



# Thinking Outside the Box Score

The image below is a mathematical representation of the styles of all the players (represented by dots) in the NBA. The warmer colors signify outstanding performance in a skill, such as rebounding, while the line segments connect players with similar performance in several skills. Combining an area of mathematics generally thought of as very abstract—topology—with statistics, researchers were able to show that there are actually ten significant positions on a basketball team, rather than the usual five. It could be a while before this innovative approach takes hold, though, because coaches and teams tend towards the traditional, sticking with what has worked in the past. But taking advantage of this new information, which describes how the game is played today, is a slam dunk.

Some coaches have already seen the value in using non-traditional line-ups. Teams occasionally play five guards at a time, which seems foolish in a game that often seeks a height advantage. Yet in reality the players represent different styles, such as jump-shooting ballhandler, rather than the embodiment of a single position, guard, and do pretty well against taller opponents. There are other opportunities for success, too, as the research can also be applied to the draft, to player value, and to line-ups. A team that can put these results to use and, for example,

assemble an unexpected group of five players on the court, could perhaps catch the other team off-guard, or more appropriately, off-jump-shooting ballhandler.

**For More Information:**  
“From 5 to 13: Redefining the Positions of Basketball,”  
Muthu Alagappan, 2012.

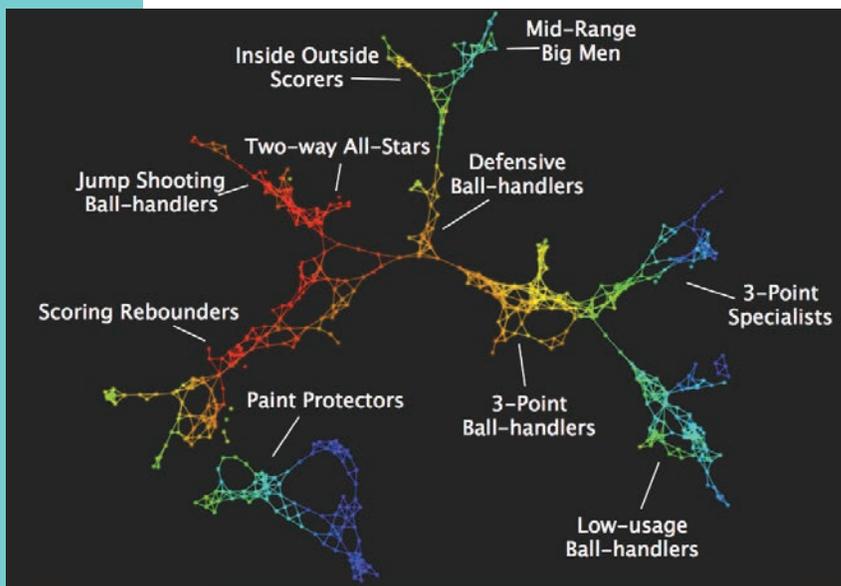


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