DATA 604

UEFA Champions League:
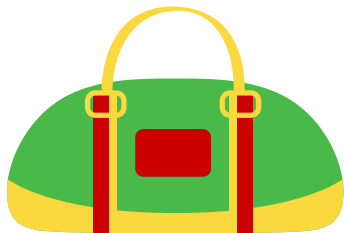# Player and Club Analysis

Team members:

Osama Bilgrami
Graeme Ko
Umair Qureshi
Soyebal Saad Adnan
Ray Alsaidi
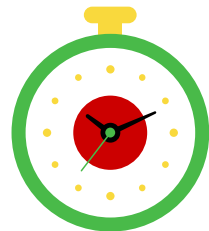
What is UEFA Champions League?

Founded

1955/56

2021/22 Season

3.5 billion
cumulative viewers

Competitors

78 Clubs

Total payout

€300.3m

Dataset

- Eight tables, 81 columns and approximately 500 rows

- Each table included player stats such as attacking, defending, goalkeeping, passing etc
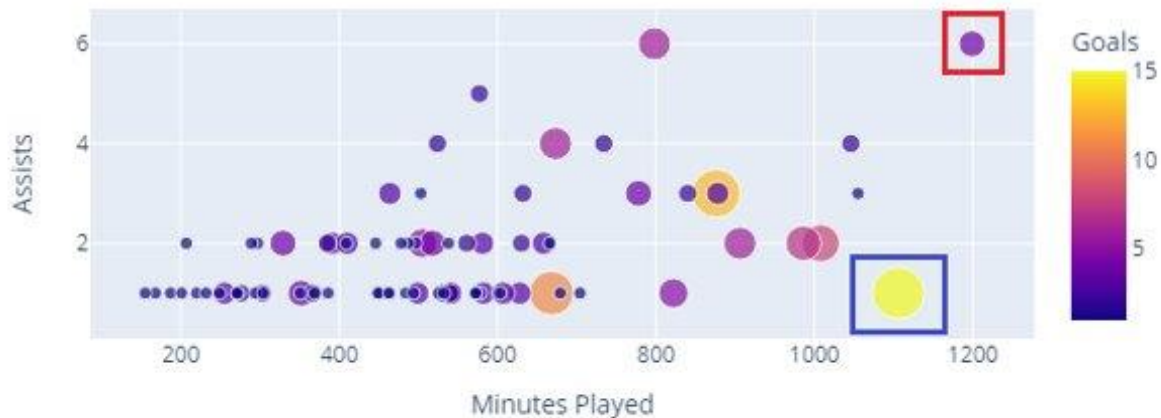
Guiding Question 1

Is there a connection between a player's goal-scoring proficiency, including goals from right foot, left foot, headers, and penalties, and their position in the UCL, and how does this relate to the number of minutes played and assists provided?
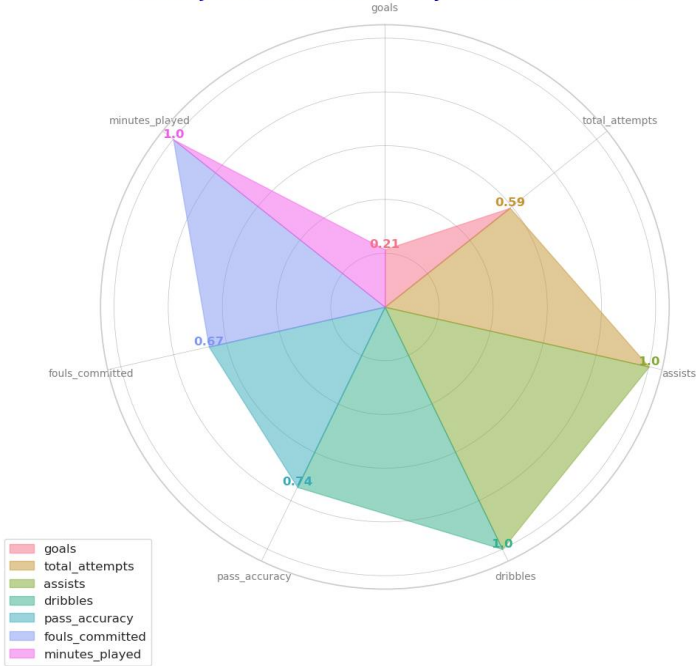
Minutes Played Vs. Assists Vs. Goals

Relationship between Minutes Played, Assists, and Goals
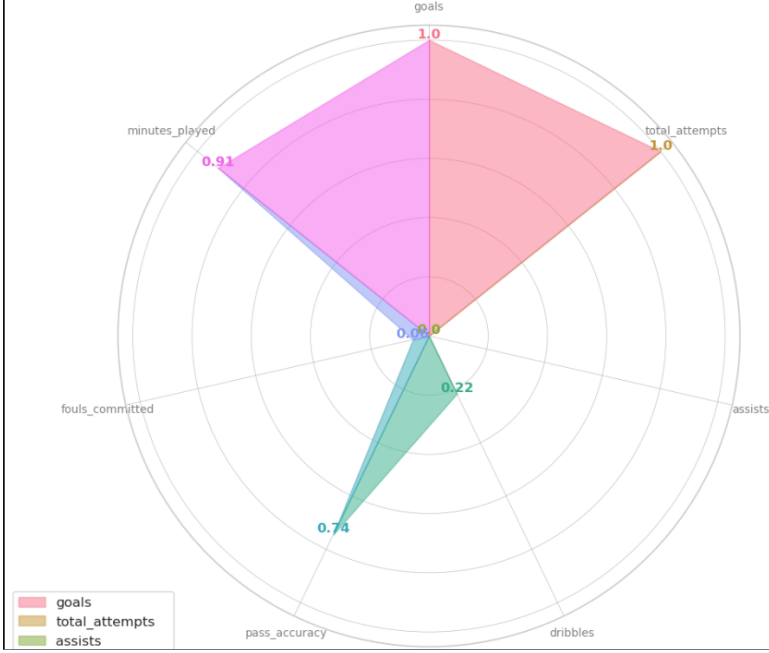
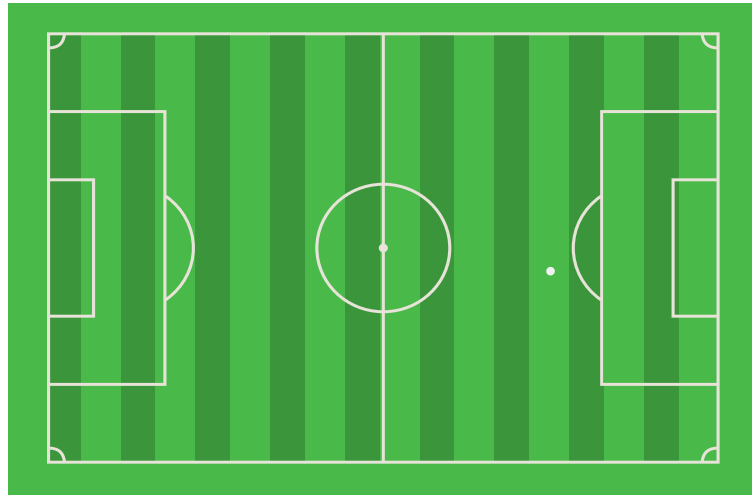# Player Performance

Goal Scoring


Player Goal-Scoring Distribution
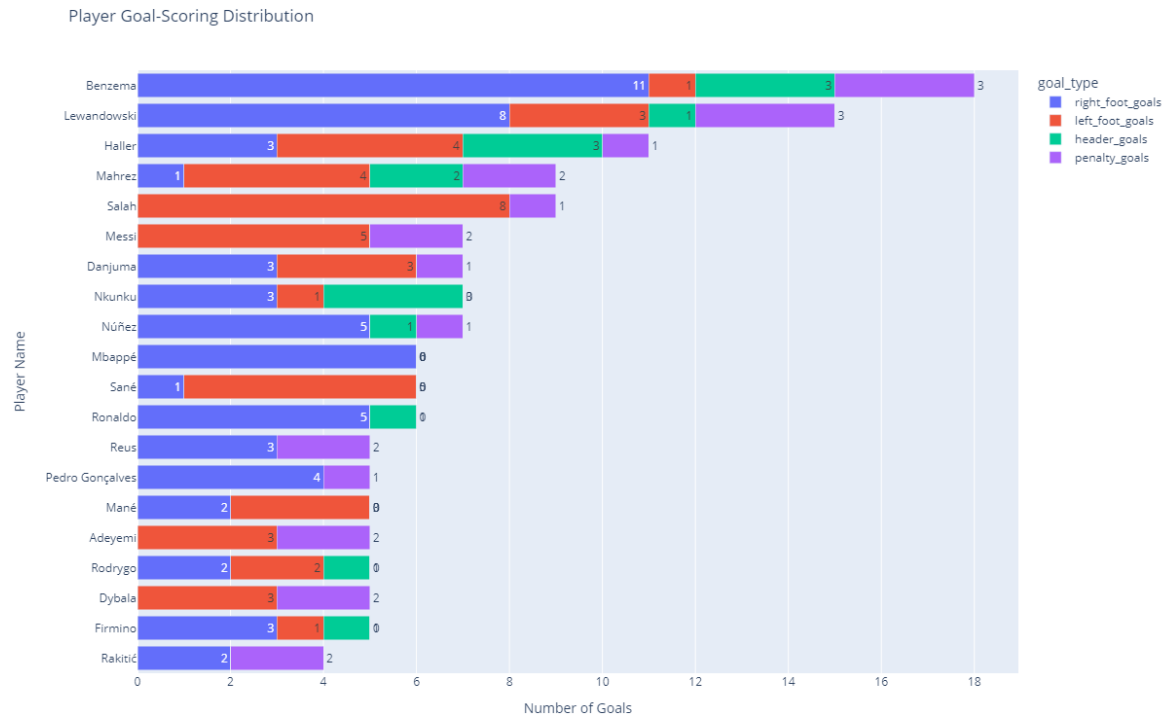
Guiding Question 2

Do players who contribute defensively, in terms of tackles, ball recoveries, and clearance attempts, also have a significant impact on offensive statistics like goals and assists in the UEFA Champions League?

Defense Contribution by Field Position

3D Scatter Plot: Tackles, Balls Recovered, and Clearances


field_position
- Forward
- Midfielder
- Defender
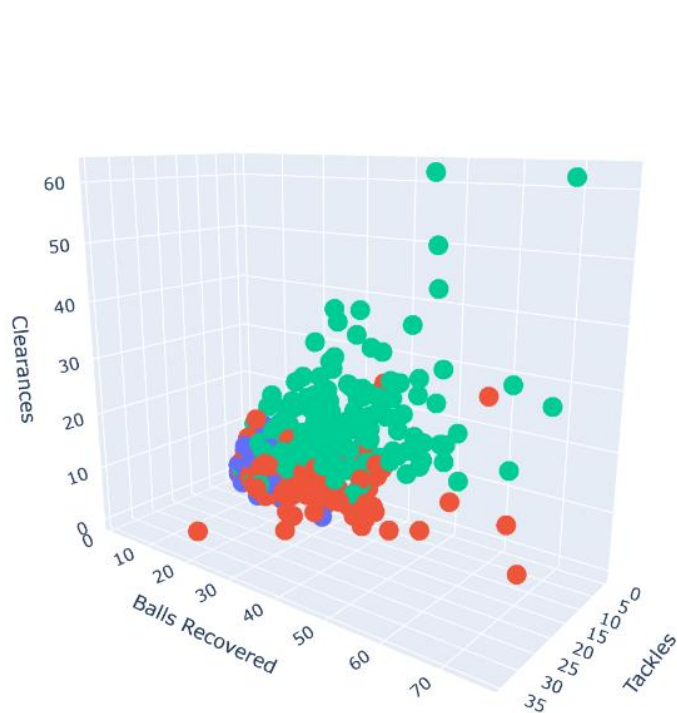
- Each data point presents a player from the UEFA CL.

- The 3 variables being considered for defensive contributions are Clearances, Balls Recovered, and Tackles

- We can see the defensive contributions for different field positions.

- Midfielders and Defenders have higher contributions in defense of the team

Defense against Offense

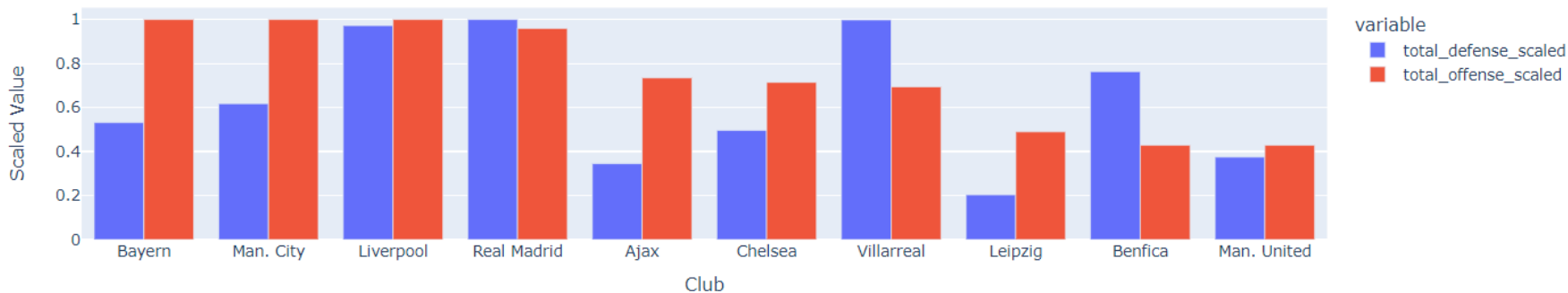Scatter Plot: Balls Recovered vs Goals (Size: Clearance Attempts)
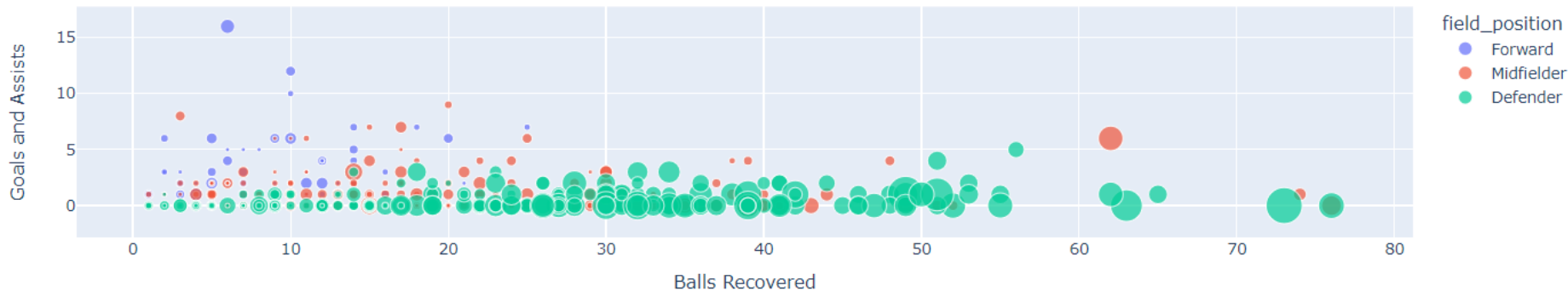
Scatter Plot: Tackles vs Goals (Size: Clearance Attempts)
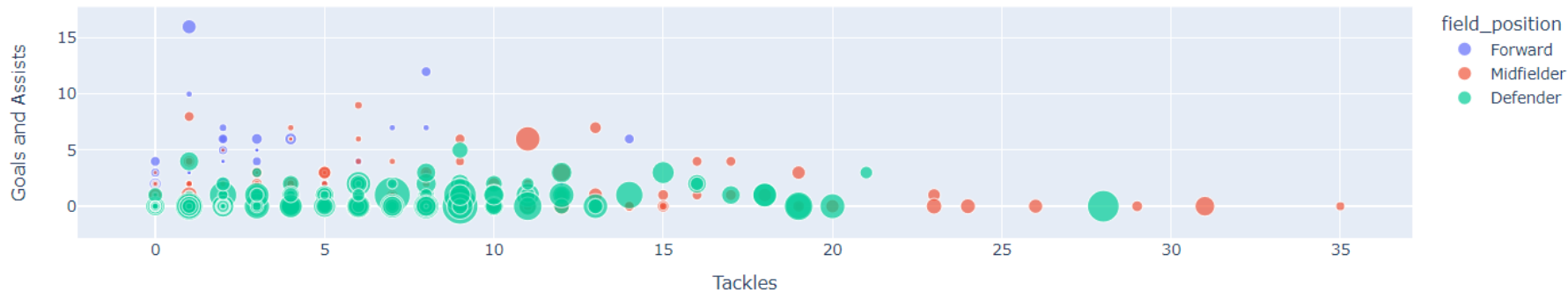
Impact on Team Success

Scaled Total Defense and Total Offense (Goals and Assists) of Top 10 Club

- Top 10 clubs by total offense

- Here we can see an irregular trend.

- The Teams that made it to the finals have a high yet balanced Offense and Defense
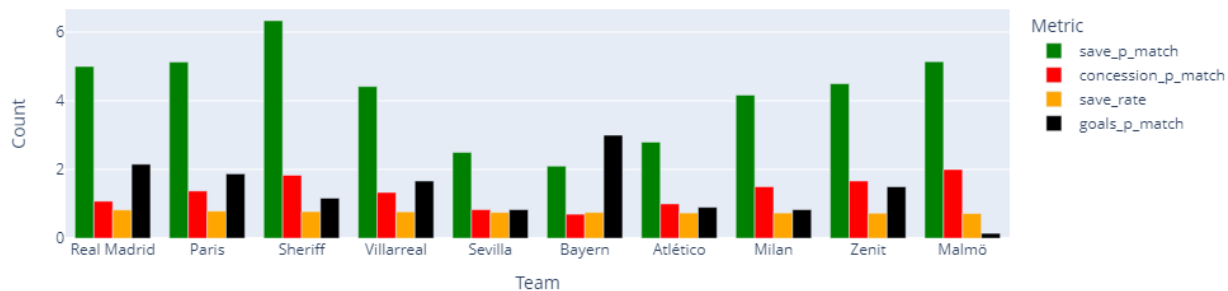
Guiding Question 3

How does a goalkeeper's performance influence their team's success in the UCL, and are there correlations between these goalkeeping statistics and the performance of outfield players?
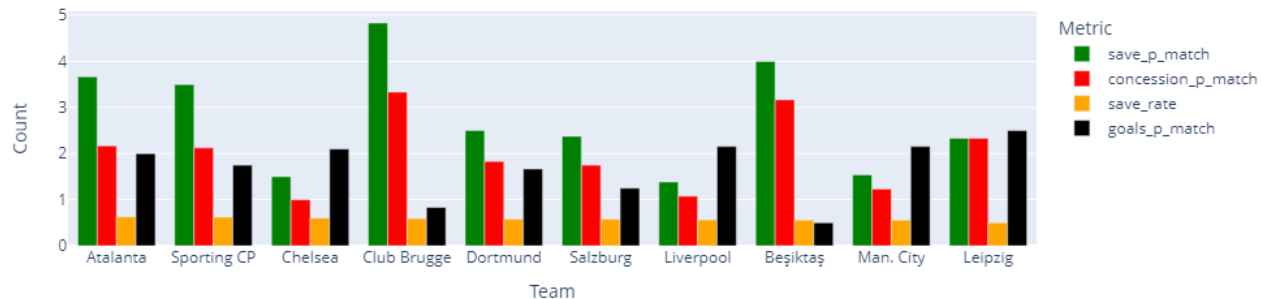
Goalkeeping - Teams

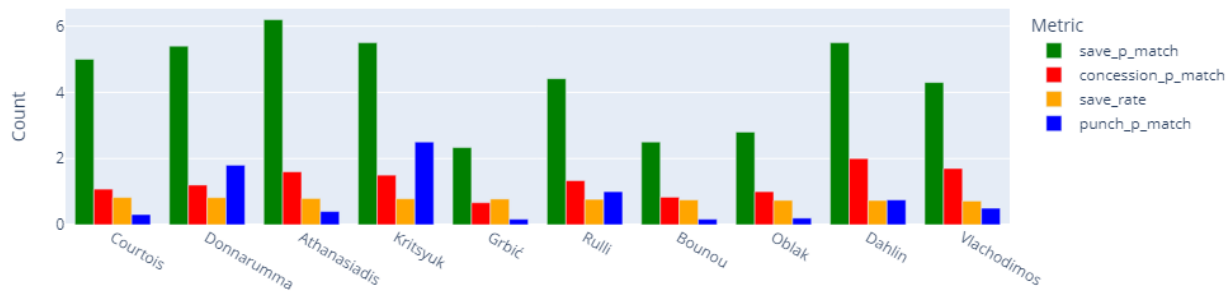Top 10 highest save rate teams
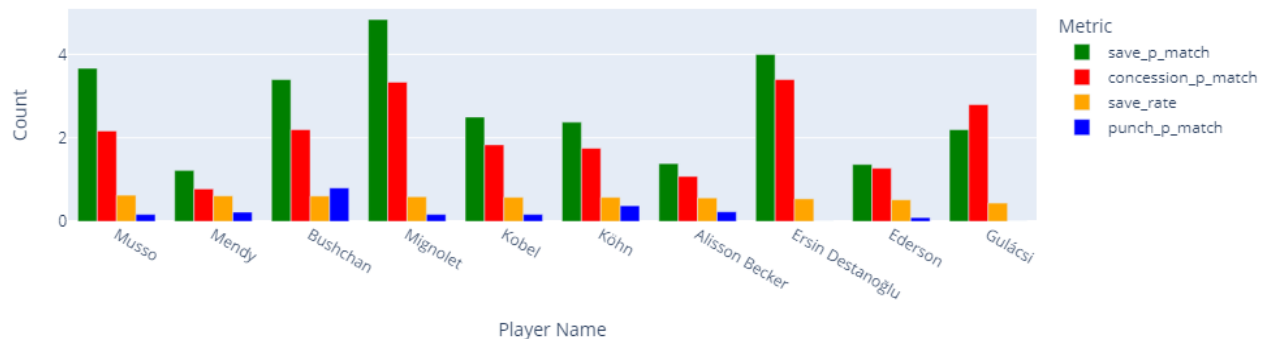
Top 10 lowest save rate teams

Goalkeepers

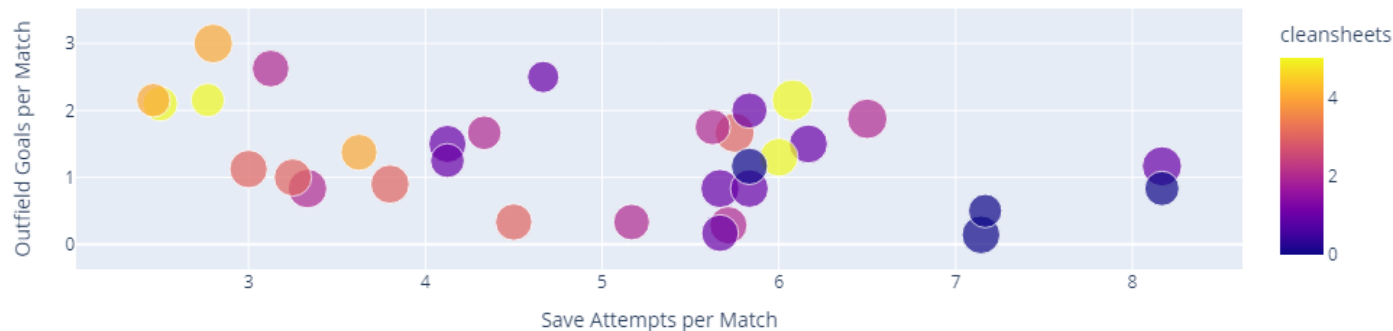Top 10 highest save rate goalkeepers with > 3 matches

Top 10 lowest save rate goalkeepers with > 3 matches

Goalkeeping Vs. Outfield Performance

Goals vs. Attempted Saves with Save Rate and Cleansheets Data

Team Save Rate vs. Fouls Committed with Save Attempts and Cleansheets Data
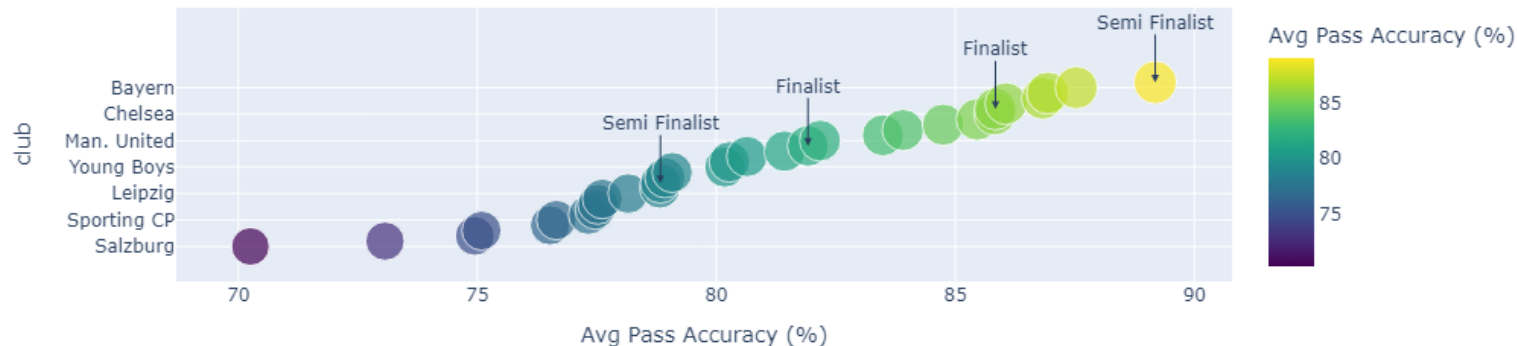
Guiding Question 4

How do factors like possession statistics and pass accuracy influence a team's progress in the tournament?

Do passes matter when considering Team Performance

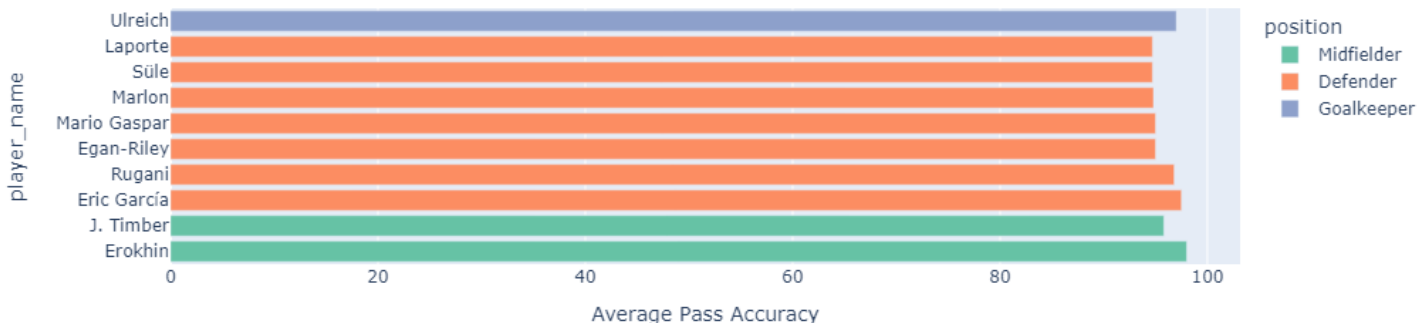Scatter Plot of Average Pass Accuracy by Club

Scatter Plot of Total Pass to Goal Ratio by Club

Forward Position has the lowest Pass accuracy among all positions
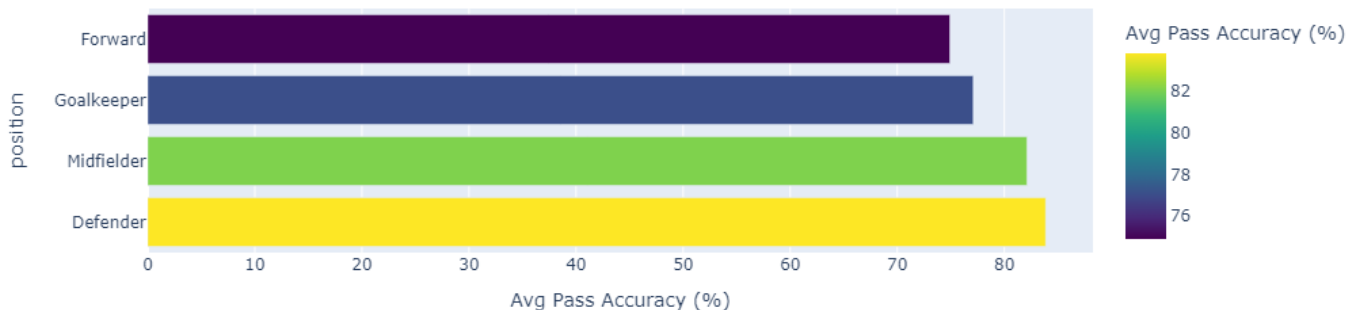
Player Recommendation considering pass rate and their position

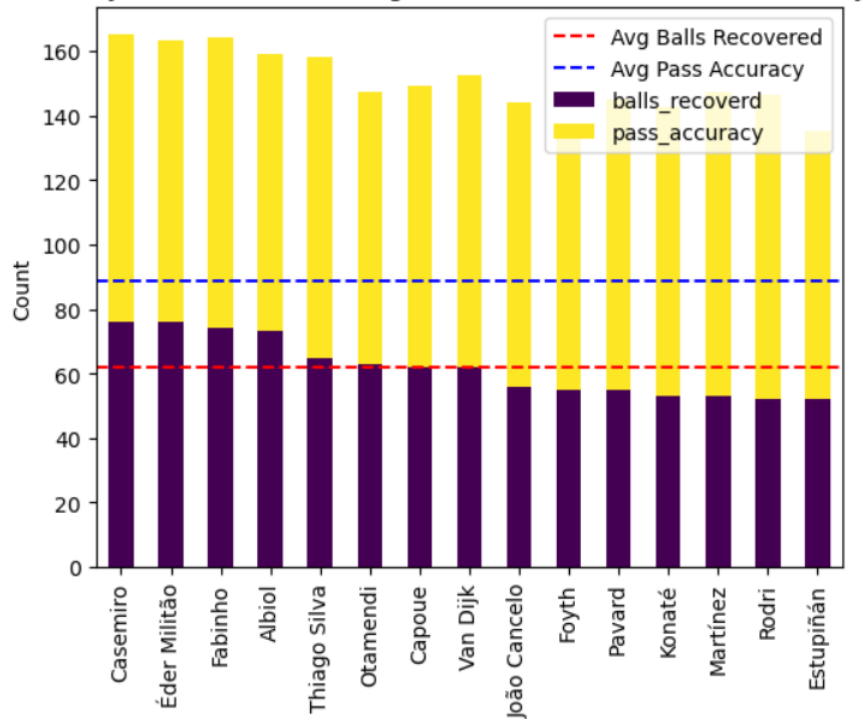**Midfielder Recommendation**
Players with Above Average Dribbles and Pass Accuracy
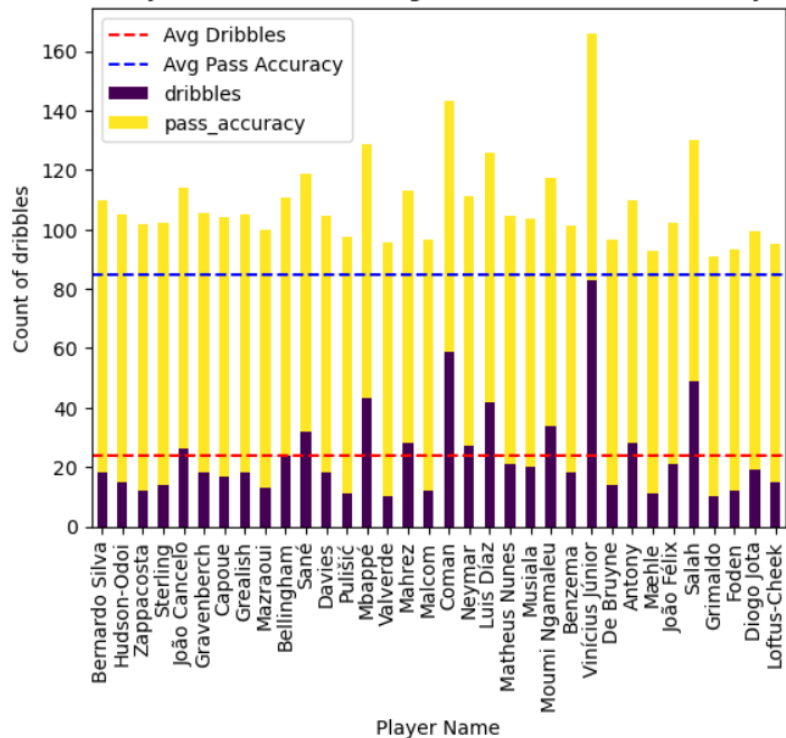
Defender Recommendation
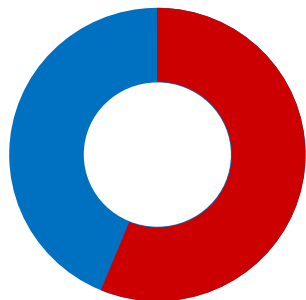Players with Above Average Balls Recovered and Pass Accuracy

Guiding Question 5

Do expected goals (xG) align with actual performance in the competition? Are there players and teams that consistently exceed expectations, especially in high-pressure situations like knockout stages or finals?

How are we quantifying Expected Performance?

Expected Goals = Goals * (On Target Attempts / Total Attempts)
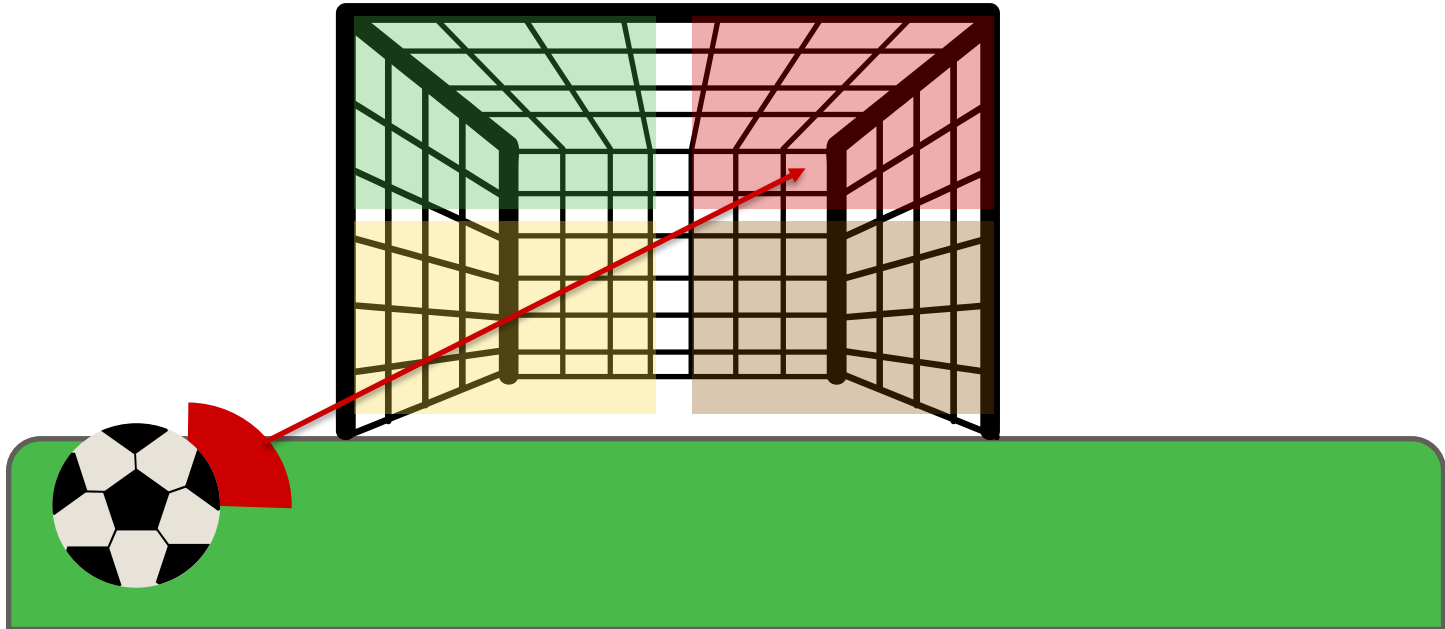
Comparing the Top 10 Players

Actual vs Expected Performance Scatter Plot

Actual vs Expected Performance Trend by Top 10 Players
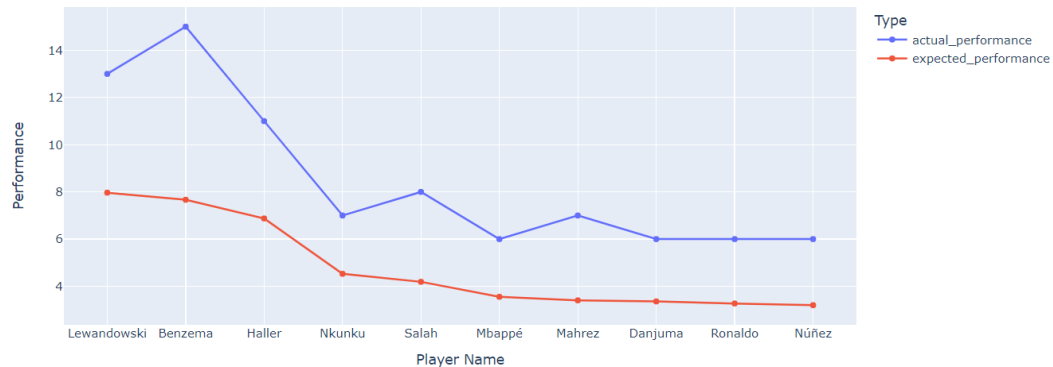
Top 10 Clubs that exceeded their expected performance

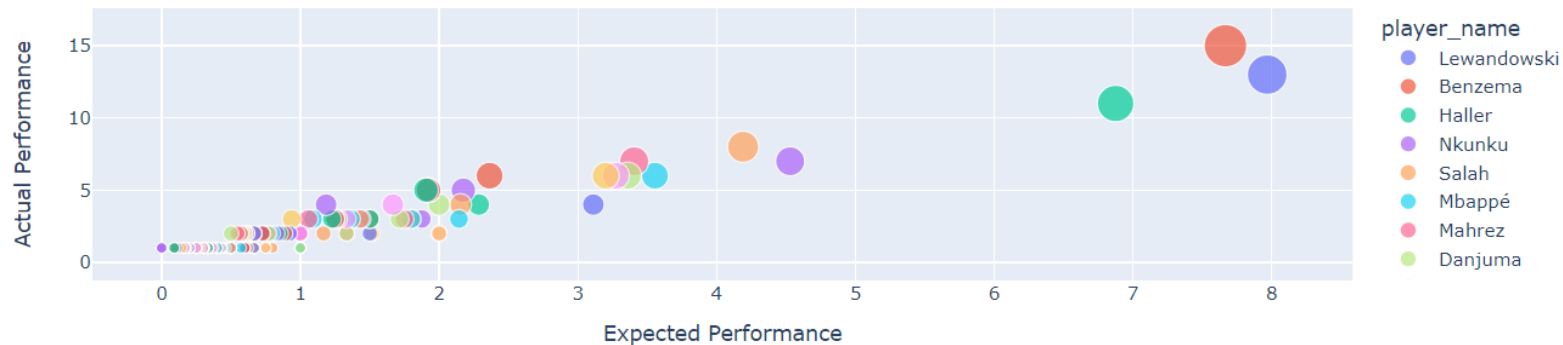- The finalists, **Liverpool** and **Real Madrid**, surpassed their cumulative expected performance by an impressive margin, with differentials of 16.18 and 15.01, respectively.

- The final was won by **Real Madrid.**

- The top **6** teams in terms of difference in actual and expected performance all made it to the Quarter Finals and beyond.

Top 10 Clubs by Performance Difference (Actual - Expected)
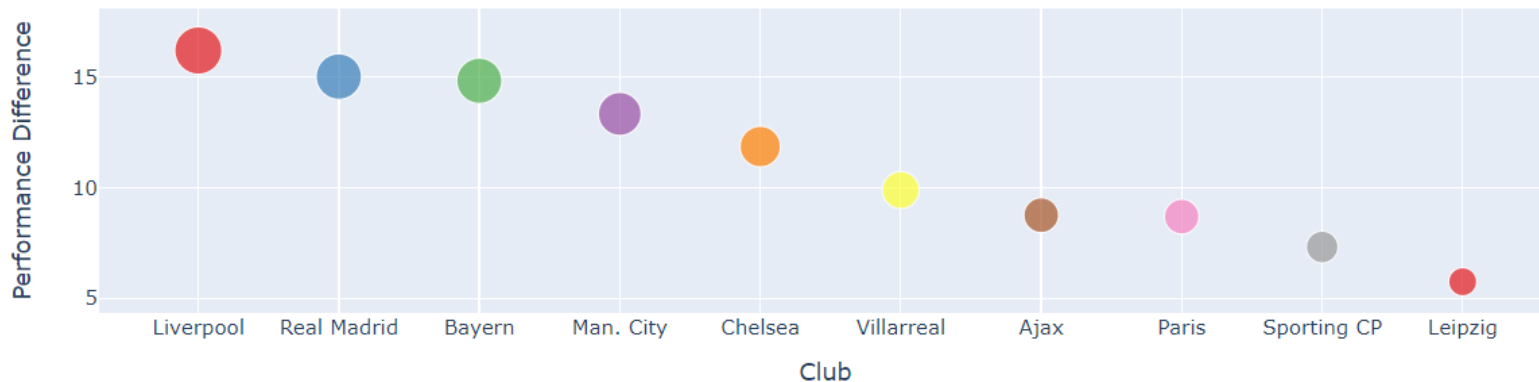
Conclusion

Attack

Effective strikers are crucial, but they can't function without assists

Passing

Pass accuracy is valuable, but success involves factors beyond it

Goalkeeping

Top teams succeed with diverse strategies beyond elite goalkeepers

Defense

Defensive contributions may not reflect in offensive stats like goals and assists, but they significantly influence overall team success.

Expected Goals (xG)

Positive correlation between expected and actual performance among the top 10 players and clubs

References

- *UCL | matches & players data*. (n.d.). Retrieved October 30, 2023, from https://www.kaggle.com/datasets/azminetoushikwasi/ucl-202122-uefa-champions-league
- *Soccer Infographics | Google Slides & PowerPoint Template*. https://slidesgo.com/theme/soccer-infographics. Accessed 29 Oct. 2023.
- 'Champions League Prize Money 2021/22'. OneFootball, 30 Nov. 2023, https://onefootball.com/en/news/champions-league-prize-money-202122-35039947

Q and A?