	v South Africa	15.500000	57.221000	1.700000	0.400000	0.571429	7.498571	0.011472

Team Standings Against different opponents: A Statistical Breakdown

	team	opposition	avg_runs	avg_strike_rate	avg_fours	avg_sixes	avg_wickets	avg_economy	bowling_strike_rate
72	PAK	v Sri Lanka	53.186667	117.991667	4.333333	1.000000	1.500000	6.680000	0.026312
70	PAK	v New Zealand	65.333333	101.583333	5.000000	4.333333	1.000000	8.178333	0.017361
66	PAK	v Bangladesh	40.200000	100.276000	3.800000	1.800000	2.000000	4.368000	0.038358
65	PAK	v Australia	28.600000	98.634000	3.400000	0.600000	1.500000	7.126667	0.027392
64	PAK	v Afghanistan	33.125000	92.743750	2.125000	1.125000	0.333333	5.868333	0.005556
71	PAK	v South Africa	25.100000	82.628000	2.300000	0.800000	1.500000	5.881667	0.026389
69	PAK	v Netherlands	25.181818	81.577273	3.000000	0.272727	1.500000	5.021667	0.037864
67	PAK	v England	19.833333	70.842500	2.250000	0.500000	1.333333	6.741667	0.023413
68	PAK	v India	17.000000	61.847273	2.363636	0.000000	0.600000	6.418000	0.016667

Team Standings Against different opponents: A Statistical Breakdown

	team	opposition	avg_runs	avg_strike_rate	avg_fours	avg_sixes	avg_wickets	avg_economy	bowling_strike_rate
49	NED	v India	21.545455	90.582727	1.727273	0.818182	0.666667	8.158333	0.011111
53	NED	v South Africa	21.300000	85.067000	2.300000	0.600000	1.666667	4.771667	0.037983
54	NED	v Sri Lanka	20.818182	78.399091	1.181818	0.272727	0.833333	5.661667	0.015139
51	NED	v New Zealand	19.909091	73.964545	1.727273	0.272727	1.000000	6.745714	0.017725
47	NED	v Bangladesh	19.727273	66.765455	2.000000	0.181818	1.500000	3.783333	0.032920
48	NED	v England	15.545455	66.681818	1.363636	0.545455	1.333333	6.725000	0.022222
52	NED	v Pakistan	17.818182	61.391818	1.818182	0.363636	1.125000	6.213750	0.023495
46	NED	v Australia	7.545455	46.535455	1.181818	0.000000	1.000000	7.631429	0.017687
45	NED	v Afghanistan	14.818182	41.919091	1.727273	0.000000	0.500000	5.795000	0.018783
50	NED	v Netherlands	NaN	NaN	NaN	NaN	1.000000	4.330000	0.055556

Team Standings Against different opponents: A Statistical Breakdown

	team	opposition	avg_runs	avg_strike_rate	avg_fours	avg_sixes	avg_wickets	avg_economy	bowling_strike_rate
40	IND	v Netherlands	65.833333	143.158887	6.166667	2.666667	1.125000	5.907500	0.045370
44	IND	v Sri Lanka	37.444444	119.967778	3.444444	1.000000	2.000000	2.986000	0.104288
43	IND	v South Africa	42.857143	118.854288	5.000000	0.857143	2.000000	3.012000	0.056422
36	IND	v Afghanistan	64.500000	115.712500	7.000000	2.000000	1.333333	5.388333	0.026455
41	IND	v New Zealand	47.000000	107.255000	4.214286	1.857143	1.900000	5.925000	0.032050
42	IND	v Pakistan	38.000000	104.364000	3.600000	1.600000	1.666667	4.663333	0.035345
38	IND	v Bangladesh	51.400000	99.708000	4.600000	1.800000	1.142857	6.450000	0.019312
39	IND	v England	22.200000	56.661000	2.000000	0.400000	2.000000	3.720000	0.046777
37	IND	v Australia	32.166667	49.185000	2.333333	0.500000	1.666667	4.538333	0.035755

Team Standings Against different opponents: A Statistical Breakdown

	team	opposition	avg_runs	avg_strike_rate	avg_fours	avg_sixes	avg_wickets	avg_economy	bowling_strike_rate
31	ENG	v Netherlands	28.909091	115.322727	2.363636	0.909091	1.800000	4.812000	0.038786
34	ENG	v South Africa	15.500000	110.700000	1.800000	0.900000	1.166667	8.020000	0.021162
29	ENG	v Bangladesh	32.454545	109.147273	3.727273	0.636364	1.666667	4.708333	0.036658
33	ENG	v Pakistan	26.500000	102.487500	2.916667	0.666667	2.000000	5.524000	0.037727
32	ENG	v New Zealand	25.090909	93.630909	1.909091	0.545455	0.166667	7.910000	0.004630
27	ENG	v Afghanistan	18.363636	86.760909	2.181818	0.090909	1.142857	6.490000	0.023463
28	ENG	v Australia	23.900000	71.508000	2.200000	0.600000	1.666667	5.880000	0.030214
35	ENG	v Sri Lanka	13.545455	67.446364	1.727273	0.090909	0.333333	6.293333	0.011111
30	ENG	v India	11.000000	46.783636	0.909091	0.272727	1.333333	4.773333	0.023148

Team Standings Against different opponents: A Statistical Breakdown

	team	opposition	avg_runs	avg_strike_rate	avg_fours	avg_sixes	avg_wickets	avg_economy	bowling_strike_rate
26	BAN	v Sri Lanka	28.777778	114.441111	3.666667	0.777778	1.600000	5.572000	0.027018
21	BAN	v India	25.000000	85.066000	1.800000	0.800000	0.500000	6.280000	0.008028
19	BAN	v Australia	28.200000	83.556000	2.700000	0.600000	0.400000	6.902000	0.006782
24	BAN	v Pakistan	17.727273	76.725455	1.727273	0.272727	0.500000	6.011667	0.009259
23	BAN	v New Zealand	21.454545	67.731818	1.818182	0.727273	0.400000	5.764000	0.007500
18	BAN	v Afghanistan	25.000000	66.696667	2.166667	0.166667	1.666667	4.701667	0.037046
25	BAN	v South Africa	19.636364	64.809091	2.272727	0.454545	0.714286	7.520000	0.015873
20	BAN	v England	20.000000	59.721818	1.545455	0.272727	1.500000	7.343333	0.029630
22	BAN	v Netherlands	13.600000	49.403000	1.600000	0.200000	1.500000	4.521667	0.027998

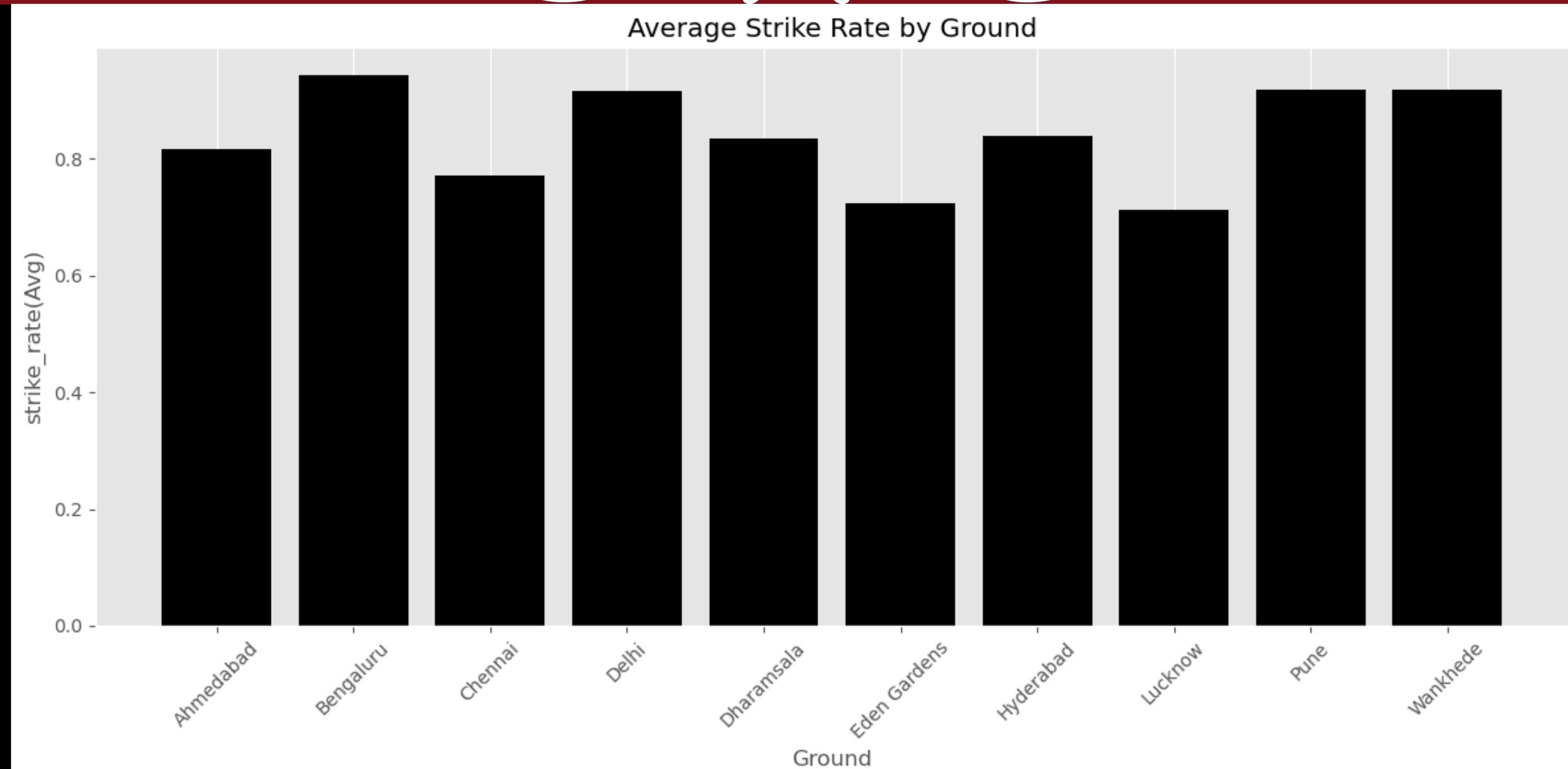
Team Standings Against different opponents: A Statistical Breakdown

	team	opposition	avg_runs	avg_strike_rate	avg_fours	avg_sixes	avg_wickets	avg_economy	bowling_strike_rate
0	AFG	v Australia	39.285714	105.642857	2.285714	1.285714	1.000000	6.748333	0.019665
6	AFG	v Pakistan	89.250000	99.487500	7.000000	0.750000	1.166667	6.065000	0.024603
4	AFG	v Netherlands	33.800000	88.844000	4.200000	0.000000	1.000000	4.056667	0.017723
2	AFG	v England	24.454545	83.178182	2.090909	0.727273	1.666667	5.436667	0.034962
3	AFG	v India	25.700000	83.157000	2.500000	0.700000	0.333333	7.691667	0.006944
7	AFG	v South Africa	20.818182	75.422727	1.818182	0.545455	0.714286	6.534286	0.011905
8	AFG	v Sri Lanka	46.400000	69.288000	3.800000	1.000000	1.333333	5.035000	0.023413
5	AFG	v New Zealand	12.181818	61.710909	1.000000	0.181818	1.000000	5.781667	0.020437
1	AFG	v Bangladesh	14.800000	56.287000	1.500000	0.200000	0.500000	4.396667	0.024348

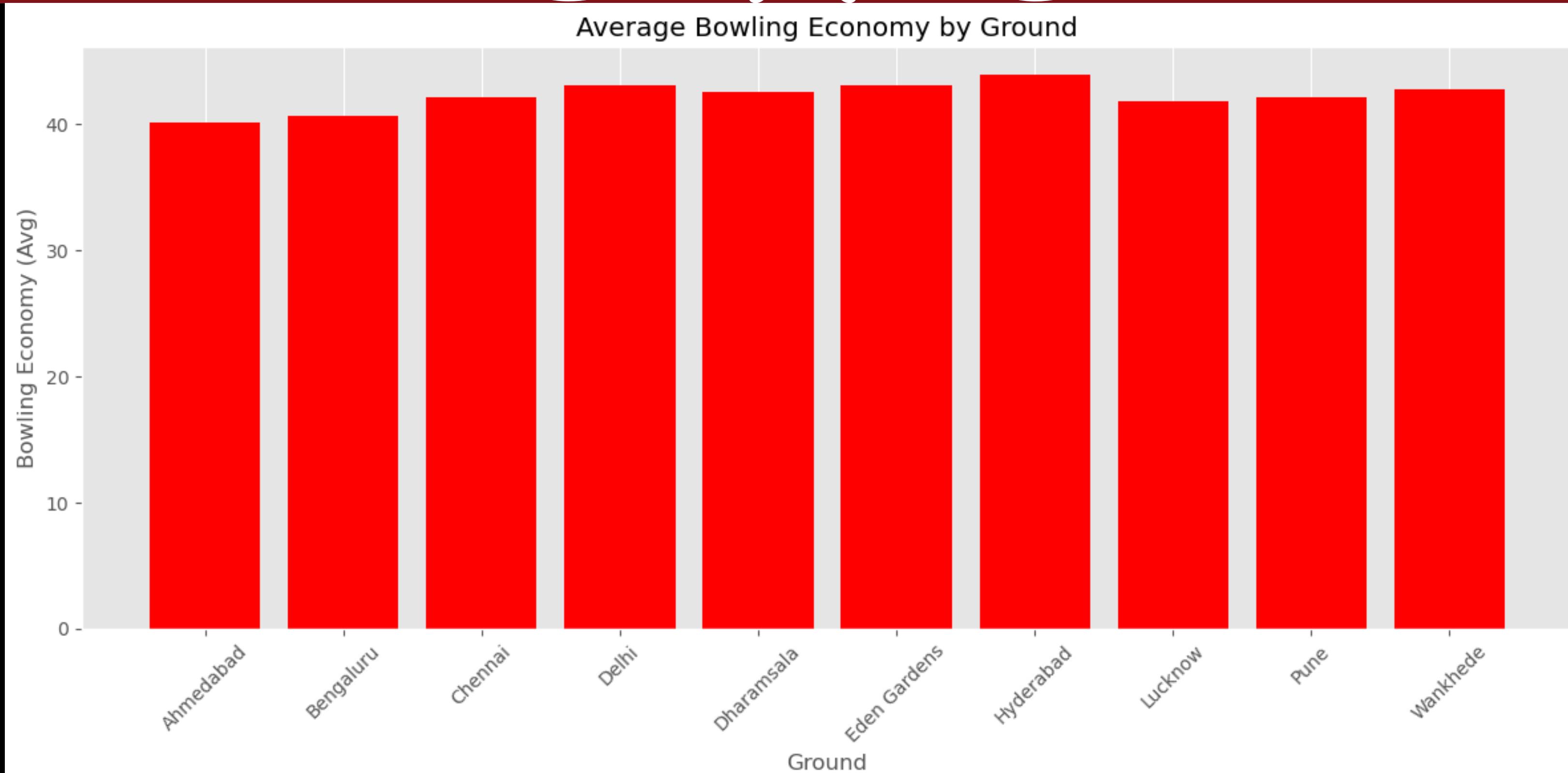
Team Standings Against different opponents: A Statistical Breakdown

	team	opposition	avg_runs	avg_strike_rate	avg_fours	avg_sixes	avg_wickets	avg_economy	bowling_strike_rate
17	AUS	v Sri Lanka	30.285714	113.980000	3.142857	0.714286	1.500000	4.860000	0.030305
14	AUS	v New Zealand	37.900000	113.713000	3.200000	2.000000	1.333333	7.808333	0.022840
13	AUS	v Netherlands	38.700000	107.175000	4.200000	1.500000	1.800000	4.182000	0.083333
10	AUS	v Bangladesh	75.750000	102.575000	7.250000	2.500000	0.714286	6.542857	0.014286
11	AUS	v England	25.090909	93.647273	2.272727	0.272727	1.666667	5.506667	0.032449
15	AUS	v Pakistan	31.090909	78.319091	2.636364	1.727273	1.666667	6.896667	0.035880
16	AUS	v South Africa	17.900000	71.701000	2.000000	0.300000	1.307692	5.233846	0.025702
9	AUS	v Afghanistan	30.888889	70.385556	3.333333	1.333333	0.714286	5.181429	0.012698
12	AUS	v India	17.000000	52.908384	1.454545	0.181818	0.666667	4.923333	0.012731

The Stage and the Rival: Performance Variations on Different Grounds

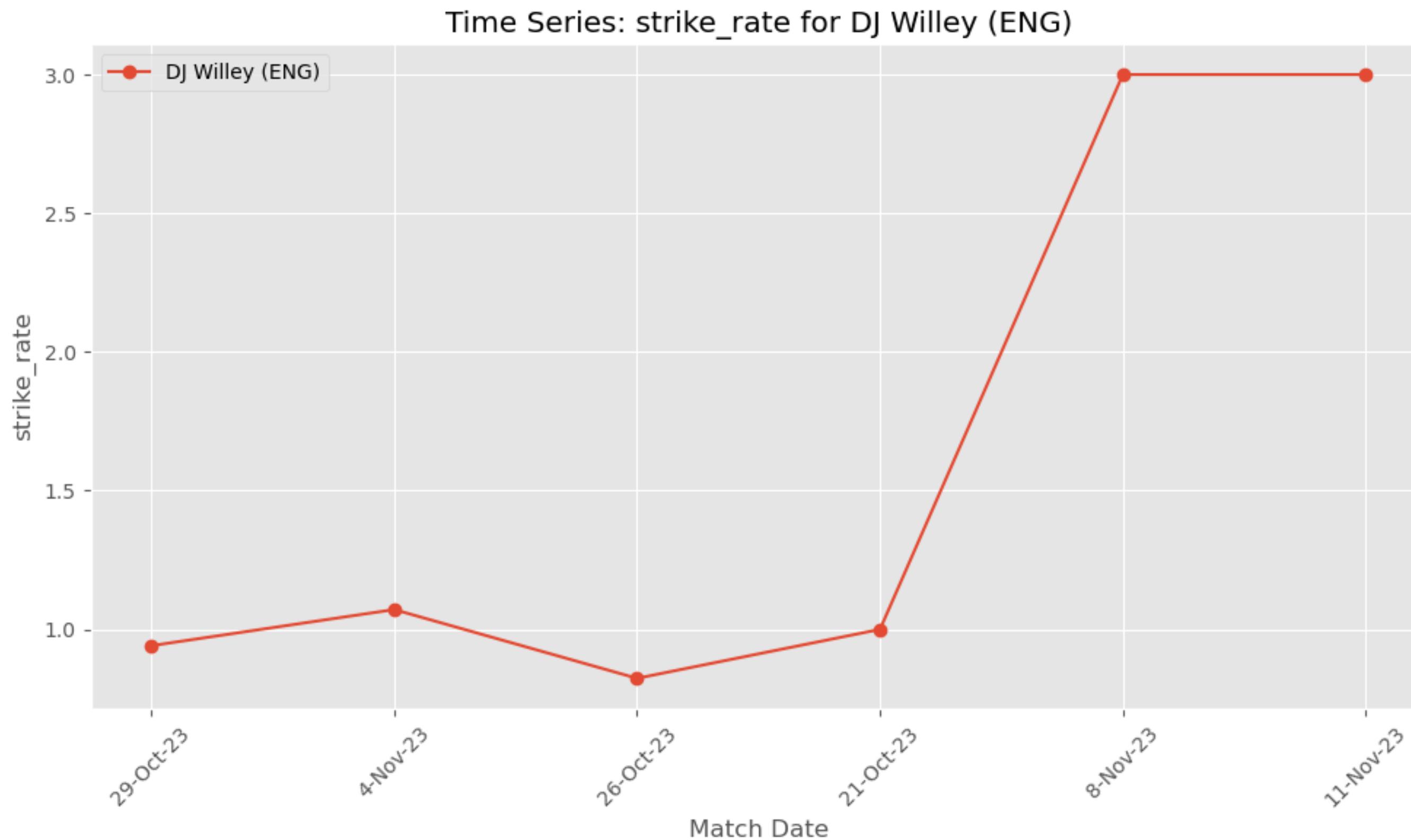


The Stage and the Rival: Performance Variations on Different Grounds



Temporal Analysis

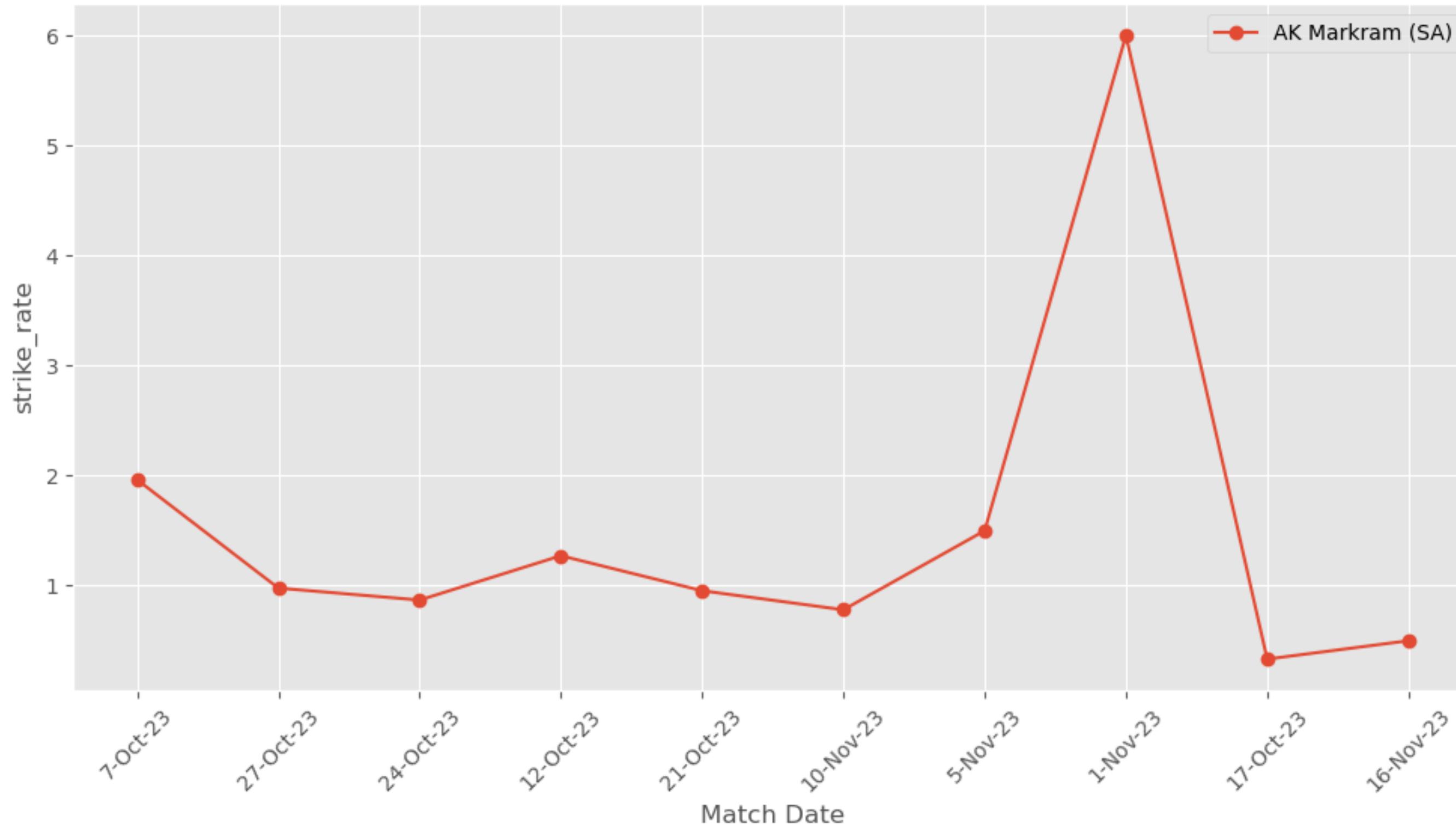
of Batsmen by their strike rate



Temporal Analysis

of Batsmen by their strike rate

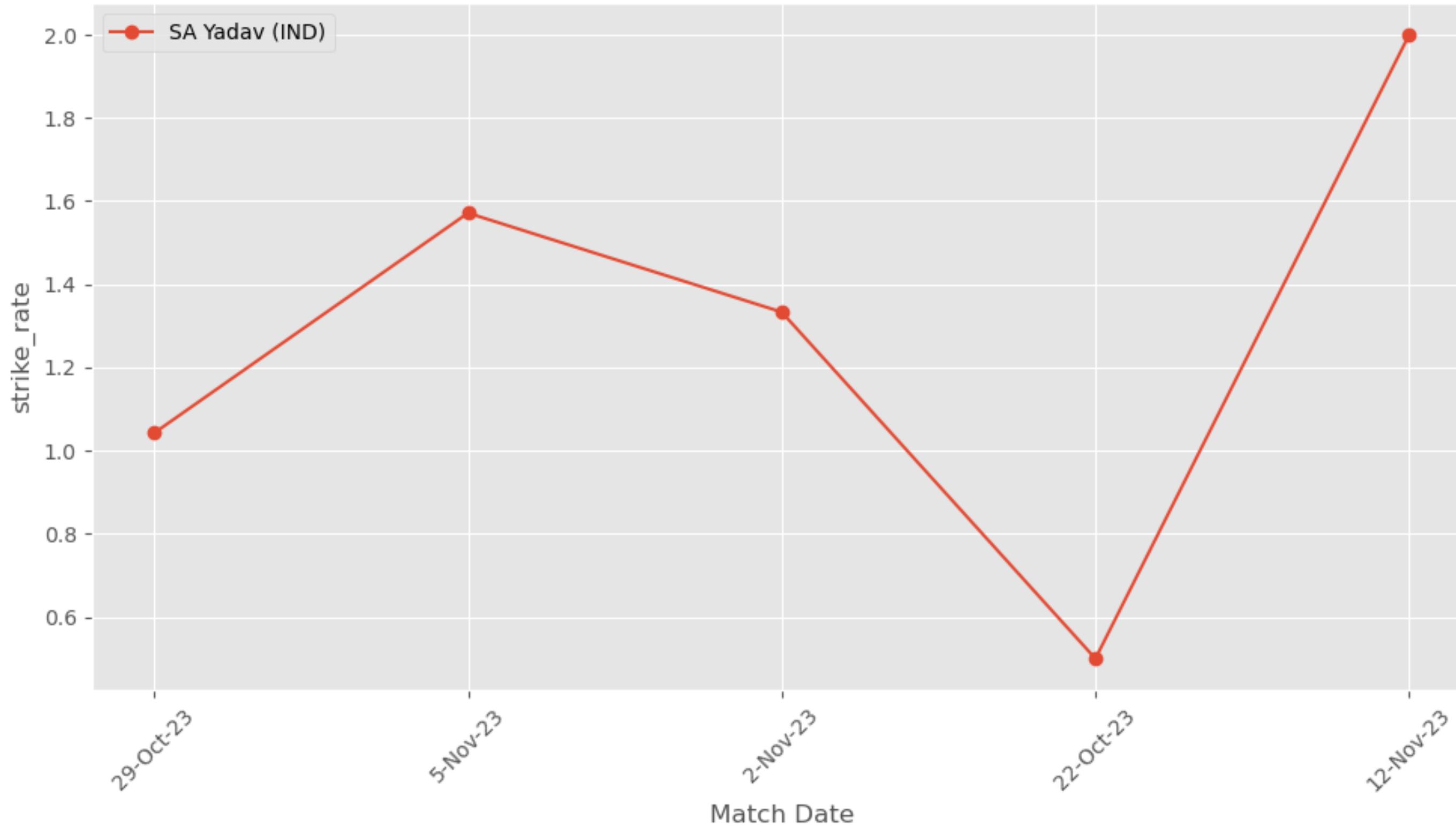
Time Series: strike_rate for AK Markram (SA)



Temporal Analysis

of Batsmen by their strike rate

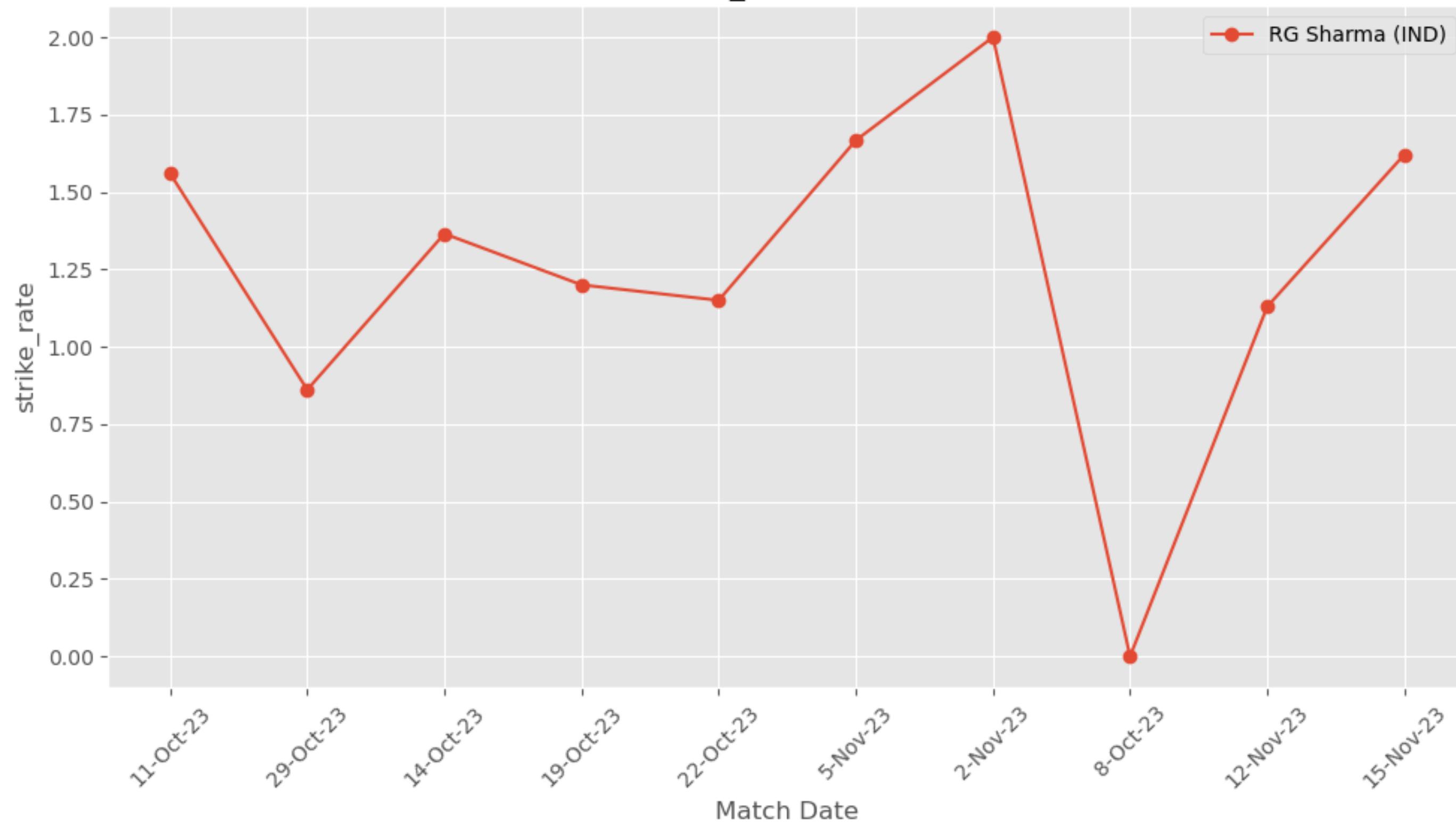
Time Series: strike_rate for SA Yadav (IND)



Temporal Analysis

of Batsmen by their strike rate

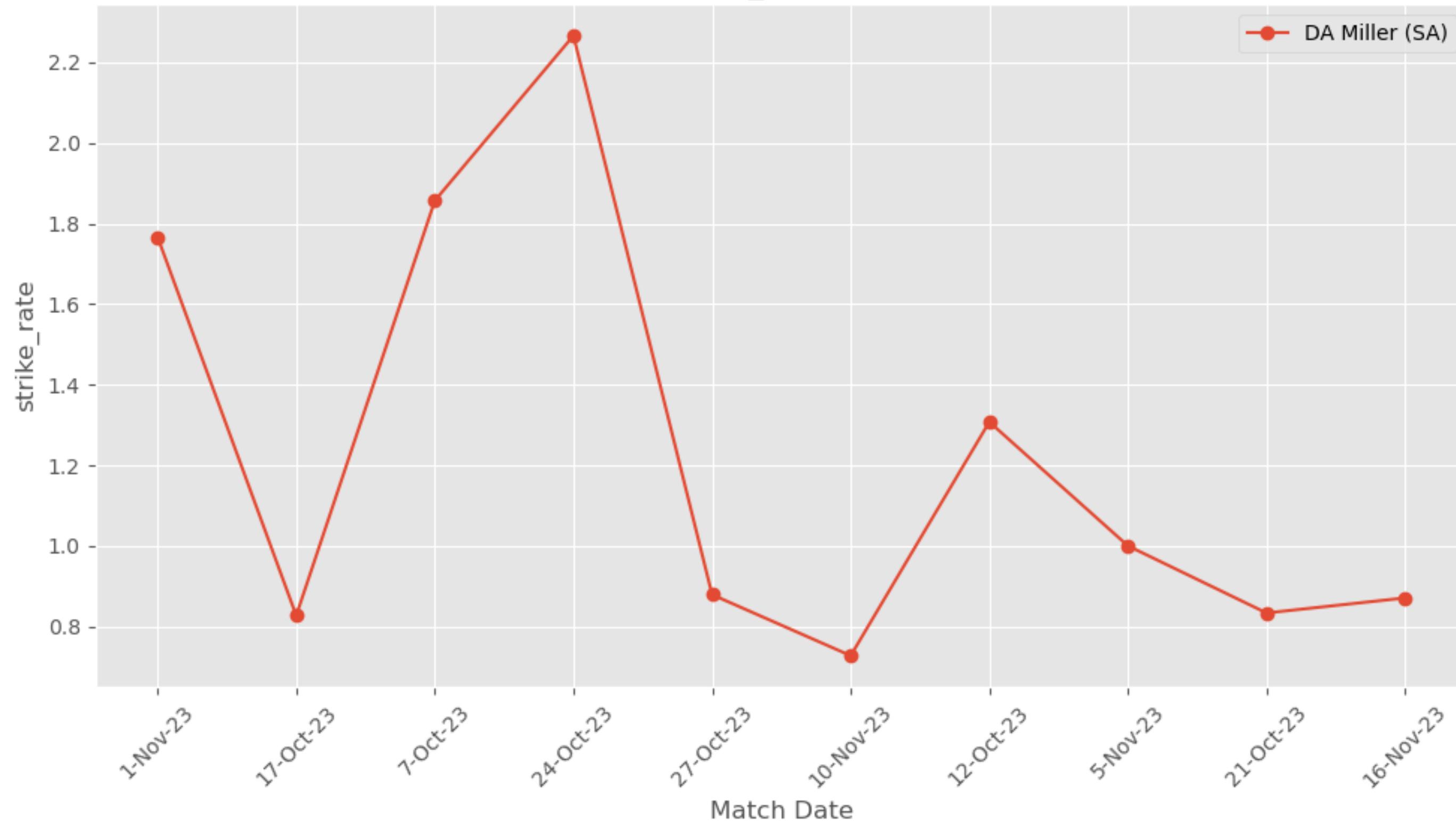
Time Series: strike_rate for RG Sharma (IND)



Temporal Analysis

of Batsmen by their strike rate

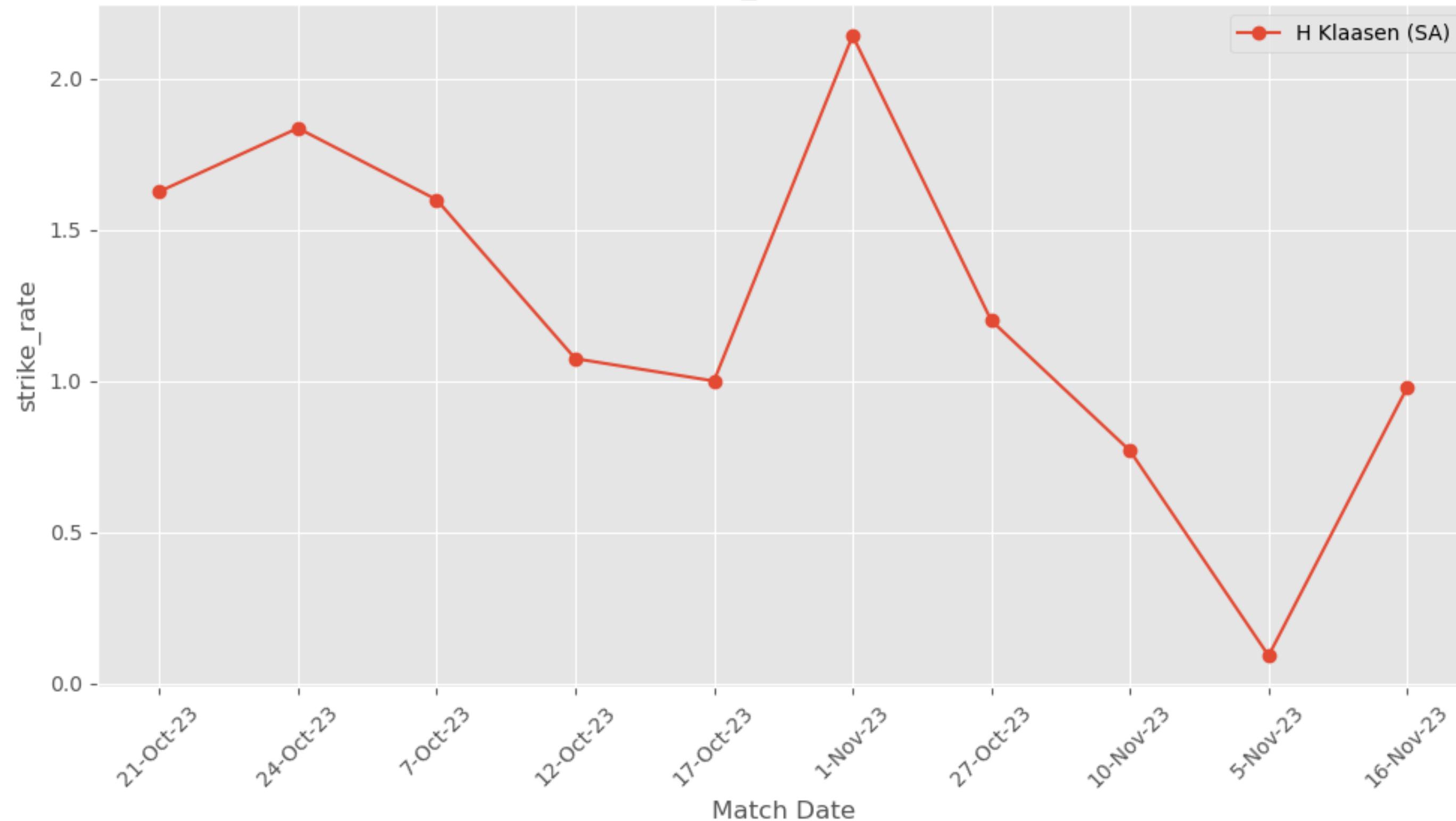
Time Series: strike_rate for DA Miller (SA)



Temporal Analysis

of Batsmen by their strike rate

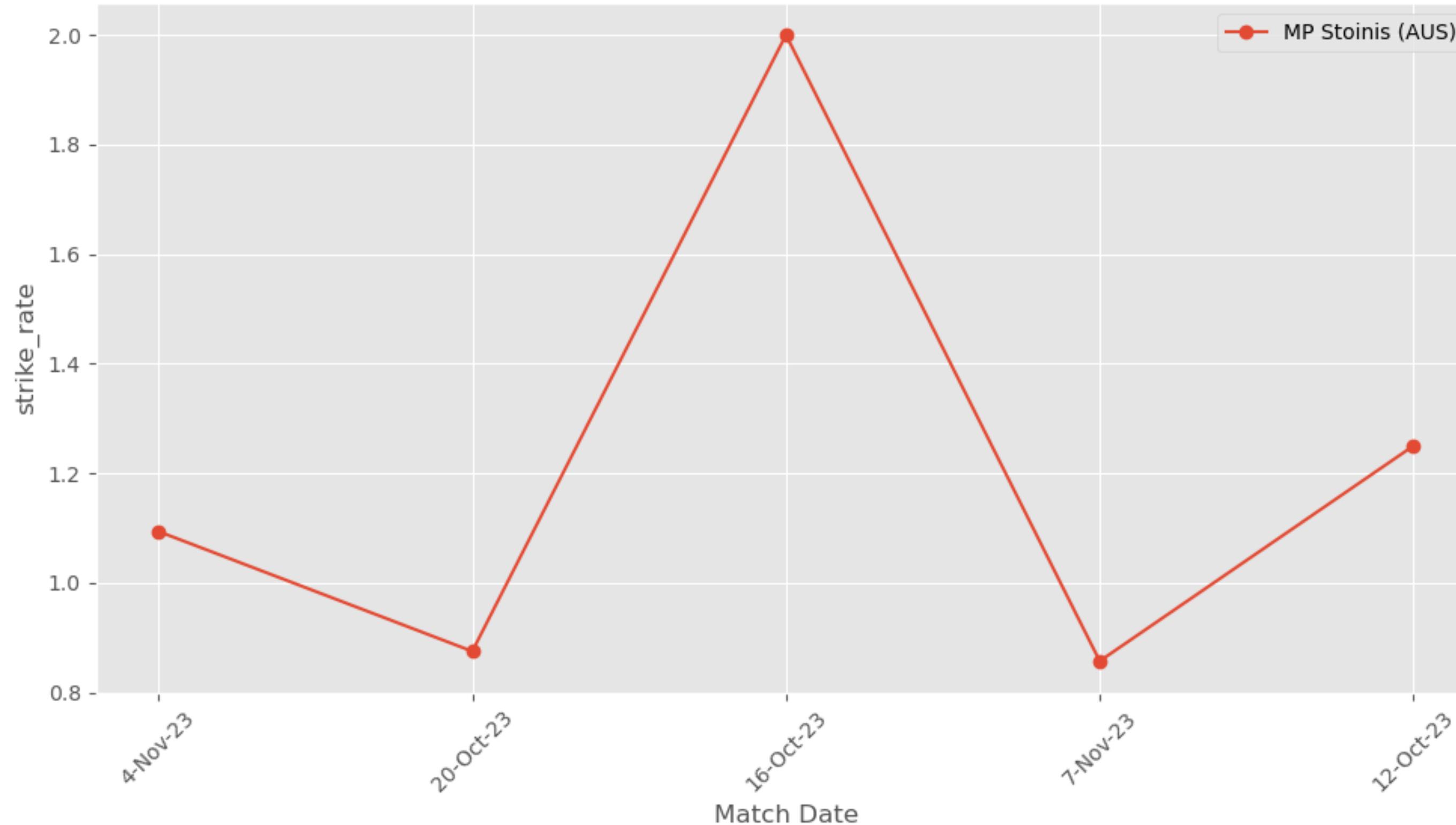
Time Series: strike_rate for H Klaasen (SA)



Temporal Analysis

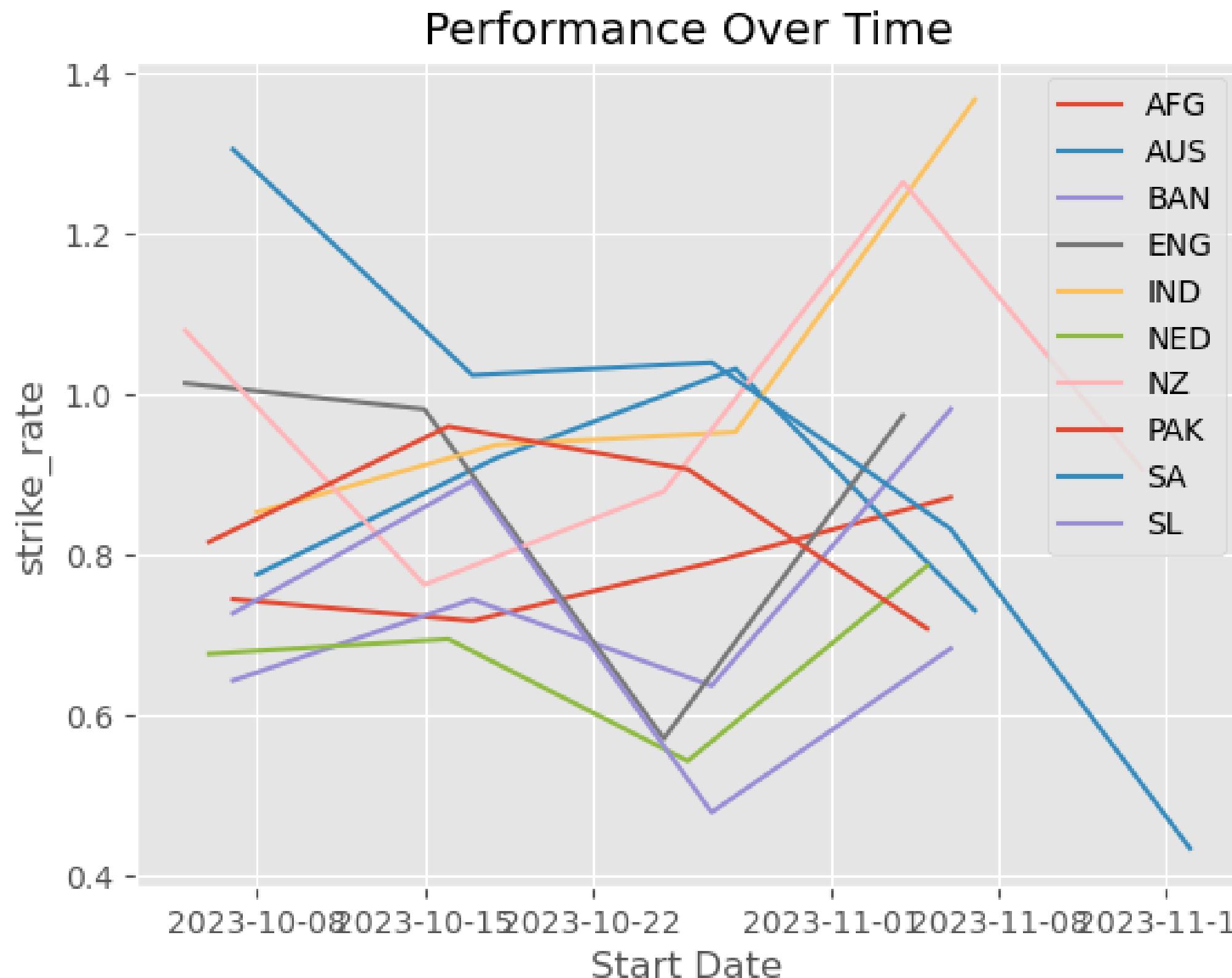
of Batsmen by their strike rate

Time Series: strike_rate for MP Stoinis (AUS)



Temporal Analysis

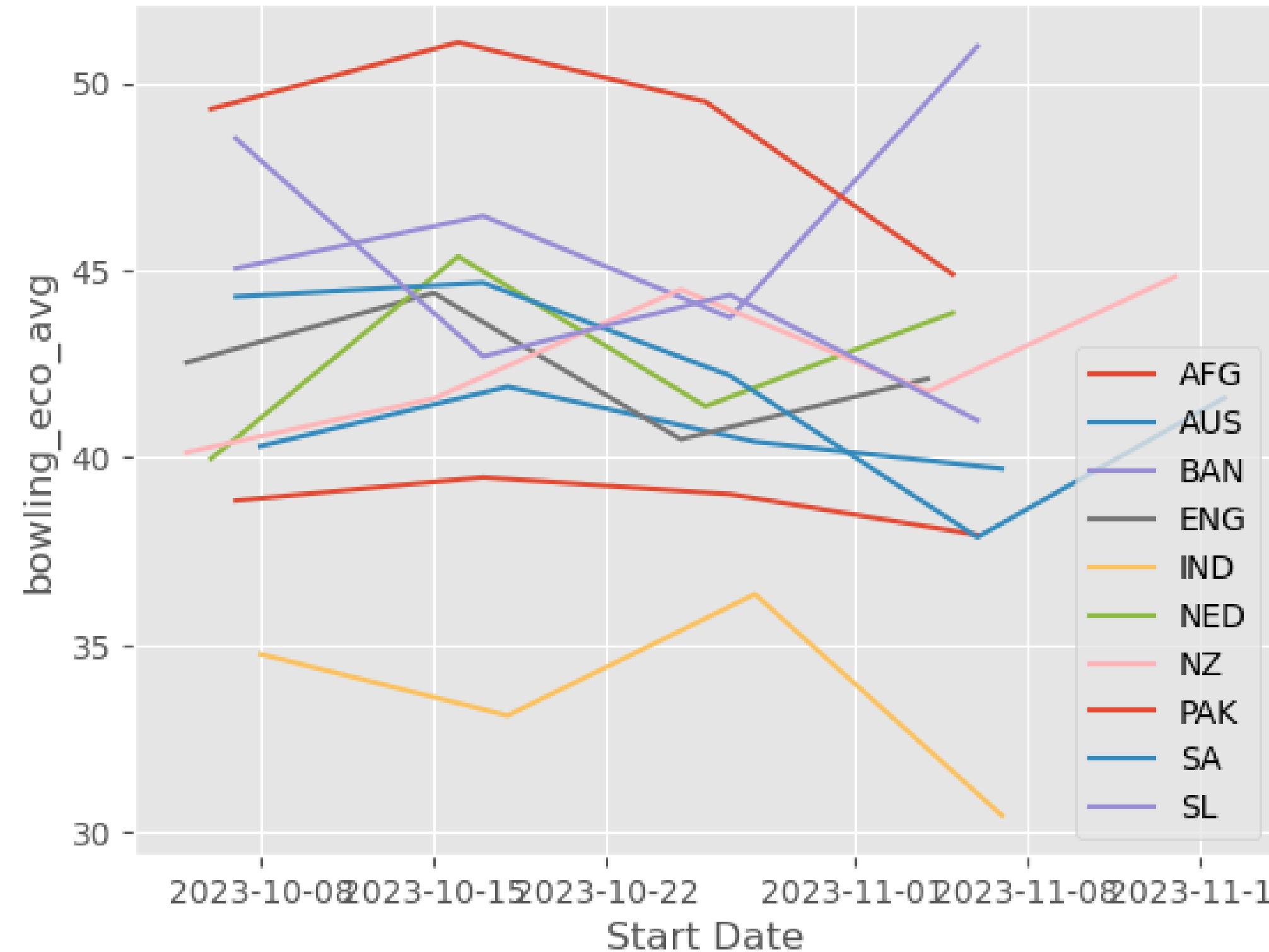
of teams' performance over time



Temporal Analysis

of teams' performance over time

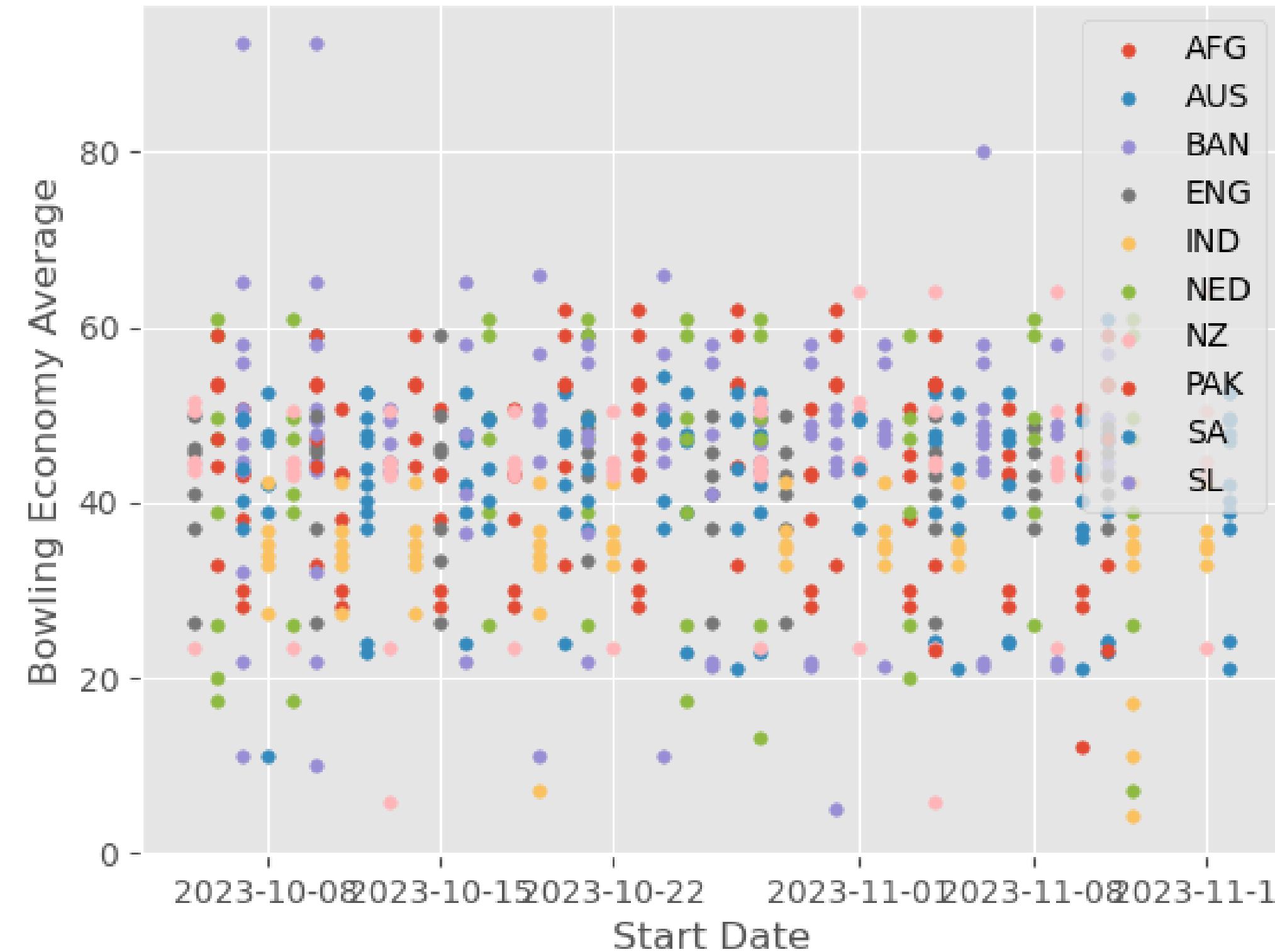
Performance Over Time



Temporal Analysis

of teams' performance over time

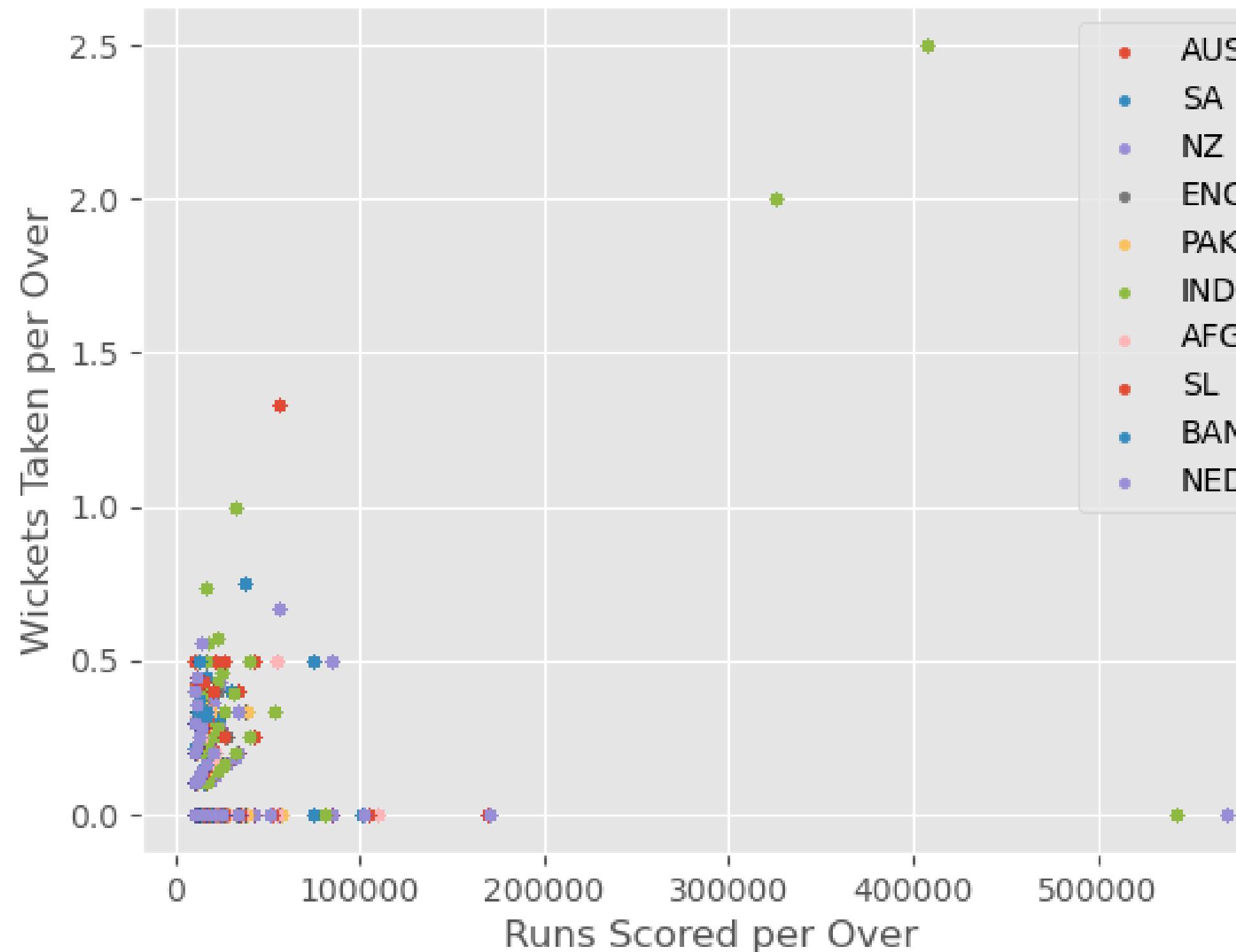
bowling_eco_avg Over Time (Grouped by Team)



Temporal Analysis

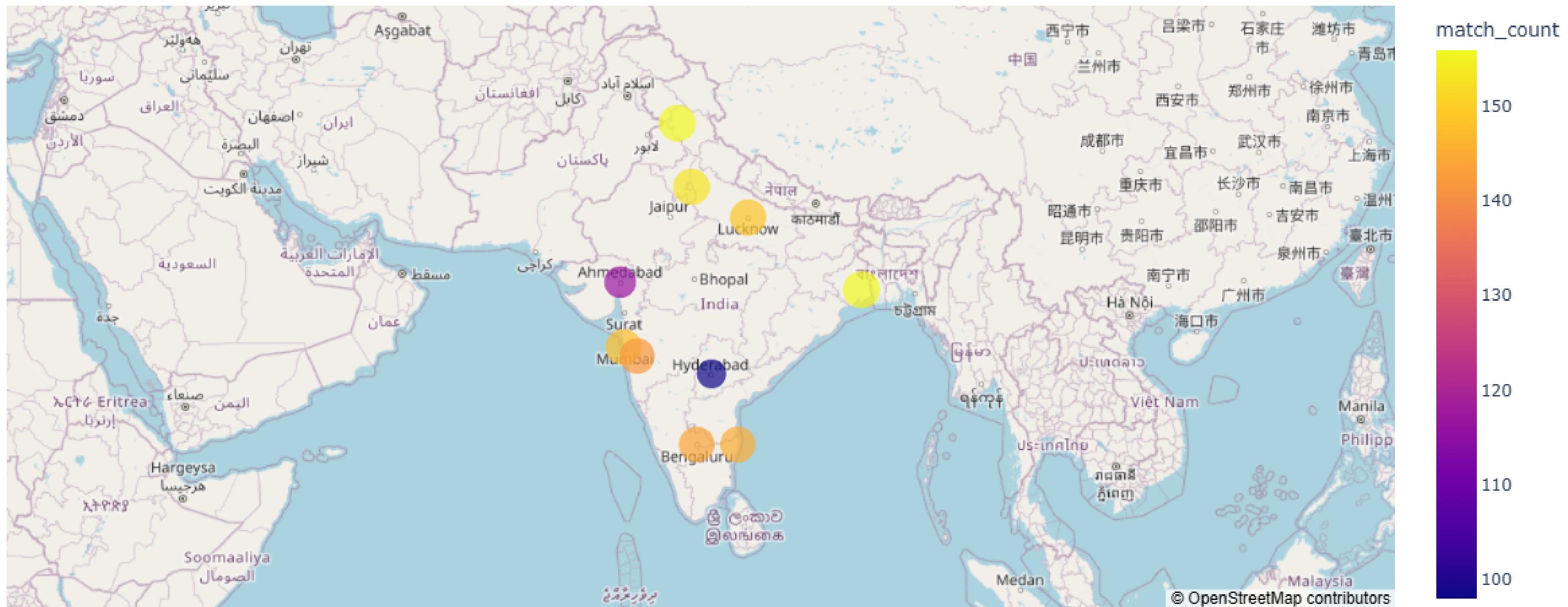
of teams' performance over time

Runs Scored vs. Wickets Taken (Per Over) - Grouped by Team

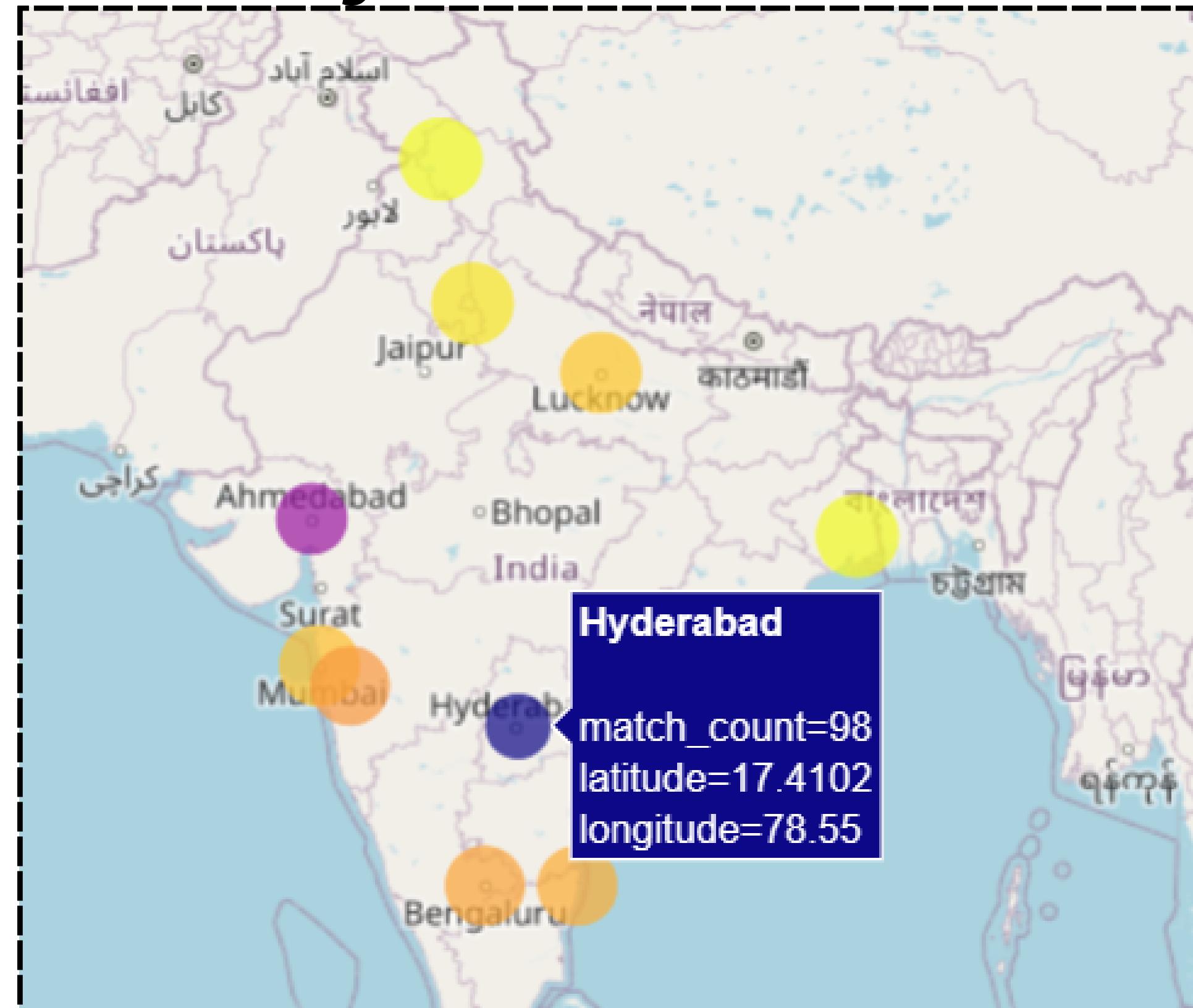


Ground Analysis of cities by total matches counts

World Cup 2023 Matches by City



Ground Analysis of cities by total matches counts



**That's all from
my side!**

Thank You

For Your Attention



**Thank
You**