

Assignment 1: Plotting Actions

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September 10, 2024

1 Introduction

During the recent Euro tournament, one player who particularly caught my attention was Cody Gakpo from the Netherlands national team. He was one of the standout stars of the tournament, finishing among the top scorers and overall impressing with his performance. As a big fan of the Premier League, I often watched him closely and noticed that, while he played primarily as a left winger for the Dutch team, he has been utilized more centrally at Liverpool. This has made me curious to analyze his performances during the tournament and compare them to other top players. Perhaps Klopp didn't fully recognize his potential as a left winger, and the new coach, Arne Slot, should take particular note of his compatriot's performances at this year's international tournament?

2 Player performance analysis

To start, let's take a broader look at Cody Gakpo as a player. We'll first check whether, as it seemed from the television coverage, Cody was indeed mainly playing as a left winger during the tournament. By analyzing his heat maps, passing patterns, and shooting positions during matches, we can verify if he predominantly stuck to the left wing or if his role involved more fluid movements across the field.

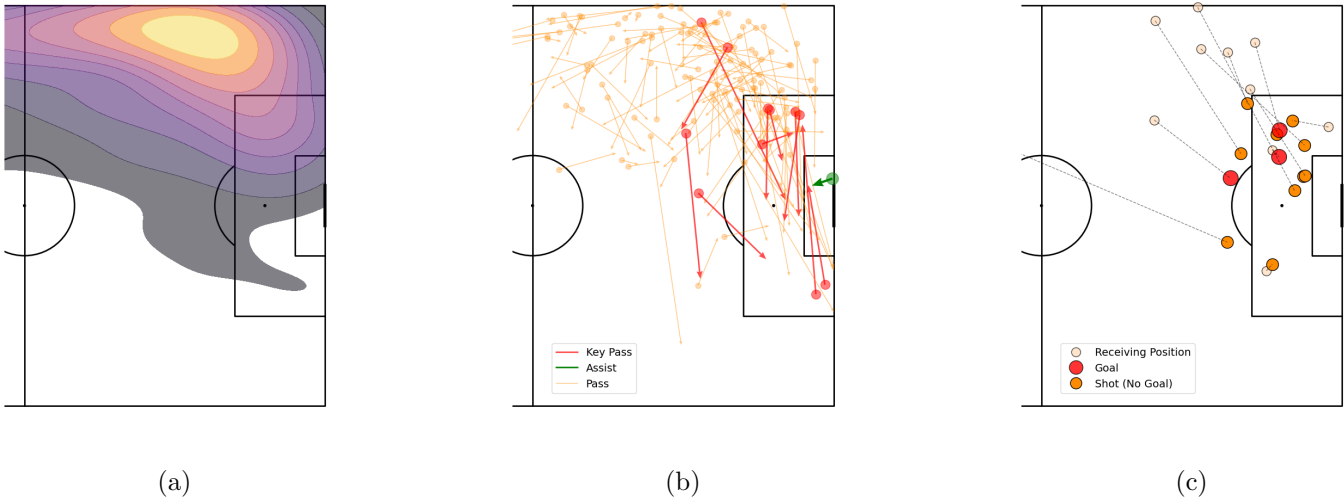


Figure 1: Cody Gakpo's actions in attacking half during Euro tournament: (a) heatmap of taken positions during matches, (b) passes made and their corresponding outcomes, (c) shots taken by the player along with their outcomes, as well as the locations from which he initially received the ball before shooting.

As we can see from the heatmap, the Dutchman was indeed playing as a left winger during the tournament. Additionally, he fits the profile of a modern winger who tends to cut inside, which is evident from the passing and shooting charts. In chart (b), which details different types of passes, it's clear that he isn't the classic winger who runs to the byline and delivers crosses. Instead, he prefers a more intricate, combination-based style of play, relying on shorter passes to create opportunities. In chart (c), his shots and the positions where he initially received the ball are outlined. It's evident that he started in wide areas but progressively moved into central zones, from where he took most of his shots.

3 Comparison with other players

Now that we've gained a general understanding of Cody Gakpo's profile and established that he played as a left winger during the tournament, let's compare his performances with other top-class wingers. I will focus on wingers from teams that, like the Netherlands, reached the semifinals. These will include Foden, Williams, and Mbappé, representing England, Spain, and France, respectively. I chose these players because, like Gakpo, they come from renowned footballing nations, which adds credibility when

comparing individual statistics. They also played a similar number of minutes during the tournament which helps, however I still applied 'per 90' normalization of some actions to make them easily interpretable. This analysis becomes even more interesting given that we'll be comparing Gakpo with some of the top wingers - Mbappé, who is considered by many as the best winger in the world, and Nico Williams, who was selected as the best left winger of the tournament. Maybe this was not the correct decision?

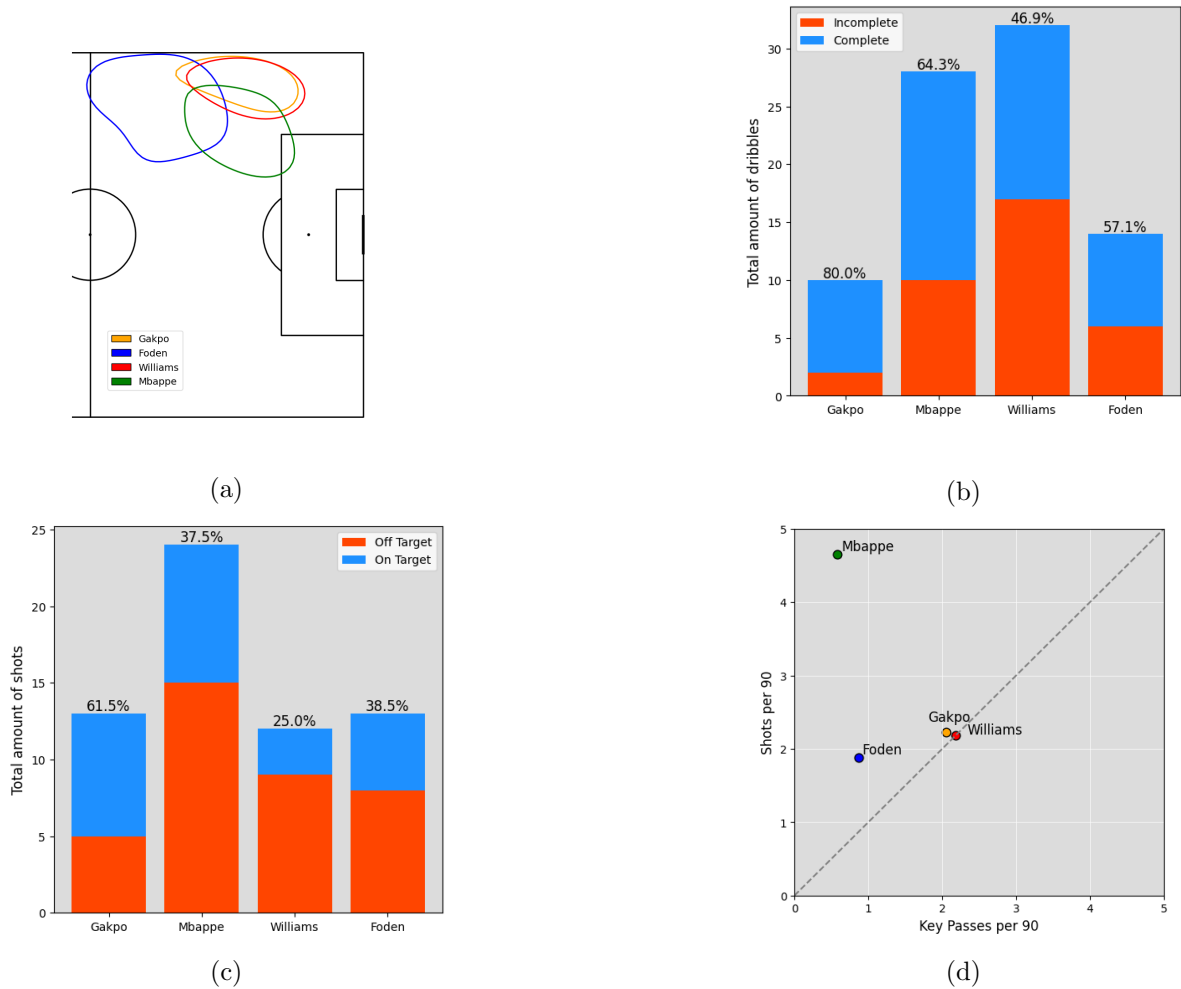


Figure 2: Comparison of different actions between wingers: (a) average positions of individual players during the tournament (b) stacked bar chart of dribble attempts (with the percentage of successful dribbles shown above the bars) (c) stacked bar chart of shots (with the percentage of shots on target shown above the bars) (d) scatter plot of key passes per 90 minutes vs. shots per 90 minutes (the dotted line represents equality)

Looking at the plots one by one, in chart (a) we can see the average positions of the wingers during the tournament. It's clear that every player was indeed a nominal left winger, but Mbappé played closer to the striker's position, while Foden was positioned further away from the goal ("Southgate ball"). Next, we can see that Gakpo stood out significantly in terms of his shot accuracy and dribble success rate, making him very efficient in his play. Regarding dribbles, however, he attempted far fewer compared to the others, but his high success rate is still impressive. The final chart (d) gives a basic overview of the players' profiles, comparing the number of shots to key passes. It's evident that Mbappé played more as a typical forward, taking far more shots, while the others were more involved in creative roles. Notably, Nico Williams and Gakpo achieved very similar numbers in this regard.

4 Conclusion

In this short article, I aimed to analyze Gakpo's performance at the recent Euro tournament. After examining his individual play, it's clear that he was indeed a left winger. Based on his performances, it seems that he thrives in that area of the pitch, with the ability to cut inside, which he showcased during the tournament (*Arne, take a note!*).

We then compared his performances with other wingers in the tournament. Based on the presented statistics, we can see that Gakpo stood out with his efficiency, achieving really good individual stats. In my opinion, he should have been named the best left winger of the tournament, though Spain's victory likely played a big role in that decision. Additionally, my opinion might be subjective, as I watched in disbelief as Gakpo easily bypassed players from my own nationality and the team I support, Poland! :)