FIFA World Cup Analysis

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Introduction

The FIFA World Cup is the most widely viewed and followed sporting event globally, bringing together teams from around the world to compete for football’s most coveted trophy. This analysis aims to explore historical trends, player statistics, and match outcomes to gain insights into the factors contributing to success in the World Cup, identify patterns in teams' performance, and evaluate player contributions over time.

Data Description

The analysis utilizes three datasets related to the FIFA World Cup:

•**WorldCupMatches.csv**: Includes details about individual matches in various World Cups, including goals scored, teams, and other match-specific data.

•**WorldCupPlayers.csv**: Contains data on players participating in World Cup games, including appearances, goals, and other player statistics.

•**WorldCups.csv**: Provides an overview of each World Cup tournament, including the number of qualified teams, matches played, goals scored, and total attendance.

The data undergoes some cleaning, including converting numeric values that were initially formatted as strings.

Methodology, Data Preprocessing

Methodology

The analysis approach involves:

•Data Exploration: Initial examination of dataset structures, relationships, and important features.

•Data Cleaning and Transformation: Handling missing values, converting data types, and reformatting columns.

•Feature Analysis: Examining significant features such as the total number of goals scored, attendance, and player performance.

•Machine Learning (if applicable**)**: A classifier model, like a Random Forest, might be used to predict outcomes based on historical data.

Data Preprocessing

Key preprocessing steps included:

•Data Type Conversion: Reformatted columns in the WorldCups dataset, including removing punctuation from numeric fields.

•Data Shaping: Adjusted dataset structures to ensure consistency and readability, such as setting display options to view all columns for in-depth analysis.

Analysis and Visualization

The project likely includes visualizations and analyses on:

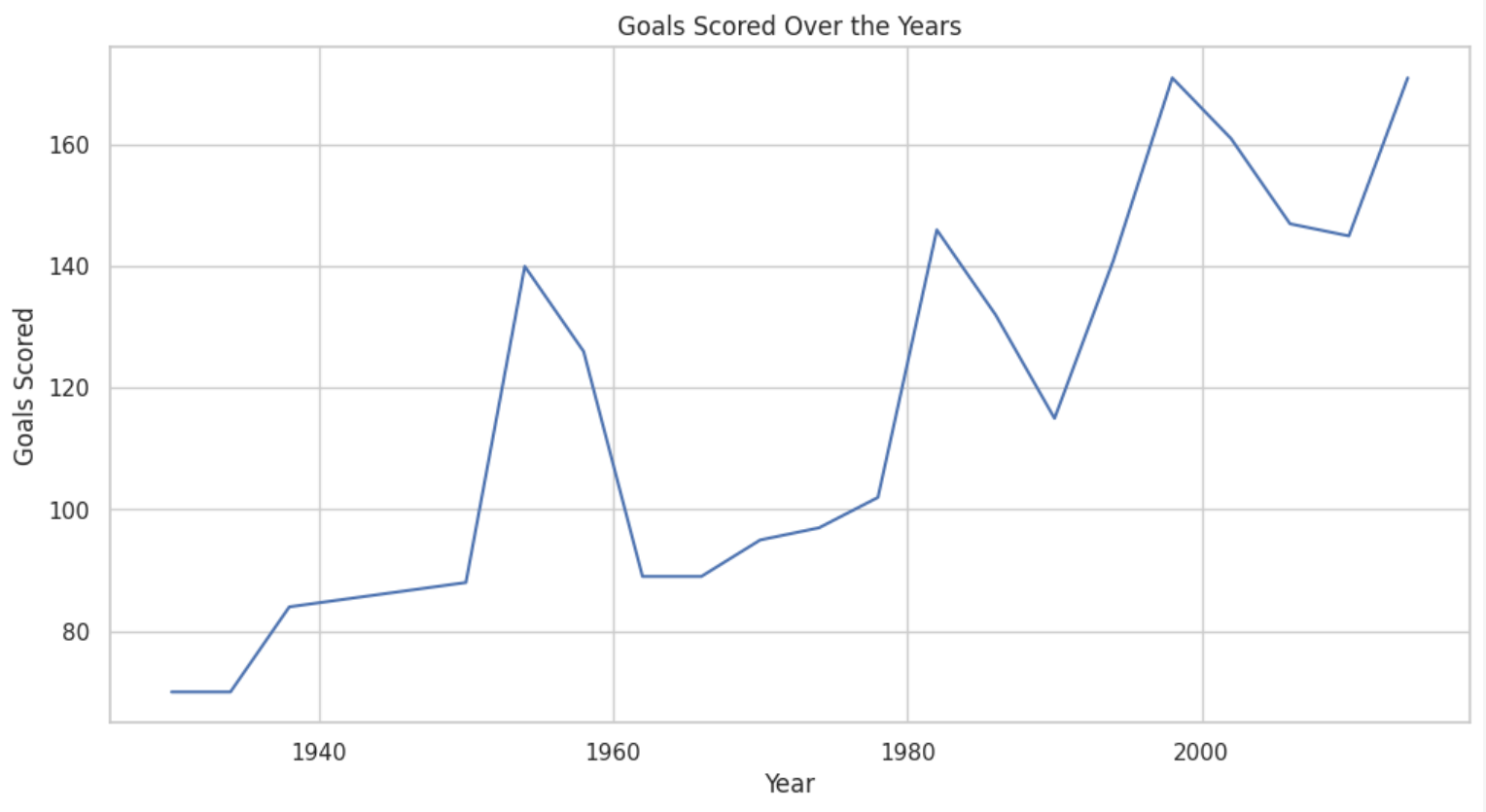
•**Goals and Attendance Trends**: Exploring how the number of goals and tournament attendance has changed over time.

•**Team Performance**: Evaluating which teams have consistently performed well or improved over different World Cups.

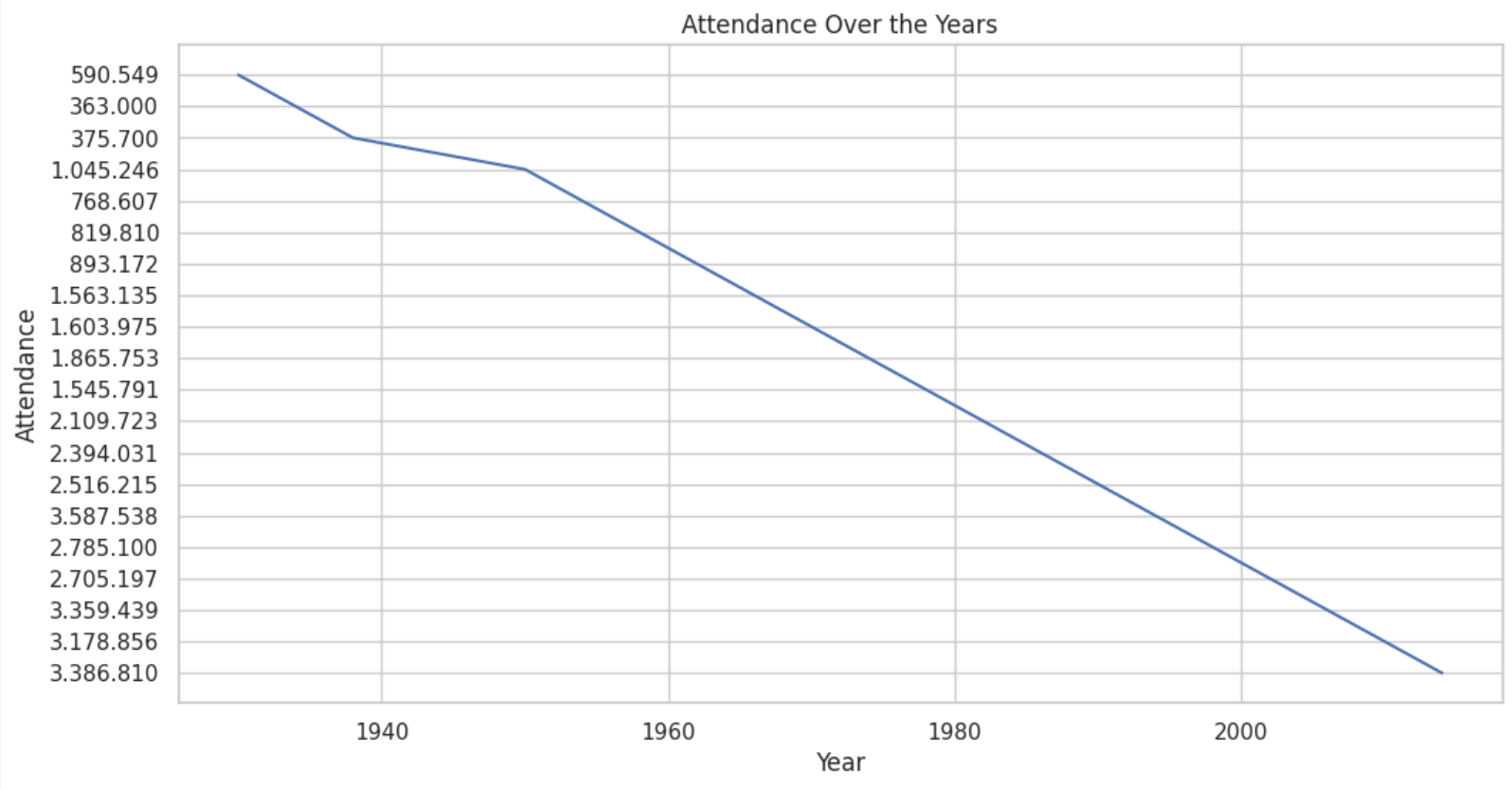
•**Player Analysis**: Insights into individual player contributions, including goal statistics and appearances.

•**Match Outcomes and Prediction**: Use of models such as Random Forest to predict match outcomes based on historical data.

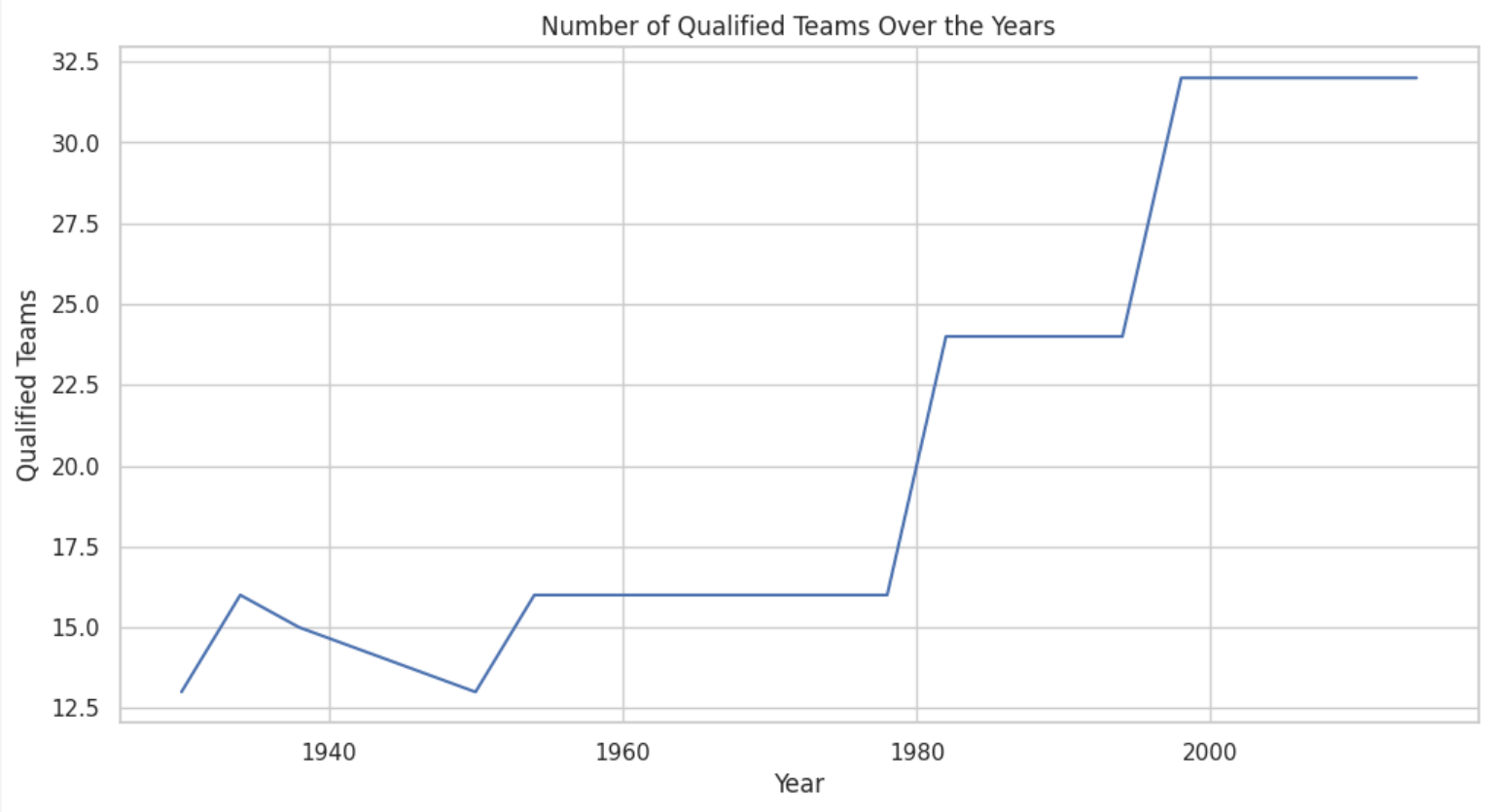
Goals Scored Over the Years



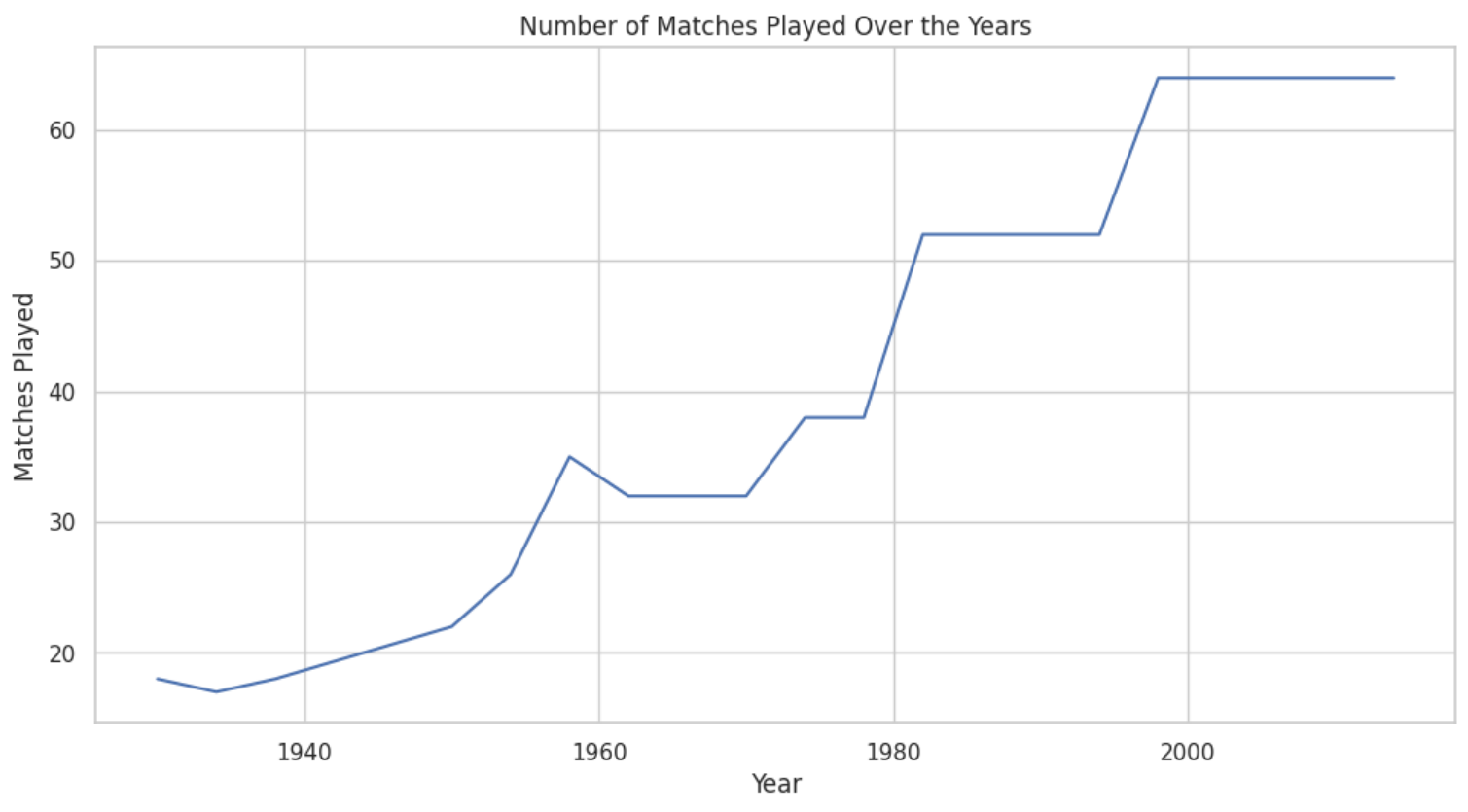
Attendance Over the Years



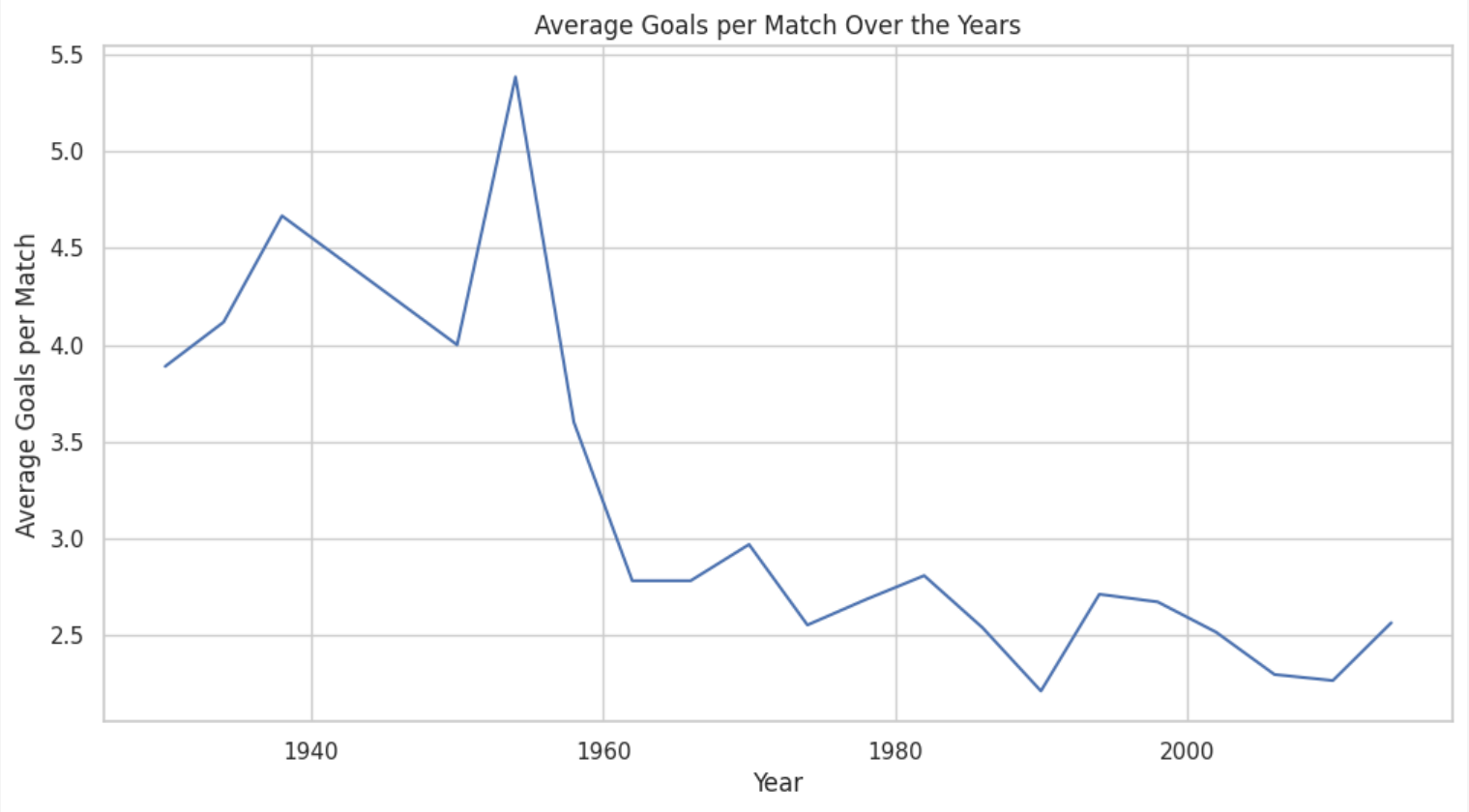
Number of Qualified Teams Over the Years



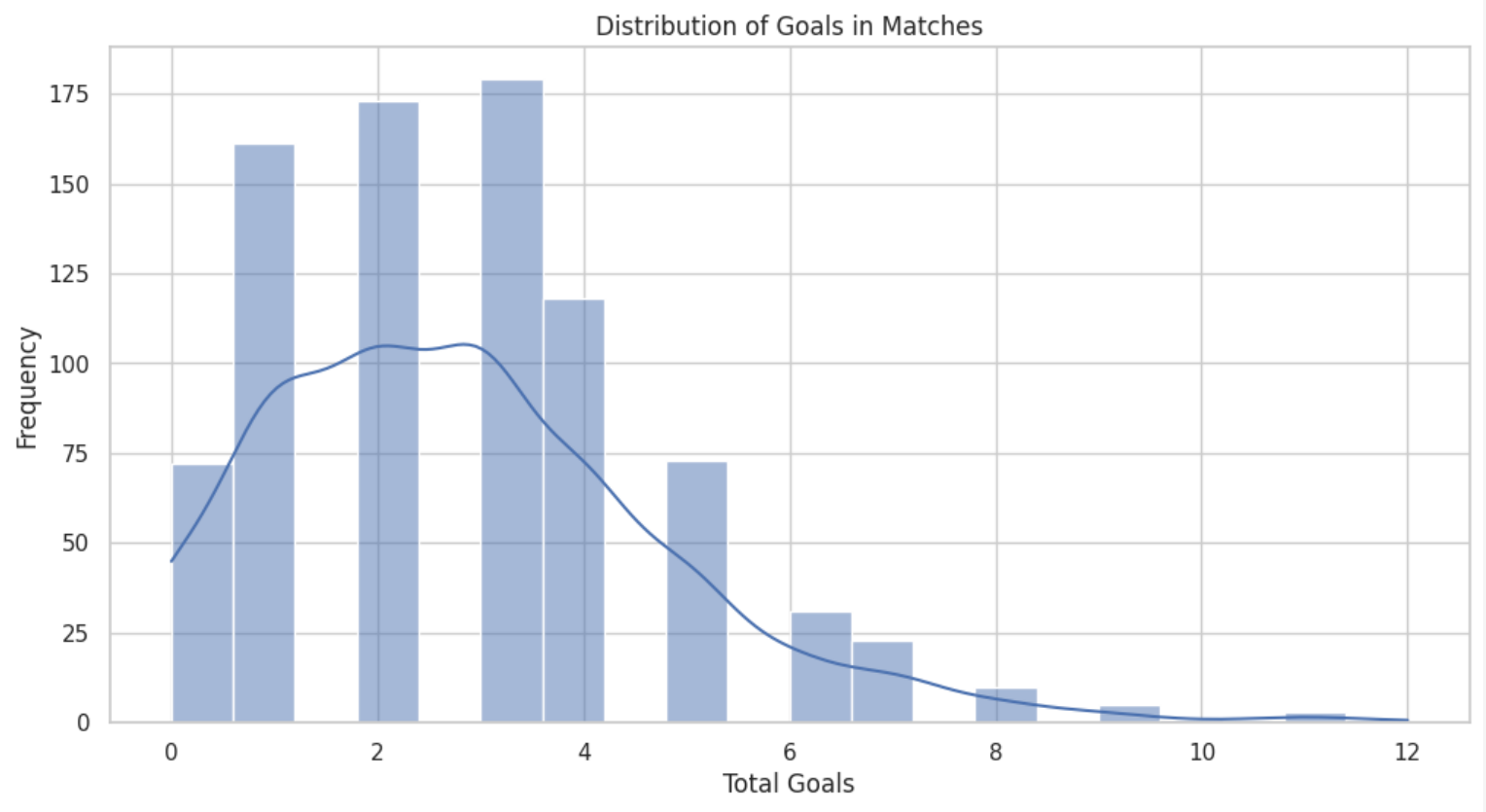
Number of Matches played Over the years



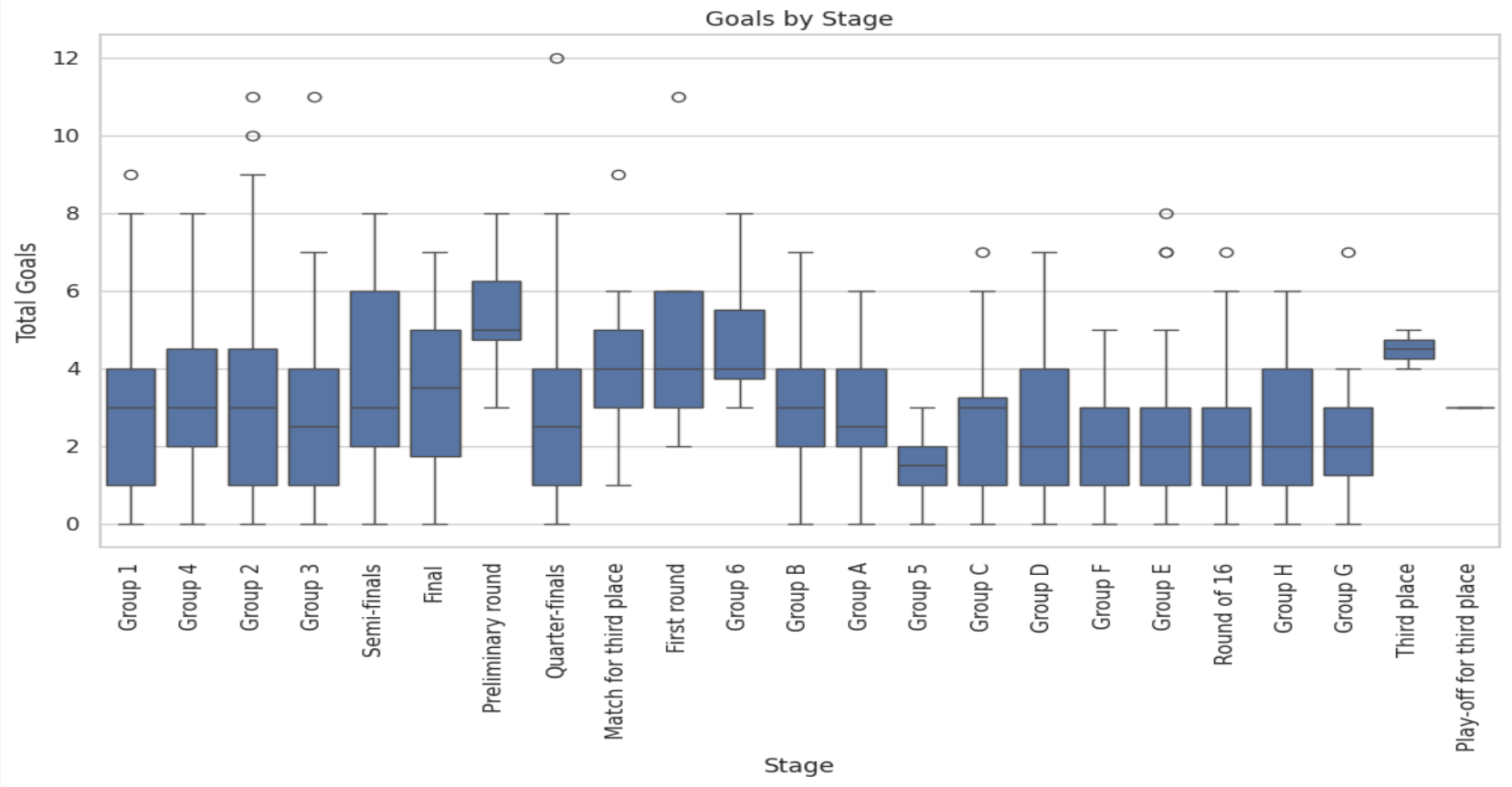
Average Goals per match over yeras



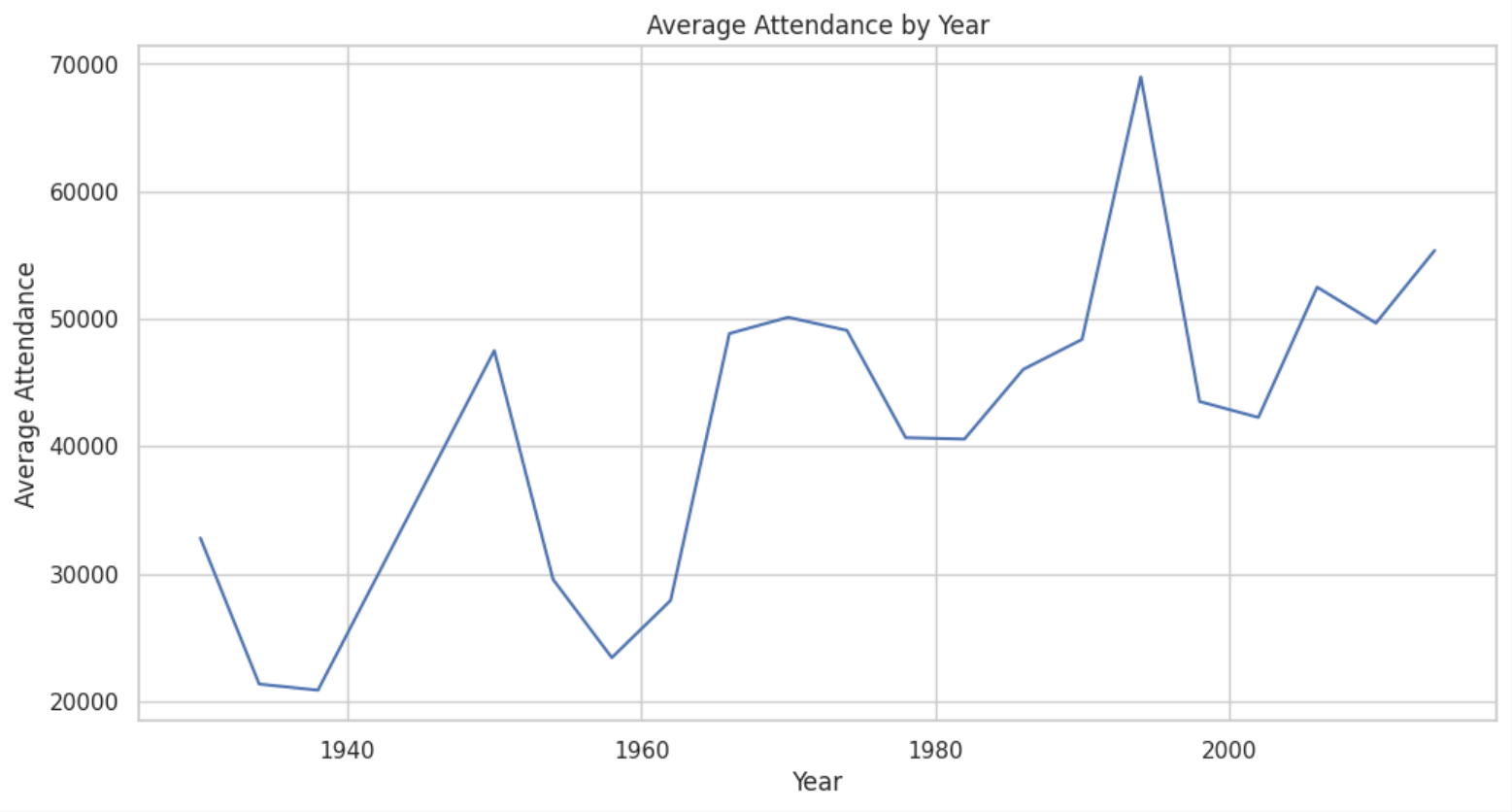
Distribution of Goals in matches



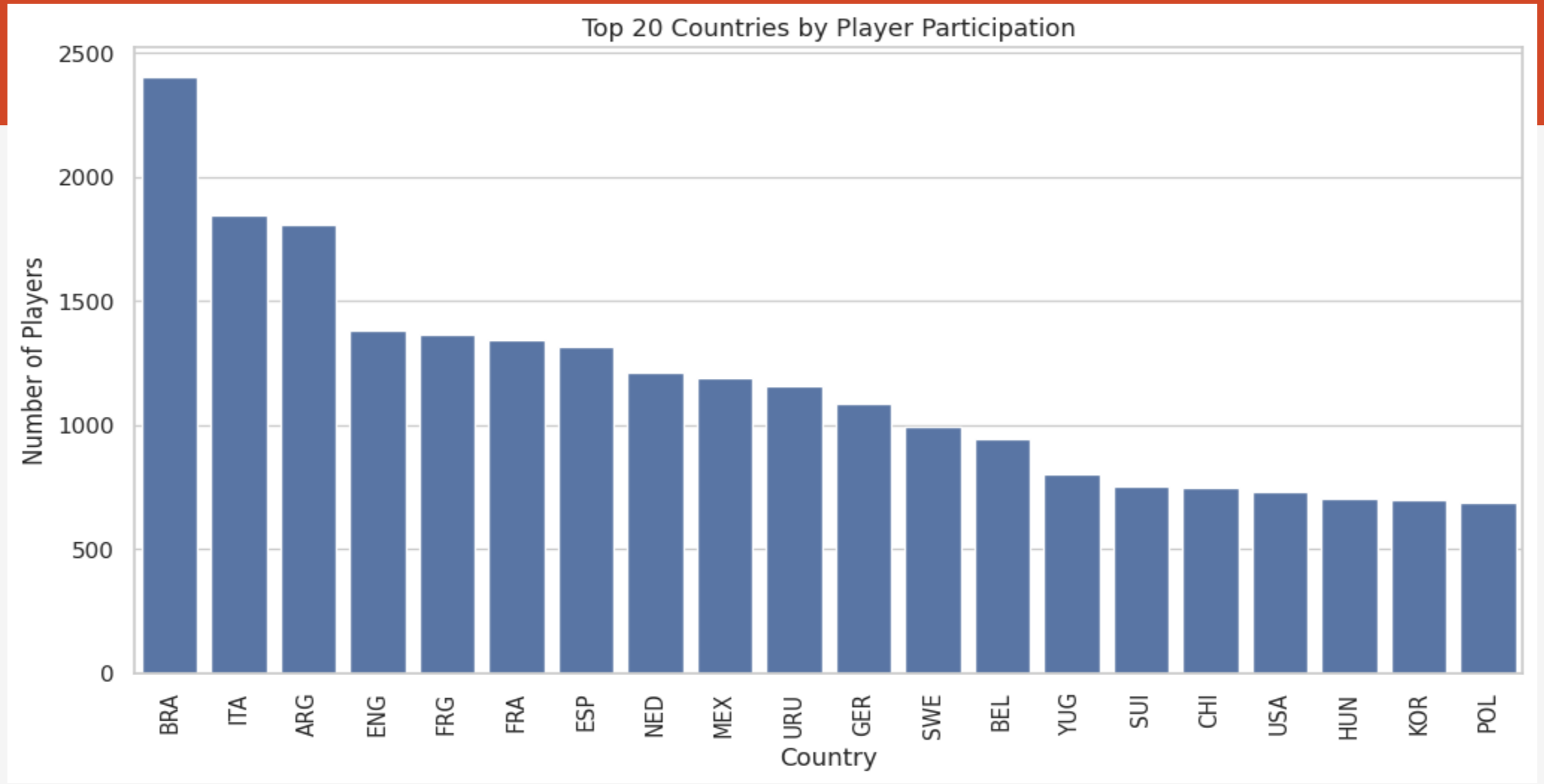
Goals by Stage



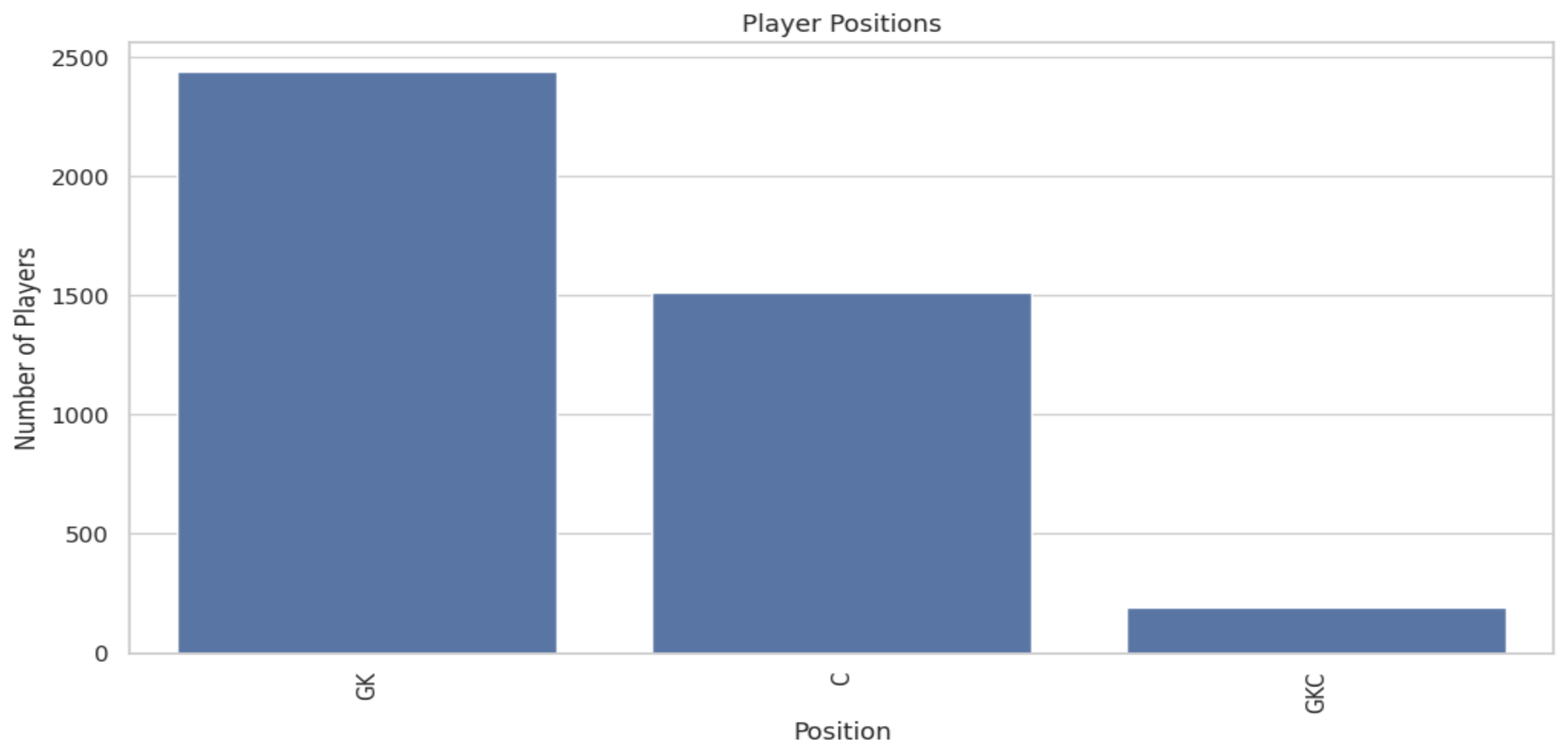
Average Attendance By Year



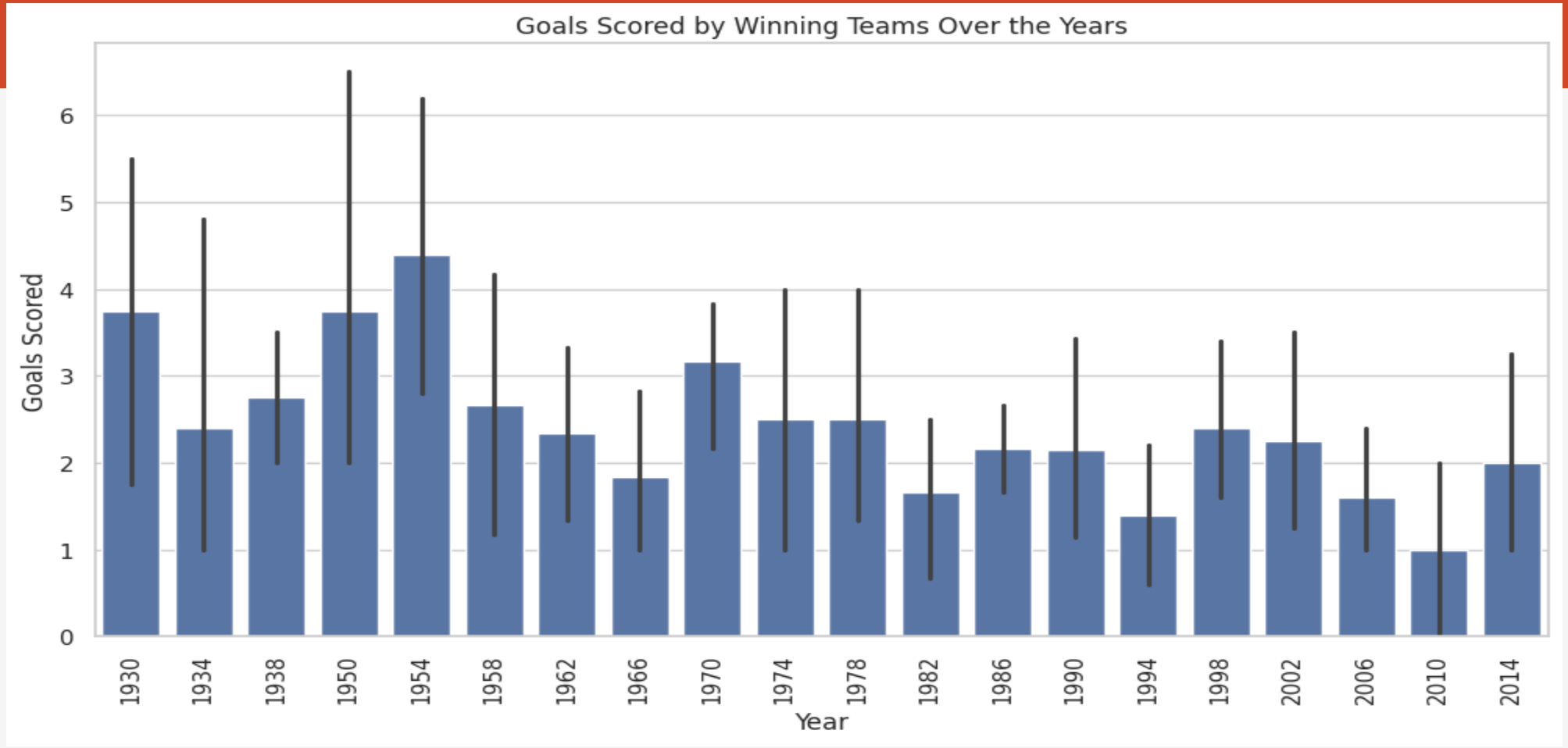
Top 20 Countries by Player participation



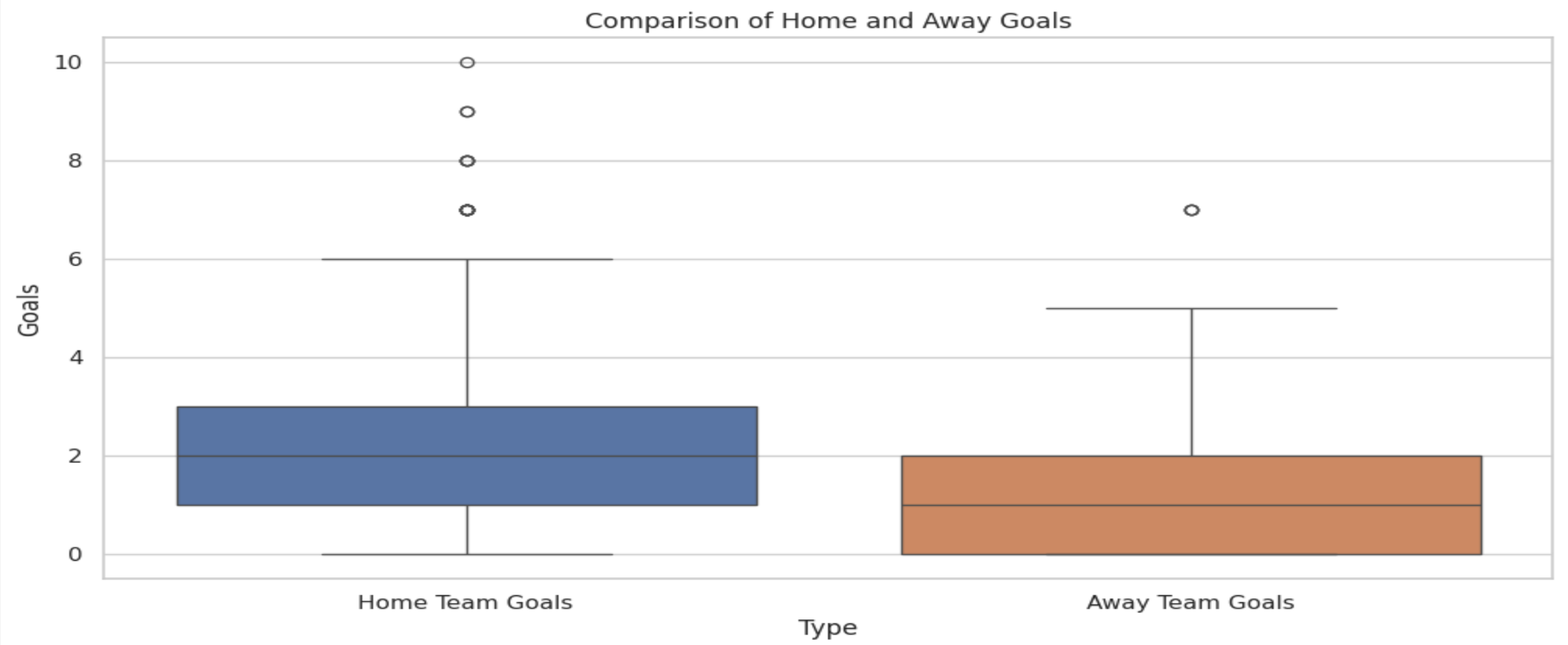
Player positions



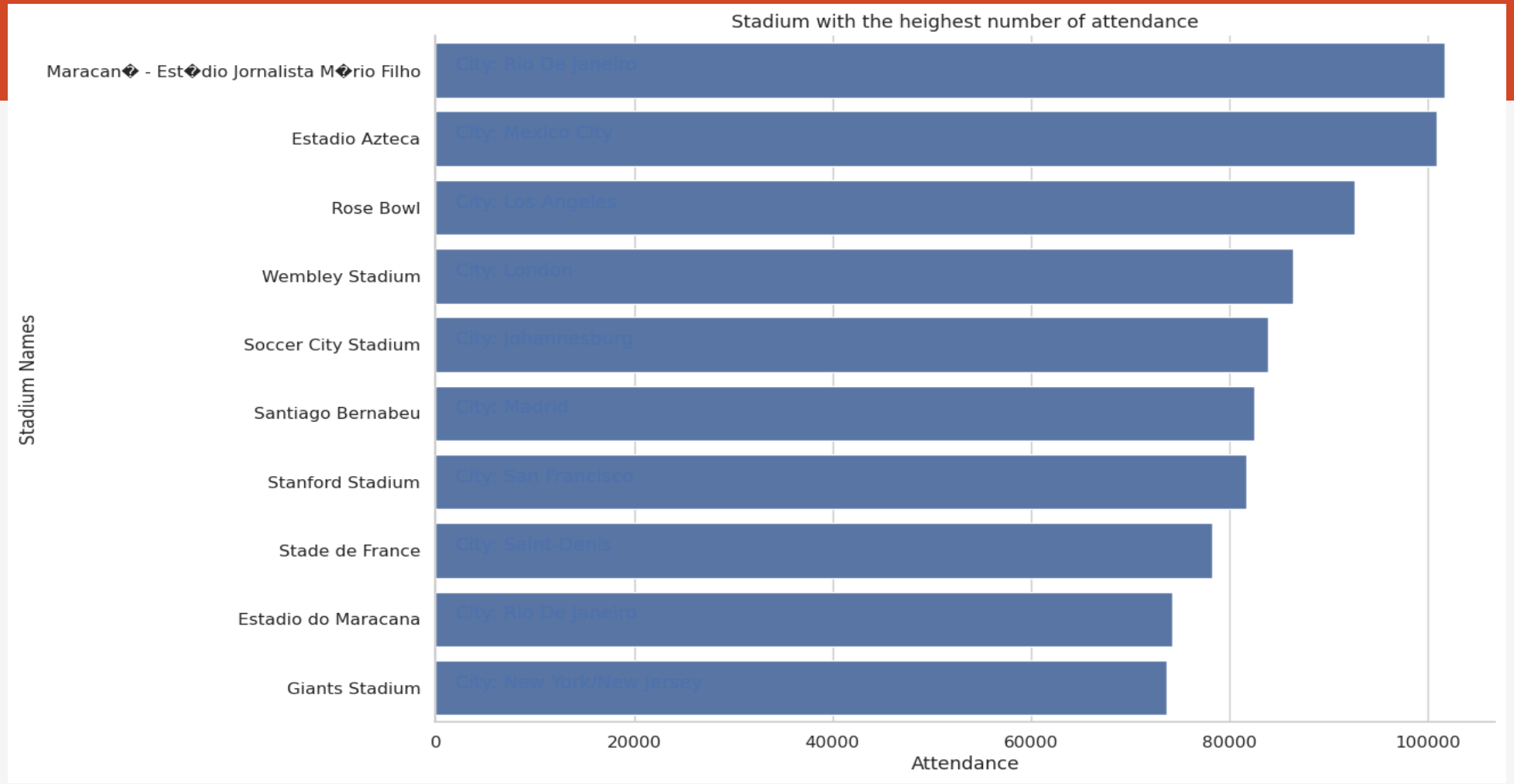
Goals Scored by Winning Teams Over the years



Comparion of Home and Away Goals



Stadium with the highest number of Attendence



Results and Discussion

The analysis findings might reveal:

•**Winning Trends**: Patterns among winning teams, including factors such as average goals per game and defensive strength.

•**Player Impact**: Identification of players with high contributions in terms of goals and assists.

•**Attendance Patterns**: Insights into how World Cup popularity has evolved over the years based on attendance.

•**Model Performance**: Model accuracy and insights from predictive analysis, if machine learning was applied.

Conclusion

This project provides an in-depth analysis of the FIFA World Cup, offering insights into team success factors, player performance, and tournament trends. The analysis highlights the evolution of the game and could be expanded by integrating more recent data or applying advanced modeling techniques to predict future match outcomes.

THANK YOU