Part 1: Data Comprehension

By: Eugene Tulyagijja

(A) Which NBA team(s) has drafted the most players who...

a. Went to Duke and were drafted in or before the 2000 draft?

Phoenix Suns (PHO) | **Minnesota Timberwolves (MIN)** | **Dallas Mavericks (DAL)**

Each team drafted 2 Duke University players each between 1989-2000

b. Have a first name that begins with D and were drafted in an even year draft ?

Boston Celtics (BOS) | **Seattle Supersonics (SEA)** | **Milwaukee Bucks (MIL)**

Each team drafted 7 players with first name starting with 'D' in even years

(B) Describe the relationship between a team's first round pick slot in one year with their first-round pick slot in the subsequent year

A team's first round pick slot varies from year to year, this can be due to multiple variables such as, team performance, luck, and trades.

Team Performance – This can impact draft position the most, if Teams finish with a much better record compared to last season, it can lower their odds of getting a higher pick.

Trades – If a team believes they can draft a player of need, lower or higher than what other's values that player, a team can trade up or down to select the player, changing draft slots.

Luck – The worst three records at the end of the year get the highest lottery odds of 14% of getting the number 1 pick, and the odds decrease as the record gets better. This means finishing with the worst record in the league does not guarantee the first overall pick. This can cause a massive shift in the draft slot, especially at the top.

Part 2: **Analytical Acumen**

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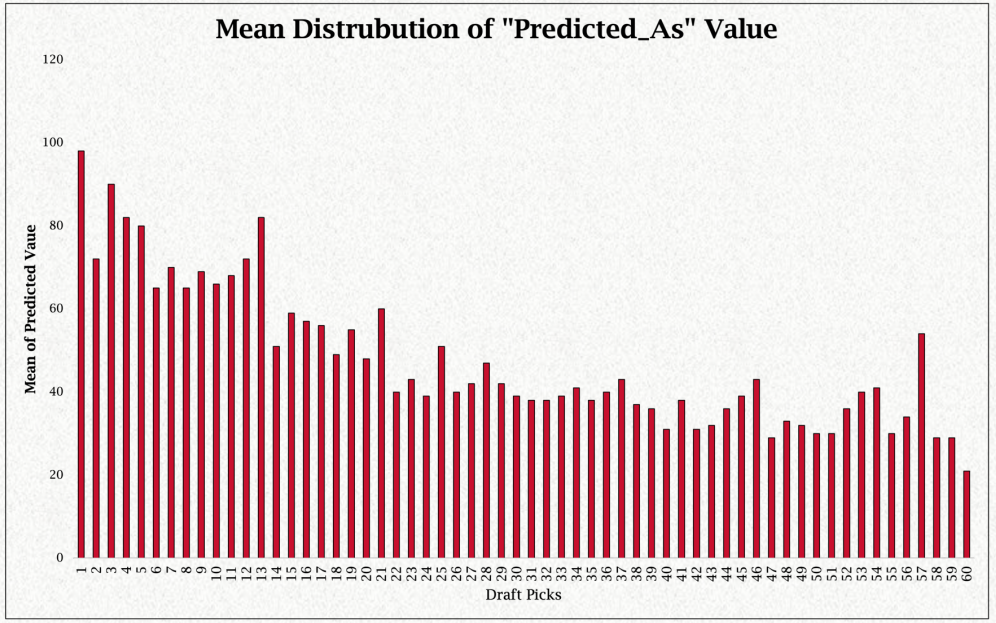
Prompt: Analyze draft position value and team success/deficiencies compared to expectation.

Methodology:

I went with a random forest model to help create a new variable called "Predicted_as." This gives us the ability to incorporate Win_shares, per 48, box plus minus, and VORP, to show how each pick performed compared to their drafted position.

Features Name	Random Forest Feature Importance
Value Over Replacement	26%
Win Shares	26%
Box Plus Minus	25%
Win Shares Per 40	23%

Model Values



The New Orleans Pelicans have outperformed expectations, whilst the Charlotte Hornets have underperformed in the Draft. The Colleges that have had the most players outperform expectations are UNC, and Boston College

Outperformed **Underperformed** **Outperformed**

What additional research areas would you focus on if given the opportunity to expand this study?

If Given the Opportunity to expand this research:

1. **Perfect the Random forest model** – Issues I ran into is that there's not enough data, therefore the results might not be the most accurate depiction, With more data and time, I would have the ability to train the model to be more accurate
2. **Team Fit**– Draft picks values can change on different teams, so if given the opportunity, I would research and find the player's play type in college and NBA play types to find correlations within playstyle from player to team, to get a more accurate representation of how a player can fit on a team.