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# Pro Golfers Find Winning Rounds From Numbers Crunching

By ADAM SCHUPAK    APRIL 3, 2017



Phil Mickelson plays a shot from a bunker at the Dell Technologies Match Play golf tournament in March 2017 at the Austin Country Club in Austin, Texas. Mickelson was using data analytics before ShotLink came along and popularized it. Eric Gay/Associated Press

PALM BEACH GARDENS, Fla. — On the eve of the 2011 RBC Heritage tournament, a numbers whiz nicknamed The Accountant approached the PGA Tour pro Brandt Snedeker on the practice green and told him he would win.

Snedeker shrugged off the comment until he hoisted the trophy on Sunday after beating Luke Donald in a playoff at Hilton Head Island, S.C.

Then he found the numbers ace, Mark Horton, and said: "What is it that you do, and explain it to me like I'm an infant. He used data and analytics to prove why he thought I'd win at Harbour Town. I thought, 'Why am I not doing this?'"

Horton, a retired executive for the British grocer Tesco, developed a system for mining the data collected every week on ShotLink, the PGA Tour's real-time scoring system that uses sophisticated measuring devices to track every shot by every player. That data can reveal a player's strengths and weaknesses, provide structure to practices and evaluate how his game stacks up with a particular tour venue.

In 2011, Snedeker became the first tour player to hire a full-time analyst. That year he earned $3,587,206, up from $1,602,690 in 2010. In 2012 he had official earnings of $4,989,739, including his victory in the Tour Championship. On top of that in 2012, he earned a $10 million bonus for winning the FedEx Cup, a season-longseasonlong tally.



Brandt Snedeker celebrates after winning the RBC Heritage in April 2011 at the Harbour Town Golf Links in Hilton Head Island, S.C. A data expert had predicted Snedeker would win. Streeter Lecka/Getty Images

Horton repeated that double of the Tour Championship and the FedEx Cup in 2014 with another client, Billy Horschel.

It is a golden age for number crunchers in sports — the book and Oscar-nominated movie "Moneyball" gave advanced analytics mainstream acceptance. Finally it is infiltrating golf, a game overrun by numbers and statistics, and "stats guys" are becoming as important to tour pros as swing instructors and fitness trainers are. They parse statistics to create better training plans and arm the golfers with game plans for each week.

Both Ryder Cup captains in 2016 had their own stat team.

Danny Willett, the defending Masters champion, credits data intelligence with giving him a competitive edge. Not long after Willett slipped into the winner's green jacket, he sent a tweet thanking 15th Club — a team of golf professionals, data experts and software engineers who apply intelligence to data — for plotting his winning strategy.

Willett's wife gave birth just before last year's Masters, and he was unsure if he would even play in it, let alone arrive in time for a practice round. So his caddie, Jonathan Smart, asked 15th Club to study the 2015 data on ball locations at Augusta National and develop a plan to improve decision-making on the course.

Willett's excellent wedge game indicated attacking the par 5s from his favorite distance if his tee shot went astray. When Willett tugged his drive left on the par 5, 15th hole on Sunday, he and his caddie wasted little time deciding to lay up to his "money zone," 75 to 100 yards. Playing the percentages helped Willett pick up shots through better course management. He made bogey or worse only 11 percent of the time that week compared with the field average of 26 percent.

"Danny still had to execute," Smart said, "but if our strategy saved him one stroke that week, it was worth it."

Luke Donald putts during the 145th Open Championship at Royal Troon in July 2016 in Troon, Scotland. Donald credits data analytics with helping him win the 2011 tour money title.
Stuart Franklin/Getty Images

ShotLink had its debut on the tour in 2001, although some analysts were using data in their coaching before that. Dave Pelz, a short-game expert who has coached Phil Mickelson since 2003, said he was doing ShotLink before ShotLink existed, and Mickelson was quick to credit the data Pelz has collected for improving his game.

"Dave found that the average bunker shot is 10 yards, so I practiced from that distance, and I went from 180th in sand saves in 2006 to third two years later," said Mickelson, who again ranked third in 2016.

Mark Broadie studies financial markets and has taught at the Graduate School of Business at Columbia University since 1983. His contributions to the language of golf can be heard every time an announcer mentions Strokes Gained Putting, Broadie's statistical innovation that had its debut in 2011 and has quickly been accepted as the most accurate way to measure overall putting performance on the tour.

The tour recognized that its own measurements of putting (putts per round, putts per green in regulation, and total distance putts made) were flawed. Fewer putts per round, for instance, may be an indication of good putting, but it could just as easily be a reflection of good chipping or poor iron play. Broadie's statistical breakthrough of "strokes gained" allowed a golfer to

more effectively understand where he gained or lost ground on the leaderboard.

In January 2011, Luke Donald was the first pro to ask Broadie for personalized evaluations of his performance stats. Shortly after Donald wrapped up the 2011 tour money title, he sent a thank-you note and a half-case of his signature-label red wine to Broadie. Others took notice of Donald's improvement, including the instructors of Jason Day and Jordan Spieth, and the caddie of Rickie Fowler, and those three players are among Broadie's roughly 30 pupils.

"They are all looking for the same thing: how to get a fraction better," said Broadie, author of "Every Shot Counts."

Jake Nichols, 15th Club's head of golf intelligence, found that an improvement of a half-stroke per round increases a player's earning potential by 73 percent. "That's a pretty compelling case in any line of work and tends to get a golfer's attention," said Blake Wooster, 15th Club's chief executive.

"I try to catch trends," Snedeker said. "The whole point for me is when I have a bad trend, to stop it as soon as possible. Not just keep spiraling down."

When Donald, who was the tour's best putter in 2011 and 2012, dropped to 59th in strokes gained putting last year, he blamed too many 3-putts. Broadie determined that the actual culprit was a failure to one-putt enough, and Donald was leaving putts short. So Donald and his instructor, the Northwestern University men's golf coach Pat Goss, added a practice drill that focused on putting more aggressively. As of March 26, Donald ranked ninth in that category.

Not everyone is convinced that more data will help. Harold Varner III, who turned pro in 2012, says that he does not need to pay someone to tell him

what he already knows. "As soon as I get off the course, I know what I need to work on," he said. "It's not rocket science."

Mark Solda, chief executive and president of Every Ball Counts, a facility based here that presents itself as the world's first science-based and statistical data-driven golf training center, is pushing elite pros and amateurs alike through demanding physical and mental training sessions. Solda's group developed a proprietary algorithm with Harvard University that takes a player's ShotLink data and looks at 900 data points to formulate a game plan. Through data mining, EBC determined the 19 metrics — from a 3-foot putt to driving accuracy — that most determine the score on any given round. The combined values of those skills add up to a scoring average that players can use to assess their games.

A season-ending evaluation of one player revealed a propensity to miss putts of 3 feet or less compared with the tour average of making 99.42 percent from that distance. Solda showed the player that if he improved from 98 percent to 99 percent from that distance, he would increase his earnings by $412,000.

"Long story short," Solda said, "that client worked on 3-footers all off-season."