**Analysis of Team NBA Stats (2000 – 2019)**

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**Introduction/Background**

One of the most interesting things to look at when it comes to NBA basketball is the statistics. More specifically, how certain stats may or may not affect the performance of a given team. Advanced analysis of statistics is something that people have been looking at across all sports for a while. While it is a common thing to look at and reference, it is not always the easiest thing to visualize. “Player X had the highest PPG average in the league in season Y, leading him to the highest number of win shares by a player in 15 seasons with a 3-point percentage less than Z%” is a sentence that is completely meaningless unless you know exactly what all of those things mean.

For the purpose of this project, there are only a few statistics to be aware of. Points per game, 2-point percentage, 3-point percentage, field goal percentage, and free throw percentage. Points per game is just the average points that team scored each game that season. On a basketball court, the outer arc is referred to as the “3-point line.” Any made shot within the arc counts as 2 points and any behind it count as 3 points. 2-point and 3-point percentage just refers to the percentage of made shots out of the ones attempted. Field goal percentage refers to the total percentage of shots made (2 and 3 point). A free throw is a shot after a foul occurs that only counts for 1 point. It is a shot taken without moving and without any defense, so most players tend to have a higher free throw percentage.

**Audience/Purpose of work**

The ideal audience for this work would be someone who is interested in NBA basketball or just likes looking at statistics as a whole. The purpose is to throw together some simple stats and be able to compare two teams side by side. This will allow people to draw their own conclusions as to what stats they believe have the biggest impact. Instead of just saying “the best teams in the league tend to be better at X,” people can look at this visualization and determine what they think is the most important stat. It will also be useful for showing how the best teams of each year compare side by side. This will make more sense after looking at the mockups for the visualization (below).

**Dataset(s)**

Every stat needed can be found on basketball-reference, here: <https://www.basketball-reference.com/leagues/NBA_2019.html>. That link is just the 2018-2019 season summary, but the website has that for each of the seasons needed for this visualization (2000-2019). The 2020 season is still not complete (postponed because of the virus season). Also, there was a “lockout” which delayed the start of the 2011-2012 season, so it was shortened to 50 regular season games instead of the normal 82. This should really only affect the total points statistic, since the rest of the stats are percentage based. Below is an example of how the table will be laid out:

Column Descriptions

|  |  |
| --- | --- |
| **Column Name** | **Description** |
| Team | Team Name (ex. Charlotte Hornets) |
| Season | Years that season spans, starts in the fall and ends in the spring so it spans 2 years (ex. 2000-2001, 2001-2002, etc.) |
| Total Points | The total amount of points that the team scored throughout the whole season |
| 2 Point Percentage | Percentage of 2-point shots made |
| 3 Point Percentage | Percentage of 3-point shots made |
| Field Goal Percentage | Percentage of total shots made |
| Free Throw Percentage | Percentage of free throws made |

Example Table

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Team** | **Season** | **FG** | **threeP** | **twoP** | **FT** | **PTS** |
| Milwaukee Bucks | 2018-2019 | 0.476 | 0.353 | 0.565 | 0.773 | 118.1 |
| Golden State Warriors | 2018-2019 | 0.491 | 0.385 | 0.557 | 0.801 | 117.7 |

Obviously this is only 2 rows, and there are 30 teams and 19 seasons, as well as league averages per season. In total, it is 584 rows. All of these stats can be found on the link above. A little bit of navigation is needed to get to the rest of the seasons, but it is all there.

**Visualization Method**

**Results**

Stuff

**Works Cited**

No sources needed.