

Which could be the dream team of the football Spanish League?

In this report we try to find out which could be the most powerful combination of the spanish teams. We are going to create our team based on four important roles: forward, midfielders, defenders and goalkeeper.

Even though we hoped give specific names for the ideal team, we were not able to do it. This task demands a deeper data analysis and a lot of appart research which we would not be able to do with our deadline.

But not all are bad news. We were able to identify the team's role used in order to create the dream team. We are really excited about our findings and we hope that you like this report as much as it liked to us have elaborated it.

Objective: To find out the dream team of the football Spanish League

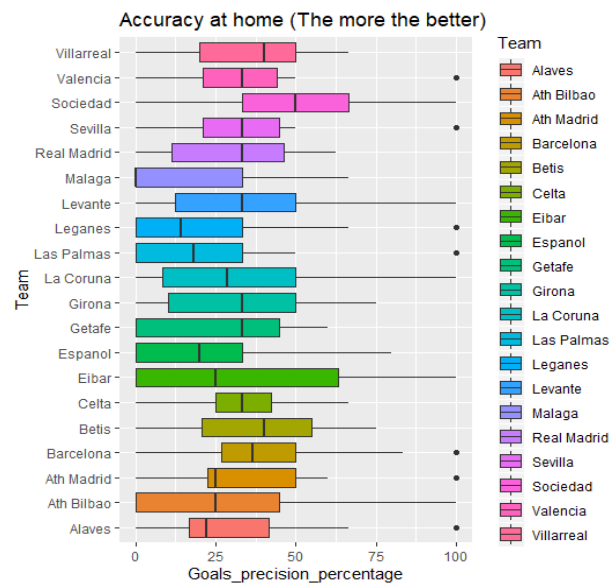
First of all, we have to log the data. We obtained the variables from the dataset SP1:

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setwd(/home/users/Downloads/)
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data = read.csv('SP1', header = T, sep = ',', dec = '.')
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Variable	Description	Variable	Description
Date	The date of each match	HST	Home team shots on target
HomeTeam	The team which plays at home	AST	Away team shots on target
AwayTeam	The team which plays away	HF	Home team fouls
FTHG	Full time home goals	AF	Away team fouls
FTAG	Full time away goals	HC	Home team corners
FTR	Final total result	AC	Away team corners
HS	Home team shots		
AS	Away team shots		

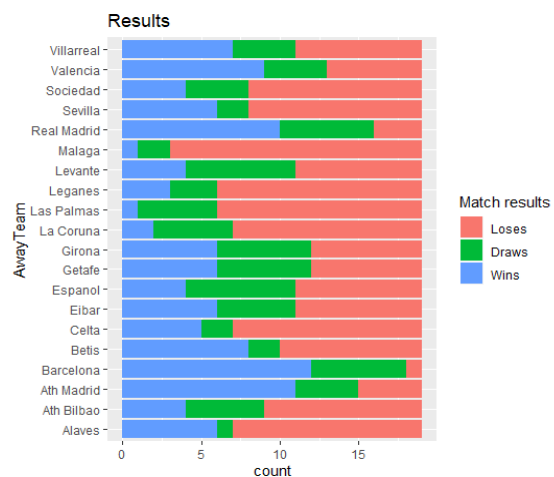
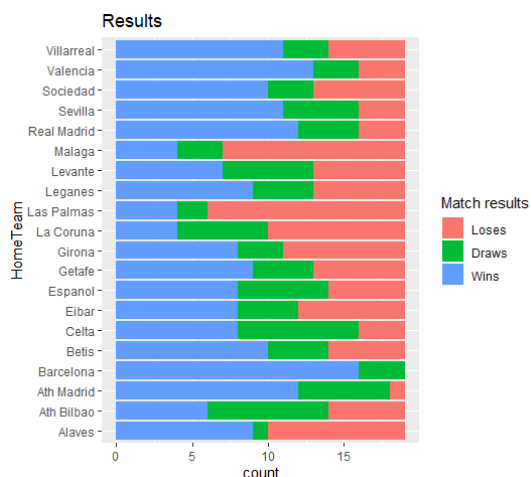
Q1: Which team is the best in the attack?



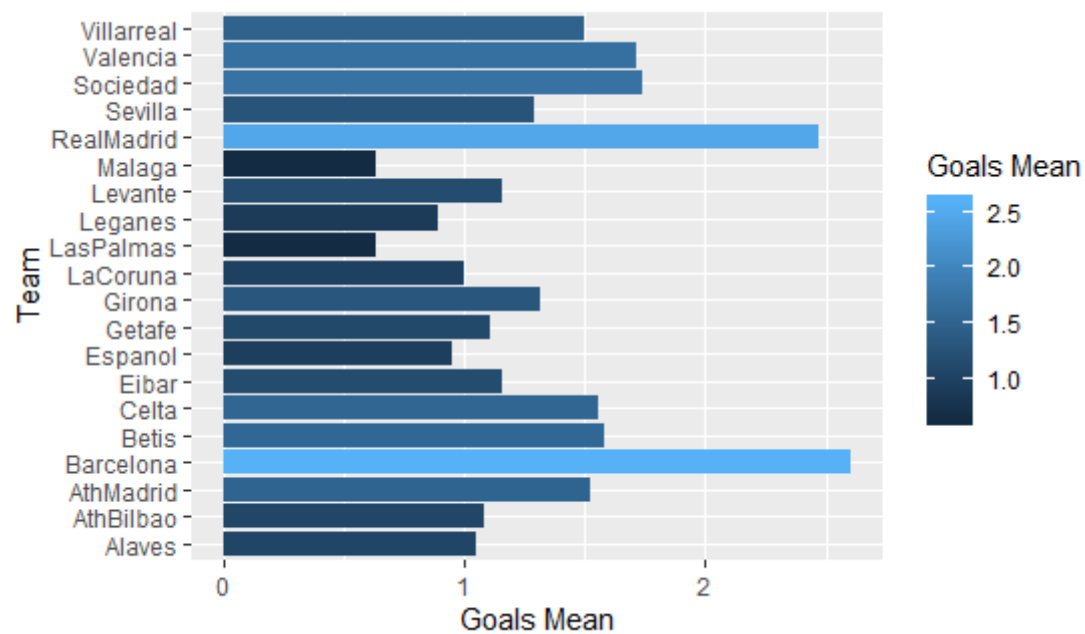
We have studied the goal precision percentage at the both sides (for the home and away teams), and we have noticed that Sociedad is the team which has the best goal precision percentage. So, we would take Sociedad's forward for our dream team.

Q2: Which team is the best in the midfield?

We already know that the leader of that season was Barcelona.



And we know that Barcelona has the best goal's mean:



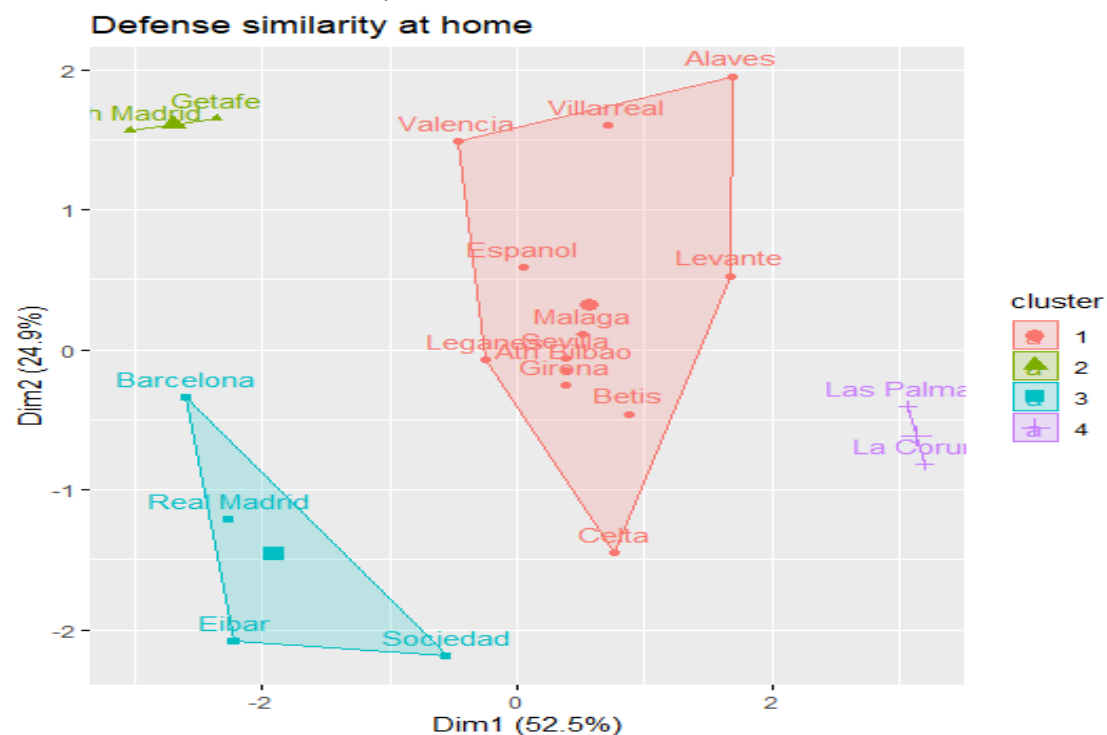
But, as we can see in the question 1, Barcelona does not have the best goal precision. How can the best team in attack have a forward which is not accurate? The only one explanation could be that Barcelona's forward have more opportunities to score. And where are those opportunities created?... In the midfield, where the midfielders pass the ball and the attackers can score a goal.

In conclusion, the strength of Barcelona (the winner of the league) resides in its midfield, so our dream team will have the Barcelona's midfield.

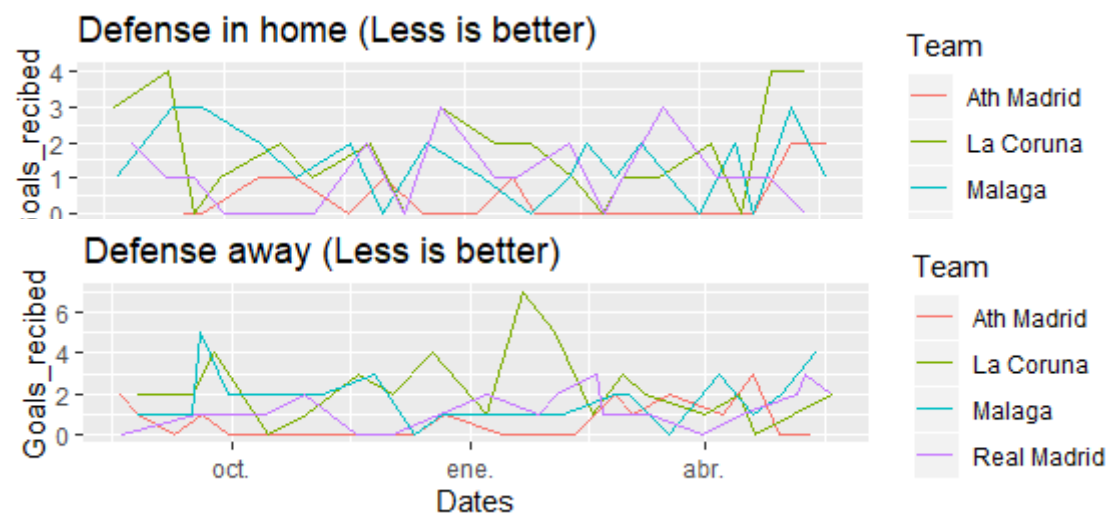
Q3: The defense of which team could we use for our dream team?

We decided to relate some variables (other team: full time goals, half time goals, shots, shots on target, corners; team being compared: fouls). We considered that these ones play a key role. With the function kmeans we could discover which teams are similar. Then we compared each group using the stats of the closest team to each centroid, and finally, we made a decision depending on the mean of goals received by the teams of the best group.

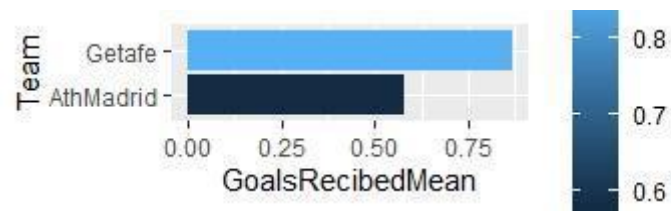
In order to achieve this, we compute the mean of the variables of each team:



Now, we compare each group by choosing the closest team to each centroid:



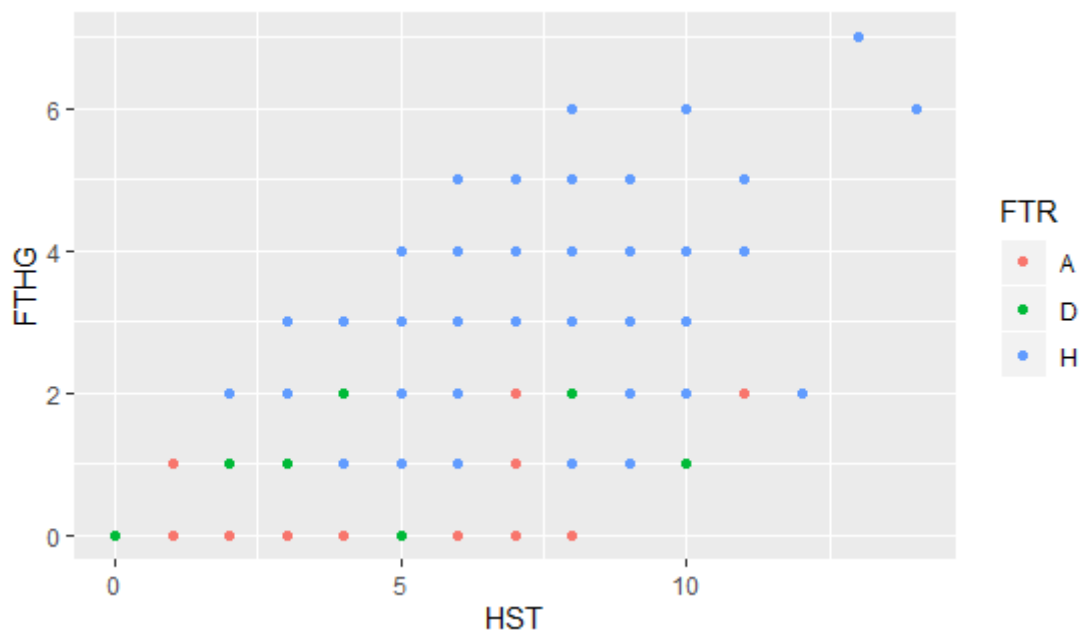
We noticed here that Ath Madrid's group has the best defense. Now let's see which team of the group gives the best result saving goals:



Et voilà! We already have the defense: Ath Madrid (which has the lowest mean of goals received).

Q4: How are the statistics of the goalkeepers of the different home teams?

We can examine the difference between the home team shots on target and the full time home team goals.



Date	HomeTeam	AwayTeam	FTHG	HST	FTR
206 28/01/18	Barcelona	Alavés	2	12	H

This is calculated by simply subtracting the full time goals from the shots on target. We do this with the home teams and the away teams, and we notice that the away teams save the goals quite well. For instance, Alavés saved 10 goals which were shot by Barcelona, the leader of the Spanish football League of that season. So we would take the goalkeeper of Alavés for our dream team.

In conclusion, our dream team will have Sociedad's forward, Barcelona's midfield, Ath Madrid's defense and Alaves' goalkeeper.