

# Stats FC

Matthew KNowles

22/07/2022

## Chapter 1: Introduction & Motivation

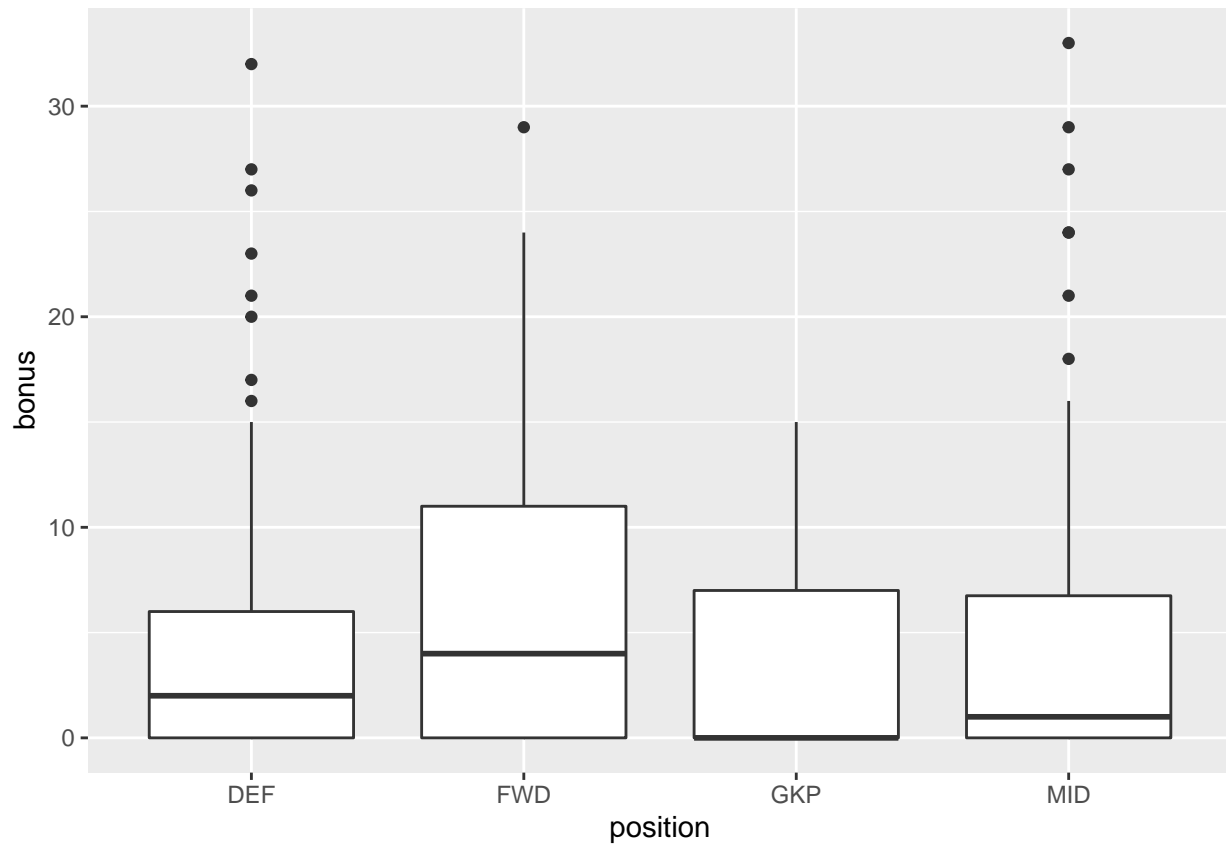
In my day job, I am a statistician in the pharmaceutical industry. I enjoy my work and get to work on some very interesting projects, but I also love football. Luckily for me, the Premier League run a fun game that gives me the opportunity to apply my stats knowledge to football.

Managing a virtual premier league team is a fun dimension to watching football, and this year I'm going to take a more statistical approach to it. I wont sign players from Villa on principle, so even though they are included in the analyses- no Villa player is in the running for a contract in Stats FC.

## Chapter 2: Exploratory Data Analysis

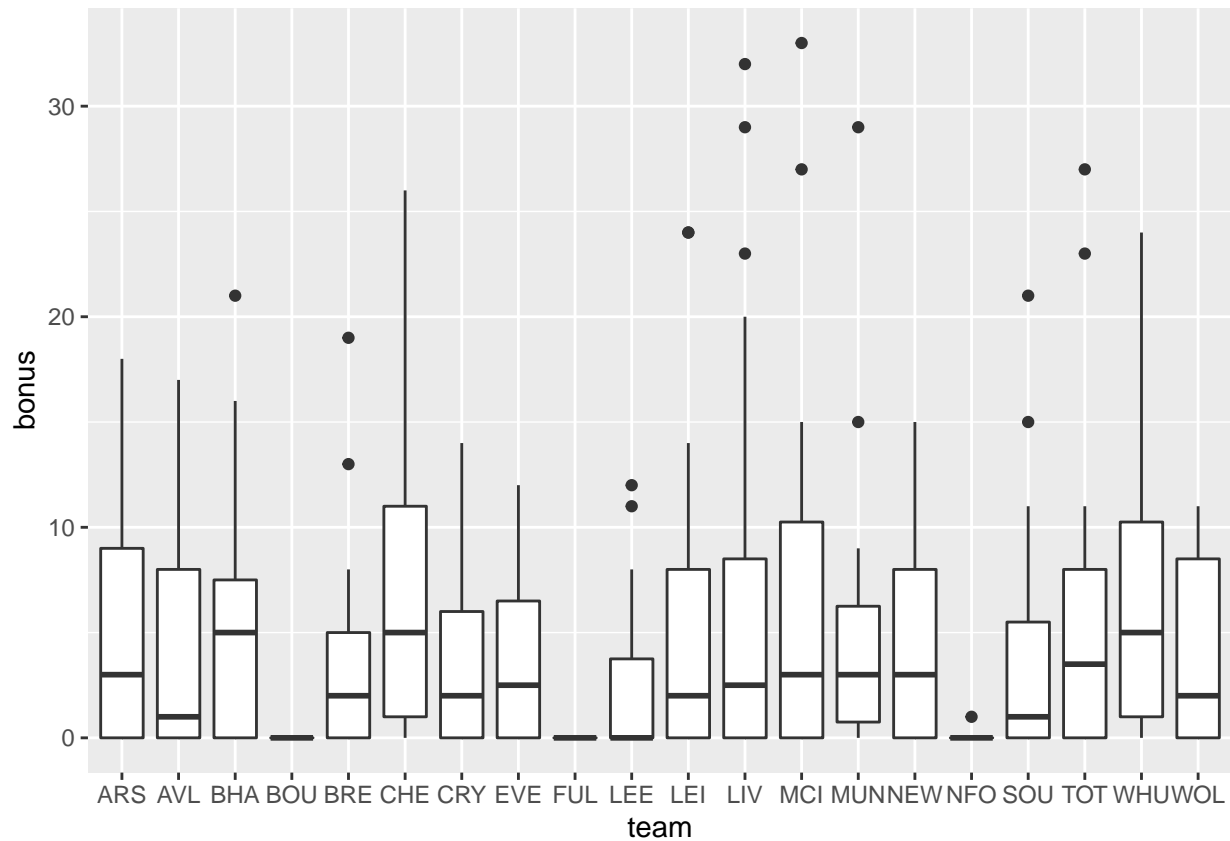
### Chosing a formation

Bonus points can make a big difference in FPL. We should look to maximise the amount of bonus points we can achieve eacg wirj. By looking at how bonuses are distributed across the different positions, we can make an educated guess about how many players to have in each position.



This shows us that the most bonus points are mainly earned by forwards, then defenders, then midfielders. That would indicate that it is better to have a team with more defenders.

What about teams? Which team is likely to get the most bonus points?



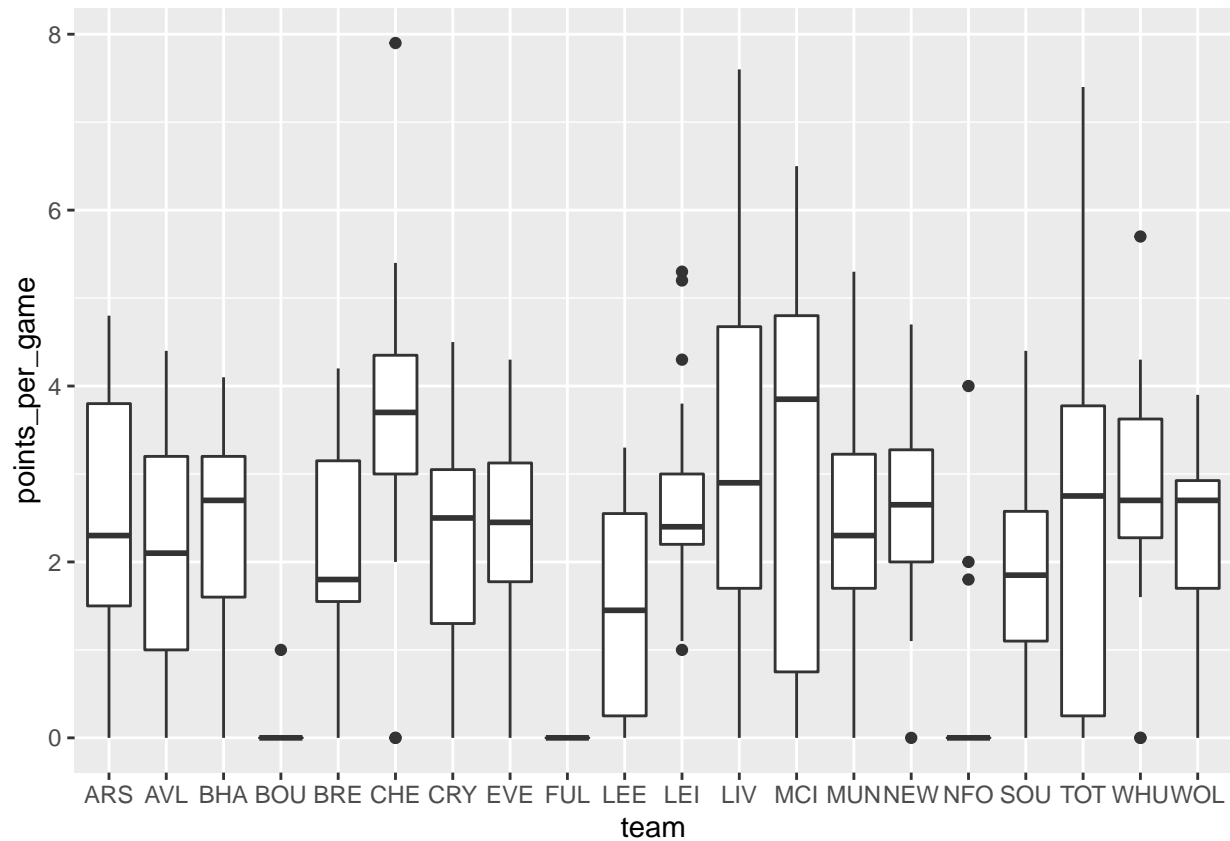
From this, we can see that teams like Leicester and Leeds don't get many bonus points on average, whereas Chelsea, Brighton and West Ham on average get more bonus points.

This indicates that a Chelsea defender is almost a must have for our team. And given that we saw cost correlates well with points, it makes sense as part of the backpacking solution to put the most expensive Chelsea defender into the side.

I believe all things considered, that 4-3-3 is the optimal formation to go for.

## Points per Game

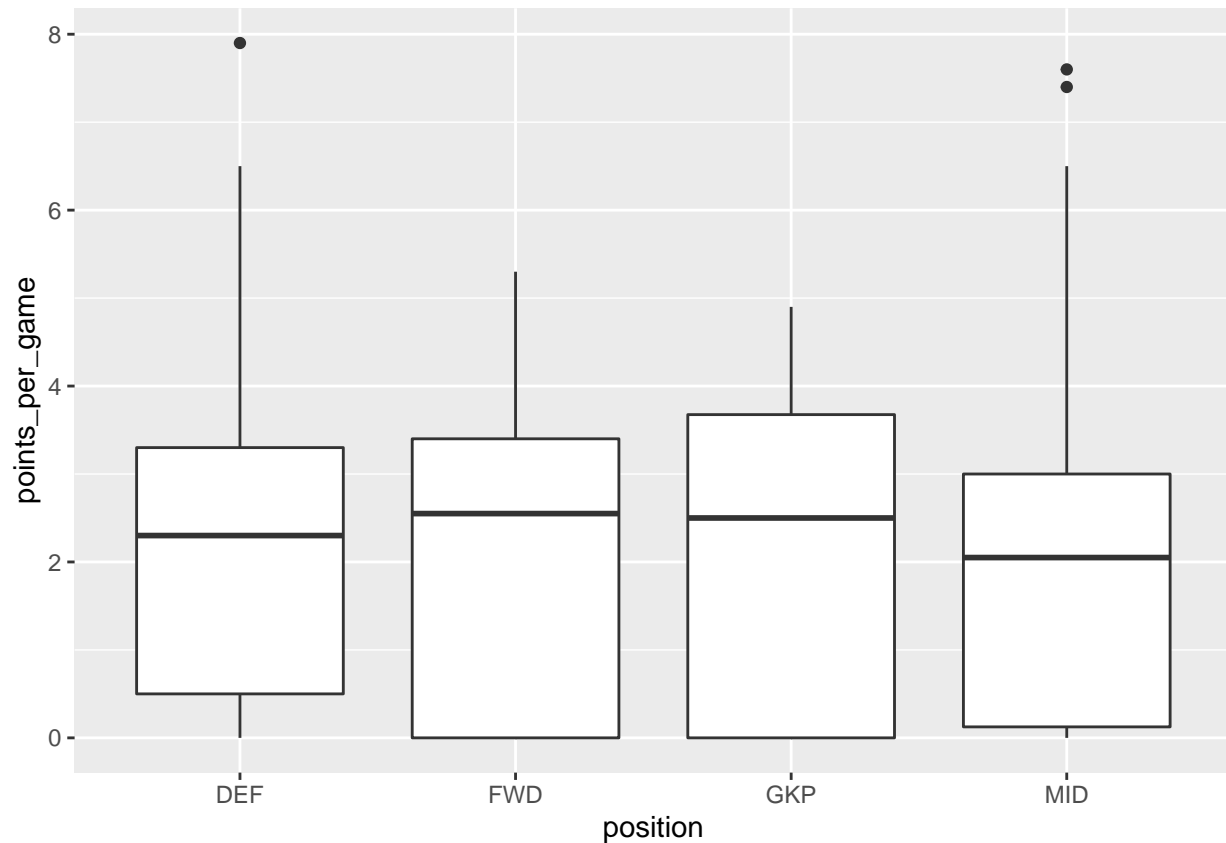
It is natural to want to choose player from the teams that score the most points per game. This doesn't necessarily mean a team in the top 4, we can see Brighton performs better than most teams. We can see also that that Newcastle on average scored more points per game than a big team like Manchester United.



The top 5 teams for points per game are then MCI, CHE, BHA, LIV, TOT and WHU- roughly.

## Chapter 3: Chosing a Captain

It is well known that chosing a home captain is the statistically better option. But which part of the pitch should the captain be from?



Looking at this, it shows that our best option is either a forward or a goalkeeper.

## Chapter 4: Initial Team

Here is how our initial team lines up.

1. Ederson (MCI)
2. Van Dijk (LIV)
3. Coady (WOL)
4. James (CHE)
5. Cresswell (WHU)
6. Son (TOT)
7. Maddison (LEI)
8. Mount (CHE)
9. Taylor (NOT)
10. Firmino (LIV)
11. Haaland - C (MCI)
12. Sarkic (WOL)
13. Ødegaard (ARS)
14. Chalobah (FUL)
15. Tierney (ARS)

Value: £100m

## Chapter 5: Future Work

This is the first piece of work I'd like to do on Fantasy Football. As the season progresses and we get a feel for how well teams will do, It'll be necessary to update our team. If you have any thoughts and want to discuss, feel free to reach out, you can find me on Twitter @mattknowles314.