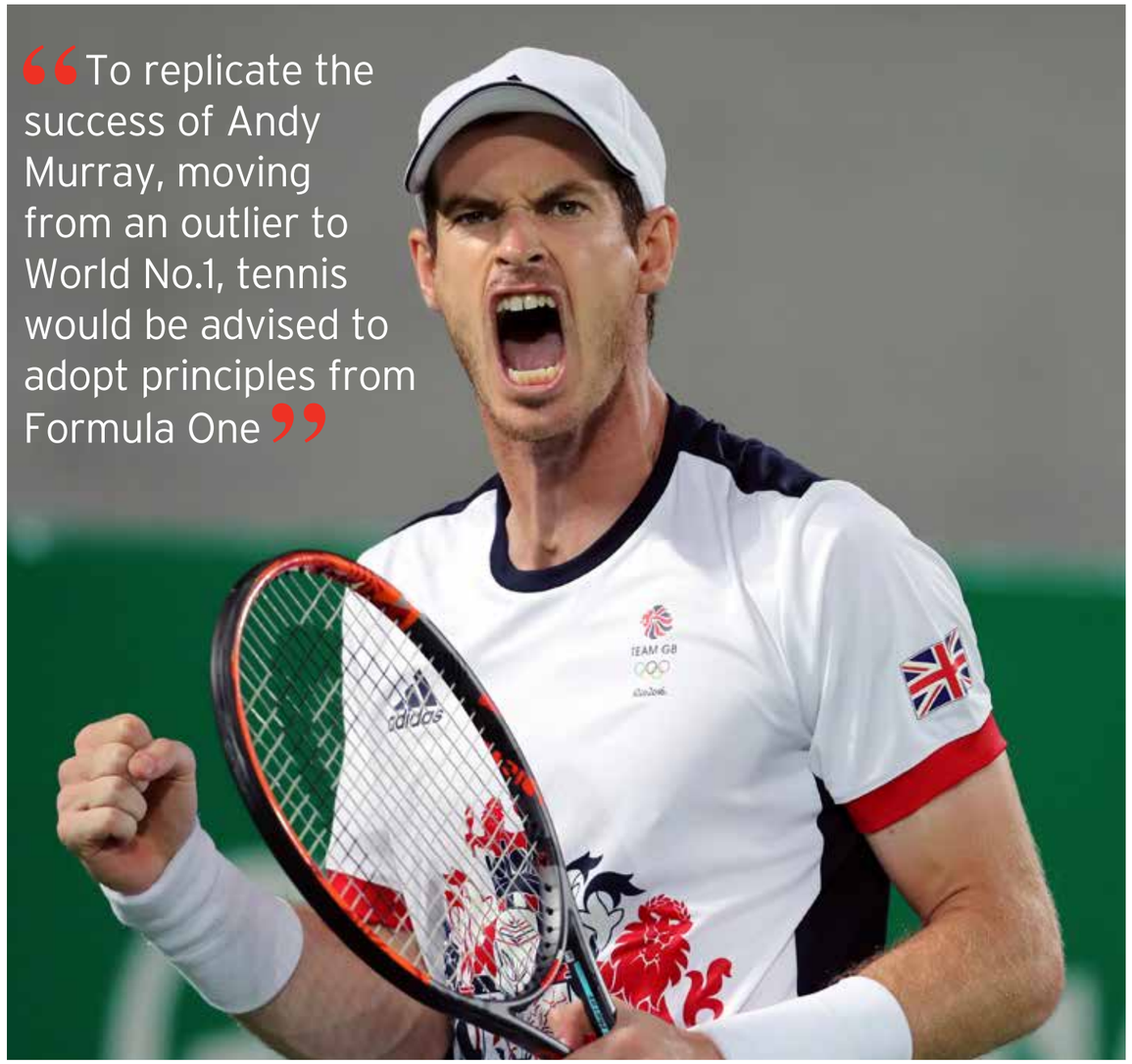
WHAT TENNIS CAN LEARN FROM FORMULA 1

Tennis has grown rapidly in popularity in the UK in recent years due to impressive form from Andy Murray which culminated in him becoming ranked World No.1 for the first time in the end-of-year rankings. With this growth, we've seen increased investment and with this has come more technology.

By Samir Abid, MBA, CEng

Tennis has been great at adopting technology. The way in which Hawkeye has been used to make judgement calls is way ahead of other sports. The first international football tournament to use goal-line-technology, for example, came as late as Brazil 2014.

Hawkeye plays a big part in tennis matches, however, it gives no insight into what might happen. Its focus is purely on what just happened. Data on second serve percentage, number of points won on first serve and speed and power are all useful insights, but how much value is this knowledge contributing to player performance? The result is coaches sat in a player's box, unable to really add value mid-game. Tennis matches are played for a long time at a very high level, so I see a significant opportunity to optimise performance before and during the game in addition to after. >>



The Formula One Opportunity

The engineering pedigree of high performance motorsport has meant the sport has traditionally taken a different approach to that of others. The thing Formula One teams are really good at is putting information in context. You see, or rather hear it, when racing coverage tunes into team radios and you hear engineers informing drivers that their speed was faster than the previous lap, or that they will catch the driver in front of them by taking a particular action.

What tennis can learn from Formula One is not how to deliver advice and support, but how coaches can deliver this as and when it is needed. Efficiency and processes is what engineers and by association Formula One is really good at. Implementing technology in the right places means people can do their jobs better, making well informed, intelligent data driven decisions.

Where I see the real opportunity in tennis is in this behind the scenes area. Using experience from Formula One, coaches can deliver advice and support with much more confidence and objectivity.

For example, the biggest challenge for competition players is always how to adapt to each individual opponent. A six-foot big server is always going to require a different game-plan to a fast cross court player. At the moment all of this is taken into consideration, but I'd question how many adjustments to equipment and strategy are made in game. For example, if rules allow, could changing racket tension throughout a game make a difference? Is there an advantage of having a dynamic string tension manager with optimised settings for first serve, second serve, forehand top spin or drop shot? In F1, drivers adjust their brake bias, the amount of braking force applied between front and rear brakes, constantly throughout a lap. This enables them to maximise the entry phase for each corner, for any given condition such as changes in tarmac, wind direction, gradient etc. Taking a more objective, engineered approach to coaching should involve questioning everything.

Applying an engineering mindset

Engineers tend to follow a relatively strict approach when looking to innovate and develop new ideas, following a research, do, review and repeat process until the optimum outcome is achieved. Two areas this can be applied are simulation and aerodynamics.

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Formula One teams regularly use simulators to prepare drivers to face different conditions and challenges. Race conditions can be simulated down to the smallest detail.

This approach can also be applied to tennis. Coaches already identify aspects of opponents their players should be prepared to face, so why not develop the technology to simulate these? It would enable players to actually practice their game plan weeks before a match, ensuring every return and serve is precision engineered to beat an opponent.

The same approach can be applied to aerodynamics. It is to an extent understood that a different racket can make a difference in various points of the game. Tennis matches are long and varied, so a racket optimised in one way will be good for big serves, but possibly in another for more technical front court shots. Changing between rackets mid rally is of course not possible, so what if a racket could be adapted mid-way through a game? There has been some discussion around nanotechnology and applying this to produce a dynamic racket that alters its aerodynamic properties and formation at different points in a game.

The nature of the sport has meant that Formula One has always been full of engineering minds, but I believe it is now time other sporting disciplines learnt from this. The technical nature of the sport is not just down to the fact it involves cars, but because team members are fully dedicated to constantly looking for that extra millisecond.

In short, I believe there is plenty that could be learnt through data sharing between Formula One and tennis. To replicate the success of Andy Murray, moving from an outlier to World No.1, the sport would be advised to adopt these principles.

“Data can provide useful insights but how much value is this knowledge contributing to player performance?”

Pace Insights Bios and Backgrounds

Samir Abid, MBA, CEng

Samir Abid is Founder and CEO of Pace Insights. Using his expertise from motorsports and automotive engineering, Samir leads his team to design and build customised software tools and equipment that enables elite sports teams to improve performance.

A Chartered Mechanical Engineer, Samir has a degree in Automotive Engineering Design, a Diploma in Motorsport Race Engineering and an MBA from Warwick Business School.

When he's not helping professional sports teams produce world class athletes, Samir spends time with his young family as well as competing nationally as a racing driver.

About Pace Insights

Established in 2011, Pace Insights improves sporting performance through the application of technology. The team leverages experience from the world of motorsports, introducing cutting edge technology and techniques to the wider professional sporting arena to maximise performance success.

Taking a problem solving approach, Pace Insights builds custom software tools and hardware equipment. Software products enable complex data analysis and visualisation, providing coaches with the insight to improve performance of sporting stars. Personalised equipment, designed and built to meet both training and competition rules enables high performance professionals to achieve all important marginal gains.

Pace Insights works at individual, team and organisational level unlocking insights that deliver success. Current customers include over 30 British-based Sports organisations including: UK Sport, EIS, Team Sky, GB Boxing, British Sailing, British Athletics, British Swimming and the British Equestrian Federation.