

Welfare of Masses: Peer-Reviewed Multidisciplinary Research Journal (WMRJ)

Journal Website - www.journal.mmcc.edu.in/wmrj

ICC Cricket World Cup 2019 Top Batsman Consistency Analysis

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ARTICLE INFO

Article history:

Received 26 June 2025

Received in revised form
28 June 2025

Accepted 2 August 2025

Keywords:

Consistency, Average, Batsman performances.

ABSTRACT

In cricket, the batsman performances are compared with their averages (Arithmetic mean) runs they have scored over their careers. However, average is not sufficient to describe the data. Therefore we go to the next aspect and that is dispersion. Dispersion measures the spread of the data from their average. This study examines the consistency of the best batsmen in the 2019 ICC Cricket World Cup, with a particular emphasis on Shakib Al Hasan, David Warner, and Rohit Sharma. Shakib Al Hasan's outstanding average and all-around performance, as determined by statistical analysis, strongly support his claim of being more reliable in the competition.

1. INTRODUCTION

Cricket is a bat-and-ball game played between two teams, typically with eleven players each. The core objective is to score runs by hitting a ball bowled by the opposing team and running between wickets. Cricket has a rich history, originating in 16th century England, and has evolved into a globally popular sport with various formats like Test matches, one-day internationals, and Twenty20.

One of the most prominent international cricket competitions, the ICC Cricket World Cup showcases the prowess of elite players from all around the world. With exciting matches and standout individual performances, the 2019 edition was no different. A key component of cricket that distinguishes the great players from the good is consistency. By contrasting the performances of well-known players like Rohit Sharma, David Warner, and Shakib Al Hasan, this study seeks to examine the consistency of the best batsmen in the 2019 ICC Cricket World Cup. We can learn more about the main elements that lead to consistency in high-pressure cricket competitions by looking at their runs scored, averages, and unpredictability. We can identify the batsman who was most consistent throughout the competition with the aid of this research.

2. A BRIEF REVIEW OF LITERATURE [1]

Numerous studies that evaluated the players' performance and forecasts have been published.

The D/L technique, a mathematical formulation created by Duckworth and Lewis, is intended to determine the target score for the batting second in a limited overs contest that has been

interrupted by inclement weather or other events [7]. Croucher has selected strike rate as well as the mean scores as a performance indicator [4].

Along with the strike rate on one axis and the likelihood of getting out on the other, Barr and Kantor employed a novel graphical approach [2]. A metric based on consistency and average was described by Barr and Van Den Honert [3]. In his research, Lemmer showed that the batting average is unsatisfactory in this situation. [6]

3. OBJECTIVES OF THE PAPER

The following are the goals of the Top Batsman Consistency Analysis for the 2019 ICC Cricket World Cup:

1. To assess the ICC Cricket World Cup 2019 best batsmen's consistency.
2. To evaluate the performances of well-known batters like Shakib Al Hasan, David Warner, and Rohit Sharma.
3. To use statistical analysis to determine the tournament's most reliable batsman.
4. To examine the variation in runs scored by elite batsmen and how it affects their performance as a whole.

4. RESULT AND ANALYSIS

1. DIFFERENT MEASURES USED IN THE PRESENT STUDY

The measure, which is used in the present study is as follows :
The mean (or average) is the most popular and well known

measure of central tendency. So, if we have n values in a data set having values x_1, x_2, \dots, x_n , then the mean, standard deviation and Coefficient of variation are respectively given by:

$$\text{Mean} = \frac{\sum x_i}{n}, \text{ standard deviation} = \sigma = \sqrt{\text{variance}}, \text{ Variance} = \frac{\sum x_i - \bar{x}^2}{n}$$

$$\text{And Coefficient of variation} = C.V = \frac{\sigma}{\bar{x}} * 100\%$$

The coefficient of variance is the ratio of standard deviation to the mean. If the coefficient of variance is small then data is good that means observations are close to average.

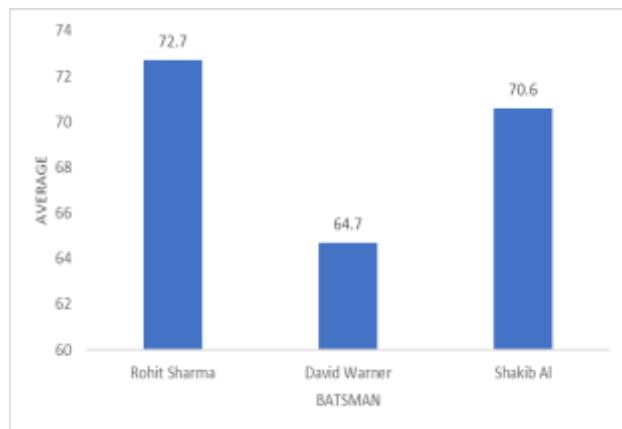
2. PRE-REQUISITE TABLES RELATED TO THE PRESENT STUDY

Runs scored by cricketer are shown in the following table:[3]

| | | | | | | | | | | |
|--------------|-----|-----|----|-----|-----|-----|-----|----|-----|----|
| Rohit Sharma | 122 | 57 | 1 | 103 | 104 | 102 | 18 | 1 | 140 | 79 |
| David Warner | 9 | 122 | 16 | 53 | 166 | 26 | 107 | 56 | 3 | 89 |
| Shakib Al | 64 | 66 | 51 | 41 | 124 | 121 | 64 | 75 | 37 | 63 |

3. CALCULATIONS

- Taking Average(Mean) runs of Players :- Average runs of Rohit Sharma :- 72.7 Average runs of David Warner :- 64.7 Average runs of Shakib Al Hasan :- 70.6
- Taking Variance(σ^2) of runs of Players :- Variance of runs of Rohit Sharma :- 2327.61 Variance of runs of David Warner :- 2691.61 Variance of runs of Shakib Al Hasan :- 796.64
- Taking Standard Deviation(σ) of runs of Players :-
S.D of Rohit Sharma :- 48.2453
S.D of David Warner :- 51.8807
S.D of Shakib Al Hasan :- 28.2248
- Taking Coefficient of Variation (C. V) of runs of Players :-
C.V of Rohit Sharma :- 66.3621%
C.V of David Warner :- 80.1866%
C.V of Shakib Al Hasan :- 39.9784%



5. CONCLUSIONS:

Based on the statistical evaluation of the runs that Shakib Al Hasan, David Warner, and Rohit Sharma have scored, the findings indicate that:

Shakib Al Hasan has been the most reliable batsman of the three, as evidenced by his lowest Coefficient of Variation (C.V.) of 39.9784%.

- David Warner's C.V. is 80.1866%, whilst Rohit Sharma's is 66.3621%, suggesting that Rohit Sharma has been more reliable than Warner.

In comparison to Rohit Sharma and David Warner, Shakib Al Hasan's lower C.V. value indicates that his runs are more reliable and less erratic. Shakib Al Hasan is therefore the most reliable batsman of the three, according to this research.

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