

# World Cup 2023 Analysis

*By Maheen Khan*



### **Data Analysis Tools:**

Utilized Python for Exploratory Data Analysis (EDA).

Employed MS PowerPoint for visual representation of core findings.

### **Missing Values Handling:**

Identified 60% missing values for wickets, overs, mdns, econ.

Observed 39% missing values for 4s, 6s, runs, not out, mins.

Replaced unnecessary missing values for wickets with 0.

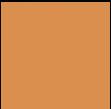
Imputed remaining missing values using the mean.

# Team Performance Analysis



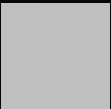
**Team-wise  
performance metrics.**

---

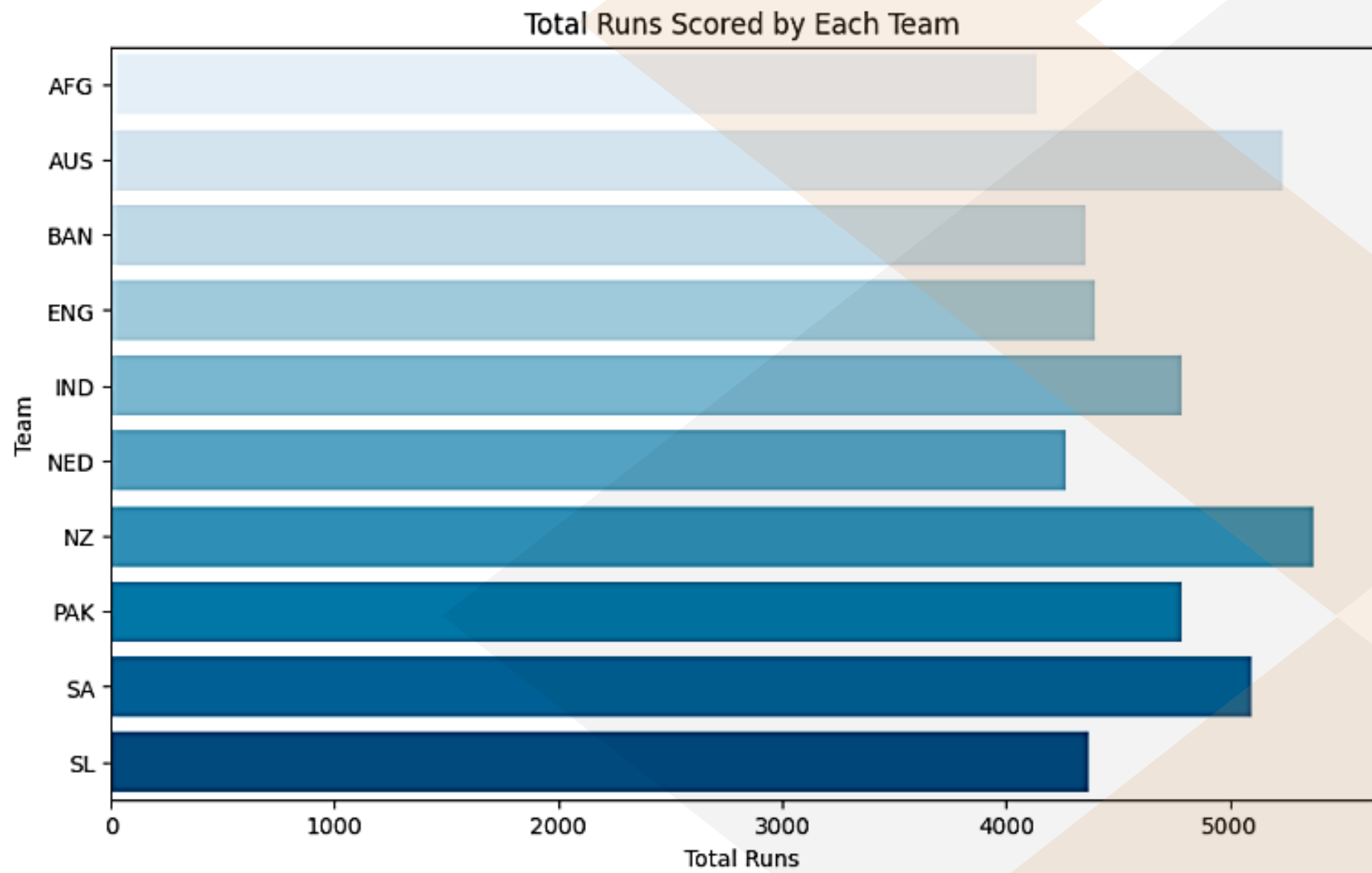


**Analyzing runs scored,  
wickets taken, and  
batting/bowling  
styles.**

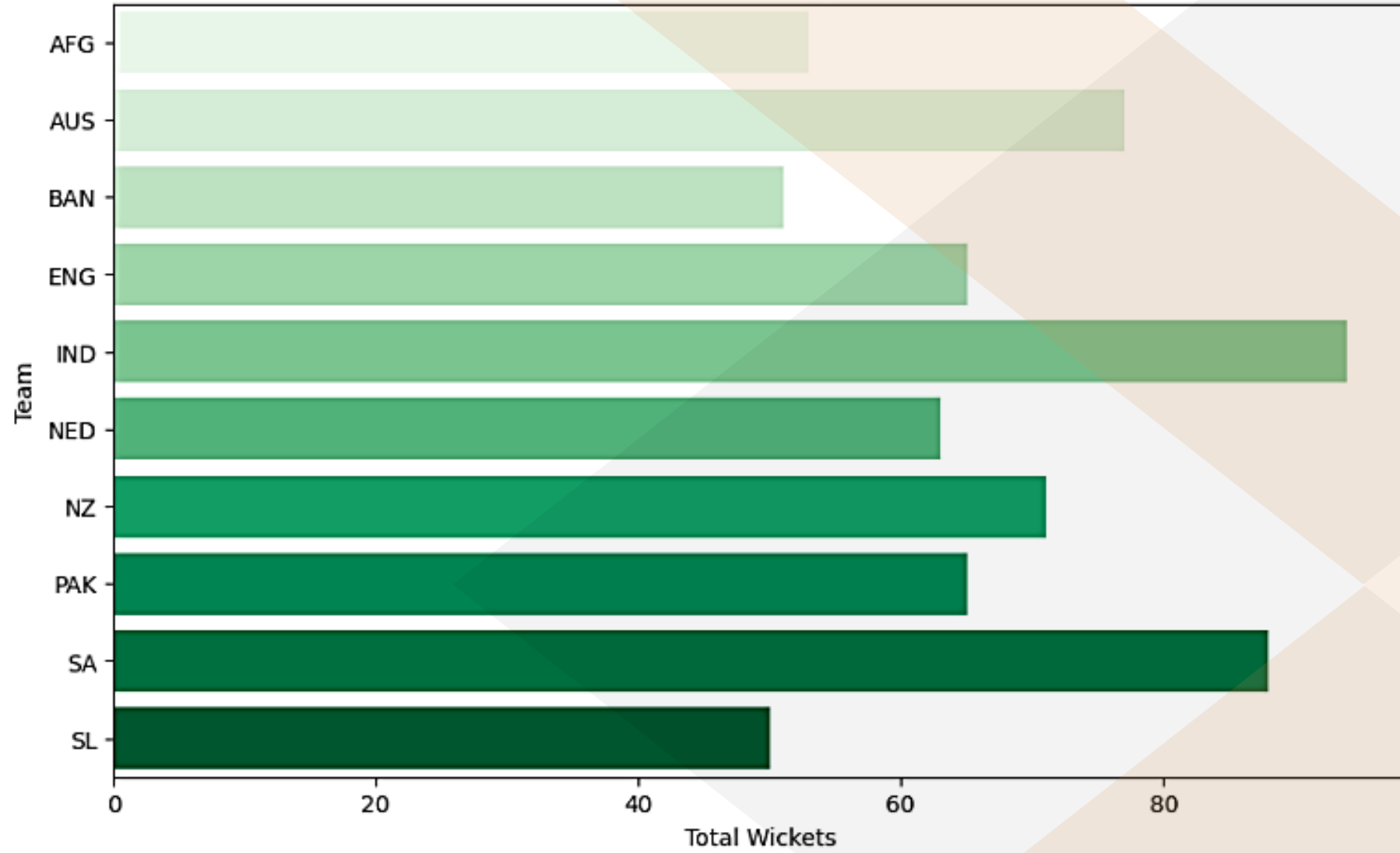
---



**Identifying top-  
performing teams and  
their strengths**



Total Wickets Taken by Each Team



### Team-wise Performance Metrics:

	team	runs	wkts	bat_or_bowl
0	AFG	4134	53.0	bat
1	AUS	5234	77.0	bat
2	BAN	4358	51.0	bat
3	ENG	4396	65.0	bat
4	IND	4783	94.0	bat
5	NED	4268	63.0	bat
6	NZ	5376	71.0	bat
7	PAK	4786	65.0	bat
8	SA	5097	88.0	bat
9	SL	4366	50.0	bat

### Top-performing Teams:

	team	runs	wkts	bat_or_bowl
6	NZ	5376	71.0	bat
1	AUS	5234	77.0	bat
8	SA	5097	88.0	bat
7	PAK	4786	65.0	bat
4	IND	4783	94.0	bat

### Top-performing Teams:

	team	runs	wkts
6	NZ	5376	71.0
1	AUS	5234	77.0
8	SA	5097	88.0
7	PAK	4786	65.0
4	IND	4783	94.0

## Key Findings

- In the team performance analysis, a predominant focus on batting is observed, with India taking the highest wicket count at 94 and New Zealand scoring the highest runs at 5376.
- The analysis of player impact on team performance highlights significant contributors from various cricket teams. Notable players include A. Dutt from the Netherlands, excelling with 496 runs and 10 wickets, A. Zampa from Australia showcasing balanced performance with 519 runs and 22 wickets, and V. Kohli from India contributing significantly with 726 runs and 1 wicket.

# Player Performance Analysis

Evaluating individual player statistics for both batting and bowling.

Identifying leading run-scorers and wicket-takers.

Assessing the impact of players on their team's performance.

## Leading Run-scorers:

	player	runs
0	V Kohli (IND)	711
1	Q de Kock (SA)	594
2	R Ravindra (NZ)	578
3	DJ Mitchell (NZ)	552
4	RG Sharma (IND)	550

## Leading Wicket-takers:

	player	wkts
0	Mohammed Shami (IND)	23.0
1	A Zampa (AUS)	22.0
2	D Madushanka (SL)	21.0
3	G Coetzee (SA)	20.0
4	JJ Bumrah (IND)	18.0

## Player Impact on Team's Performance:

	player	runs	wkts
0	A Dutt (NED)	496	10.0
1	A Zampa (AUS)	519	22.0
2	AAP Atkinson (ENG)	183	4.0
3	AD Mathews (SL)	158	6.0
4	AK Markram (SA)	491	1.0
..	...	...	...
147	Usama Mir (PAK)	248	4.0
148	V Kohli (IND)	726	1.0
149	Vikramjit Singh (NED)	150	0.0
150	W Barresi (NED)	83	0.0
151	WA Young (NZ)	206	0.0



### Leading Run-scorers:

	player	runs
0	V Kohli (IND)	711
1	Q de Kock (SA)	594
2	R Ravindra (NZ)	578
3	DJ Mitchell (NZ)	552
4	RG Sharma (IND)	550

### Leading Wicket-takers:

	player	wkts
0	Mohammed Shami (IND)	23.0
1	A Zampa (AUS)	22.0
2	D Madushanka (SL)	21.0
3	G Coetzee (SA)	20.0
4	JJ Bumrah (IND)	18.0

### Player Impact on Team's Performance:

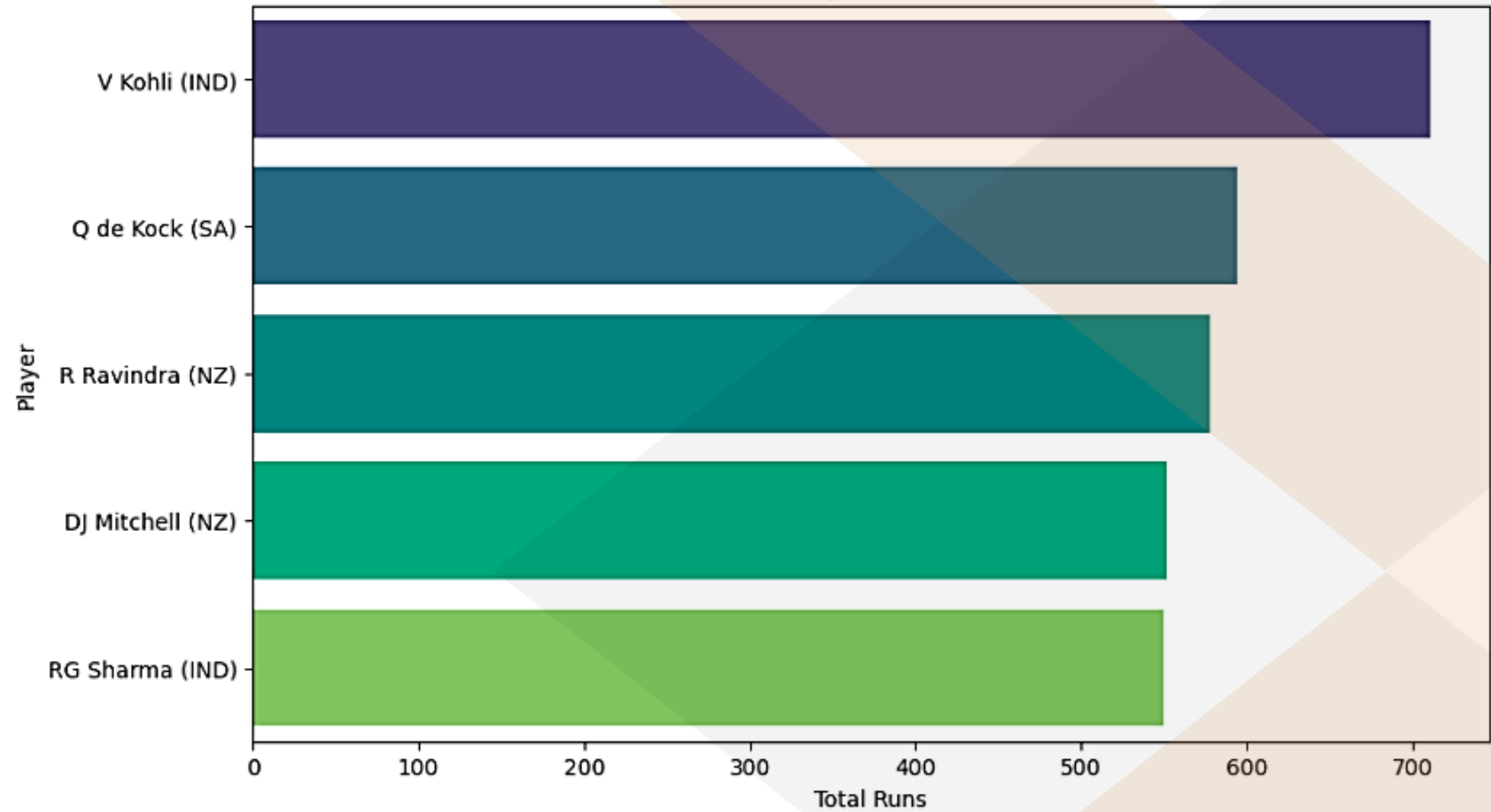
	player	runs	wkts
0	A Dutt (NED)	496	10.0
1	A Zampa (AUS)	519	22.0
2	AAP Atkinson (ENG)	183	4.0
3	AD Mathews (SL)	158	6.0
4	AK Markram (SA)	491	1.0
..	...	...	...
147	Usama Mir (PAK)	248	4.0
148	V Kohli (IND)	726	1.0
149	Vikramjit Singh (NED)	150	0.0
150	W Barresi (NED)	83	0.0
151	WA Young (NZ)	206	0.0

### Individual Player Statistics:

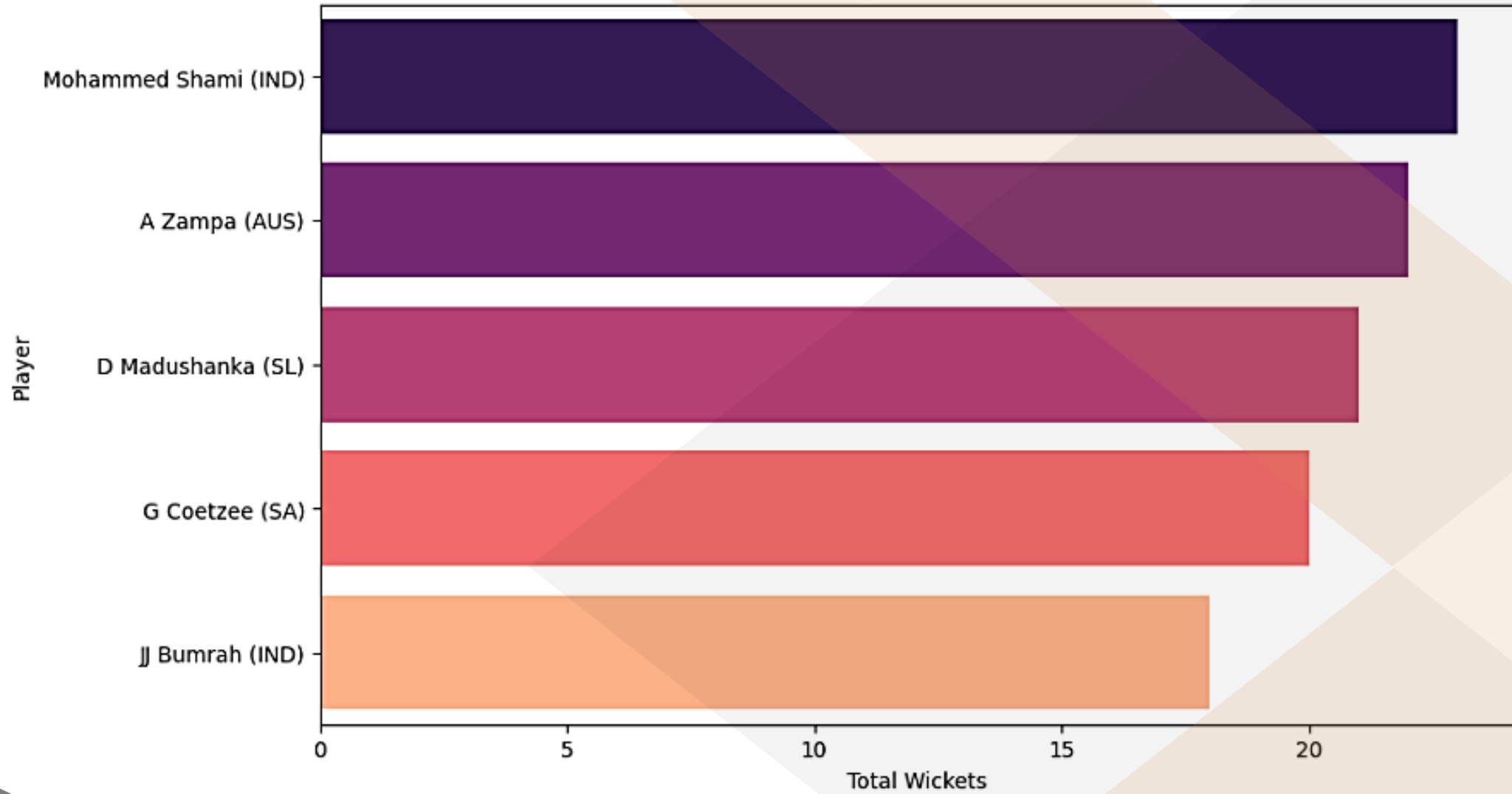
	player	bat_or_bowl	runs	wkts
0	A Dutt (NED)	bat	70	0.0
1	A Dutt (NED)	bowl	426	10.0
2	A Zampa (AUS)	bat	48	0.0
3	A Zampa (AUS)	bowl	471	22.0
4	AAP Atkinson (ENG)	bat	37	0.0
..	...	...	...	...
243	V Kohli (IND)	bowl	15	1.0
244	Vikramjit Singh (NED)	bat	98	0.0
245	Vikramjit Singh (NED)	bowl	52	0.0
246	W Barresi (NED)	bat	83	0.0
247	WA Young (NZ)	bat	206	0.0

[248 rows x 4 columns]

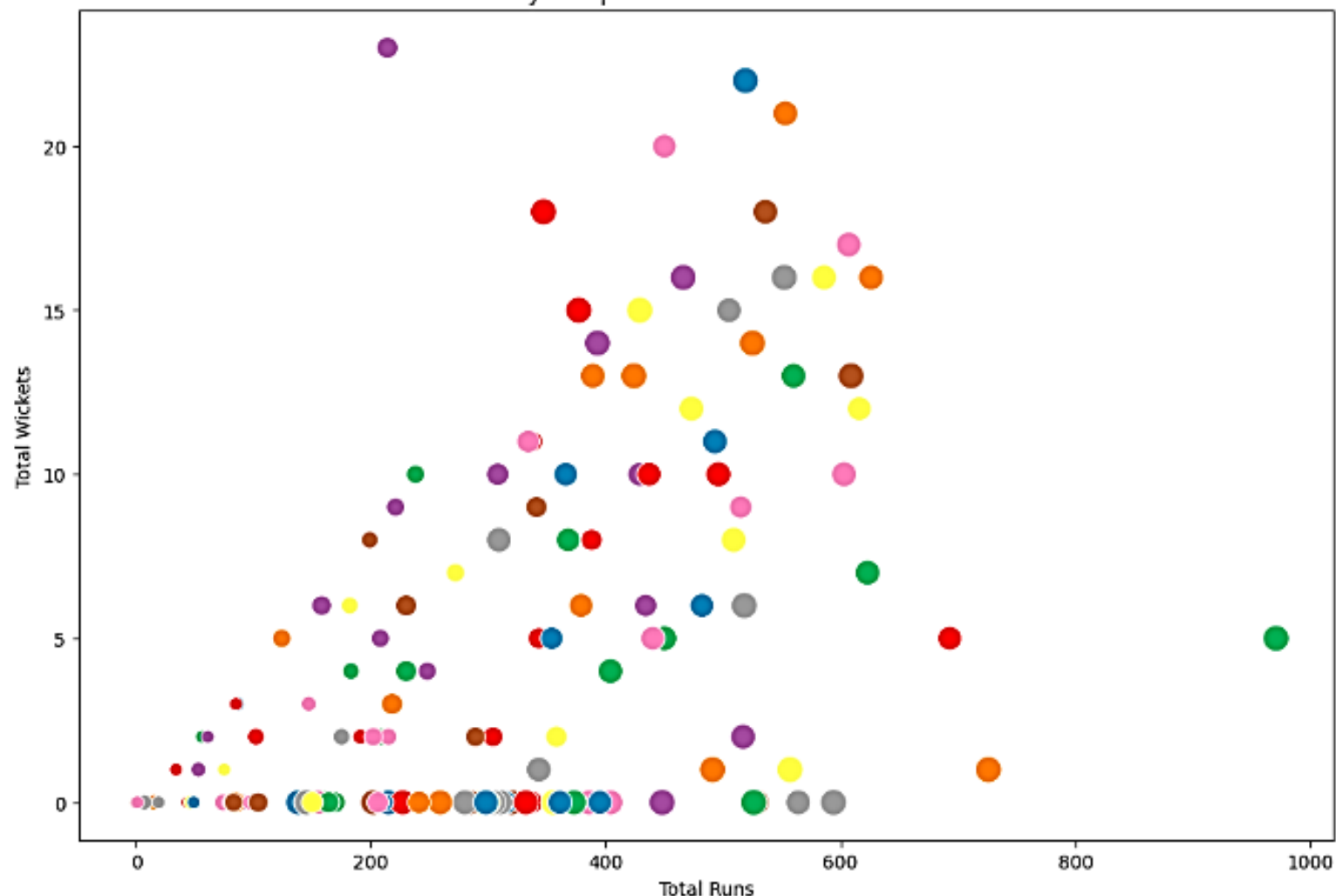
## Leading Run-scorers



## Leading Wicket-takers



Player Impact on Team's Performance



# Key Findings

## Individual Player Statistics:

- A. Dutt from the Netherlands showcased both batting and bowling performances, scoring 70 runs and taking 10 wickets.
- A. Zampa from Australia contributed 48 runs as a batsman and an impressive 22 wickets as a bowler.
- AAP Atkinson from England scored 37 runs as a batsman.
- V. Kohli from India demonstrated versatility, contributing 15 runs as a bowler and excelling with 1 wicket.
- Vikramjit Singh from the Netherlands batted for 98 runs, while W. Barresi added 83 runs as a batsman.
- WA Young from New Zealand displayed a batting performance with 206 runs.

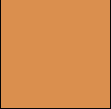
**Missing Values**

# Opposition and Ground Analysis



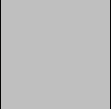
**Investigate how teams and players perform against different oppositions.**

---



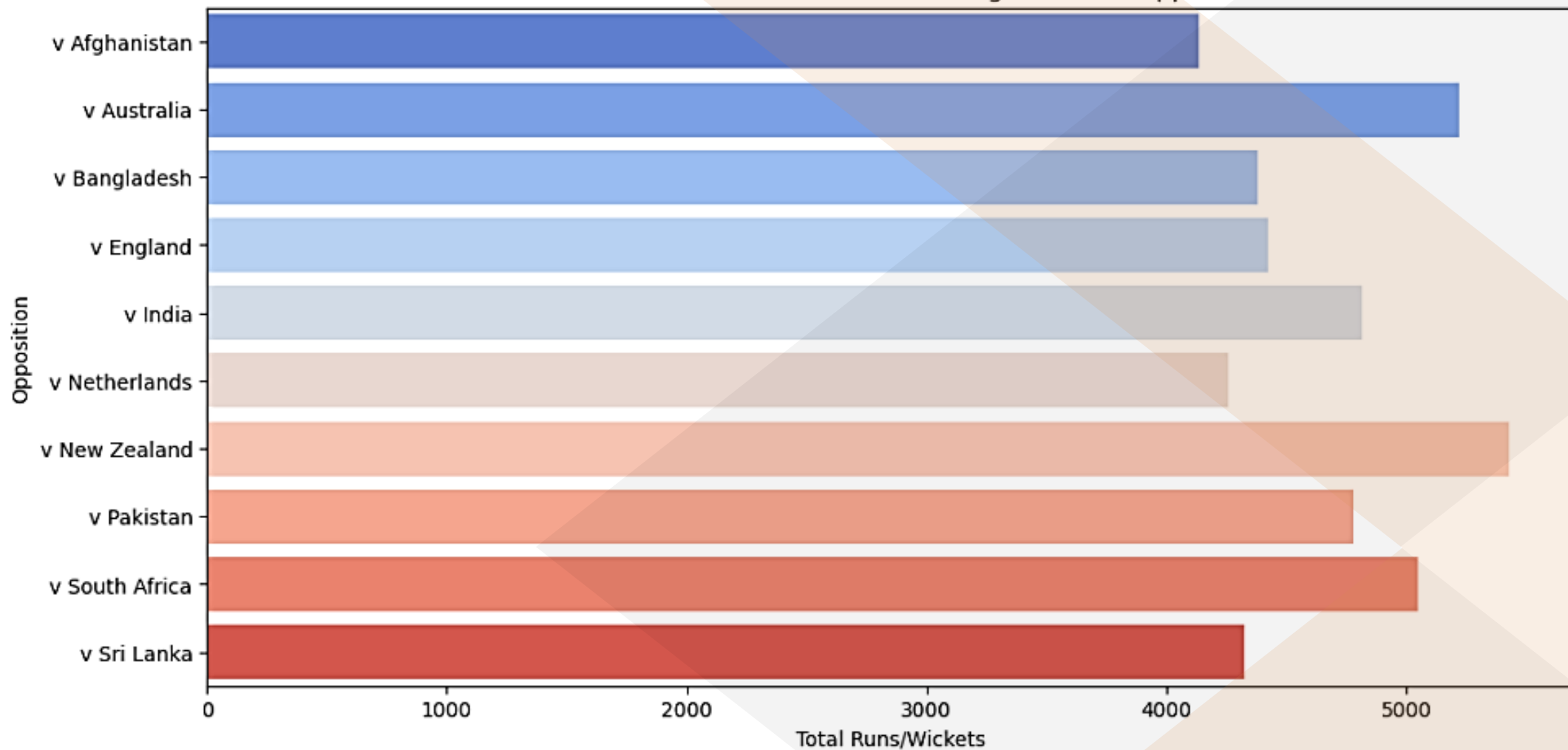
**Examine performance variations across different playing grounds.**

---

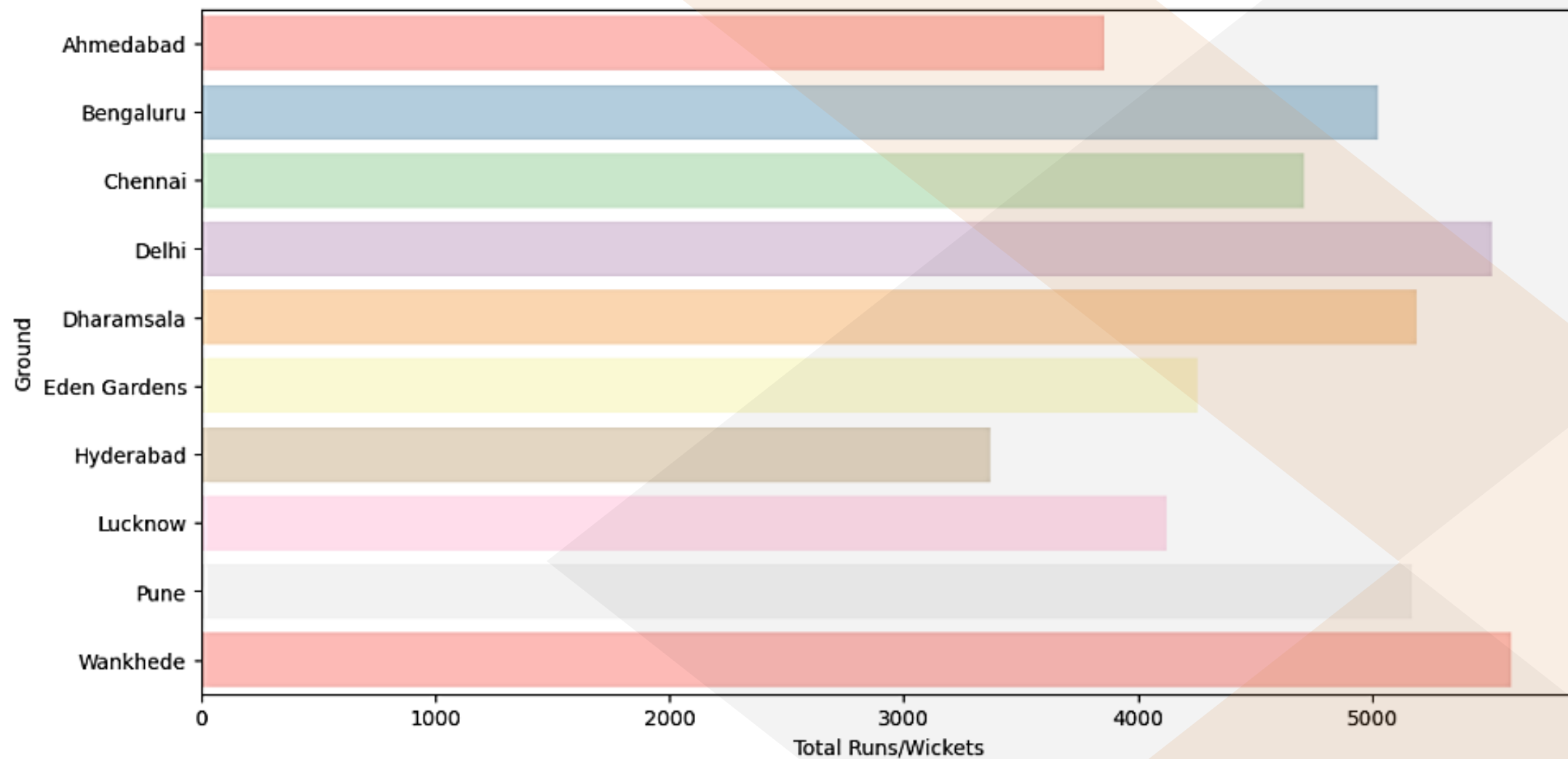


**Identify if there are specific teams or players that excel in certain conditions.**

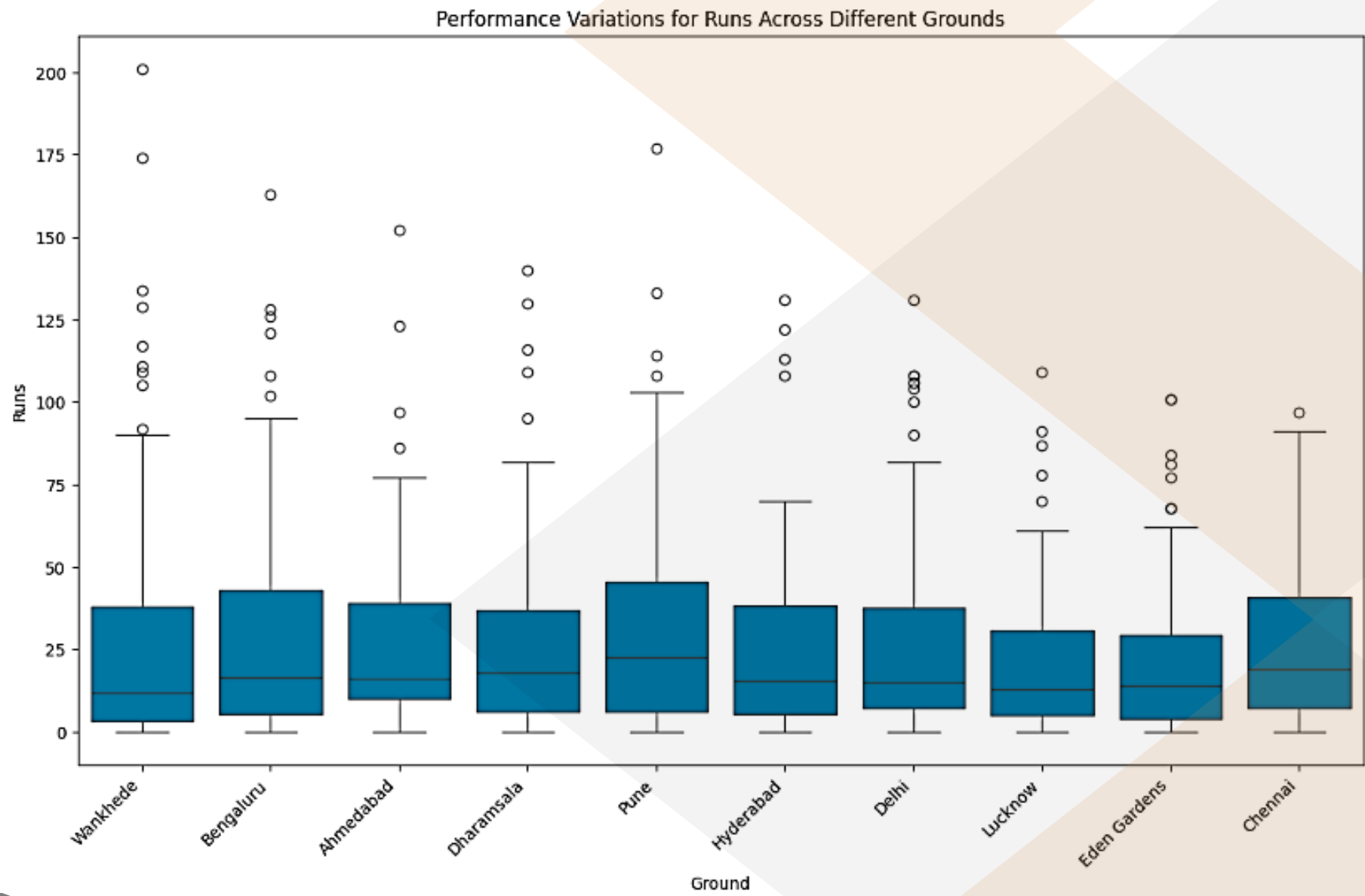
Total Runs Scored and Wickets Taken Against Each Opposition



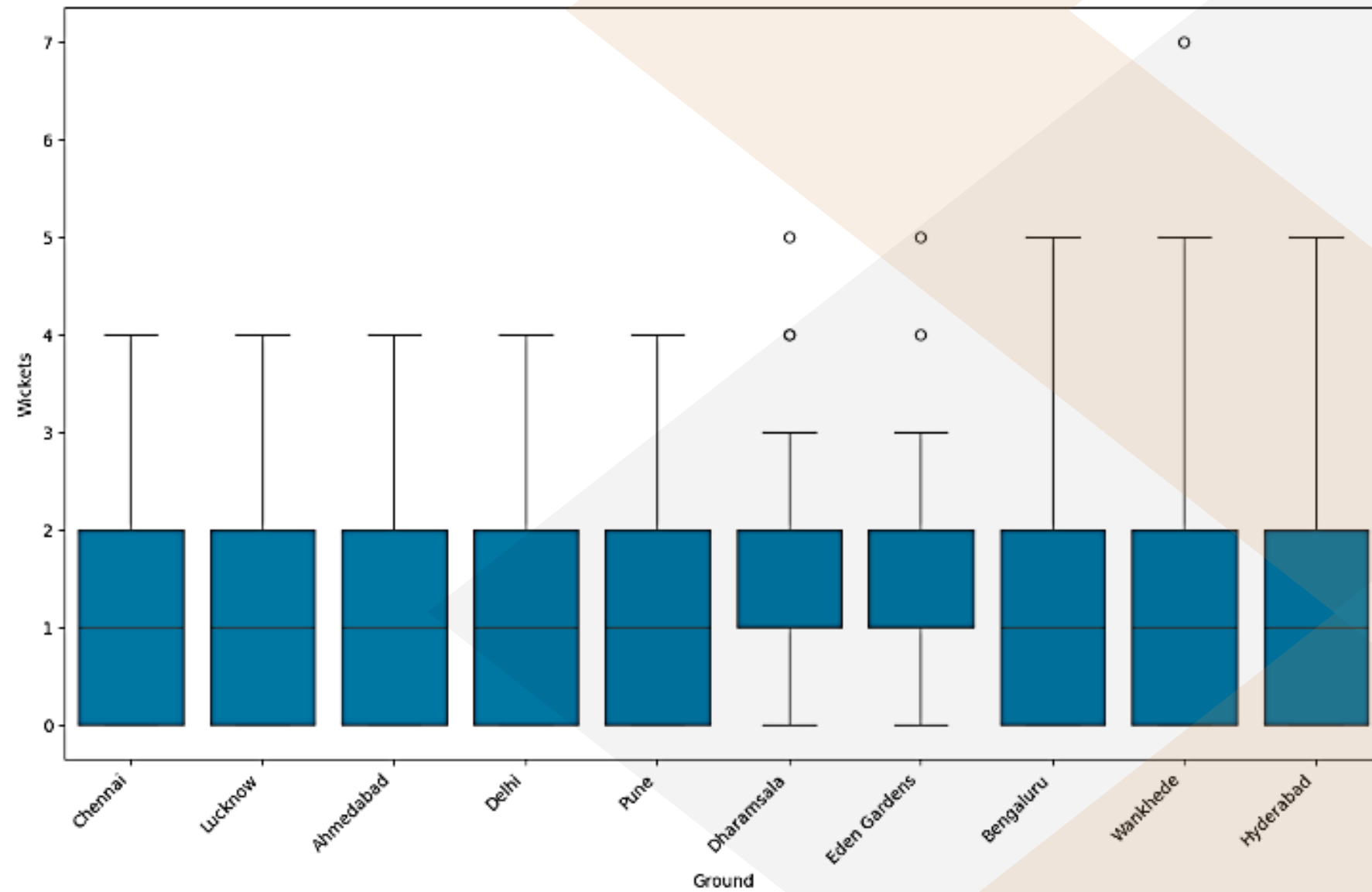
Total Runs Scored and Wickets Taken at Each Ground







Performance Variations for Wickets Across Different Grounds



# Temporal Analysis

Study performance trends over time, considering start dates and overs played.

Identify any temporal patterns or changes in team and player performance.

Team-wise Total Runs Over Time:

	start_date	team	runs
0	2023-10-05	ENG	554
1	2023-10-05	NZ	557
2	2023-10-06	NED	482
3	2023-10-06	PAK	482
4	2023-10-07	AFG	303
..	...	...	...
89	2023-11-12	NED	659
90	2023-11-15	IND	707
91	2023-11-15	NZ	693
92	2023-11-16	AUS	406
93	2023-11-16	SA	413

[94 rows x 3 columns]

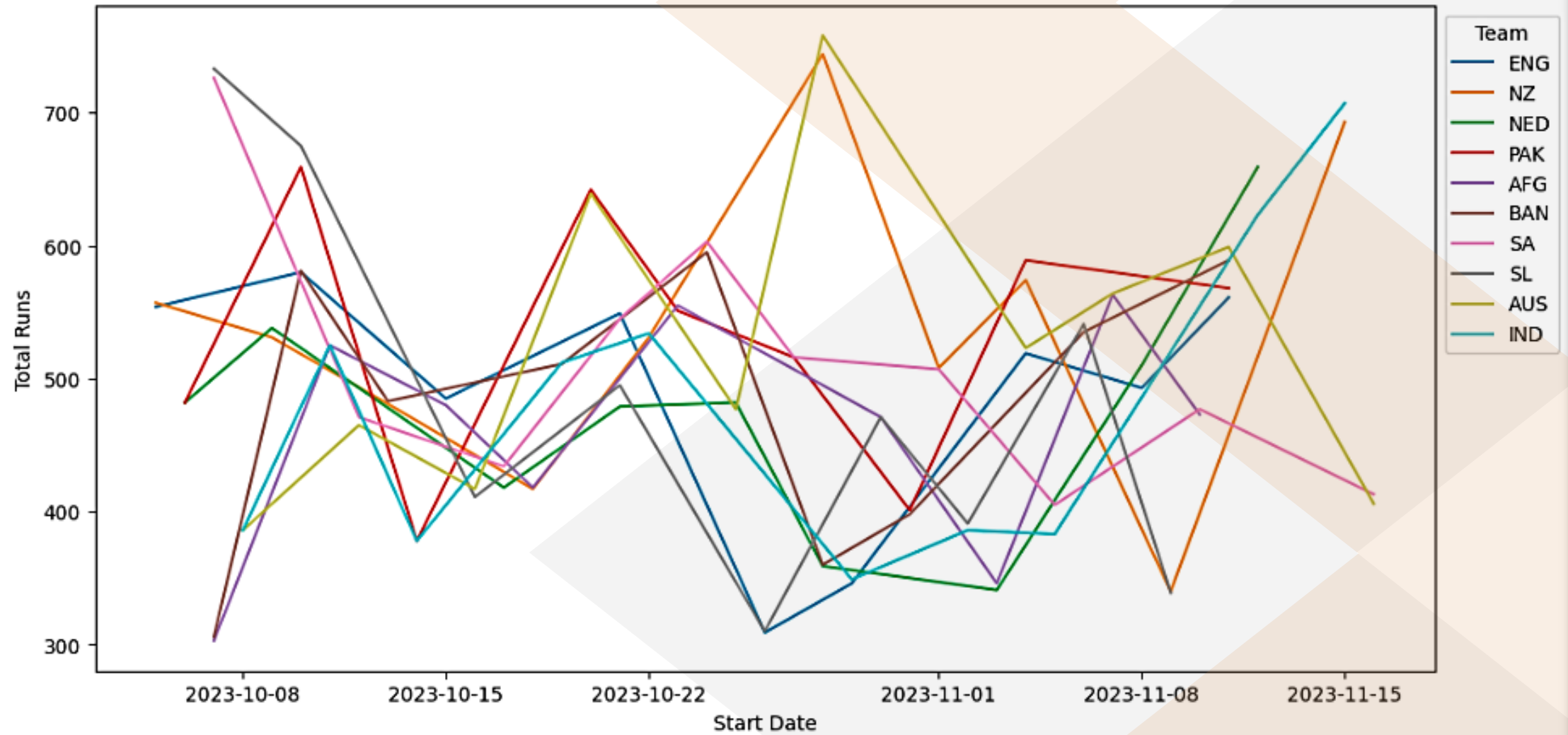
Player-wise Total Runs Over Time:

	start_date	player	runs
0	2023-10-05	AU Rashid (ENG)	15
1	2023-10-05	CR Woakes (ENG)	11
2	2023-10-05	DJ Malan (ENG)	14
3	2023-10-05	DP Conway (NZ)	152
4	2023-10-05	HC Brook (ENG)	25
..	...	...	...
839	2023-11-16	Q de Kock (SA)	3
840	2023-11-16	SPD Smith (AUS)	30
841	2023-11-16	T Bavuma (SA)	0
842	2023-11-16	T Shamsi (SA)	1
843	2023-11-16	TM Head (AUS)	62

## Player-Wise Total Runs Over Time

	start_date	player	runs
0	2023-10-05	AU Rashid (ENG)	15
1	2023-10-05	CR Woakes (ENG)	11
2	2023-10-05	DJ Malan (ENG)	14
3	2023-10-05	DP Conway (NZ)	152
4	2023-10-05	HC Brook (ENG)	25
..	...	...	...
839	2023-11-16	Q de Kock (SA)	3
840	2023-11-16	SPD Smith (AUS)	30
841	2023-11-16	T Bavuma (SA)	0
842	2023-11-16	T Shamsi (SA)	1
843	2023-11-16	TM Head (AUS)	62

Team-wise Total Runs Over Time



# Summary of Datasets:

## **Team-wise Total Runs Over Time:**

- A dataset capturing total runs scored by different cricket teams over specific start dates.
- The dataframe consists of 94 rows and includes columns for start date, team, and total runs.

## **Player-wise Total Runs Over Time:**

- A dataset presenting the total runs scored by individual players on specific start dates.
- The dataframe has 844 rows and includes columns for start date, player name, and total runs.

## **Relationship Between Overs Played and Runs Scored:**

- A dataset exploring the correlation between overs played and the corresponding total runs scored.
- The dataframe contains information on the number of overs and the runs scored, with 1408 rows.
- the relationship between overs and runs scored.



### **Player Impact:**

Key players, such as A. Dutt from the Netherlands, A. Zampa from Australia, and V. Kohli from India, have made substantial contributions, showcasing a balance between batting and bowling performances.

### **Individual Player Statistics:**

The examination of individual player statistics sheds light on the diverse roles played by players, both as batsmen and bowlers.

.

**THANK  
YOU**

