

Analyzing Virat Kohli's Century-Scoring Records

IS 2105 - Business Statistics

Group 18

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Introduction

This project aims to analyze the century-scoring records of Virat Kohli, one of the most successful cricketers in international cricket. The analysis will focus on identifying trends and patterns in Kohli's centuries across different cricket formats—Test, ODI, and T20I.

The dataset titled "Virat Kohli 100s" was retrieved from Kaggle, a reputable source for datasets. This dataset provides detailed information on all the centuries scored by Virat Kohli, including various contextual factors that could influence his performance. Analyzing this dataset is crucial for understanding the consistency and factors contributing to Kohli's success, providing insights into his prowess as a world-class cricketer.

Data

The dataset comprises records of all international centuries scored by Virat Kohli. The key elements of the dataset include;

- ❖ **Individuals:** Each individual record corresponds to a century scored by Virat Kohli.
- ❖ **Variables:**
 - **Categorical Variables:**
 - **Format:** The cricket format (Test, ODI, T20I, IPL)
 - **Inning:** The inning in which the century was scored (first, second, third, fourth)
 - **Position:** Batting position during the match
 - **Against:** The team against which the century was scored
 - **Venue:** The location where the century was achieved
 - **Host Nation:** The country hosting the match
 - **Series:** The series during which the century was scored
 - **Year:** The year in which the century was scored
 - **Not Out:** Whether Kohli remained not out (Yes/No)
 - **MOTM:** Whether Kohli was awarded Man of the Match (Yes/No)
 - **Win:** Whether the team won the match (Yes/No)

- **Captain:** Whether Kohli was the captain during the match (Yes/No)

➤ **Quantitative Variables:**

- **Score:** The number of runs scored by Kohli in the century
- **Balls:** The number of balls faced in the inning
- **Strike Rate:** The rate of scoring (runs per 100 balls)
- **Team Total:** The total number of runs scored by the team in that inning
- **Wickets Lost:** The number of wickets lost by the team during Kohli's inning

❖ **Nature of Variables:** The dataset includes both categorical and quantitative variables.

❖ **Data Source:** [Virat Kohli Hundreds](#)

Proposed Analysis Plan and Methodology

We will begin our analysis with univariate techniques to summarize and describe the data. For quantitative variables such as Score, Balls, Strike Rate, Team Total, and Wickets Lost, we'll calculate descriptive statistics like mean, median, mode, standard deviation, and range. For categorical variables like Format, Inning, Position, Against, Venue, Year, Not Out, MOTM, Win, and Captain, we'll examine frequency distributions. Visualizations such as histograms, bar charts, and pie charts will be used to highlight data distribution and central tendencies.

Next, we will explore the relationships between pairs of variables through bivariate analysis. We'll use Pearson correlation coefficients to assess the relationships between quantitative variables, such as Score and Strike Rate or Team Total and Wickets Lost. Scatter plots will help visualize these relationships across different categories like Format and Inning. We will also employ Two-way Tables to analyze interactions between categorical variables, such as Format and Win or Captaincy and MOTM awards.

To further deepen our analysis, regression analysis will be conducted to predict Score based on variables like Balls and Strike Rate. Finally, we'll apply Normal Distribution to examine the distribution of variables, which will help in identifying patterns or deviations. These analyses will collectively provide deeper insights into the factors influencing Kohli's century-scoring and match outcomes.

References

- Kaggle Website - <https://www.kaggle.com/>
- Moore, D.S. (2012). *Study guide for the basic practice of statistics, 6th edition*, by David S. Moore, William I. Notz and Michael A. Fligner. New York: W.H. Freeman ; Basingstoke.