

MONEYBALL: DATA-DRIVEN BASEBALL

On September 23, 2011, the film *Moneyball* opened in theaters across the United States, starring Brad Pitt as Billy Beane, the iconoclastic general manager of the Oakland Athletics. The film was based on the bestselling book by Michael Lewis that described how Beane led the underdog A's, with one of the tiniest budgets in Major League baseball, to win 103 games in 2002. Under Beane's watch, the A's made the playoffs five times in the next eight seasons.

At the opening of the 2002 baseball season, the wealthiest team was the New York Yankees, with a payroll of \$126 million; the Oakland A's and Tampa Bay Devil Rays, each with payrolls of about \$41 million, were the poorest. These disparities meant that only the wealthiest teams could afford the best players. A poor team, such as the A's, could only afford what the "better" teams rejected, and thus was almost certain to fail. That is, until Billy Beane and *Moneyball* entered the picture.

How did Beane do it? He took a close look at the data. Conventional baseball wisdom maintained that big-name highly athletic hitters and skillful young pitchers were the main ingredients for winning. Beane and his assistant general manager Paul DePodesta used advanced statistical analysis of player and team data to prove that wrong. The prevailing metrics for predicting wins, losses, and player performance, such as batting averages, runs batted in, and stolen bases, were vestiges of the early years of baseball and the statistics that were available at that time. Baseball talent scouts used these metrics, as well as their gut intuition, to size up talent for their teams.

Beane and DePodesta found that a different set of metrics, namely, the percentage of time a hitter was on base or forced opposing pitchers to throw a high number of pitches, was more predictive of a team's chances of winning a game. So Beane sought out affordable players who met these criteria (including those who drew lots of "walks") and had been overlooked or rejected by the well-funded teams. He didn't care if a player was overweight or seemed past his prime—he only focused on the numbers. Beane was able to field a consistently winning team by using advanced analytics to gain insights into each player's value and contribution to team success that other richer teams had overlooked.

Beane and his data-driven approach to baseball had a seismic impact on the game. After observing the A's phenomenal success in 2002, the Boston Red Sox used the talents of baseball statistician Bill James and adopted Beane's strategy, only with more money. Two years later, they won the World Series.

Although many experts continue to believe that traditional methods of player evaluation, along with gut instinct, money, and luck, are still the key ingredients for winning teams, the major league teams acknowledge that statistical analysis has a place in baseball. To some degree, most major league teams have embraced sabermetrics, the application of statistical analysis to baseball records to evaluate the performance of individual players. The New York Yankees, New York Mets, San Diego Padres, St. Louis Cardinals, Boston Red Sox, Washington Nationals, Arizona Diamondbacks, Cleveland Indians, and Toronto Blue Jays have all hired full-time saber-metric analysts.



Since all the major league teams use sabermetrics in one way or another to guide their decisions, the A's no longer have the competitive edge they once enjoyed when they were the only ones with this knowledge. Even though Beane hasn't taken the A's to the playoffs since 2006, he remains a highly sought after speaker on the corporate management lecture circuit. It's easy to see why. *Moneyball* isn't just about baseball—it's about learning how to use data as a competitive weapon, especially in environments where resources are scarce and innovation is essential.

Sources: Don Peppers, "Baseball, Business, and Big Data," *FastCompany.com*, April 24, 2012; Matthew Futterman, "Baseball after *Moneyball*," *The Wall Street Journal*, September 22, 2011; Adam Sternberge, "Billy Beane of 'Moneyball' Has Given Up on His Own Hollywood Ending," *The New York Times*, September 21, 2011; and Michael Lewis, *Moneyball: The Art of Winning an Unfair Game*, 2003.