

Analysis of Two Favorites Based on Tableau

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Abstract. Recent years have witnessed the boom of the NBA, so there are increasingly more number of people watching and following it, no matter where they come from. And everyone has their own favourite team. Through access to information, it is widely known that the Los Angeles Clippers and the Brooklyn Nets are two favorites to win the game. Due to some reasons such as geographical reasons, “superstar effect” and others, a host of fans recognize that Clippers and Nets will meet in the finals. Additionally, they even believe that the brilliance of the game between the two teams can be beyond expectation. This work aimed to analyze and predict the winner. But there is an old saying, “There are a thousand Hamlets in a thousand people's eyes.” Thus, viewers are subjective to some degree. And most current papers use some machine learning algorithms to judge and predict the trend of the game. However, basketball game changes rapidly. Especially for such popular teams, the performance of the superstars largely determines whether the game can be won or not. This article presents some simpler and clearer aspects based on data visualization to analyze and predict the result. Finally, after analyzing the strength of the overall teams and the superstars, I draw a conclusion that Nets have a relatively large win rate.

Keywords: Clippers, Nets, Superstars, Data Visualization, Analyze.

1. Research Background

At the beginning of the 2021-2022 season, the majority of fans from all over the world were optimistic about the Clippers and the Nets, believing that the two teams would meet in the finals. When it came to the reasons, on the one hand, the strength of the two teams was very close, and the excitement of the game was beyond doubt. On the other hand, it was also the most anticipated by fans, that is, the showdown between the superstars. The Clippers had Leonard and George, and the Nets had Durant, Irving and Harden, all five of which were the top ten stars in the league without any exaggeration, thus, needless to say, it was bound to call the match between the two teams “All-Star Game”. And we could also interpret it as “superstar effect”. Additionally, the Clippers and Nets belonged to Los Angeles and New York respectively, which were two large regions in America. To some degree, due to the attraction of big cities, the match between the two teams were highly anticipated by the domestic people.

2. Information of Data

2.1 Description of data

This dataset which was from www.kaggle.com contained the 2021-22 season NBA players' information. In detail, there were 12 columns which were respectively “Name”, “Position”, “Team”, “Age”, “Height”, “Height_i”, “Weight”, “College”, “Salary”, “Points”, “Rebounds”, “Assists”. Among them, “Height_i” was a proper version of “Height”. And “Rebound” was the act of catching the ball after a player had thrown it at the basket and had not scored a point. Moreover, “Assists” was the act of passing the ball to the teammates who successfully scored. Although maybe you can see that some of columns were incomplete and had missing values, this had little impact on the final results.

2.2 Target audience

This article was suitable for all basketball lovers, no matter where they were. And individuals who were fond of watching NBA games and especially those who were big fans of Los Angeles Clippers and Brooklyn Nets would be the target audience.

3. Visual Analysis of Data

3.1 Identification of superstars

After reading the background, it was widely known that those NBA superstar played a vital role in attracting numerous audience. Where could you tell that a player was a superstar? Could we visualize it so that people could spot superstars at a glance? The answer was yes, obviously, a very simple way was to look at the link between their salary and performance (represented by points).

3.1.1 Superstars in Clippers

Who are superstars in Clippers

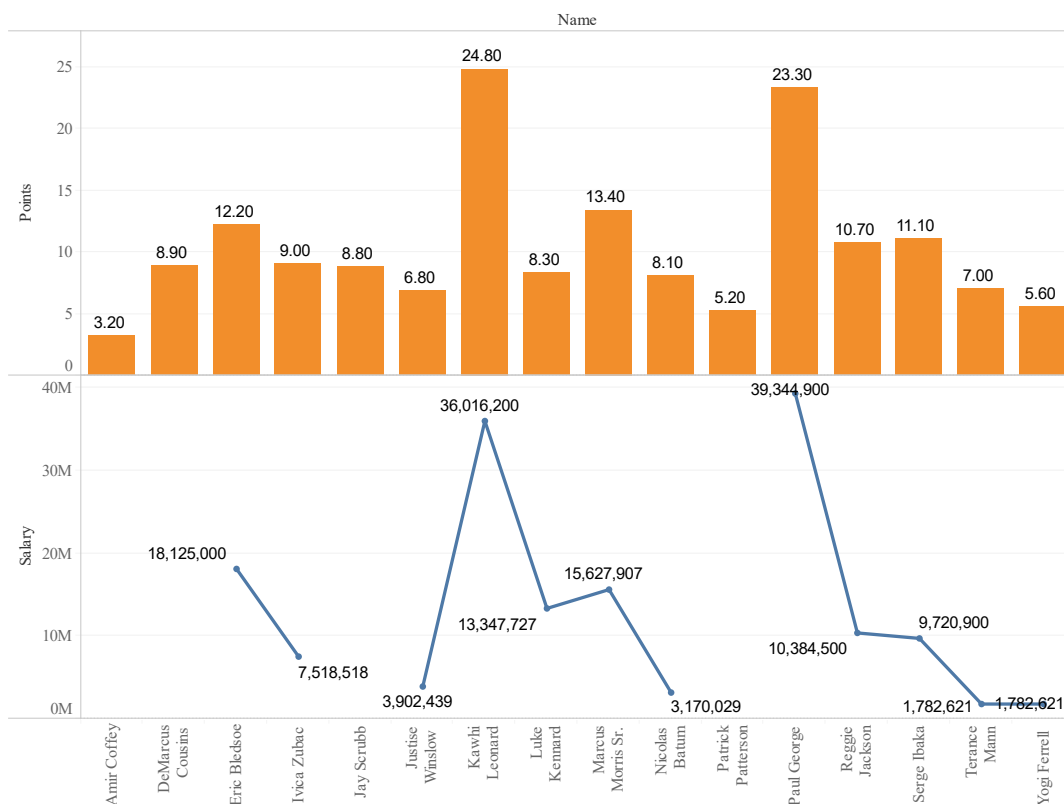


Figure 1. Players points and salary in Clippers

Looking at the Los Angeles Clippers first (Figure 1), we can clearly see that Kawhi Leonard and Paul George are the two superstars of the Clippers. Because they have the top 2 salary (\$36,016,200 and \$39,344,900 respectively) among players in the whole team, and they are very efficient in scoring. They can score more than 20 points per game, much higher than other teammates. They join forces and the game is destined to be exciting and engaging.

3.1.2 Superstars in Nets

Then turn your attention to the Nets, namely, another favorite to win the championship. Similarly, I processed the raw data and visualized them as follows:

Who are superstars in Nets

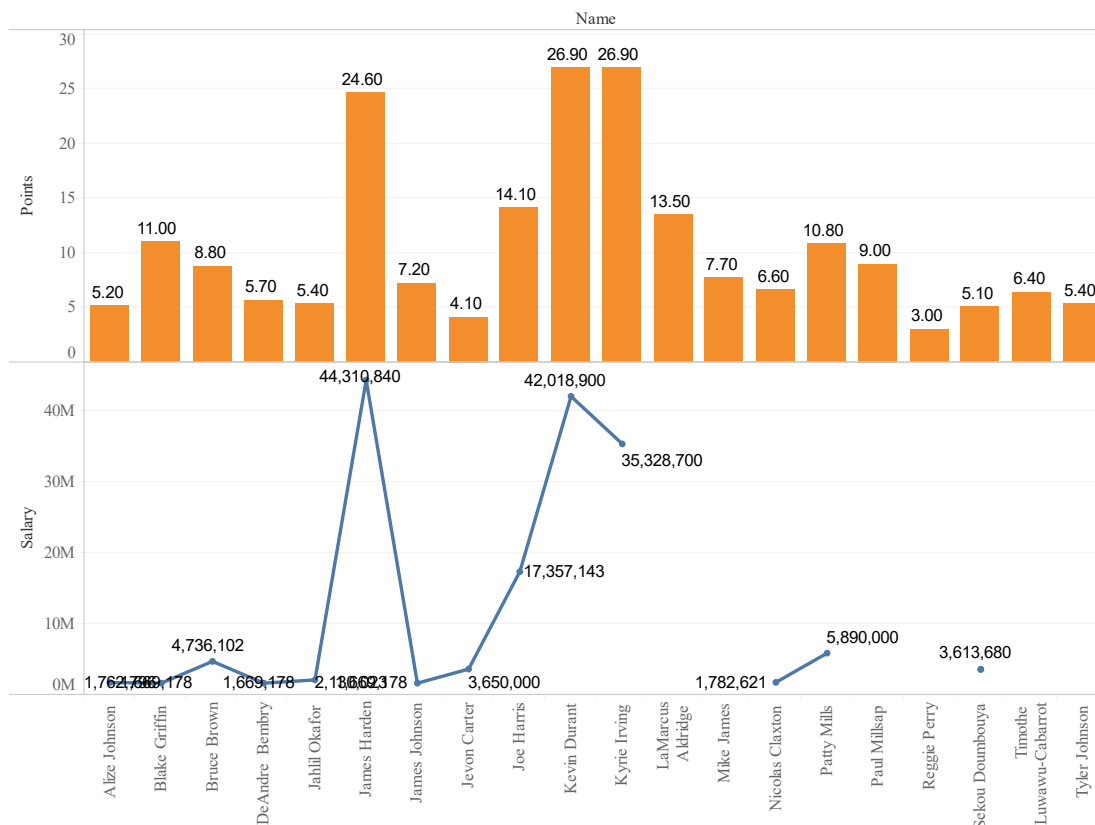


Figure 2. Players points and salary in Nets

Obviously, the Nets has three superstars, who are also known as the “Big Three”. They are Kevin Durant, James Harden and Kyrie Irving. As can be seen from Figure 2, the salary of the three players and their performance on the offensive end are very eye-catching. Their salaries are more than \$35,000,000 and they can score between 24.6 and 26.9 points per game. Therefore, there’s no doubt that they are superstars.

3.2 Prediction of the outcome

The majority of fans are very concerned about the competition between the two teams, and there are different views on who will play better. Now that it is clear that who the leading stars of the two teams are, I will use the following four aspects to make a rough analysis of the data to see which team can perform better.

3.2.1 Points

Firstly, I started with the overall situation of the team (The “points” was the sum of every player’s points per game):

Judging from the total score of the two teams, the Brooklyn Nets are ahead of the Los Angeles Clippers by as much as 40 points, which is not a small number. In a sense, the Brooklyn Nets' overall scoring ability is higher than that of the Los Angeles Clippers, so Los Angeles Clippers needs to do a good defense to counterbalance the Brooklyn Nets' scoring to some extent.

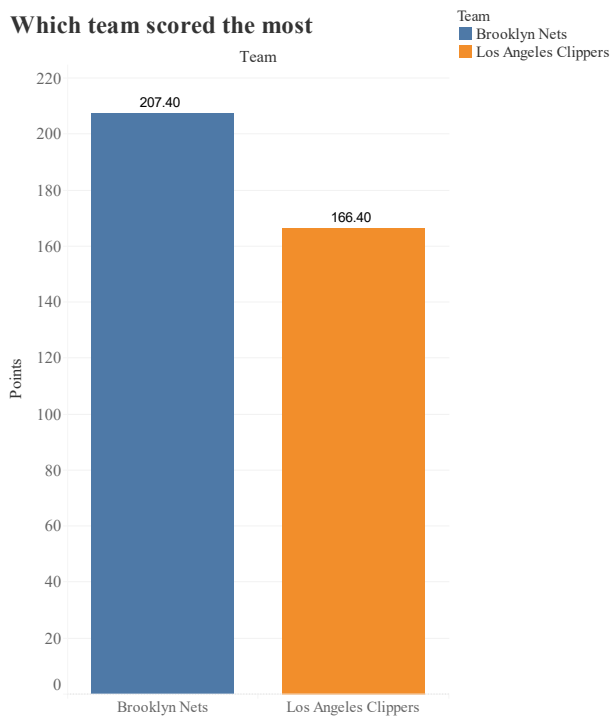


Figure 3. Points for Every Team

3.2.2 Rebounds

When it came to defense, I regarded “Rebound” as a significant evaluation indicator. The number of rebounds a team got straightly reflected the strength of the team's defensive ability.

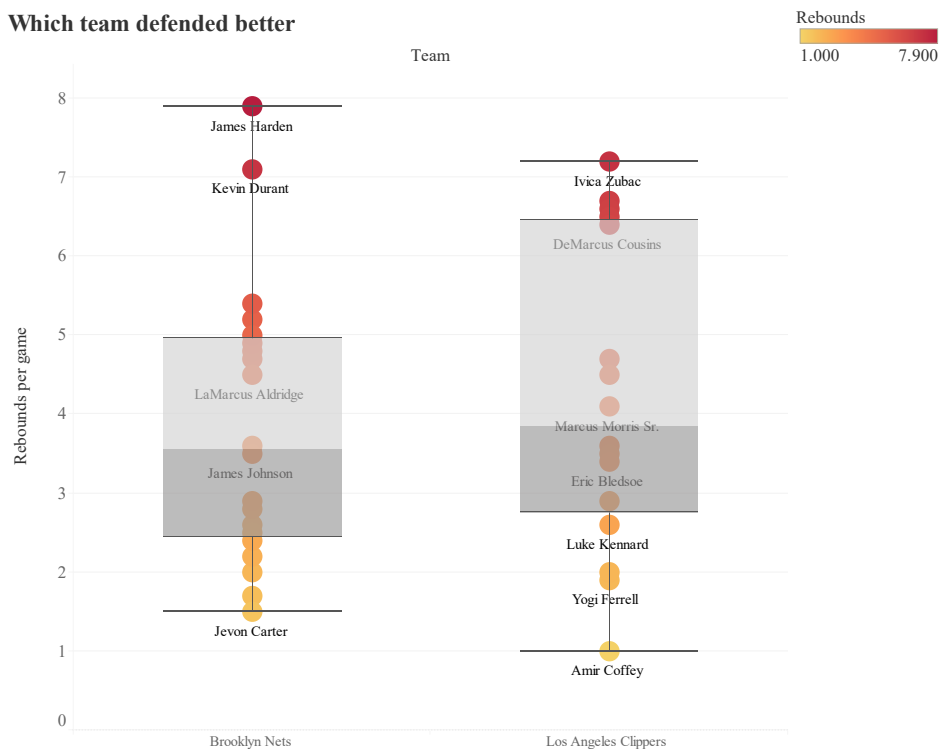


Figure 4. The Information of Rebounds

It is not difficult to see from this box-and-whisker plot that the Los Angeles Clippers defends better than the Brooklyn Nets. In Brooklyn Nets, the upper whisker is 7.900 and the lower whisker is 1.500. Moreover, the median is 3.550. While in Los Angeles Clippers, the upper whisker is 7.200 and the

lower whisker is 1.000. In addition, the median is 3.850. Although the upper whisker and lower whisker of Nets are all higher than that of Clippers, looking at some specific values, the Clippers' rebound values are concentrated between 6 and 7, while the counterparts of Nets are more concentrated in 4.5-5.5 and below 3. Therefore, we have reasons to reckon that the Los Angeles Clippers has a better defense, which have a certain impact on the Nets' fierce offensive.

3.2.3 Assists

As we all know, there is no doubt that basketball is a team sport, and the cooperation between teammates is also one of the indispensable factors to victory. So I have used “Assists” as an indicator to compare the cooperation among players in two teams respectively.

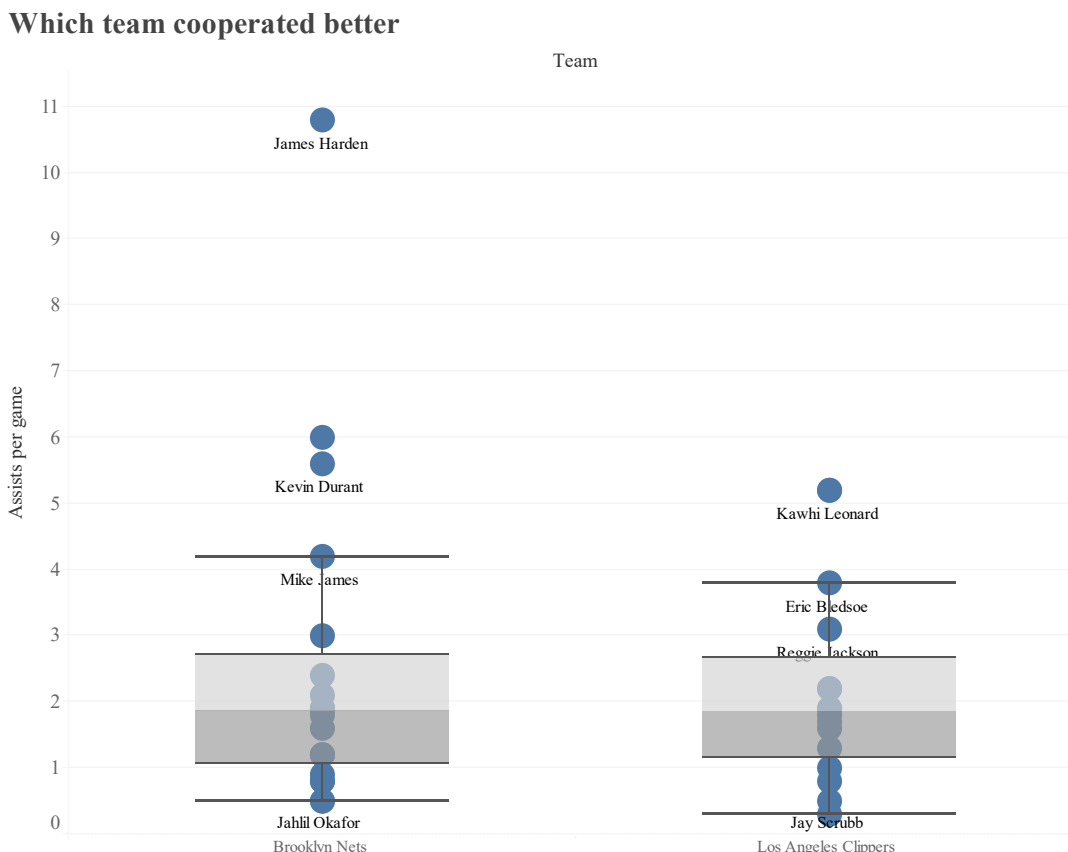


Figure 5. The Information of Assists

In detail, the median of the two sets of data is the same (1.85), but the upper hinge of the Nets (2.70) is slightly higher than that of the Clippers (2.65), and the upper whisker of Nets is also higher than that of the Clippers (4.20 and 3.80 respectively). Furthermore, it is easy to find that the plot of Nets has three outliers, and coincidentally, these three points represent the data of James Harden, Kyrie Irving and Kevin Durant respectively, which shows that the three superstars not only have strong scoring ability, but also cooperate well with their teammates, which indicates that the Nets is better in terms of cooperation.

3.2.4 Positions

All mentioned above are from the perspective of the entire team. In more detail, man-to-man defense is adopted in the NBA on a regular basis, that is, the players of the two teams who play the same position marking each other. In other words, the strength of each position of the two teams also determines the performance of the superstars. Players in five positions are distributed in five areas on the field, each performing his own duties. They are “Shooting Guard (SG)”, “Small Forward (SF)”, “Power Forward (PF)”, “Point Guard (PG)” and “Center (C)”.

Compared with 4 positions, which team is more likely to win

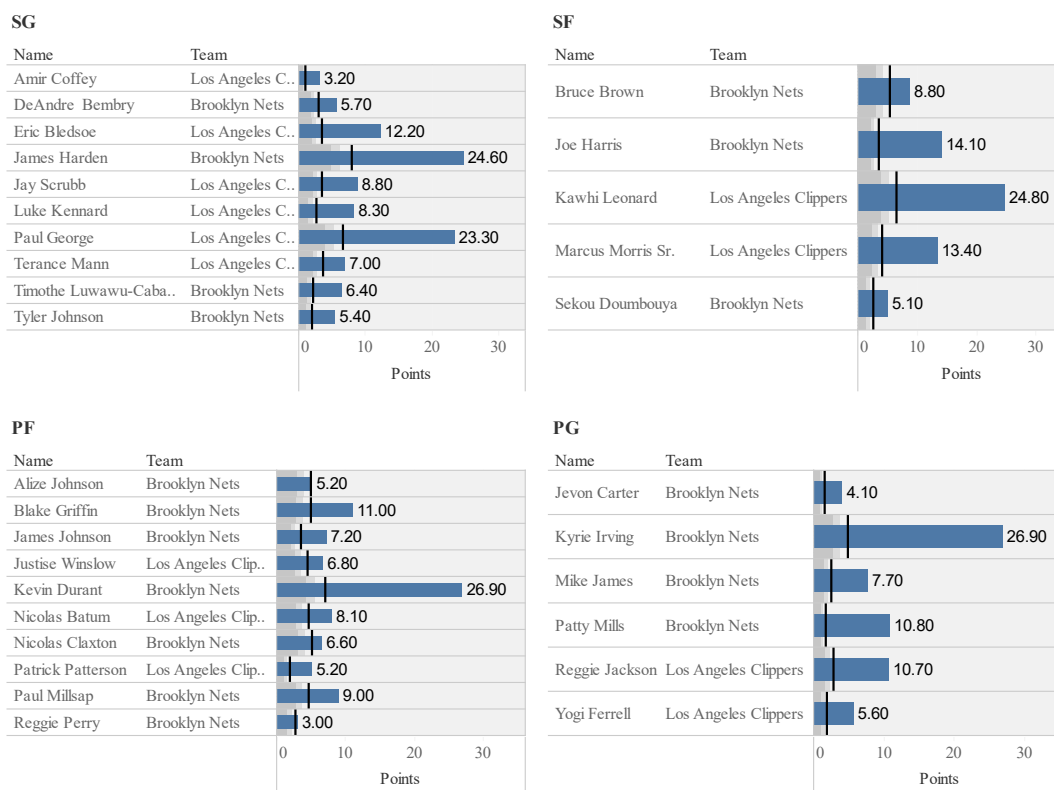


Figure 6. The Information of 4 positions

Since the Center (C) of the two teams is not the main scoring position, I only analyze players in four positions who score more. It can be seen that for Shooting Guard (SG), Harden of the Nets and George of the Clippers can basically restrain each other, because their strengths are almost equal(23.30 and 24.6 points respectively). For Small Forward (SF), the Clippers' Leonard can maintain an efficient offense to a great degree because he is far ahead of several Nets players. For Power Forward (PF), the Nets' Durant is almost unmatched. For Point Guard (PG), considering that the point of Nets' Irving is more than 2 times larger than any player in Clippers, Irving will play better. Combining the four positions, the Nets has a higher probability of winning.

4. Conclusion

To conclude, the performance of superstars and players' behaviors on the defensive end determines whether the team is capable of winning. Only from the analysis of the visual results of this article, it can be observed that the Nets have a relatively large win rate. Different from the application of some algorithms, this work have adopted a direct and simple way----data visualization to analyze every superstar player. Despite the limitations this article is valuable in light of the fact (the results are broadly consistent with the fact). And future studies could fruitfully explore this issue further by Combining the analysis of machine learning with the data visualization method in this article.

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