One of the most ubiquitous arguments among sports fans in general and basketball fans in particular is the question of “who is the greatest basketball player of all time?” I have been a huge basketball fan all of my life and have engaged in this argument many times. Nearly all of these arguments boil down to either Kobe Bryant or LeBron James versus Michael Jordan. In researching a separate issue related to NBA basketball I came across a website called Basketball-Reference.com. This site is a treasure trove of stats for basketball and I realized that this was the site to use in furtherance of this project. Once I knew there was a vast, available data source the particulars of this study came into focus. Beyond the question of who is the best ever, other questions came to mind. For one, who was the best pick ever? A player with comparable stats but selected lower than their comparison could be considered a better pick. I was also interested in which college produced the most draft picks. Also, the first overall pick is not always the best player in a draft. Which draft position created the most value for their team?

The data sources used for this study were the aforementioned Basketball-Reference.com and the Wikipedia page “50 Greatest Players in NBA History.” I imported the table from this site directly into PowerBI. I did eventually find where to download the data from Basketball-Reference, but there was no bulk import and I would have had to import 60 pages, one for each draft, into PowerBI. That would have been too bulky in the context of creating reports so I instead imported those 60 pages to my local machine and combined them into one table so the final report has 3 tables instead of 62. The number of drafts, 60, was chosen because the 1959 draft contained Wilt Chamberlain. The list of 50 greatest players (selected by players and coaches) didn’t contain anyone that came before Chamberlain, so using his draft as the first made sense to me. Each year’s draft did not contain the same number of selections or have the same structure so I chose to select the first 60 players from each draft, if there were that many picks, and numbered them directly, assigning first-round designation to the first 30 picks and second-round to the rest. This helps to smooth out the differences in draft structure over the years.

My analysis began with the traditional thinking that points scored is one of the most important considerations. Using a clustered column chart to highlight traditional thinking best conveyed that information. Next, I used a combination of clustered column charts and tables with a slicer (to filter out players with good statistics but not enough games played) to use a more modern approach, win shares (which calculates the number of wins the player directly contributed to his team), to analyze who was the best. Then, clustered columns were used to determine which colleges produced the most picks from those drafts, this time with a slicer to highlight the picks from the last ten years. After that, simple tables were used to examine which late picks were best and which draft pick was relatively best.

To make the model and reports clear I undertook a few steps. One was in the modeling process itself. I used data from 60 NBA drafts. Had I imported each one separately, there would have been 62(!) tables in the Fields pane. This would not affect the end user if they merely consumed the reports, but if they wanted to fiddle around with the charts to create their own conclusions, it would require lots of scrolling and introduce more opportunities for errors. Instead, I downloaded them all and streamlined them in Excel so I only imported one table into the model, leaving a total of three tables in the Field pane. In creating the reports I decided to use clustered column charts and tables. While they are not as flashy as other types of reports they do clearly convey the underlying data. I used a black median line and a red 95th percentile line in each column chart to highlight how far above the median the best are and further how far above the 95th percentile they are. I used a slicer in the Modern Thinking page to exclude players who had excelled but in a too low number of games played for consideration. I also used a slicer on the Picks by College page to show that the overall leader has changed drastically in recent years.

In coming to my own conclusion regarding who is the best player ever I decided to use more modern thinking. Abdul-Jabbar and Malone played many more seasons than Jordan, who is usually considered the best ever. When looking at Win Shares per Game, a measure of how much the player directly contributed to the win, Wilt Chamberlain stands above all (just like in real life!). The difference between him at #1 and Jordan at #2 is nearly the difference between the Median line and the 95th percentile line. This is a large statistical difference and cannot be ignored. In a surprise for this lifelong UNC fan and Jordan fan, this in fact changes my mind to now believe Wilt Chamberlain is the best player of all time.

This was not the only surprise I came across. In examining who were the best late picks (pick 31-60) I found that quite a few of these late picks had quite high Win Shares/Game. The top eight of them in that table approach the 95th percentile in this measure and are at least double the median. This is much higher production than I would have expected from that level of player. Another surprise was found in examining the Win Shares by Draft Pick. For the most part, the draft pick is in the same spot or very close to its ordinal position. The ninth pick is a bit of an outlier: players drafted at pick 9 have contributed the sixth-most Win Shares of all the picks. An even bigger outlier is the 24th pick. It has contributed the 16th-most Win Shares of all the picks.

This has been an interesting and fun assignment. Doing this assignment taught me much more about the intricacies of using PowerBI than the other assignments could possibly have. And now I get to crush people with my data-backed assertion that I know who the best basketball player ever is and they don’t!