CAPSTONE 1: Proposal - Predicting NBA Player Value

What is the problem you want to solve?

[Hypothetically] As the new GM for the Seattle Supersonics, I want to be able to value players appropriately, without bias.

Who is your client and why do they care about this problem? In other words, what will your client do or decide based on your analysis that they wouldn't have done otherwise?

As the owner of an expansion team in a competitive league with less money to offer potential free agents, our approach to building a competitive team has to be to acquire undervalued players instead of the top tier ones that are out of our budget. (Think "Moneyball")

What data are you using? How will you acquire the data?

https://www.basketball-reference.com/
http://www.espn.com/nba/statistics/

Briefly outline how you'll solve this problem.

As basketball is a team sport, player's stats are biased on how well their team performs. If a good player is on a poor team, they are likely undervalued, and a poor player on a good team will likely be overvalued. On the other hand, while there can only be five players on the court at once, the sixth or seventh best player on a team might not be getting the recognition they deserve either.

The NBA commonly uses the 'real plus-minus' metric as an unbiased tool to evaluate player's true contribution to their team. The metric tells you how much a team scores (+) and gets scored on (-) while the player is on the court, versus how much they score (-) and get scored (+) on while off the court. I will use this unbiased tool to predict, using linear regression, which combination of individual statistic best fits to predict 'real plus-minus' (RPM). This best fitting combination will then become the most unbiased metric of individual stats and therefore be our new scale to evaluate players.