

Cricket Player Analytics using DAX

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Abstract: Cricket is a hugely popular sport, the popularity of the shorter forms of cricket, and particularly T20 cricket, is undoubtedly increasing apparently complicated the process of player selection. Visual Insights of players performance help in find out the best players. Data Analysis Expressions and Data Visualization has the potential to revolutionize the pruning process by creating the insights from huge datasets. The goal of the project is to create dashboards using Data Analysis Expressions and Microsoft power bi to determine the player analytics on website that can be easily available for everyone. The project is divided in to five dashboards. The first module focuses on selecting a team from total players. The second dashboards comprise of entire matches summary that exist in the dataset. The third dashboard provides the players who could have the potential to hold the winning possibilities over 90 percent. The fourth dashboard provides the analytics of every player. The final dashboard generates analytics based on the user requirements.

Keywords: Cricket Analytics, Data Visualization, Cricket, Power BI, Web Scraping

I. INTRODUCTION

Data analytics is the process of analyzing and interpreting large sets of data to uncover insights and trends that can inform business decisions. With the rise of big data, businesses and organizations are collecting vast amounts of information on everything from customer behaviour to market trends, and data analytics is becoming increasingly essential for turning this data into actionable insights.

Data analytics involves a range of techniques and tools, including statistical analysis, data mining, machine learning, and predictive modelling. By leveraging these tools, analysts can extract valuable information from data sets, identify patterns and correlations, and make informed decisions that can improve performance, reduce costs, and drive growth. Data analytics has applications across a range of industries, from healthcare and finance to retail and manufacturing. In today's data-driven world, the ability to extract insights from data has become a critical competitive advantage, and those who can master the art of data analytics are poised for success.

Cricket is a popular sport that involves a lot of numbers and statistics. Cricket data can be used to measure and compare the performance of players, teams, and matches, as well as to predict future outcomes and trends. However, cricket data can also be complex and messy, requiring proper cleaning, processing, and analysis. This project aims to use DAX, a formula language for data analysis, to create a Power BI dashboard that showcases various aspects of cricket player data analytics. The dashboards will include visualizations such as charts, tables, maps, and slicers that allow users to explore and interact with the data. The dashboard will also include DAX measures, calculated columns, and tables that perform various calculations and aggregations on the data, such as batting average, strike rate, bowling economy, wickets taken, etc. The project will use data from ESPN Cricinfo, source of cricket data that provide detailed information on players, teams, matches, and events. The project will focus on the T20 International Men World Cup (WC), a professional Twenty20 cricket league that features some of the best players in the world. The project will demonstrate how DAX can be used to create powerful and dynamic data analysis solutions for cricket and other sports.

II. FEASIBILITY STUDY

The feasibility of the Cricket Player Analytics using DAX project is highly dependent on several factors, including the availability and quality of player performance data, the reliability and accuracy of the data analytics tools, and the

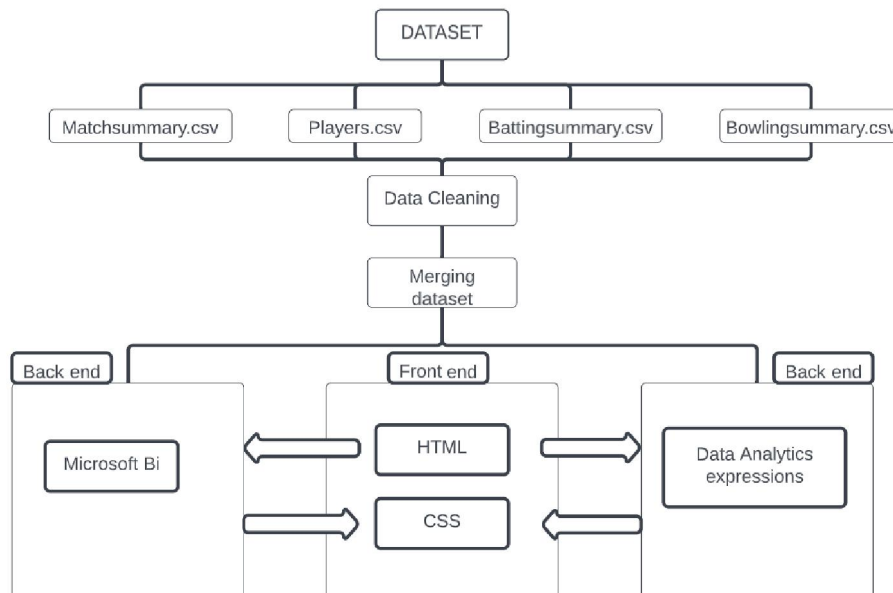
willingness of coaches and players to adopt the new technology. In terms of data availability, the project relies on accessing accurate and reliable performance data from sources such as ESPN Cricinfo. While this data is generally available for major cricket leagues and tournaments, it may be more difficult to access for lower-level leagues and teams.

The reliability and accuracy of the data analytics tools used in the project, including Python, Power BI, and DAX, are crucial to the success of the project. While these tools have been extensively tested and are widely used in the data analytics field, there is always a risk of errors or technical issues that could affect the accuracy of the data.

Finally, the willingness of coaches and players to adopt the new technology is crucial to the success of the project. While there is a growing awareness of the potential benefits of data analytics and technology in cricket, there may be resistance to adopting new tools and methods in a sport that is steeped in tradition.

Overall, the feasibility of the Cricket Player Analytics using DAX project is largely dependent on the availability and quality of data, the reliability and accuracy of data analytics tools, and the willingness of coaches and players to embrace new technology. If these challenges can be overcome, the project has the potential to provide valuable insights into player performance and optimize training programs for improved performance in cricket.

III. SYSTEM ARCHITECTURE



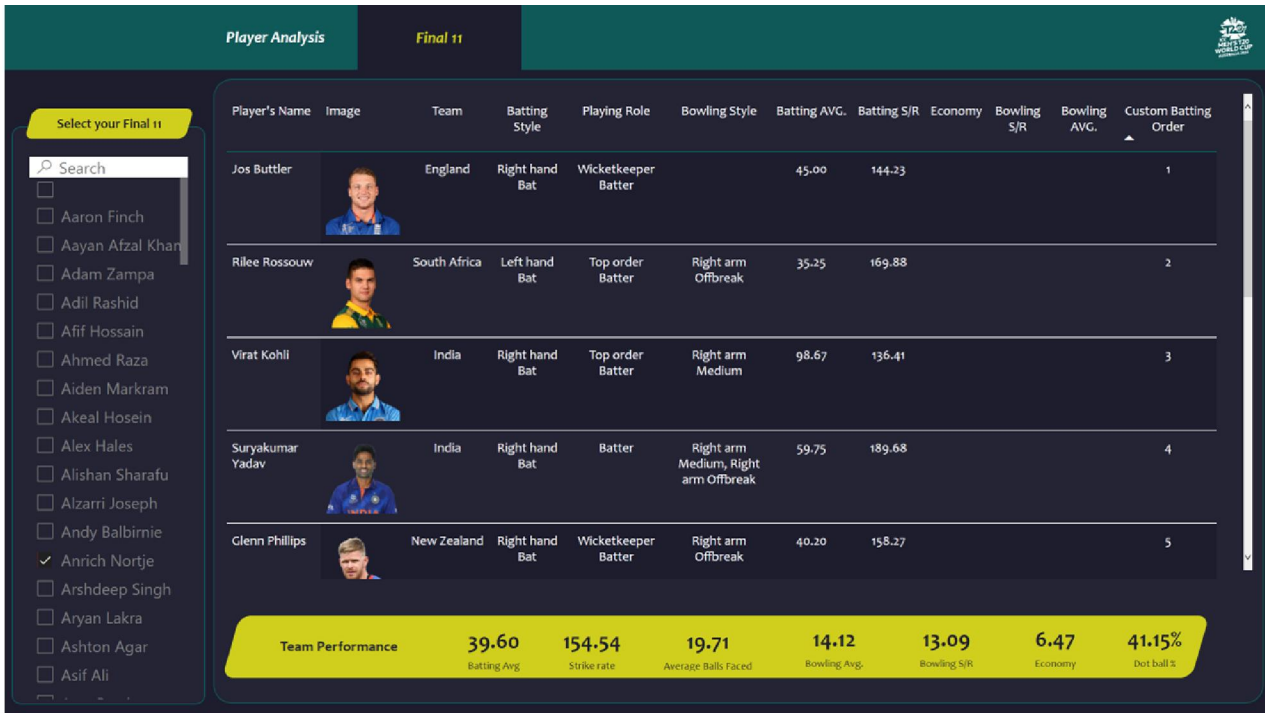
IV. PROPOSED SYSTEM

The proposed methodology for the Cricket Player Analytics using DAX project involves several steps. The first step is to collect data on player performance from reliable sources such as ESPN Cricinfo using web scraping techniques. The collected data will include player statistics such as batting average, strike rate, and number of runs scored, as well as match information such as venue, opposition, and result.

The next step is to clean and pre-process the data using Python and NumPy modules. This will involve removing missing values, identifying and handling outliers, and transforming the data as necessary for analysis. The cleaned and pre-processed data will be stored in a cloud-based database such as Microsoft Azure the data is stored in the database, it will be analyzed using DAX and Power BI. This will involve creating data models and visualizations to identify trends and patterns in the data. The data models will be designed to enable interactive exploration of the data by coaches and players, allowing them to filter and slice the data by various dimensions such as player, opposition and winners.

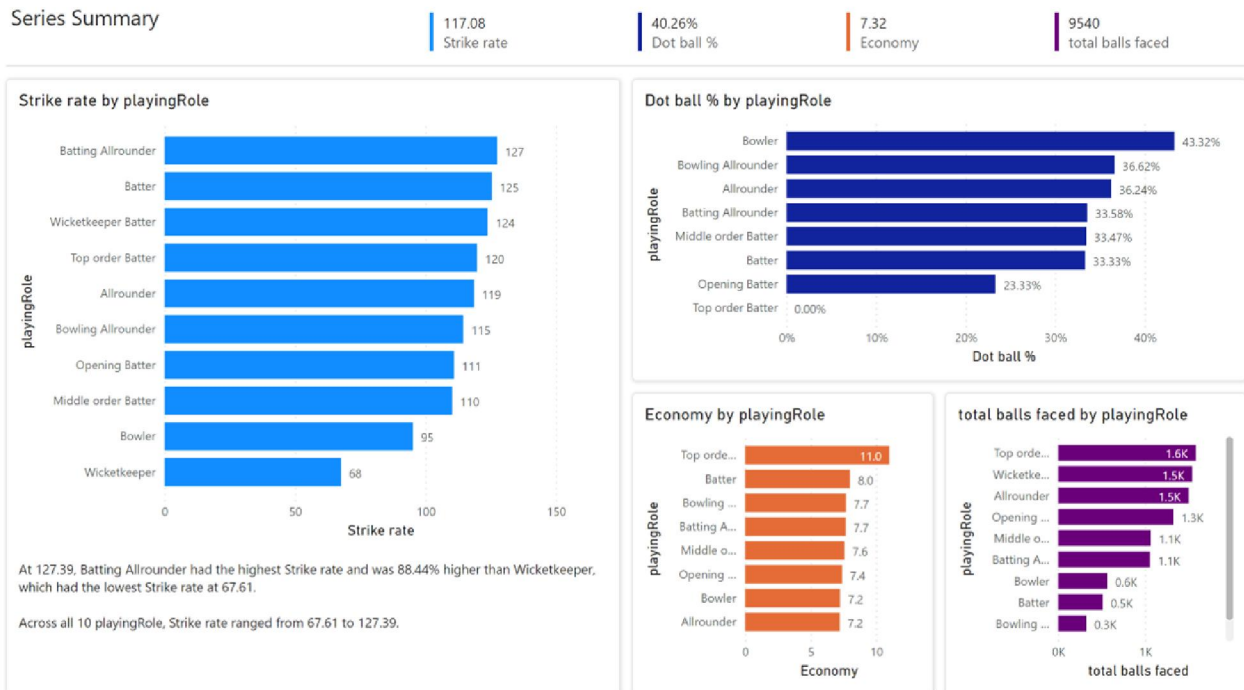
Finally, the project will be deployed using Power BI and JavaScript, allowing coaches and players to access and interact with the data analytics tools on a web-based platform. This will enable real-time monitoring of player performance and provide coaches and players with actionable insights to improve their performance

V. RESULTS



(1)

The above dashboard (1) displays entire player database to select your required 11 members.



(2)

The above dashboard (2) displays entire league statistics based on their roles.



(3)



(4)



(5)

The dashboards (3),(4),(5) provides the interface having both parameterized and non-parameterized statistics of players

VI. CONCLUSION

In conclusion, the Cricket Player Analytics project is an innovative and valuable tool for analyzing player performance and providing actionable insights to improve player and team outcomes. By collecting and analyzing a wide range of player statistics and match information, coaches and players can gain a more comprehensive view of player performance, identify areas for improvement, and to enhance their overall performance. Deploying the project on a web-based platform using Power BI and JavaScript ensures that coaches and players can access and interact with the data analytics tools in real-time, allowing for ongoing monitoring of player performance and the ability to make adjustments and improvements as needed.

Overall, the Cricket Player Analytics project has the potential to revolutionize the way coaches and players approach player performance analysis and decision-making, leading to improved outcomes and a competitive edge in the world of cricket.

VII. ACKNOWLEDGEMENT

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