

Impact of Analysts on Winning NBA Games
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Introduction

Analytics departments have evolved from an innovative component of a few NBA front offices into an indispensable and ubiquitous feature of the sporting world as a whole. What is the Return on Investment (ROI) teams receive from their analysts? Are these people looking for quantitative insights simply inflating the payroll without adding any value? Or are they actually helping teams win games? Given everyone has analysts now, do they still give teams an advantage? Answers to these questions will help owners decide whether or not they want to invest more money to grow their analytics departments with additional staff.

Methods

Team data was acquired from Basketball-Reference.com and analytic staff numbers from NBAstuffer.com. Cached versions of NBAstuffer.com from the Internet Archive gave historical data back to the 2009-2010 season. The 2012-2013 season was not cached so it and the team data were not used. The number of people in each team's analytics department was counted. Ordinary Least Squares regression was run to see if the size of staff could predict regular season wins, championships, Simple Rating System (SRS), 3-Point Field Goal Attempts (3PA), 3-Point Field Goals (3P) or 3-Point Field Goal Percentage (3P%). First I looked at all the seasons together, then I looked at a smaller sample with just the recent 2015-16 to 2017-18 seasons.

Results

Over the eight seasons analyzed, staff size was not a statistically significant predictor of 3P% or championships. The coefficient was actually negative (-0.0005) for titles. Contrasting that negative result, however, staff size was a significant predictor, at the 10% level, of regular season wins (Coefficient = 1.1922), SRS (0.3748), 3P (0.6507) and 3PA (1.8298). Over the past three years, staff size was only a significant predictor of 3P and 3PA.

Conclusion

Clearly analysts value the three point shot. In both samples, staff size predicts increases in 3P and 3PA. Yet more analysts around in and of itself does not lead to teams shooting a better percentage. These findings imply the amount of threes taken may continue to grow. Beyond shooting, these mixed results indicate it is not a scientific law that growing your analytics department gives a positive ROI. For franchises interested in winning championships, especially, the evidence is not in favor of hiring more analysts. Part of the reason is that since 2010 teams who have won it all have had, at most, 2 people on their staff. Simultaneously, teams with big departments like the Rockets and 76ers have not won their final game. Over the eight season sample, staff size was a positive predictor of regular season wins and SRS indicating growing your staff can at least help you get to the playoffs. Perhaps that has changed, however, as data from the last three seasons shows that advantage may no longer exist. Owners should not assume growing their analytics department will unequivocally lead to more success on the floor and championship banners in the rafters.