

The background features a large, light blue Twitter bird logo on the left and the NBA logo on the right. The NBA logo is a white silhouette of a basketball player in a blue and red uniform, set within a blue and red rounded rectangle with the letters 'NBA' at the bottom. The entire scene is set against a dark blue background with starburst light effects.

SOCIAL MEDIA POWER:

Strategic Targeting for NBA Player Sponsorship

Table of Contents

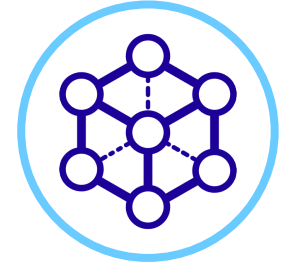
1. The Question



2. Data Set



3. Our Model



4. Findings



5. Use Case



6. Further Research



The Question



Every season, hundreds of millions of dollars are being invested into NBA players for brand promotion...

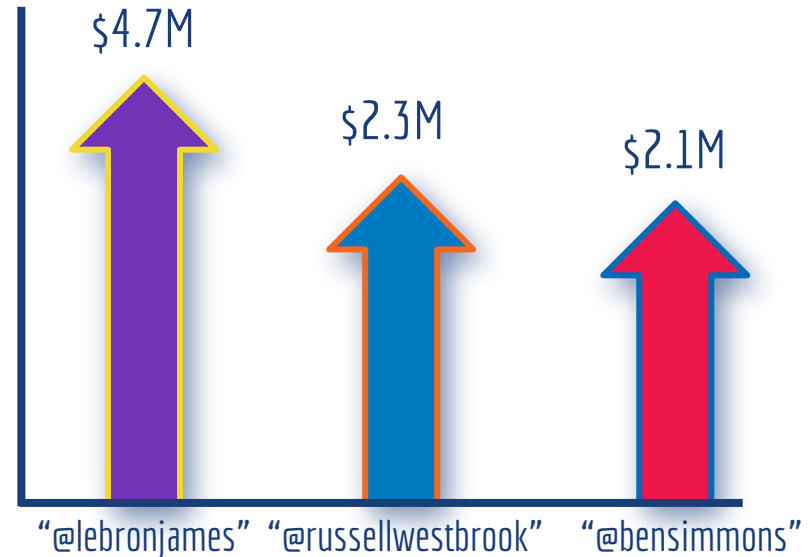
⇒ Therefore, how should a brand/agency strategically determine the best players to target for sponsorships?

The NBA Sponsorship Landscape

Top NBA Endorsement Contracts¹



Top Organic Social Media Sponsorship Valuation²



¹Based on [social power dataset](#) 2017 endorsements ~ ²Based [GumGum's](#) 2018-19 season's combined media value calculation for Tw, FB, & IG



Data Set Summary - 240 NBA Players

Input Variables

- 26 basic statistics (PPG, 3PM, FG%, etc.)
- 6 advanced statistics (ORPM, DRPM, PIE, etc.)
- 4 other metrics (Age, Position, Team Wins, Salary)

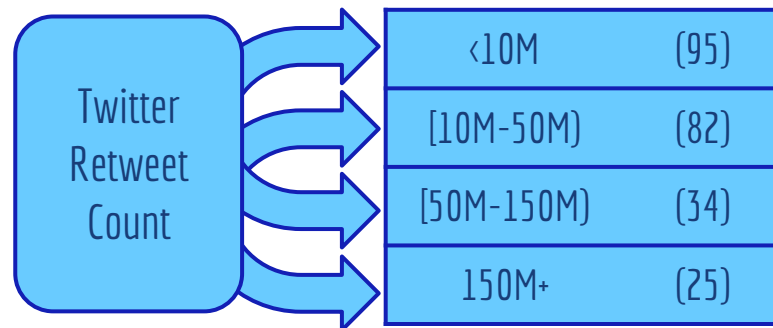
Output Variables

- Twitter Retweet Count
- Twitter Favorite Count

NULL Values

- Percentage stats: FT%, 3PT%
→ replaced with 0
- Output Variables: Twitter Retweet Count and Favorite Count
→ removed from data set

Bucketed Final Output Variable

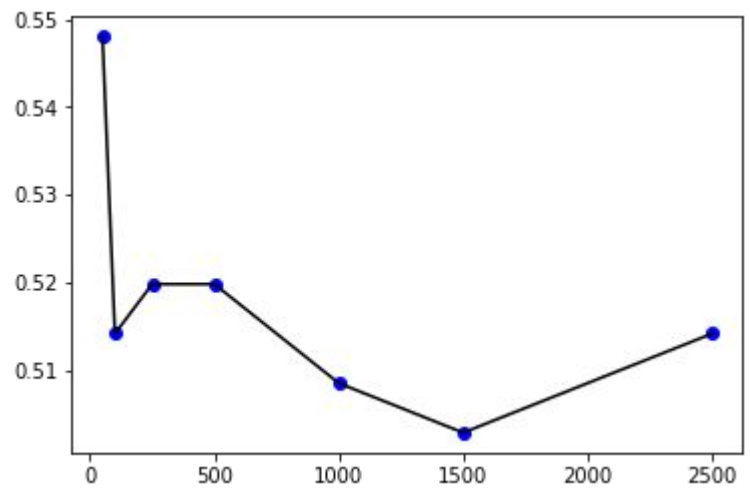




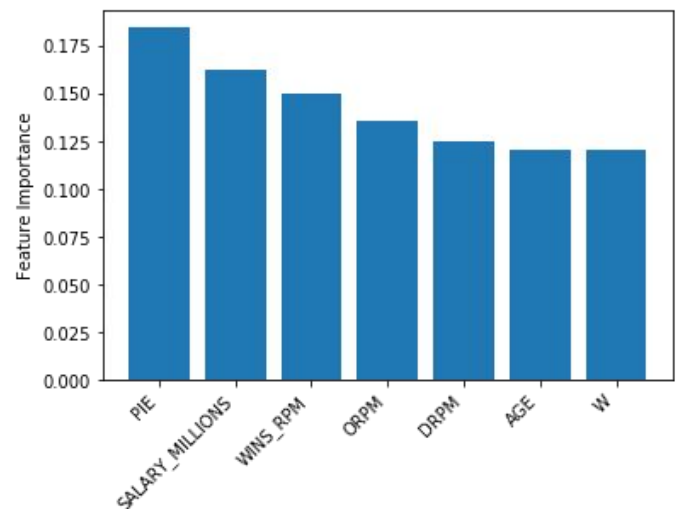
Random Forest

- Train : Test split → 75% : 25%
- Up to 2500 trees, balanced weight sampling, 5-min samples per leaf
- Limited input variables: Age, Wins, Salary, Wins, ORPM, DRPM, PIE

RF - Out of Box Error



Top Feature Importance





Validation Set: 59 samples

| | | Predicted | | | |
|--------|--------|-----------|-------|--------|------|
| | | <10 | 10-50 | 50-150 | 150+ |
| Actual | <10 | 12 | 1 | 2 | 9 |
| | 10-50 | 1 | 1 | 4 | 0 |
| | 50-150 | 0 | 3 | 3 | 3 |
| | 150+ | 7 | 0 | 1 | 12 |

Validation Accuracy:

$$(12+1+3+12) / 59 =$$

47.5%

(Training Set Accuracy: 85.3%)



Targeting Rookies

- With all rookies up for grabs after declaring for NBA draft, brands must determine which to target
- NCAA statistics, rookie salary, and drafted team can be analyzed similarly to predict social media power

Trades / Free Agency

- Changing teams can significantly affect a player's social media presence
- Bigger markets or better teams lead to increased exposure

New Contracts

- Player salary was a top feature in our model
- Target players with pay raise and forecast sponsorship value impact





Instagram & Facebook

Include these platforms to give fuller picture of social media presence



Attendance

More data inputs regarding team/market



Season-to-Season Trends

Enlarge player stats dataset and incorporate performance trajectory (\uparrow/\downarrow)



Postseason Performance

Playoff appearances greatly increase exposure

Questions?

