The importance of sports analytics, both in the game and off the field

Analytics has rapidly integrated into the sport industry to optimize scheduling, assist with resource allocation, and examine the legal environment within sports organizations.

A new report from the Temple University Institute for Business and Information Technology (IBIT), based at the Fox School of Business, examines the history and current state of analytics and Big Data in sports.

The report focuses on two main areas. The first is analysis of competition, which includes player evaluation and strategy and game management. The second is analytics that aid management of business and financial issues — this can include marketing, but that is simply a narrow part of the whole.

The paper is co-authored by Associate Professors Joris Drayer and Joel Maxcy, both faculty in Temple’s School of Tourism and Hospitality Management. The report begins with the history of sports analytics and the founding of Sabermetrics, pioneered by Bill James. Sabermetrics produced cutting-edge statistical evaluations of sports players’ performance, starting with baseball.

Today, Major League Baseball (MLB) employs the most analytics professionals, with 97 percent of teams employing these professionals. Eighty percent of National Basketball Association (NBA) teams employ analytics professionals, as 56 percent of the National Football League (NFL) and 23 percent of the National Hockey League (NHL) do.

The report also includes two case studies. One explores the dynamic pricing of sports tickets, and the second discusses a system for combining GPS technology with highly sophisticated analytics to monitor athletes under game and practice conditions.

According to the report, the San Francisco Giants, along with technology partner Qcue, introduced dynamic ticket pricing (DTP) in 2009. The Giants were alone in their venture as recently as 2010, but now most MLB teams use some form of DTP. NBA and NHL teams are also rapidly implementing these strategies.

Determinants of ticket price are related to variables including: season ticket price, secondary market price, seat location, team performance, individual players’ performance, time and day of game, and game broadcasting.

The use of dynamic pricing has also spread to restaurants, movie theaters and the performing arts.

“The neat thing about this topic is that it’s of interest to any sports fan . . . Fantasy sports fans, for instance, are into numbers, and the rise of analytics gives fans access to more information” (Professor Joris Drayer, Temple School of Tourism and Hospitality Management).
Catapult, based in Australia, developed the GPS system and data analysis algorithms in 2006. As of 2013, their client list includes more than 300 sports organizations globally.

“The system’s primary function is to monitor players’ movements and effort to ensure each player is optimally fit and trained without being overworked,” the report states.

A system such Catapult derives its analysis from three categories: performance analysis, injury analysis and tactical analysis. It works by attaching a small monitoring device to the back of a player’s jersey. Then the performance parameters are wirelessly uploaded to mobile computing devices or cloud-based software.

“The neat thing about this topic is that it’s of interest to any sports fan,” Drayer said. “Fantasy sports fans, for instance, are into numbers, and the rise of analytics gives fans access to more information.”

Though the report is of interest of sports fans and admirers, the basic premise of the applications mentioned is relevant to the general business community.


—Alexis Wright-Whitley