

How to Catapult your way to success through the use of technology

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2016 UK Coaching Summit keynote speaker Barry McNeill drew on personal experiences from his career as a data analyst working alongside some of the most recognised faces in sport to convey the message that coaching and technology can form a powerful alliance.

- **Technology can provide a competitive advantage in elite sport, but it needs a coach to drive it.**
- **Use of technology on its own is not sufficient to bring you the rewards you strive for.**
- **Start with a clear strategy and vision, with the intent and the performance goal well defined.**
- **Any data being analysed must be actionable.**
- **The onus is on the coach to ask the right questions, interpret the data and feed back a simple-to-understand message to their performers.**
- **Coaches often use their lack of knowledge as an excuse for not embracing the opportunity that technology brings.**

When you are used to rubbing shoulders with some of the biggest names in sport – people like Ronaldo, Claudio Ranieri, Alan Shearer and Sir Clive Woodward – you tend to find, when imparting some words of wisdom to an expectant audience, that people sit up in their chairs that little bit more and refrain from the usual bum-shuffling.

Which is exactly what happened when Barry McNeill delivered his keynote speech at the 2016 UK Coaching Summit in Manchester, focusing on the important role technology plays in improving performance, and how coaches need to embrace it and engage with it.

Barry's stockpile of anecdotes helped add more than a smidgeon of gravitas to his presentation – entitled 'Man versus Machine'.

He used personal experiences from his career as a data analyst with ProZone and from his current position as CEO of Catapult Sports – roles that have brought him up close and personal with a bevy of famous faces – to convey the message that resistance is futile when it comes to using technology in coaching.

Well done, sir!

Coaching and technology co-exist well together, or, as Barry more eloquently put it: 'Technology and

people strategy work interconnected to underpin sporting success.’

But though technology can provide a competitive advantage in elite sport, it needs a coach to drive it – by asking the right questions, interpreting the data and feeding back a simple-to-understand message to the players.

Most people will remember Jonny Wilkinson’s match-winning drop goal for England in the 2003 World Cup final against Australia, which came in the final minute of extra time. Not too many people will be aware of the role technology played in that victory.

Barry worked closely with England coach Sir Clive Woodward to collect a huge mass of data during a two-year run-up to the tournament – a gold mine, or treasure trove, of data would perhaps be a better description, bearing in mind the impact it had.

Barry explained: ‘ProZone technology was used to figure out a precise pattern of play from a line-out which, ultimately, would get field position to give Jonny the space to kick.’

The rest, as they say, is history.

‘I don’t want to overstate ProZone’s role in that,’ added Barry. ‘It was all driven by the coach. The strategy was then adopted by the players, and the coach happened to have a pretty good set of tools to hand to help him get that message home.’

Sir Clive, himself now an accomplished keynote speaker, regularly trots out the phrase, ‘Whoever wins in IT tends to win,’ which has become something of a mantra.

In one interview, he said of his World Cup preparations: ‘I gave 70 players laptops and training courses. Suddenly, you would have all these big heroes, like Johnson or Dallaglio, coming down from training with laptop computers. The press had a field day... “What on earth is he doing giving players laptops? Why isn’t he giving them raw meat?”’

Barry McNeill

Barry addresses delegates at the 2016 UK Coaching Summit in Manchester

Finishing touches

There's no point investing in high-end equipment in the search for big data (or even basic equipment in search of a few valuable pointers) without first having formed a strategy.

‘You must know what you are looking for before you start,’ said Barry. ‘Define the intent, the performance goal, and focus on that vision – whether it's physical, tactical or physiological.’

Once you have your strategy and the data provided by your analytics software – be it video, player-tracking biosensors or some other form of wearable technology – then comes the engagement phase.

‘Build a narrative that is appealing to the user, the athlete or the player. It's about telling stories but making them actionable. Hone it down to one simple message,’ he added.

‘Too often in my industry, the data is interesting, but is it actionable? Actionable data is the thing we need to drive performance improvement.’

Which led Barry seamlessly into another anecdote, involving a fresh-faced, self-assured Portuguese who, in 2005, at the age of 20, swore he was destined to go down in history as one of football's all-time great players.

But Ronaldo was far from the finished article in those days and still had a lot to learn if his cocksure prophecy was to come true.

His enthusiasm would have to be reined in. The problem was, Manchester United coaches were having trouble making him understand that there were other players in red shirts who wanted to kick the ball on match days.

Ronaldo

GOAL MACHINE: An actionable data-driven coaching strategy helped Ronaldo's career take off at Manchester United

Barry spent two weeks exploring the ProZone technology with assistant manager Carlos Queiroz, who homed in on the statistic showing the average number of touches for a player per possession.

Queiroz seized on this data as a way of getting Ronaldo to accept that he was being too greedy, and that his game was suffering as a result.

‘In the Premier League, a central midfielder will have around 2.4 touches per possession,’ said Barry. ‘The higher the standard, up to Champions League level, it will go up to 3.1, while a winger should be around 4, especially if he is a player like Gareth Bale or Ronaldo.’

‘Ronaldo was operating on average over a game of 7.2 touches per possession. Clearly, he was trying to do too much.’

‘The coaches used a simple way of articulating to the player that, if he kept that below 5 every game, they thought it would have a big improvement on his performance. The intervention, to make him understand that that was a KPI for him, worked.’

The non-IT crowd

Introducing advancements in technology into football has been anything but straightforward, however.

The sport is renowned for being fiercely resistant to change. Getting the domestic and global powers that be to get onside over goal-line technology, for example, turned into a protracted and turbulent journey.

‘I came across a great phrase recently,’ said Barry. ‘If it ain’t broke, consider breaking it.’

‘Great things can start by being in a pretty precarious position and having that ability to rebuild.’

‘In football, there is an unwillingness to confront that opportunity.’

‘I saw a younger generation of footballers in 1999 who wanted more than their coaches were giving them because they were stuck in a generation that were uncomfortable with IT. That became prohibitive to the coaching process... I had to convince those non-believers.’

Non-believers like former Aston Villa goalkeeping coach Eric Steele and Graeme Souness, during his time as manager of Newcastle United.

Both were persuaded to see the light.

When Barry was working as an analyst at Aston Villa in 1999, he would often be pestered by young players like Gareth Southgate, Paul Merson and Lee Hendrie, who wanted to learn as much as they possibly could from watching back their movements during a game.

He spent a lot of time chewing the fat with them in the canteen at lunchtimes (not literally, you understand – I’m sure the food was of the highest quality at Vila’s training ground). The canteen doubled up as his makeshift office as there was no designated area for analysts.

Barry revealed Steele – who coached Peter Schmeichel after joining Villa in 2001 – didn’t speak to him

for the first two years he was stationed at the club. Then one day, he summoned him to his office. Panic set in.

‘He called me into his room and told me to shut the door. He said, “I want to be the best coach I can be, and I’ve finally accepted I need to learn this ProZone ****.”’

‘I switched on the laptop and asked him to drag a player into a different position on the screen. He began sliding the mouse but when he got to the end of the table asked me if there was another table. I said, “Eric, just lift the mouse up and move it!”’

The story shows, firstly, that we should never overestimate people’s knowledge of technology; secondly, that coaches use their lack of knowledge as a barrier to not embrace the opportunity that technology brings.

Souness onside on Tyneside

Souness was another manager who just ‘didn’t get it’.

Fast-forward a few years, and Barry was working a few hundred miles north in Newcastle.

He still remembers vividly the day he incurred the wrath of the fiery Scotsman.

Alan Shearer, Gary Speed and Craig Bellamy had asked him to come and present an analysis session to them before they played Manchester United.

‘The assistant manager knew and had okayed the trip,’ began Barry. ‘I was sat there with the players, who said that their manager was a dinosaur (when it came to technology). They knew every other Premier League team had it, and they wanted it.’

‘Graeme Souness walks in, and I’m stood out like an alien because I’m not in training gear, and he just looks at me and then walks out. The lads start laughing. I just instinctively followed him out. I said to him, “Graeme, what’s the problem?”’

“I didn’t know you were going to be here. What’s this ProZone nonsense?” [Well, words to that effect.]

‘Souness was not a person you wanted to upset. But after taking him and the rest of the staff through the clips for 30 minutes, he delivered the session back to the players.’

Barry won him over by tapping into his own emotional intelligence. He knew he would have to use a conciliatory tone, and display a healthy dollop of courage, to defuse a potentially volatile situation. He explained to Souness that he didn’t have the answer in his laptop, rather it was just a tool you used to ask questions to.

Proving once again that the use of technology on its own is not sufficient to bring you the performance gains you strive for.

The human element is vital and can make or break the process.

Bowled over by technology

Coaches can be forgiven for being blinded by science. It is becoming more and more difficult to keep up with the new breakthroughs in technology, which is why professional teams employ large numbers of specialised staff to do the technical calculations for them.

They will then work alongside the coach on interpreting that data and aligning it with the strategy.

But there is surely no longer any room for doubt that technology can have a hugely positive impact on performance.

Take the England cricket team, specifically their bowling attack.

They are among a vast number of elite sports stars – Premiership rugby players, Premier League footballers and tennis icon Andy Murray are some of the others – who wear the Catapult wearable technology device. It is, according to the branding, a GPS technology tool that enables objective athlete management.

It fits in between the shoulder blades, and was used by England's fast and medium-paced bowlers in the recent thumping Test series win over Sri Lanka.

Barry explained: 'It measures stances, sprints and velocities but can also measure, through algorithms and inertial sensors, a speed of bowl and the acceleration movement of the arm so we can understand where the player is fatiguing in the over and where they are fatiguing in a long test match, and how we reduce the load on the player to ultimately improve performance and mitigate injury.'

Out-Foxing soft tissue injuries

Whether it's a wet and wild working week spent in the company of Great Britain's Paralympic canoeists at Pierrepoint Country Park, home of the National Water Sports Centre, or advising the representatives of the Galácticos of Real Madrid and Bayern Munich, Barry derives equal satisfaction from all his client meetings.

Catapult is also part of Leicester City's tool kit, with Claudio Ranieri and his staff using the measurements and data the device provides to, among other things, inform opinion over individual training regimes.

The Foxes sustained the smallest number of soft tissue injuries in the Premier League on their way to winning the title last season, with injury prevention another area that provides significant performance gains.

'Sports scientists would argue that soft tissue injuries – which amount to approximately 75% of all injuries in football – are potentially preventable. It's about not overloading the players at the wrong time in the season, the week or the day,' said Barry.

'Game availability is now one of the key stats that chief executives in football at the pro level will look at and which technology can provide.'

Professional sports clubs and major national governing bodies like The FA, RFU and ECB are shrewd operators. They will not waste their time and money on things that do not work.

Barry has provided much evidence to support the fact that technology does work: work wonders, in fact.

His stories plucked from an impressive CV will live long in the memory. And so will the message that coaching and technology (man and machine) can work hand in hand to leverage the huge power and potential of big data in order to bring about profound advantages in athletic performance.

Do you use technology in your coaching? Do you agree that coaches can no longer ignore the benefits that technology can bring? Please leave a comment.

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[Help or hindrance: The use of video analysis to aid player development](#)

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