

Cricket World Cup 2023 Analysis

Introduction

This report analyzes the performance of teams and players in the 2023 Cricket World Cup, focusing on various aspects such as bowling and batting performance, wicket dismissal types, and venue analysis. The Cricket World Cup is an international championship of One Day International (ODI) cricket, organized by the International Cricket Council (ICC). Held every four years, it is one of the most viewed sporting events globally, bringing together the best cricket teams from around the world to compete for the prestigious title.

The 2023 edition of the Cricket World Cup featured ten teams, with matches played in various venues across India. This analysis provides a comprehensive view of the key factors contributing to the outcomes of the games, examining the performance metrics of both teams and individual players. By understanding these factors, we gain insights into the strategies and performances that led to the successes and failures of the teams during the tournament.

Data Analysis Tools

To analyze the data and generate the plots, the following tools were used:

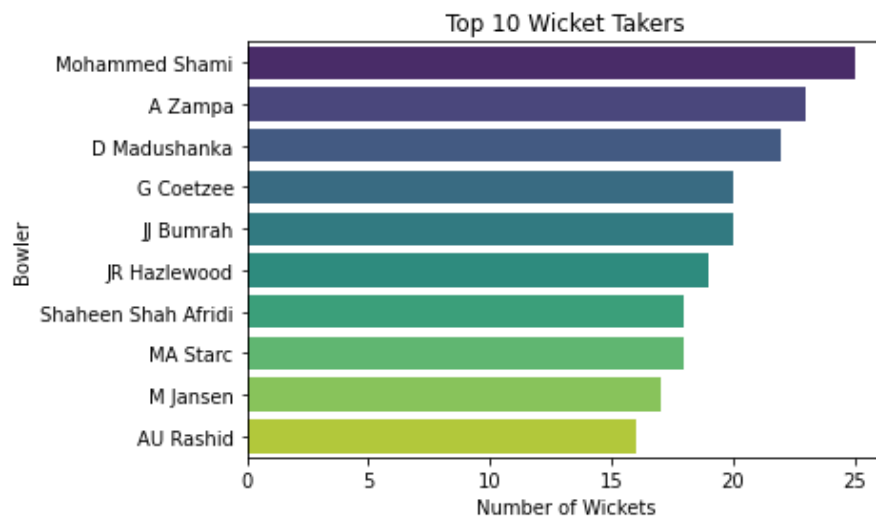
- **Pandas:** For data manipulation and analysis, allowing for easy data cleaning, transformation, and aggregation.
- **Seaborn:** For creating informative and attractive statistical graphics.
- **Matplotlib:** For creating static, animated, and interactive visualizations in Python.
- **Plotly:** For creating interactive plots (though the interactive plots were not included in the report, static alternatives were provided).

Top Performers Analysis

Top 10 Best Bowlers

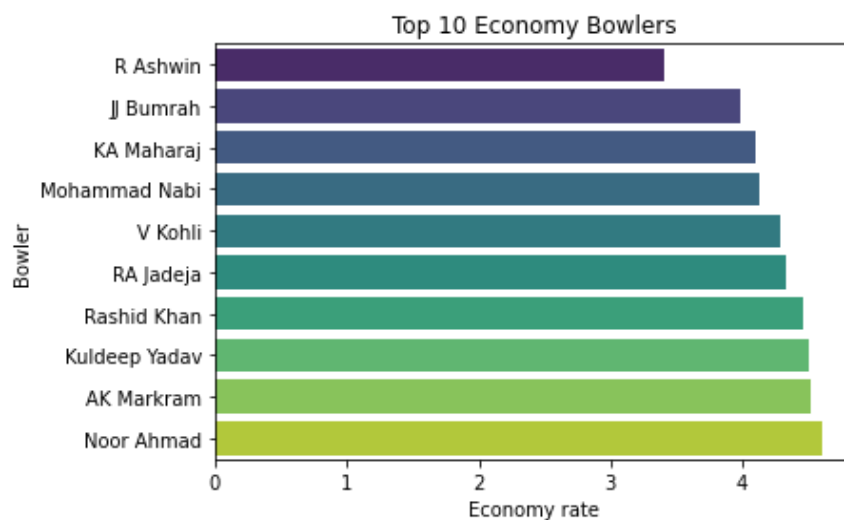
The plot below ranks the top 10 bowlers based on the number of wickets taken. The horizontal bar chart visualizes the data, highlighting the leading wicket-takers. These bowlers have been instrumental in their respective teams' successes, often breaking crucial partnerships and restricting the opposition's scoring opportunities. Their ability to consistently take wickets has provided their teams with a significant competitive edge. Notably, Mohammed Shami and Jasprit Bumrah from India, along with Adam Zampa, Josh Hazlewood, and Mitchell Starc from

Australia, are among the top 10 best bowlers. These five players from India and Australia played crucial roles in their teams reaching the finals.



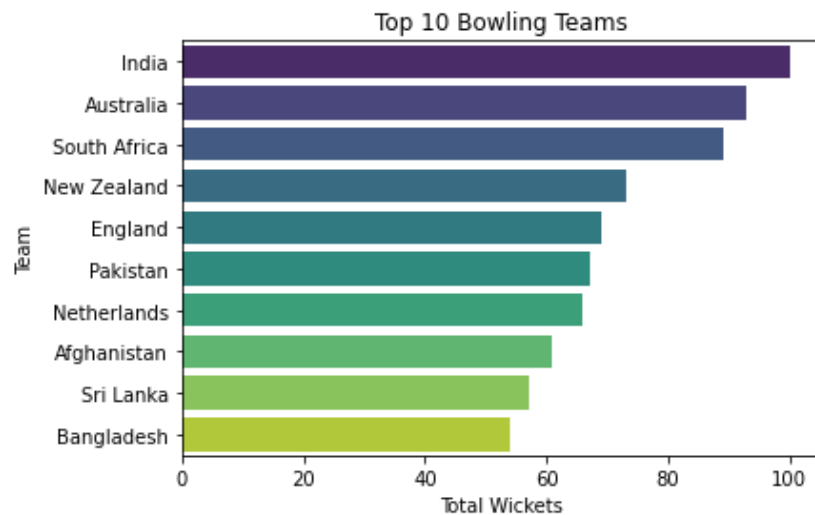
Bowlers with Best Economy Rates

This chart displays the bowlers with the best economy rates, calculated as the average runs conceded per over. The bowlers with the lowest economy rates are ranked at the top. These bowlers have excelled in maintaining a tight line and length, making it difficult for batsmen to score freely. Their economical bowling has been crucial in controlling the flow of runs, especially in high-pressure situations. Notably, the top 10 economy bowlers feature five from India alone, including Kohli. Jasprit Bumrah stands out by appearing in both the top 10 wicket-takers and best economy lists. Interestingly, Australia has no players featuring in the top 10 economy bowlers, which suggests that their bowlers may focus more on taking wickets rather than containing runs.



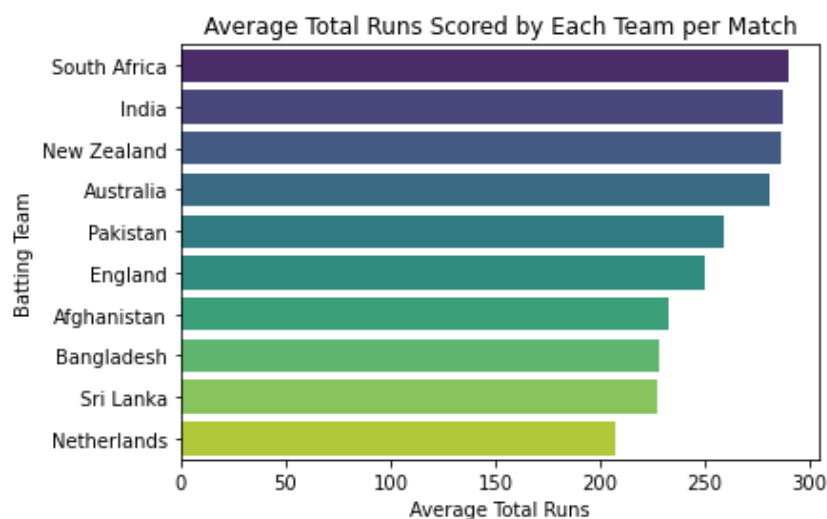
Teams with Best Bowling Figures

India, Australia, South Africa, and New Zealand are the top four teams with the best bowling figures. These teams also played in the semi-finals, indicating their strong bowling performances were crucial in advancing to the later stages of the tournament.



Team Batting Performance

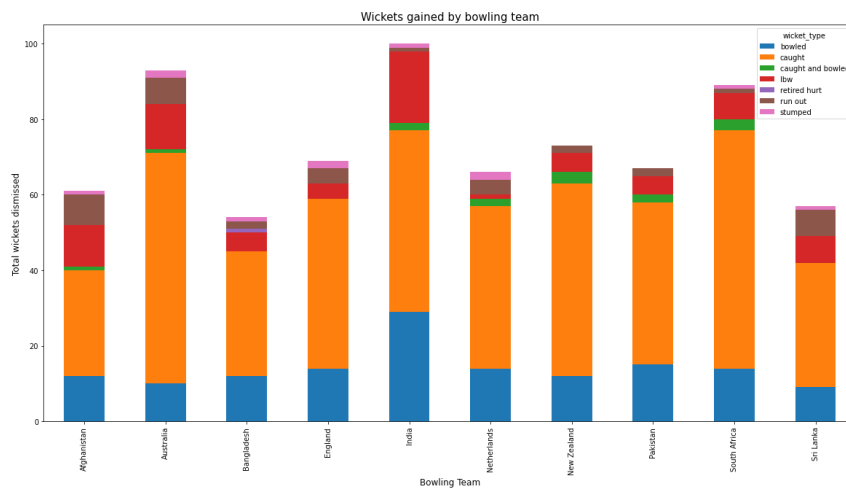
South Africa tops the batting performance chart, with India, Australia, and New Zealand having almost equal performances. These four teams were also the semi-finalists, highlighting their consistent batting performances. Pakistan is ranked fifth. Notably England, which were the defending champions, ranks just below Pakistan. Afghanistan has shown promise by outperforming Sri Lanka and Bangladesh, indicating they might become the second-best Asian batting team in the future.



Wicket Dismissal Analysis

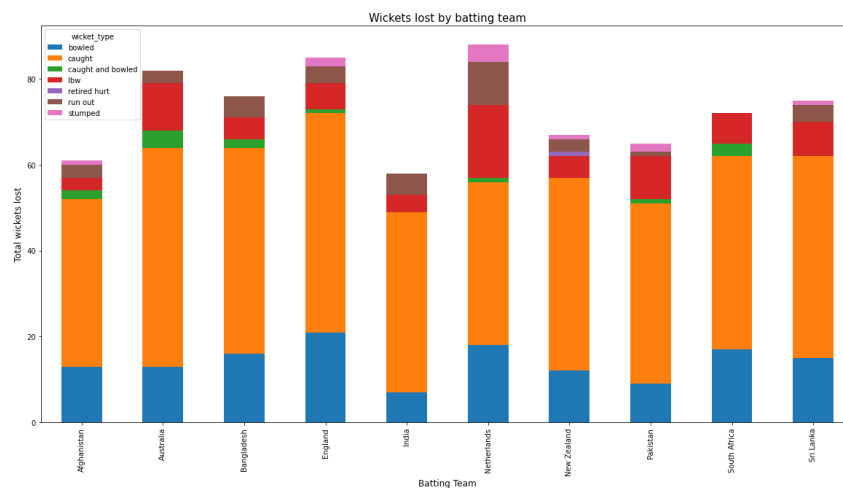
Wickets Gained by Bowling Team According to Dismissal Type

This plot shows how different teams gain wickets through various dismissal types. All teams focus on getting batsmen out by caught dismissal. This might suggest that bowlers are delivering balls that tempt batsmen to go for big shots, leading to catches. South Africa excels in this dismissal type. India's focus on bowled and LBW dismissals signifies their disciplined and targeted bowling approach.



Wickets Lost by Batting Team According to Dismissal Type

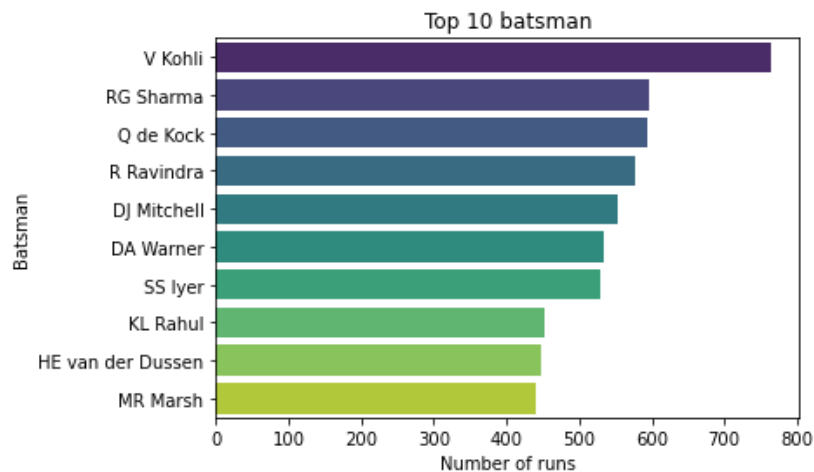
England has the most bowled, caught, and stumped dismissals, suggesting their batsmen often swing wildly. Indian batsmen, on the other hand, have the least bowled dismissals and no stumped dismissals, indicating superior batting techniques. All teams except South Africa experience run-out dismissals, implying South Africa's batsmen might be more cautious in running between the wickets.



Batting and Bowling Performance

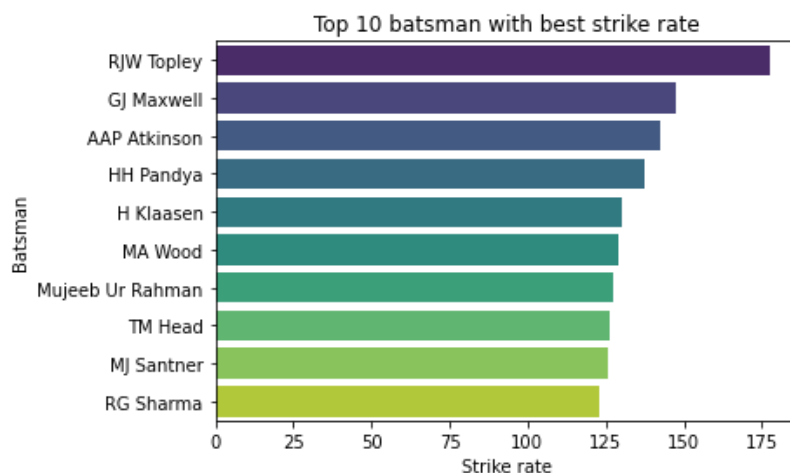
Top 10 Best Batsmen

The top 10 batsmen include Kohli, Rohit, Iyer, and Rahul from India; Quinton and Van der Dussen from South Africa; Mitchell, Warner, and Marsh from Australia; and Ravindra from New Zealand. These players have significantly contributed to their teams' successes, leading them to the semi-finals.



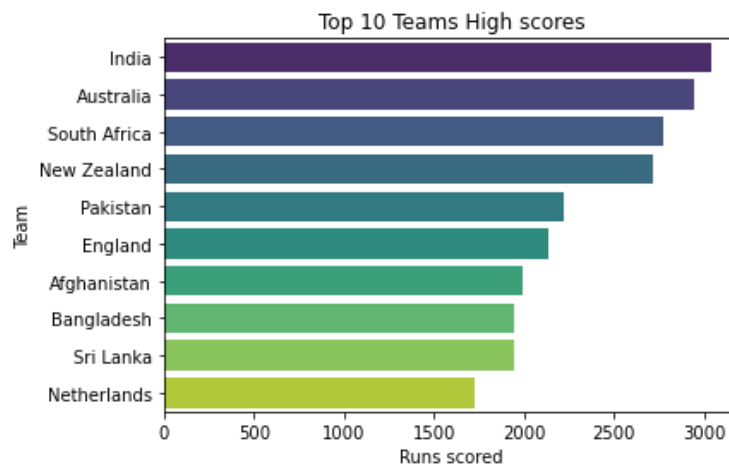
Batsmen with Best Strike Rates

England's batsmen top the list for best strike rates, suggesting they score quickly but might also lose their wickets more frequently. This aligns with the observation that England has a high number of bowled, caught, and stumped dismissals. Maxwell and Head from Australia also have high strike rates. Interestingly, Kohli and Rohit Sharma, who rank high in total runs, do not appear among the top 10 for strike rates, indicating a difference in batting strategy compared to Australia.



Teams with Best Batting Figures

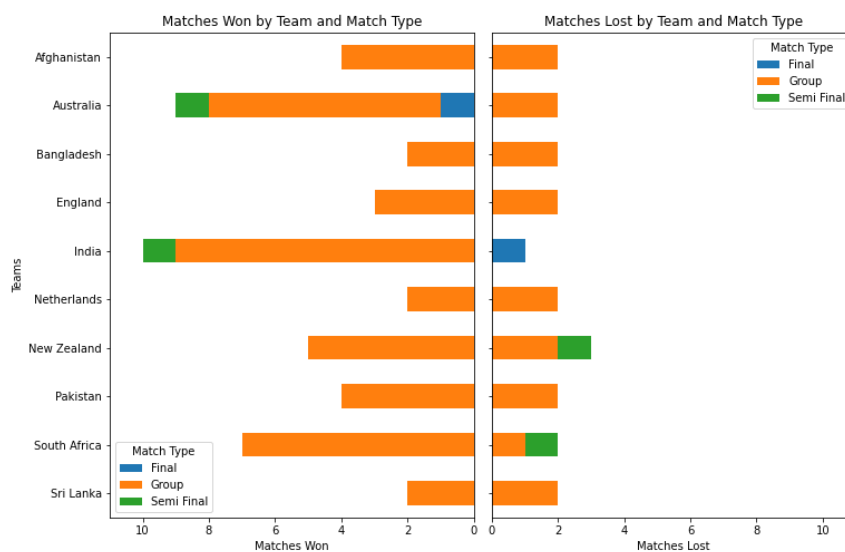
India, Australia, South Africa, and New Zealand are the top four teams with the best batting figures, corresponding to their positions as semi-finalists. This reinforces the consistency of their batting performances throughout the tournament.



Match Performance Analysis

Analyzing Team Performance and Progress in Matches Played

This two-way horizontal bar chart analyzes the performance of each team in terms of matches won and lost. The center axis represents the teams, with wins shown on the left and losses on the right. This visualization provides a clear comparison of each team's performance, highlighting the balance between their wins and losses. In this tournament, the final match was won by Australia. This team demonstrated consistent performance throughout the tournament, culminating in their victory in the final.

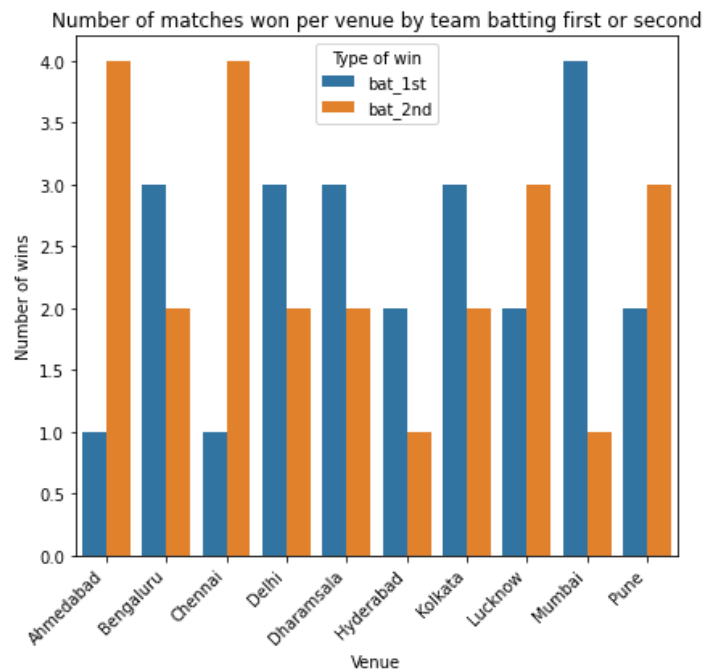


Venue Analysis Based on Batting First or Second

The analysis of venues is based on whether the teams batted first or second. The tournament featured matches across 10 venues in India, each hosting a total of five matches.

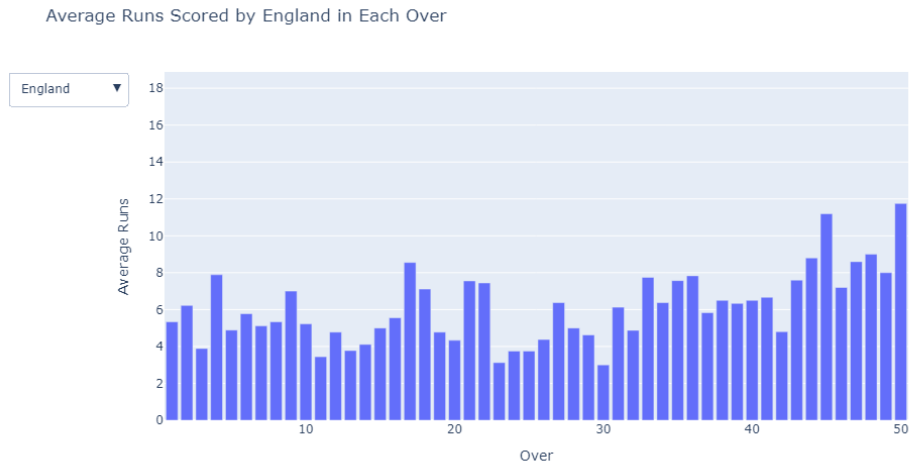
- Ahmedabad: 1 match won batting first vs. 4 batting second
- Chennai: 1 match won batting first vs. 4 batting second
- Mumbai: 1 match won batting second vs. 4 batting first

These three venues indicate that the toss plays a significant role in match outcomes. For other venues, the ratio of wins when batting first or second was either 2:3 or 3:2. The final was hosted in Ahmedabad, where India lost the toss, batted first, and subsequently lost the only match (the final).



Supplementary plots (Interactive visualizations using Plotly)

Average runs scored per over by teams



Average runs scored by teams batting first or second in all venues

