

Summary

Abstract

The implementation of optical player tracking capabilities by the National Basketball Association (NBA) in the United States has prompted several developments in the realm of basketball analytics. By producing data that were previously unattainable, optimal tracking technology offers new insights into the study of basketball analytics.

The Wins Produced model devised by Berri (2008) aims to evaluate a player's performance by quantifying the number of wins a player contributes to the team based on traditional box-score statistics. This paper extends the model to project the number of team wins for the next season by incorporating optical tracking data. I will start with an introduction to Berri's model, highlight several shortcomings that the model faces and suggest potential solutions to improve the model. Next, I explore various methods used for wins projection and compare these projections to bookmakers' line to evaluate their performance. Next, I introduce optical tracking data into the model to address certain limitations faced by box-score statistics and with this new model, I projected wins for the 2014-15 regular season.

Statement of Contribution

There are three significant contributions to this paper. In Chapter 2, I implemented an algorithm to address the issue of arbitrariness due to the method of manual allocation of minutes which is oftentimes, subjected to human judgment in Berri's model. In Chapter 3, I introduced four candidate methods to project wins for the next season and evaluated their projection capabilities by comparing them to betting lines. These four methods vary in the number of season minutes used and whether positional adjustment is included. In Chapter 4, I incorporated tracking data into two specific aspects of the model to better ascertain the calculation of the marginal value of blocks and assists. Finally, I applied this modified Wins Produced model to project wins for the 2014-15 season.