Decision Making for selecting Players in Auction

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1 Introduction

In the dynamic landscape of cricket, the art of crafting a winning team begins long before the players step onto the field. Crucial decisions made during player auctions can often spell the difference between triumph and defeat. This project sets out on a journey to revolutionize the way cricket franchises approach player procurement by introducing interactive dashboards as a powerful decision-making tool.

Inspired by the profound insights gleaned from research papers like "IPL Data Analysis and Visualization for Team Selection and Profit Strategy" this endeavor focuses on leveraging data visualization to illuminate the intricate nuances of player performance, team dynamics, and team requirements.

Instead of merely relying on intuition or historical trends, this project advocates for a data-driven approach to player auctions. By harnessing the potential of interactive dashboards, franchise owners and decision-makers gain access to real-time, comprehensive data analyses. These dashboards facilitate a deeper understanding of player statistics, valuations, and team dynamics, empowering stakeholders to make informed decisions that align with their strategic objectives.

Utilizing Python libraries such as Pandas, NumPy, Matplotlib, and Seaborn, this project constructs dynamic visualizations that allow users to explore player profiles, assess their strengths and weaknesses, and evaluate their potential contributions to the team. Through interactive features like filters, sorting mechanisms, and predictive modeling, stakeholders can tailor their analyses to suit their specific requirements, thereby optimizing the player selection process.

Beyond merely facilitating player acquisitions, these interactive dashboards serve as invaluable tools for long-term strategic planning. By identifying emerging talents, assessing market trends, and evaluating rival strategies, cricket franchises can develop comprehensive strategies that position them for success in the fiercely competitive landscape of professional cricket.

In essence, this project represents a paradigm shift in the way cricket franchises approach player auctions, ushering in an era of data-driven decision-making and strategic excellence. By embracing the power of interactive dashboards, teams can unlock new avenues for success, ultimately leading to on-field triumphs and sustained franchise prosperity.

2 One-sentence description

Creating diverse interactive visualizations incorporating custom metrics derived from cricket player statistics to aid team owners and management in making informed bidding decisions, integrating multiple factors aligned with their team requirements.

3 Project Type

Decision Making, Interactive Data Visualization, Statistical Analysis

4 Audience

Who is the audience for this project? How does it meet their needs? What happens if their needs remain unmet?

The intended audience for this framework comprises astute cricket franchise stakeholders, including team owners, management personnel, and strategic decision-makers, seeking a sophisticated and data-driven approach to player procurement during auctions, wherein comprehensive analyses of

player statistics are pivotal in aligning with strategic team requirements and aspirations.

5 Approach

5.1 Details

What is your approach?

My methodology entails the development of custom metrics extrapolated from the provided dataset, meticulously crafted to dissect the cost implications of cricket players through a nuanced lens, thereby enabling a judicious evaluation of their worth predicated upon an amalgamation of pertinent factors. In navigating the intricate landscape of player procurement, team owners and management are afforded the luxury of bespoke interactive visualizations, wherein they can seamlessly toggle between diverse parameters tailored to both the exigencies of their team and the confines of their budgetary constraints, facilitating an informed and strategic decision-making process of unparalleled sophistication.

5.2 Evidence for Success

Why do you think it will work?

Understanding uncertainty, encompassing ambiguity, ignorance, and risk, remains a complex challenge across various domains, with factors such as decision makers' expertise and scenario intricacies shaping the efficacy of methodologies. The historical evolution of graphical representations, from range bars to box plots, has entrenched visual aids in elucidating uncertainty in scientific processes, yet unanswered questions drive ongoing uncertainty visualization research. While adapting existing techniques poses challenges, assessing the impact of uncertainty visualizations on decision-making necessitates evaluating performance, user experience, interpretation, and decision quality. Thus, we've focused on how this could be improved by creating interactive dashboards/ visualizations.

6 Best-case Impact Statement

This project has the capacity to improve decision making using those factors which usually get overlooked in the use case i.e. key-factors while buying players in auction. The key factors are nothing but the custom metrics we've designed which will help to analyze the stats of players; not only decision making but players' value from the last auction and their current stats will help decision makers to design their budget.

7 Major Milestones

- Finding relevant datasets
- Designing custom metrics
- Designing dashboards and making them interactive.
- Finding the most suitable technology to build on.

8 Obstacles

8.1 Major obstacles

- Irrelevant datasets (where players' key stats are missing to analyze)

8.2 Minor obstacles

- Even though this is a real problem, very little work has been done in this field, so supporting the project by finding relevant previous work will be challenging.

9 Related Publications

- https://ieeexplore.ieee.org/document/10083736IPL Data Analysis and Visualization for Team Selection and Profit Strategy
- https://www.frontiersin.org/articles/10.3389/fcomp.2021.7 Data and Information Visualization: Unpacking its Characteristics and Influencing Aspects on Decision-making
- https://aisel.aisnet.org/pajais/vol11/iss4/4/Interactive Data and Information Visualization: Unpacking its Characteristics and Influencing Aspects on Decision-making

10 Define Success

At least creating 2 metrics to analyze the players' stats apart from the original dataset.