GAME, SET, AND MATCH – DATA

Over the past few years, analytics have been contributing to the growth and popularity of tennis. In this article, the leader of IT and Digital Media at ATP discusses how this rapidly evolving field is transforming tennis for all stakeholders – players, organizers, and aficionados.

In the annals of tennis history, the 1980 men's Wimbledon final occupies pride of place. John McEnroe matched wits with Björn Borg. The match was a character study in contrasts. McEnroe, 21 years old, was making his first appearance at a Wimbledon final. Borg, 24, was the defending champion, having won the title for four years in a row. On one side, McEnroe, the fiery New Yorker, was known for his aggressive serve-and-volley game. While on the other, Borg, the cool Swede, wore down opponents with his passive-aggressive baseline game.

Borg led two sets to one. In the fourth set, McEnroe pulled it back with an astonishing 18-16 tiebreak, during which he saved seven match points. In the fifth set, McEnroe won the first two points on Borg's serve. Borg fought back and took the next 19 points. He abandoned his baseline game. Borg served hard at corners, rushed to the net, and volleyed. One statistic summed up Borg's change in strategy – he faulted only six of 31 first serves, which proved decisive in winning his fifth straight Wimbledon.

Every time the ball pings back and forth across the tennis net and a point is won or lost, it is recorded by the match umpire on a tablet device. Just as a player times his advance to the net, similarly today, cloud, big data, analytics, and mobile technologies complement each other, ensuring that the action on court is stored, used, and repurposed for the future.

The epic 1980 Wimbledon final riveted the attention of thousands of courtside spectators and millions on live TV and radio, notably Nelson Mandela in a prison on Robben Island. Today, the ATP World Tour is followed by a legion of fans at home, on-the-go, and at work. The drama of every point during a tennis match is broadcast over the airwaves in real time to the farthest corners of the globe. It showcases a sport in which players – who could easily be mistaken for students of Pythagoras – work angles, unleash top spin, and alternate between forecourt and baseline play.

Every time the ball pings back and forth across the tennis net and a point is won or lost, it is recorded by the match umpire on a tablet device. Just as a player times his advance to the net, similarly today, cloud, big data, analytics, and mobile technologies complement each other, ensuring that the action on court is stored, used, and repurposed for the future. Data is relayed to the scoreboard system, the broadcasters, and media channels in real time. Significantly, each detail or outcome is a data point that helps players better understand their game, identify their strengths and weaknesses, and even analyze the strategy of their opponents. The treasure trove of data harnessed from matches provides fans with an immersive experience. In effect, match data uncovers fascinating possibilities for players, fans, and broadcasters alike.

Game: Data helps players raise their game

"He served better in the fifth than he might have in the whole match," said McEnroe in 'Fire & Ice,' an HBO documentary on the 1980 Wimbledon final. Borg changed tactics and rushed repeatedly to the net to take McEnroe by surprise. Tennis professionals now have the benefit of analyzing match statistics to understand nuances of the game. For instance, at the Barclays ATP World Tour Finals, London, in November 2015, we found new correlations between the top-spin that certain players were generating and their win-rates

Data is adding a new dimension to the game. While fitness, athleticism, and innate skill remain at the heart of the sport, insights from historical match data may well tip the scales in tennis. Coaches can mine historical player data to understand correlations between tactics and outcomes. It can lead to shifts across the board in match strategy against specific opponents, a deeper understanding of a player's game to avoid repetitive strain injury, circadian rhythm before matches, variations in diet, and so forth.

Set: Data resets fan expectations

Tennis, more than any other sport, lends itself to data amplifying the dynamics of a game. The unique character and structure of the sport, the diversity of court surfaces, and playing styles of elite players make fans follow the game. Data adds to the stickiness quotient with player comparisons, insights into player strengths on different surfaces, and endurance over five-set matches. Data helps tennis engage more intimately with the millennial generation. It brims with interesting possibilities – in-the-moment insights are fast finding a place along with post-match analysis. With access to historical data during a match, on a video streaming app, millennials will be able to amplify such insights by sharing thoughts and predictions on social media and offering sharp analysis worthy of pundits.

Speaking of which, data analytics also provides commentators with granular insights on live TV, keeping millions of viewers glued during a high octane match. Nuggets of wisdom and quirky anecdotes of commentators contribute to tennis classics being part of tennis folklore. A case in point is Brad Gilbert, former tennis player and ace tennis commentator today. 'BG' is popular for his perspective on what players are thinking as much as his game plan catchphrases, "give 'em the fearhand!" and "bach-hand."

Match: Data retains the aura of tennis

The ATP has a rich repository of match data going back to the 1990s. It offers context and shares hidden patterns that allow players to take crucial decisions before, during, and after each match. From a fan standpoint, data provides the tennis community with a 'long tail' of information, which helps fans interact with each other and connect with iconic players. Data that captures every ball pinging across the net and each ball hitting chalk on tennis courts increases the engagement and magnifies the appeal of tennis.

Of course, data cannot be the be-all and end-all to determine player performance and outcomes in tennis. Intrinsic factors such as match day fitness, mental approach, stamina, and endurance have an important bearing on the final outcome. All factors being equal, data can uncover subtle points, which can influence the trajectory of a match at the highest levels of tennis. While modern players can benefit from rich data visualization, tennis history could have been rewritten if data supported a player's strategy. Borg might have won one of the four US Open finals he played, if he had access to useful data.

At one level, the game of tennis is a purist's delight with two players striving to outwit each other across the net. At another level, tennis is a fascinating subject for a classical mathematician unveiling interesting formulas every time a point is won or lost. In the not too distant future, we could witness a tennis champion thanking his data scientist in addition to his entourage and coach in his acceptance speech after a final. It may well be the ultimate compliment, and a smashing one, to the science of data.

Infosys is the Global Technology Partner of ATP World Tour, leveraging mobility, cloud, and analytics to transform the experience of tennis fans and players the world over.

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Murray is a Senior Executive with the Association of Tennis Professionals. His technology background includes extensive experience in big data, along with real-time and enterprise systems in the entertainment, transportation, hospitality, and retail industries, including building a real-time scoring system for tennis to track hundreds of millions of data points on a global basis.

Murray has provided strategic analysis and pragmatic advice to boards, executives, and managers on topics such as strategic planning, organizational effectiveness, and best methods to leverage technology to their strategic and commercial advantage.

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