

STAT-O-MATIC

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WITH WELL-PLACED CAMERAS GENERATING NEXT-LEVEL NUMBERS, NBA TEAMS ARE COLLECTING DATA LIKE NEVER BEFORE. QUESTION IS, CAN THEY FULLY HARNESS ANY OF IT?



LIKE CORPORATIONS AND sex videos, sports stats are divided into two categories: public and private. Public numbers -- box scores and the like -- are for fans; we scrutinize them in the hope of better understanding teams and players. (And if we happen to win our fantasy leagues? Gravy!)

Private stats, though, are for team brass only. Those metrics -- which can illustrate how Kevin Durant's shooting percentage drops to single-digit territory when he dribbles too much or how many of Zach Randolph's rebounds are uncontested -- are as proprietary as a Google algorithm. That public/private divide is one reason fans don't understand the rationale behind team decisions and why GMs are so quick to dismiss second-guessers. The two parties aren't even working off the same data.

But a new technology, currently being used by only a handful of NBA teams, is about to close the gap. In a windowless conference room in the suburban Chicago offices of STATS, the number-crunching outfit, Brian Kopp, VP of strategy and development, opens a slideshow to explain what he calls "the future of sports data collection." The first slide is a picture of three palm-size cameras, perched in the stands over a soccer pitch like red-light cameras at an intersection. In 2005, an Israeli missile defense specialist named Miky Tamir founded a company called SportVU (pronounced sport view). Tamir wanted to use the defense system's optical tracking technology to create the motherlode of soccer stats. Set strategically around a stadium, cameras snapped each player at 25 frames per second. Those images were fed into an algorithm that produced a treasure trove of data, including how many miles per hour each player ran and the angle of each pass.

STATS bought SportVU for \$15 million in 2008. Basketball, with its small court and quick pace, became the technology's U.S. test case, and in 2009 Kopp persuaded the Spurs, Mavs, Rockets and Thunder each to pay around \$50,000 to subscribe (the Celtics and Warriors joined last year). During games, three cameras on each side of the court track players, refs and the ball. Each game

produced so much data -- 850,000 pieces, including minutiae like the arc and trajectory of every pass -- that it initially took weeks to process and overwhelmed subscribers. "The potential of it is endless," says Mavs video coordinator Mike Shedd, "but I just got to the point where I couldn't look at it." This season, thanks to a few procedural improvements, the turnaround was less than a day. Next season, whenever that happens, it'll be less than a minute.

The data "fill in the gaps of the play-by-play," Kopp says. Against Denver on Dec. 25, for example, Durant's box score line read 44 points, seven boards and four assists. SportVU, meanwhile, detailed that the Oklahoma City small forward held the ball for a total of 2:51, averaging 2.3 seconds on his 75 touches. He was good for 0.6 points per touch, just up from his season mark of 0.5. He ran 2.8 miles in all, averaging 4.1 mph. But the really interesting discovery was that Durant dribbled 96 times, or 1.3 dribbles per touch, and that the more he put the ball on the floor the worse he shot: 55 percent with zero dribbles vs. 3 percent with six or more. Consider, for a moment, the insights gleaned from this correlation. If opponents know that Durant shoots worse the more he dribbles, defenders will force him to put the ball on the floor. Oklahoma City coaches, meanwhile, now



have tangible data to help their star fill a hole in his game.

So far, teams are still discovering ways to benefit from the data. Last season, after monitoring the distance Celtics point guard Rajon Rondo averaged during games (4.1 miles), trainers tailored his conditioning drills to optimize his performance for the playoffs. Another element execs love is that the cameras track the spacing between players, down to the inches. Teams combine that number with the result of the attempt -- made or missed -- to quantify how much room players ideally need to create, or defend, a shot. It also illuminates box score stats. For instance, Randolph gobbled a gaudy

player on the court. Also, as vast as the data may be, the sample size remains small. Although every SportVU team except Dallas agrees to share its raw numbers with one another -- thanks, Cubes! -- the only available games to study are home ones and a few away contests. But with more subscribers and data, "the number of questions you can answer will be limited only by your imagination," Hinkie says. Kopp, meanwhile, sees a future beyond just the NBA -- or any professional league, for that matter. So, what's next?

You, of course.

Beginning next season, Kopp plans to publish parts of the data online, on mobile devices and during NBA broadcasts. Fans will obsess over -- and inevitably build fantasy teams around -- summarized versions of the same stats that GMs are paying big bucks for. Will it lose value by becoming public? No, execs say. Coaches view the data through the proprietary lens of a play's intent and the player's assignment. Plus, stats are, as Warriors director of player personnel Travis Schlenk puts it, only "a piece of the puzzle" in building a team. The value is never in the data per se; it's in the application of it. And in that regard, teams are just scratching the surface.

Pretty soon, you will be too.

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17 boards against the Rockets on Feb. 5. But SportVU's cameras showed that only 44 percent of the Grizzlies forward's rebounds were grabbed with an opponent within 3.5 feet; most were gimmes.

Of course, scouts know that all rebounds aren't created equal. But it used to take hours of film study to prove what SportVU instantly quantifies. "The finer points of the game aren't easily captured,"

says Rockets executive VP of basketball operations Sam Hinkie. "This technology captures it."

For the numbers to reach their potential, teams admit they'll need groups of analysts to cull the data daily. Just imagine trying to unearth that helpful nugget about Durant from the truckload of numbers STATS generates for its subscribers, who receive three times as much data for each