SPORTS PERFORMANCE & TECH

ISSUE 2

Olympic Analytics

We talk to Dr. Peter Vint about the adoption of analytics in Olympic sports

The Data Puzzle

Ben Alamar discusses how strategic data can complete the sports analytics puzzle

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Letter From The Editor

Welcome to the second edition of Sports Performance & Technology.

The reaction to the first issue was incredible and we would like to thank everybody who shared, commented and gave us feedback. We hope that you enjoy the second issue just as much.

In this issue we discuss the ways in which sports analytics are changing the lives of young footballers and entire communities in Sierra Leone, avoiding athlete burn-out and a review of the Garmin Edge 810, amongst many others.

One of the interesting things that I found whilst putting this magazine together is the continued interest from the sporting community, not a day has gone by where I haven't had at least 2 emails from people saying that they have had the link sent to them and how they are interested in getting involved.

It is good to know that so many people have been sharing the magazine around and that there are people out there with a genuine passion for what we are trying to achieve.

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Managing Editor:
George Hill

Art Director:
Gavin Bailey

Advertising:
Hannah Sturgess

Media Partnerships:
Media@sportsperformancetech.com

Contributors:
David Barton
Michael J Boyle
Dr. Michelle Cleere
Becci Barrie
Danielle Prescott

General Enquiries:
Editor@sportsperformancetech.com

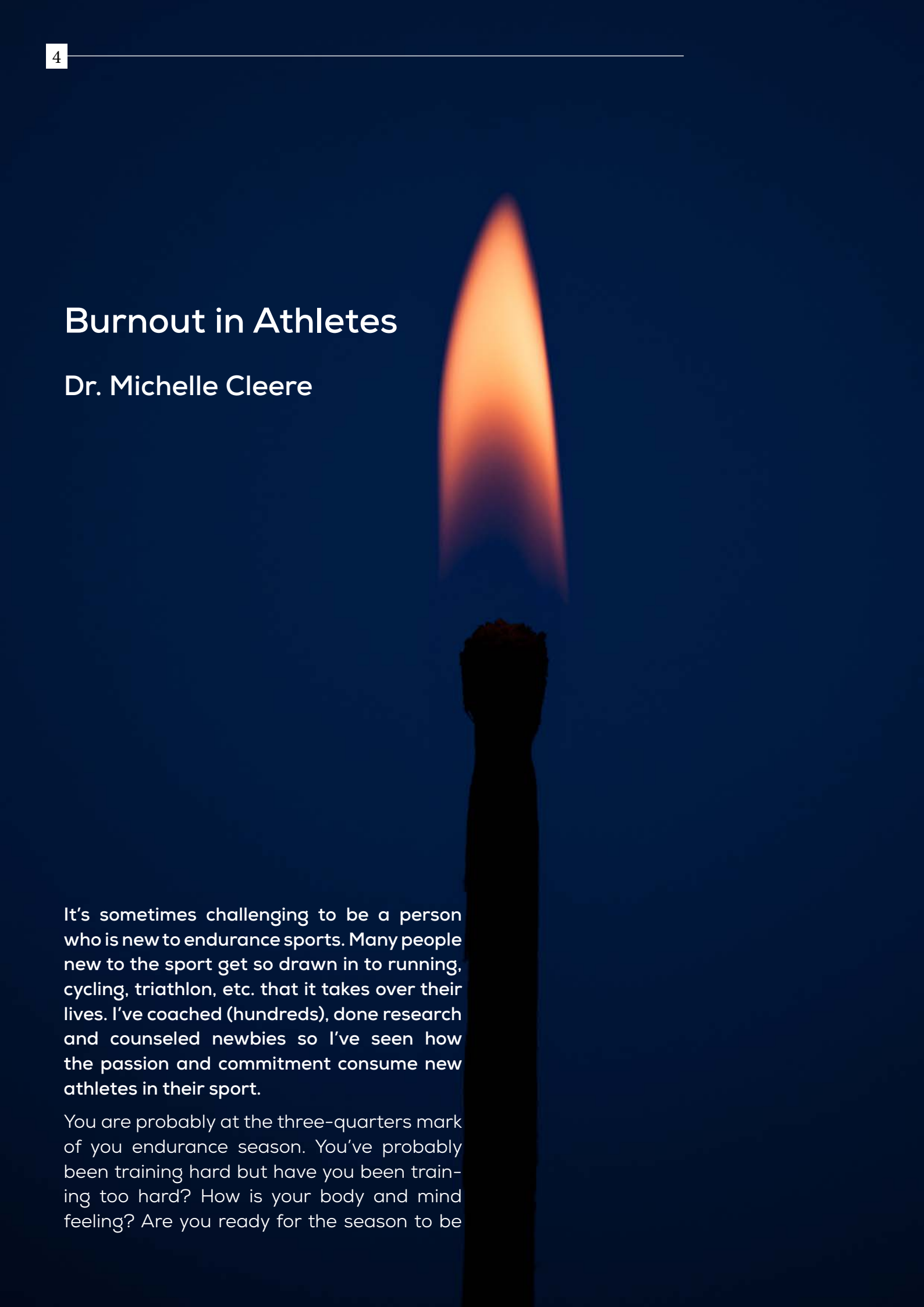
We are hoping to expand Sports Performance & Technology to cover as many areas as possible, in this issue we are looking at sports ranging from cycling to ice hockey. If you know of any innovative or obscure sports that are using new techniques, let us know, it would be great to include them in the next edition.

If you are interested in getting involved in the magazine from a sponsorship, writer or any other perspective please contact me at ghill@sportsperformancetech.com to discuss how we can work together.

George Hill
Chief Editor

Burnout in Athletes

Dr. Michelle Cleere

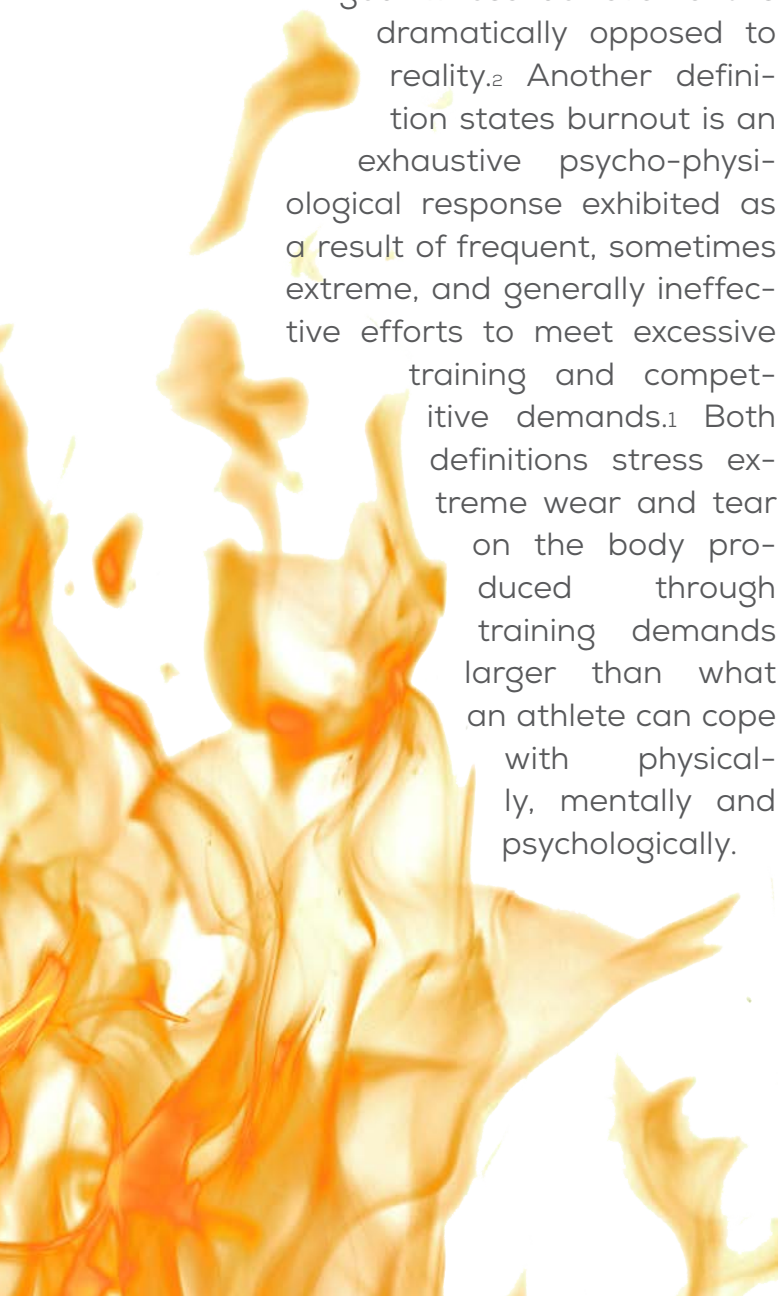


It's sometimes challenging to be a person who is new to endurance sports. Many people new to the sport get so drawn in to running, cycling, triathlon, etc. that it takes over their lives. I've coached (hundreds), done research and counseled newbies so I've seen how the passion and commitment consume new athletes in their sport.

You are probably at the three-quarters mark of you endurance season. You've probably been training hard but have you been training too hard? How is your body and mind feeling? Are you ready for the season to be

over? If so, you may be experiencing symptoms of burnout.

The pressure to win and train with intensity has increased dramatically throughout the years, mostly because of the [perceived] rewards physically, mentally and emotionally.[1] But one result of these pressures is burnout. One definition of burnout says it is a state of mental, emotional and physical exhaustion brought on by persistent devotion to a goal whose achievement is dramatically opposed to reality.[2] Another definition states burnout is an exhaustive psycho-physiological response exhibited as a result of frequent, sometimes extreme, and generally ineffective efforts to meet excessive training and competitive demands.[1] Both definitions stress extreme wear and tear on the body produced through training demands larger than what an athlete can cope with physically, mentally and psychologically.



Why talk about burnout? In my work with endurance athletes, particularly beginners, I've found it to be common and it's important to educate endurance athletes that you do not need to push yourself to complete mental and physical exhaustion [burnout] to be good.

This article is going to explain the causes of burnout, symptoms [what to look for], and some treatments and preventative methods.

Causes of burnout

Burnout afflicts athletes who are overly dedicated, idealistic, and motivated toward high achievement. Individuals most prone to burnout are those who work too hard, too long, too intensely and are extremely dedicated to it.[2]

Three personality characteristics have been identified as increasing an individual's susceptibility to burnout.

1) Perfectionists are at risk because they tend to set high standards for themselves and others.

2) People who are other-oriented have a strong need to be liked and admired. They tend to be generous with everyone but themselves.

3) People lacking assertive interpersonal skills find it difficult to say no or express anger without feeling guilty.2

Other factors in the research indicate the following categories of factors that lead to burnout. Physical concerns: injury, losing, getting beat by other people, etc. Logistical concerns: demands on time, travel, etc. Social or interpersonal concerns: dissatisfaction with personal life, negative family influences, etc. Psychological concerns: lack of fulfillment, lack of enjoyment, and inappropriate expectations.1

Symptoms of burnout

The chart to the bottom left is a list of psychological and physiological signs and symptoms of burnout.

Throughout the life of an endurance athlete some of these symptoms happen on occasion for a variety of reasons, however if you are experiencing more than one or two and on a regular basis you are more than likely experiencing burnout.

Psychological	**Physiological**
Sleep disturbances	Higher resting heart rates
Loss of self-confidence	Higher systolic blood pressure
Drowsiness and apathy	Delayed return to normal heart rate
Quarrelsomeness	Elevated basal metabolic rate
Irritability	Elevated body temperature
Emotional and motivational imbalance	Weight loss
Excessive weariness that is prolonged	Impeded respiration
Lack of appetite	Subcostal aching
Fatigue	Bowel disorders
Anxiety	
Anger/hostility	
Confusion	
Depression	

A study of competitive swimmers found, the heavier the training, especially over time, the greater the mood disturbance. Mood disturbances included: increased depression, anger, fatigue and decreased vigor. Conversely, a reduction in their training was associated with improvements in mood.1

There are numerous instruments and surveys that measure burnout, but perhaps the best way to analyze burnout is to pay attention to your body and find ways to be realistic about your training. There is a huge difference in feeling motivated to train versus

pushing beyond what is realistic.

Prevention and treatment

There are numerous easy ways to prevent and treat burnout.

1. Set short term goals with incentives for reaching them. This helps prevent burnout and also enhances motivation. Meeting short term goals provides a feeling of success which enhances self esteem.[1]

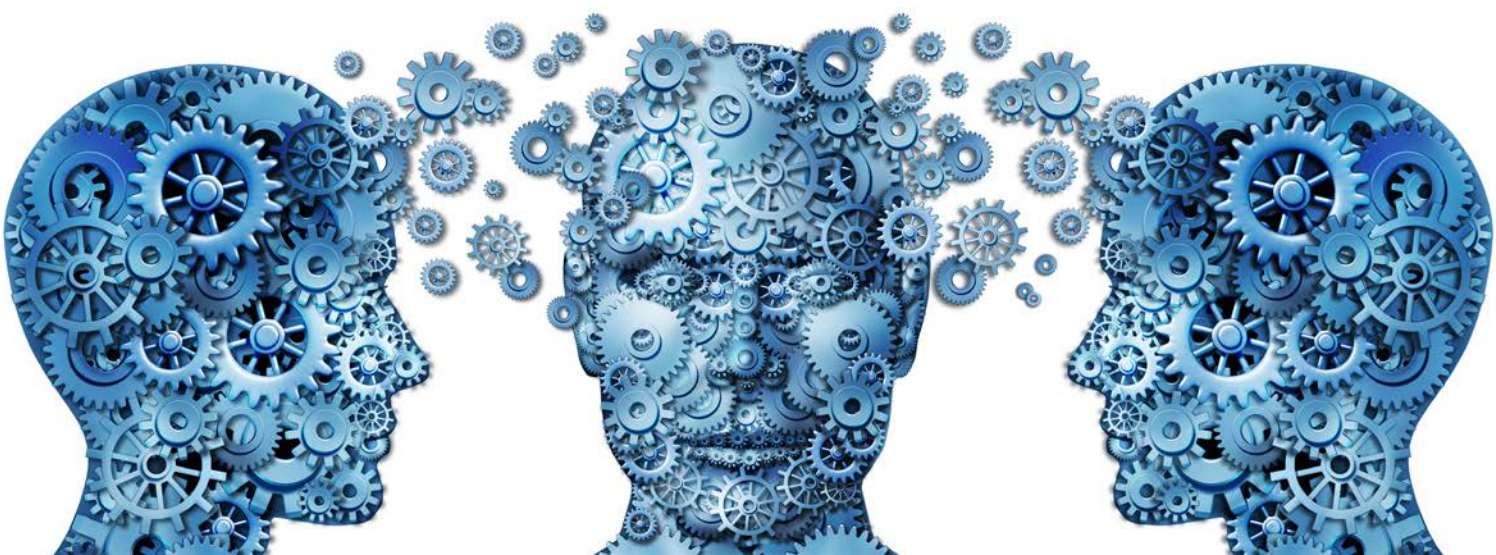
2. Find someone you feel comfortable communicating frustrations, anxieties and disappointments, in particular about your training program.

3. It's important to schedule time outs or relaxation breaks. It's important to have one or two [maybe more] days completely off from training. One reason the business world provides vacations is so that employees don't get burnt and have time to rejuvenate.

4. Change up your workouts. It's easy to do the same workout, but psychologically and physically it's better to switch it up. Try a variety of exercises for each goal of the training regimen.

5. Learn self regulation skills [relaxation, imagery, goal setting and positive self talk]. These skills can help ward off much of the stress that leads to burnout. Keep a positive outlook in your training environment and have fun! [1&2]

It's important to look at the overall balance in your life to ensure you have other outside interests, friends and family you spend time with. And are you good at taking care of yourself



physically, acknowledging vulnerabilities, humanness, and time constraints? 3

To completely recover from burnout you need to remove yourself completely from the sport. Severe burnout takes months to recover from. Coming back into your sport is a slow process and should include some/all of the above prevention tools.

Conclusion

When people burnout they feel physically, emotionally and mentally exhausted and no one, particularly people who are new to endurance sports want to experience that. Burnout arises from a sense of distress and discontent and a perception of failing to achieve the ideals or goals that a person has established. After repeated efforts to attain these goals and after working as hard as possible without complete success, feelings of failure develop along with negative attitudes towards life, work, other people and oneself. 3

Your training program should not be too simple [it won't challenge you enough] or too extreme [which eventually leads to burnout]. Athletes need to do a better job of routinely assessing their how they are feeling physically and mentally. Not only do you need a basis of where to begin a training regime from a physical standpoint but you also need that information from an emotional and mental one in order to observe fluctuations that lead to burnout.

Dr. Michelle Cleere (PhD, Certified USA Triathlon Level I Coach, NASM-CPT) has coached hundreds of amateur and professional athletes who compete in sports that require a high degree of mental endurance, toughness and focus to get more out of their training, obtain better results and lead more balanced lives.

For a free initial consultation email drmichelle@drmichelle-cleere.com.

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2 Williams JM. Applied Sports Psychology: Personal Growth to Peak Performance.Moutain View, CA: Mayfield Publishing Company. 1998.

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The Garmin Edge 810: Review

Becci Barrie

Arguably, the sport that has seen the most improvement across the board from the use of analytics is road cycling.

The likes of Bradley Wiggins have made the most of analytical training techniques and the improvement in technologies using analytical techniques. It could be argued that given the well documented usage of performance enhancing drugs in the past to give athletes an edge, effective tracking of performances and small improvements in technique are giving huge improvements during a race.

Devices such as cycling computers have given amateur cyclists the opportunity to utilise these new forms

of analytics to improve their performances.

I was lucky enough to be sent the Garmin Edge 810 for review, which is a brilliant example of how a cycle computer can be used to not only measure but also evaluate and improve in the future.

Before I received the Edge one of the issues that I had read about across several forums was that it was unnecessary given the similarities to earlier models. In fact one of the commentators claimed that the only benefit he could see was that you could connect this to your phone via bluetooth.

However, what I would say is that the ability to connect this directly to your phone is the absolute best thing about it.

That you can use this device as a Sat Nav, track cadence, heart rate and location is nothing particularly new. Whether Garmin does these better than others is neither here nor there as improved functionality is not going to be something that improves fitness and performance levels.

Where the brilliance of the device truly comes into it's own is in the post exercise arena. Here you can connect your phone to the device and within seconds you have the data visualised

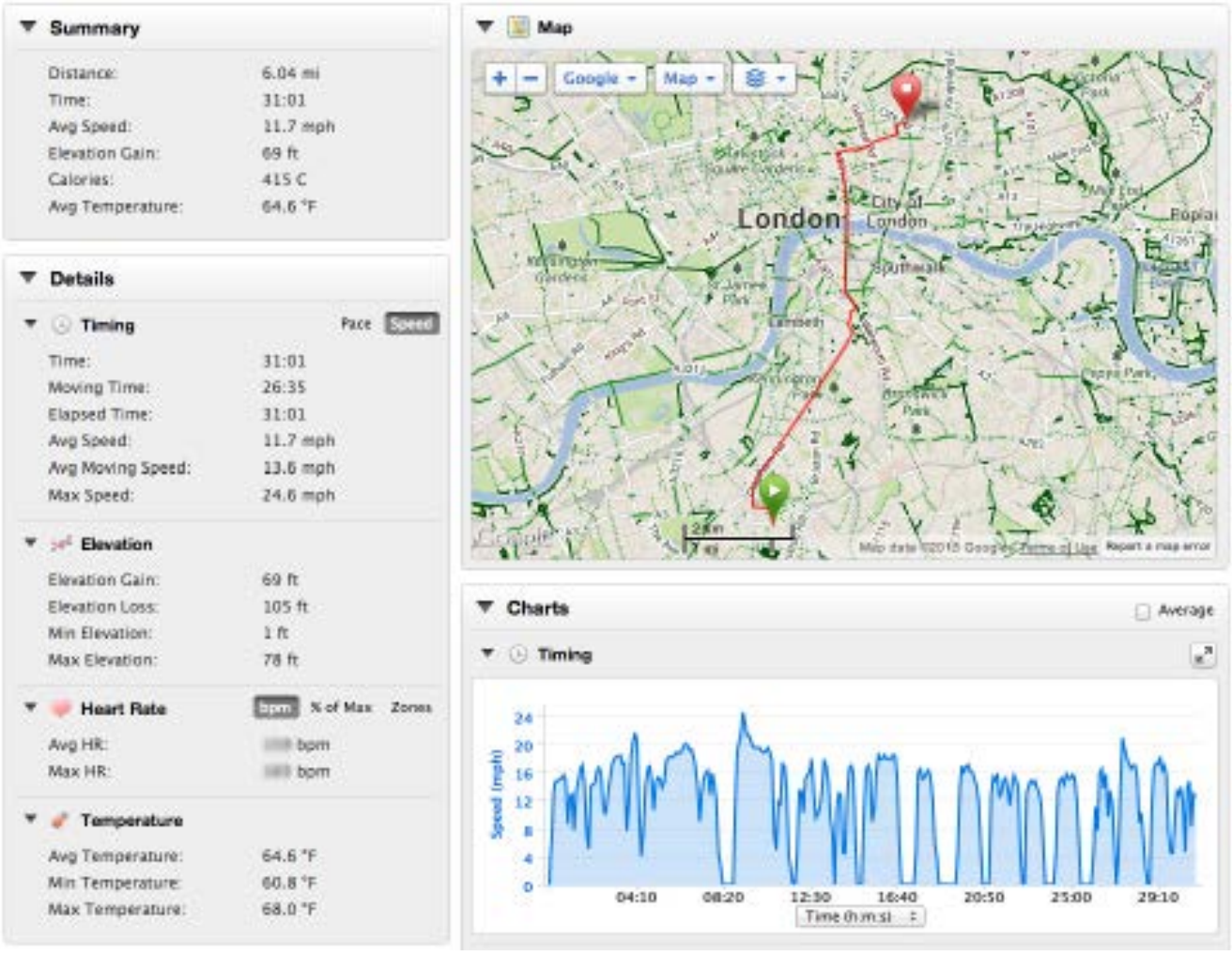
brilliantly on your screen.

This again is not a brand new innovation, but the depth of insight that this provides is a huge step up from previous offerings.

Utilising the Garmin Connect online service allows you to look not only at what your cadence and speed was at what time, but given the GPS capabilities, actually pinpoints your location. Using the player function allows the user to play through the journey in accelerated time, so that you can see what affect landscape and conditions had on your performances.

The Garmin connect allows you not only work out your activities and the basic health benefits that you are getting, but to track your history. By created courses online you can then track your progress on these courses as well as utilising courses created by others.

The issue here is that a large proportion of these courses are called 'commute' or 'cycle to work'. Meaning that when finding new courses, a certain degree of filtering needs to be done in order to find a good course. However, given the number of user created courses available regardless of whether or not they are



daily commutes, this would be necessary anyway.

I have been very impressed with this product having used it not only as a cycle computer but also as a general satnav and fitness analytics tool. The only slight issue is the pricing. With the performance bundle coming in at between $550-$700 and the basic bundle coming in at $400-500, it is in line with other analytical equipment with similar specifications, but is still a considerable amount to have on your handlebars each day. The strength that the Edge 810 has, is in its daily use, tracking changes and improvements over time, meaning near constant use.

In the premium package with which I was provided, there is a heart rate monitor in addition to a cadence measurement kit. These are both easy to fit and use, with the Edge 810 identifying and tracking both quickly once properly installed. The only problem that I found with these is that when setting out, the device can sometimes seem to be connected, but when you come to the end of your ride the data does not appear in the analytics. This is a rarity that generally tends to affect the cadence and speed sensor as opposed to the heartrate monitor though. This could be an issue with the fitting precision needed to record, in which case perhaps a more secure mount for the monitoring unit may help.

Overall, this is the best cycle computer I have used and is a sign of how quickly consumer products are catching up to professional standards. The level of measurements available can indicate anything from small performance enhancements to general fitness tips, which will appeal to both the elite athlete and the interested amateur.

Using Analytics To Change Lives In Sierra Leone

George Hill

Sports analytics and performance metrics are traditionally thought of an exclusively elite practice. When you look at the elite sporting teams you expect them to have the measurement equipment to shave off a second or increase power by a fraction.

Therefore, the idea of sporting analytics within an African country that is recovering from a brutal civil war and the goal of this analytics being not the improvement of a professional team, but simply the development of children, is one that many would question.

This is what has happened with the Craig Bellamy Foundation in Sierra Leone.

After visiting the country in 2007, Craig Bellamy created the foundation in order to help promote social change through football. Through the use of a league, in which going to school is mandatory, he founded the Craig Bellamy foundation. Later creating an academy meant that, as in Europe, a player who is particularly talented, will be chosen to live, eat and be educated there.

The use of analytics has become a way of life for many of the boys there, using technology provided by Performa Sports to track player development and the best ways in which to improve aspects of their game. This is almost unheard of in the country and after the success of the academy and the hiring of the academy manager as the head coach for the full adult national team, many Sierra Leone players commented on how the metrics received from the Performa Sports application were better than the ones they received in Europe.

I was lucky enough to catch up with Tom Legg, the Head of Performance Analysis at the foundation, to discuss the unique challenges that he has faced from his work in Sierra Leone.

Firstly, the most important aspect about this analytical undertaking is that it is being conducted in one of the most inhospitable countries in the world. Even when I was talking with Tom our conversation was cut short because of rain disrupting the phone.

With this level of development in the country, it is unsurprising that making the players understand what they were seeing and why this was relevant to them was going to be a struggle. The work that Tom and the team has done has seen this implemented successfully.

Initially through the use of overall team based analytics, then through more individual analytics and eventually relatively in depth metrics, building on the depth of understanding term-on-term, the boys learn about their relevance.

Tom thinks that this understanding alone is the biggest success that the foundation has had in country. This change in attitude from young men who have come from shacks, small villages and shanty towns, to understanding complex ideas about sporting theory and statistics, is a remarkable achievement.

So far the academy itself has only been running for 8 months and they are three terms in to the project. The eventual goal is that through the use of analytics and the Performa Sports software in particular, they will be able to produce players who have the quality to gain contracts at European clubs.

The success that they have seen so far has been huge, especially given the challenging infrastructure in the country. Tom makes the point that this is not just an analytical exercise to help improve the boys as footballers, but in doing so improving their future potential as well as their family and communities.

Due to the close knit nature of Sierra Leone, the success of one individual in a community often means that the entire community will benefit in the long run from money and resources being sent back by the individual. One of the most famous African footballers, Emmanuel Adebayor put it best when he was unwilling to take a pay decrease to transfer between teams. He said that as a footballer it would be best to move, but his responsibility to his community in Togo was to make as much money as he could to send back to them.

Not only is there the chance of a big payoff if a play-

er from the community makes it as a professional footballer in the European leagues, but at the academy, school attendance is mandatory. This has meant that not only do they have the potential to develop as football players, but they will also have the chance to gain a superior education should they not make it.

"We understand the impact that we are having on the boys but then we also understand the impact that they boys are having on their families and their communities"

The impact of the academy combined with the Performa Sports measurements has seen considerable improvements in not only sporting skills but also in general lifestyle amongst the boys there. With the kind of drive and backing that this project has, the sky is the limit to the influence that this could have on football and the communities involved within Sierra Leone.

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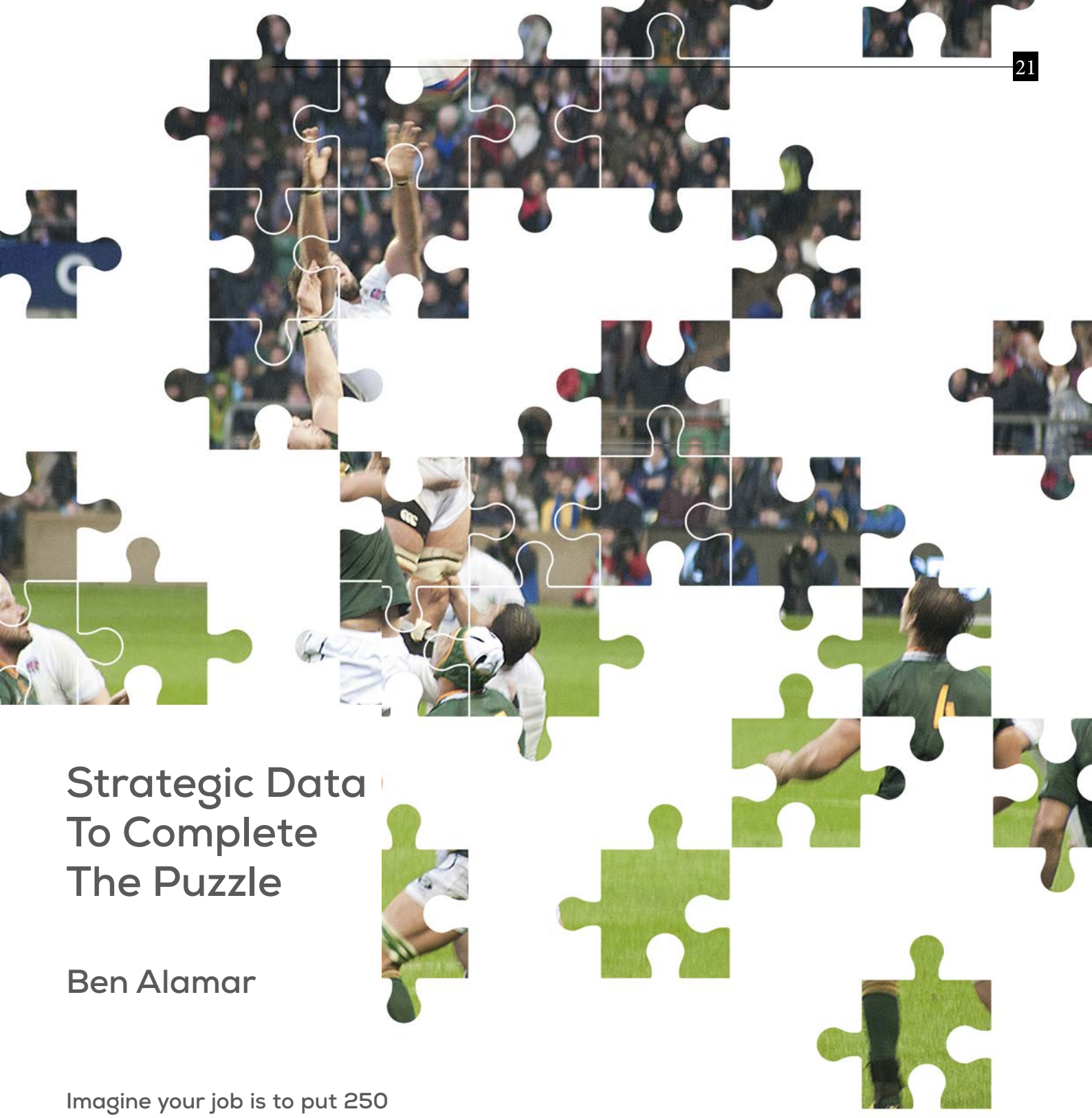
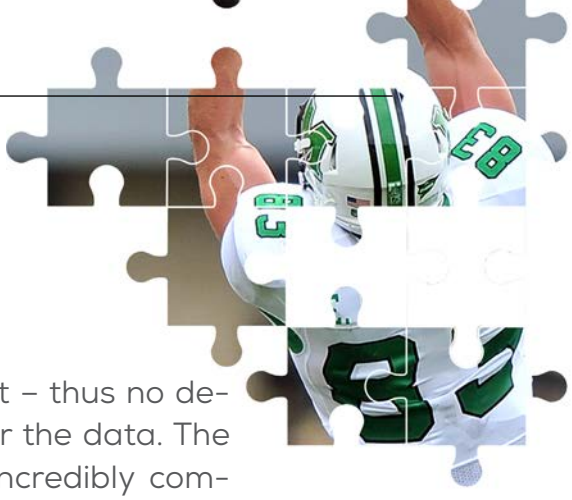


Strategic Data To Complete The Puzzle

Ben Alamar

Imagine your job is to put 250 piece puzzles together. You know what the puzzles are supposed to look like when they are finished. You have been putting these puzzles together for a few years so you are pretty good at it. One day you walk into your office to find that you are no longer in the business of putting these

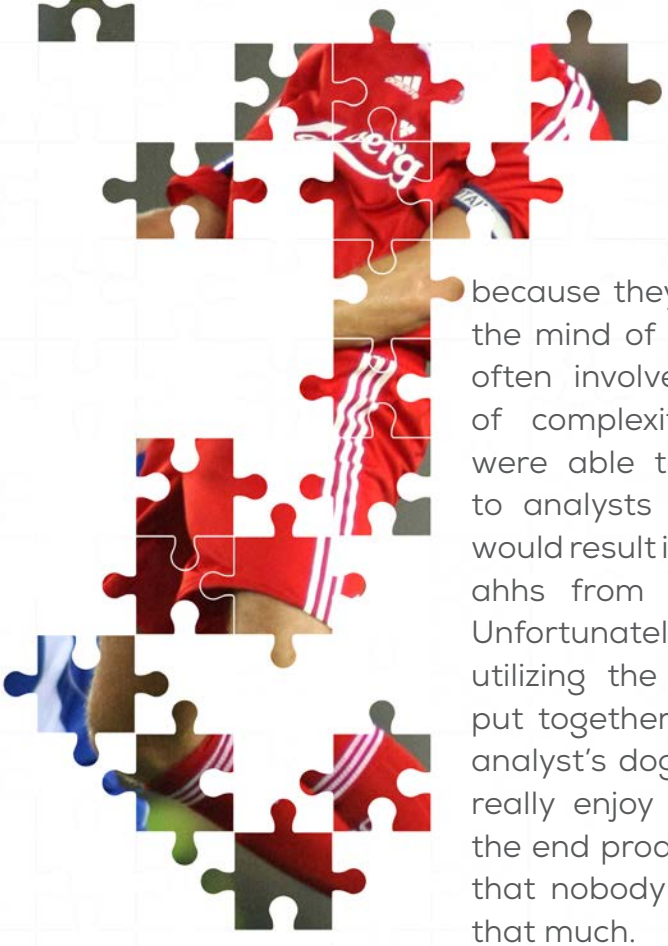


250 piece puzzles together, but rather assembling 5000 piece puzzles that you have no guide for what they are supposed to look like. Oh, and by the way, instead of using your hands to assemble these puzzles you now have to use remote controlled robotic hands.

This is essentially the position that analysts in many sports now find themselves with the advent of motion capture data. Soccer, basketball, baseball and Aussie rules football are just some of the sports that, to some degree, have begun utilizing various technologies that allow them to track everything that moves with a high level of frequency. Instead of utilizing straight play by play or box score data (your 250 piece puzzles), they are now faced with data on the position of everything that moves on the field/court/pitch multiple times a second (the 5000 piece puzzle). Because this data is brand new, nobody really knows exactly what to do with it or what they want to get out of it – thus no defined guide for the data. The data is also incredibly complex and so the old tools that analysts used are often not effective in creating meaningful information out of this new mountain of data, leading the analyst to have to utilize and develop more powerful tools to help create a competitive advantage out of this mountain of data (robotic hands).

The analyst that is placed in this position probably sees the opportunity that they have been handed to significantly increase the impact that they can have on the team. Massive new data sets, when properly translated to information, can deliver a real competitive advantage. What they need though, is a plan on how to make that translation in the most effective way. The analyst has essentially two choices on how to attack the new data.

The first is with analyst driven questions. Analyst driven questions are fun and interesting for the analyst,



because they are born out of the mind of the analyst. They often involve a high degree of complexity and, if they were able to describe them to analysts on other teams, would result in a lot of oohs and ahhs from their colleagues. Unfortunately, these are like utilizing the 5000 pieces to put together a picture of the analyst's dog. The analyst will really enjoy the process and the end product, but it is likely that nobody else will care all that much.

The alternative is to look for strategic questions to answer. Strategic questions are those that are developed with the input of the decision makers at the team. This does not mean that the analyst has no role in developing the questions, but rather that their role is to find out what will be the most useful information that can be culled from the new mountain of data. This is a harder process to get moving as it requires discussion and brainstorming from a variety of people within the organization, and it requires the analyst to push the decision makers in their thinking, so that the analyst can really maximize the potential of the data set, while still delivering information that the decision makers are actually looking for. A process built on this concept will yield information that is novel and utilized, which will lead to the team realizing a true competitive advantage from the new data. This is akin to assembling that 5000 piece puzzle with a communal goal for what it should look like when it is done. Puzzles like that are enjoyed by a much broader array of people than just the person putting it together.

The analyst that is tasked with getting value for their team out of this new mountain of data needs to first remember that their goal should be putting together information that will be utilized and second, that instead of starting by asking questions of the data, they should be asking questions of the decision makers.

A Numbers Game

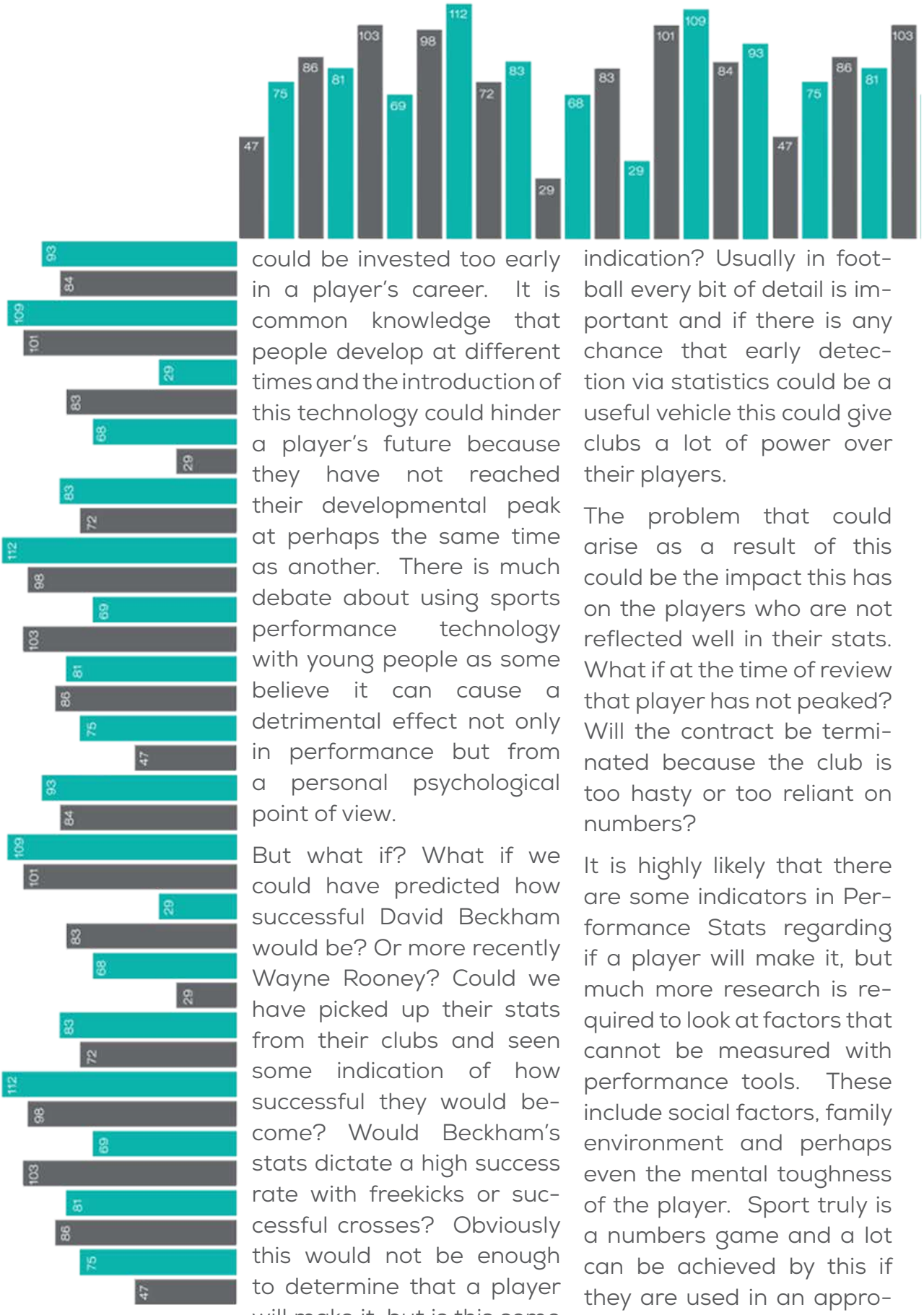
Danielle Prescott

The term analysis in sport can refer to many aspects, but as soon as Performance Analysis is mentioned many people instantly think 'statistics'. With so much emphasis placed on this it would be interesting to assess the true value of statistics in sport, in this instance football (soccer). Many are familiar with certain stats such as pass completion, shot success ratio, tackles won etc, but is there more to stats than just specified

key performance indicators? For example is it a possible to look at a player's statistics and use them to determine the future for that player? If this is the case how would this impact on the player? Would statistical manipulation come into play from the club to make a player appear more valuable? Currently there is very little research on this area and some would argue that this is due to the disbelief of any link between stats and predicting the success of a player.

Statistics are currently used in the world of football to determine a player's performance and to assess whether they have met individual targets during game play. Surely if statistics are used as an indicator in real time, why can this not be adopted over a longer period of time and used as a tracking tool?

Technology today allows the capture of data for every movement a player makes during a match. This technology is available to the majority of all elite clubs. Some clubs also have this technology for the young squads including teams such as under 9's, 10's etc. With this technology being widely available to younger players this could raise the question as to whether the data captured



could be invested too early in a player's career. It is common knowledge that people develop at different times and the introduction of this technology could hinder a player's future because they have not reached their developmental peak at perhaps the same time as another. There is much debate about using sports performance technology with young people as some believe it can cause a detrimental effect not only in performance but from a personal psychological point of view.

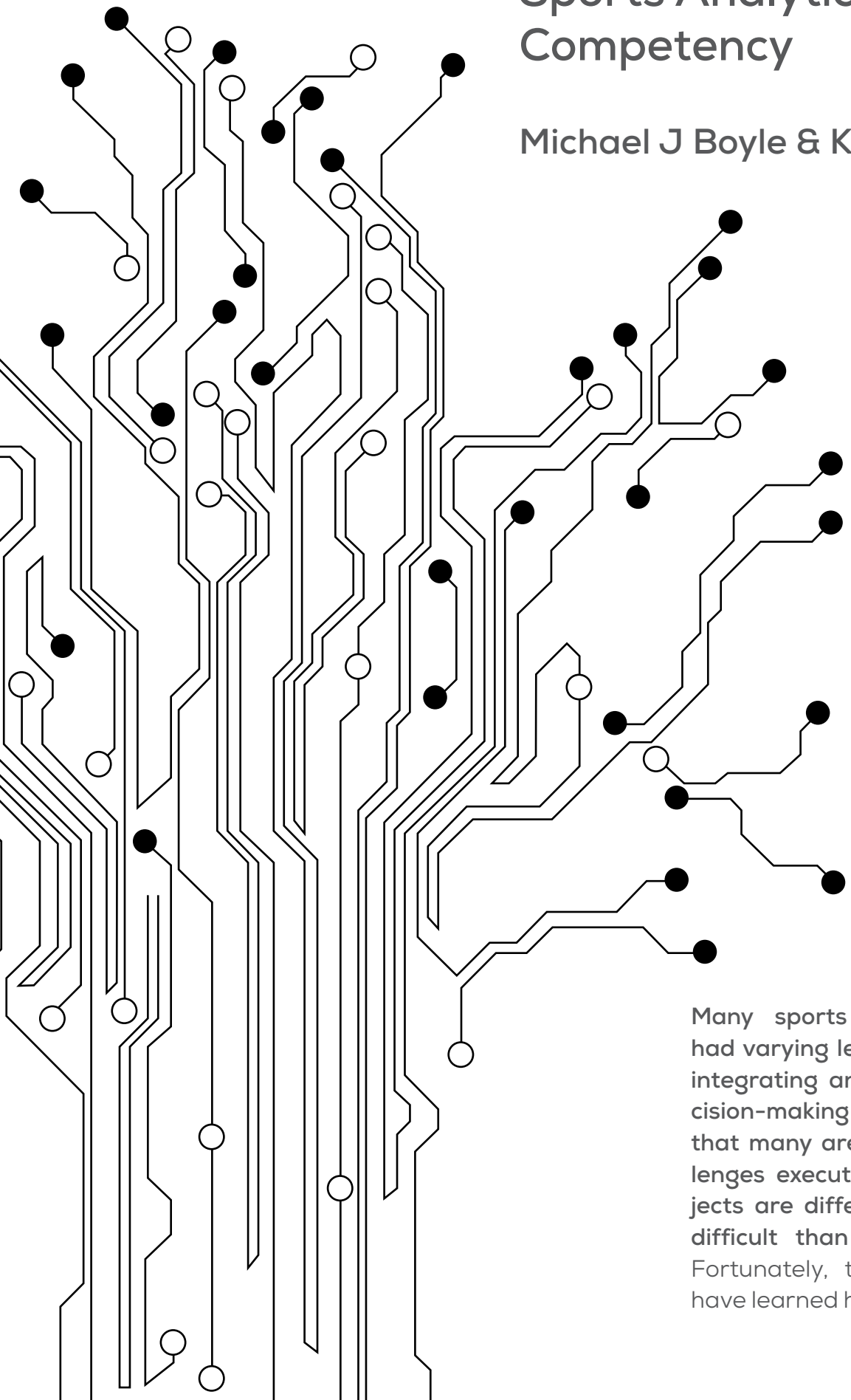
But what if? What if we could have predicted how successful David Beckham would be? Or more recently Wayne Rooney? Could we have picked up their stats from their clubs and seen some indication of how successful they would become? Would Beckham's stats dictate a high success rate with freekicks or successful crosses? Obviously this would not be enough to determine that a player will make it, but is this some indication? Usually in football every bit of detail is important and if there is any chance that early detection via statistics could be a useful vehicle this could give clubs a lot of power over their players.

The problem that could arise as a result of this could be the impact this has on the players who are not reflected well in their stats. What if at the time of review that player has not peaked? Will the contract be terminated because the club is too hasty or too reliant on numbers?

It is highly likely that there are some indicators in Performance Stats regarding if a player will make it, but much more research is required to look at factors that cannot be measured with performance tools. These include social factors, family environment and perhaps even the mental toughness of the player. Sport truly is a numbers game and a lot can be achieved by this if they are used in an appropriate efficient way.

Growing an Organization's Sports Analytics Competency

Michael J Boyle & Kevin Mongeon



Many sports organizations have had varying levels of success whilst integrating analytics into their decision-making processes. The issue that many are finding is that challenges executing on analytics projects are different and often more difficult than traditional projects. Fortunately, there are some who have learned how to overcome these

challenges and maximise the benefits of analytics adoption.

Through collaborating with analytics experts globally, a number of best practices have been created to help teams, franchises and businesses with their implementation. From these best practices and our experiences, the Sports Analytics Program Management (SAPM) framework was created. This program includes:

- Senior management commitment to an analytics culture

- Establishing an effective analytics champion

- Assessing current analytics competency

- Setting realistic analytics goals that provide short term value to the organization while supporting analytics competency growth

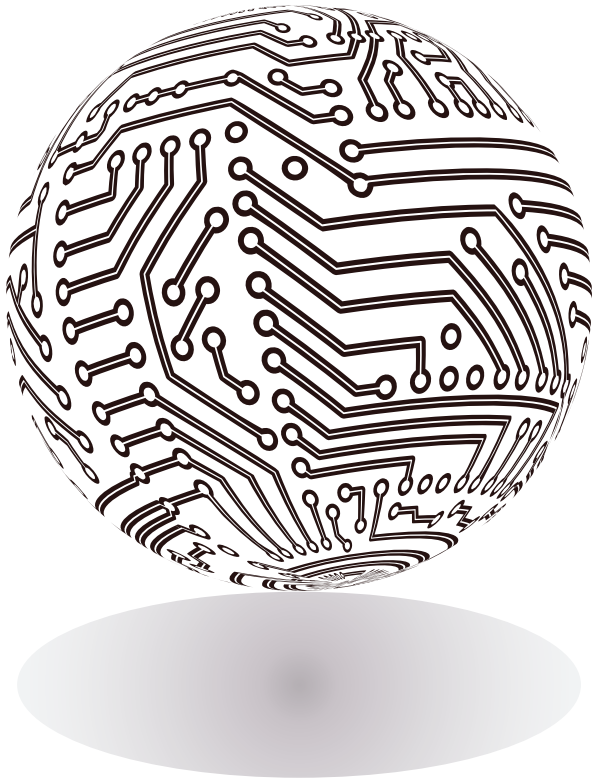
- Aligning analytics goals with those of the organization

- Execution and avoiding common pitfalls

We are increasingly seeing organizations that are adopting analytics in an effective way gaining competitive advantages over their rivals, both in a sporting and business sense. It is important for those working within sports to recognize this and see that the initial difficulties in implementation will eventually pay dividends.

A Framework for Sports Analytics Success

Our sports analytics experience comes through working with a number of National Hockey League (NHL) teams. It is well-known that the widespread use of analytics in hockey lags behind other professional sports such as baseball and basketball. While the reason for this adoption lag is beyond the scope of this article, it provides a useful case study to examine the framework that a sports organization can use to achieve success with their analytics program.



1. Senior management commitment to establishing an analytics culture

Researchers have found that having management support for analytics including top-down mandates to be a critical cultural characteristic in organizations that achieve the most success through their use. This commitment from senior management is particularly important in sports organizations due to their highly vertical structures ensuring that all major personnel decisions are made from the general management office. As a result, decision-making methodologies not supported by senior management are difficult to sustain.

This commitment to establishing an analytics culture includes taking on people with significant analytical skill and experience. Those who possess these skills understand the needs of technologies and analytical techniques and can therefore execute efficiently on analytics projects.

2. Establishment of an effective analytics champion

An effective analytics champion most often has a strong belief that increasing their analytical competency is critical for their organizational and individual success. Supported with information provided by analytical tools, the analytics champion is committed to the idea that they will make marginally better decisions over time and in the long run will be rewarded. To achieve success it is important that they have the ability to initiate changes to existing processes and influence the overall strategy. Sports organizations generally have a relatively slow adoption rate when implementing analytics programs and related technologies, so it is important that the analytics champion does not overestimate

the short-term impact of their program. They should commit to allowing their program and ideas to grow in alignment with the adoption amongst the people and divisions around them.

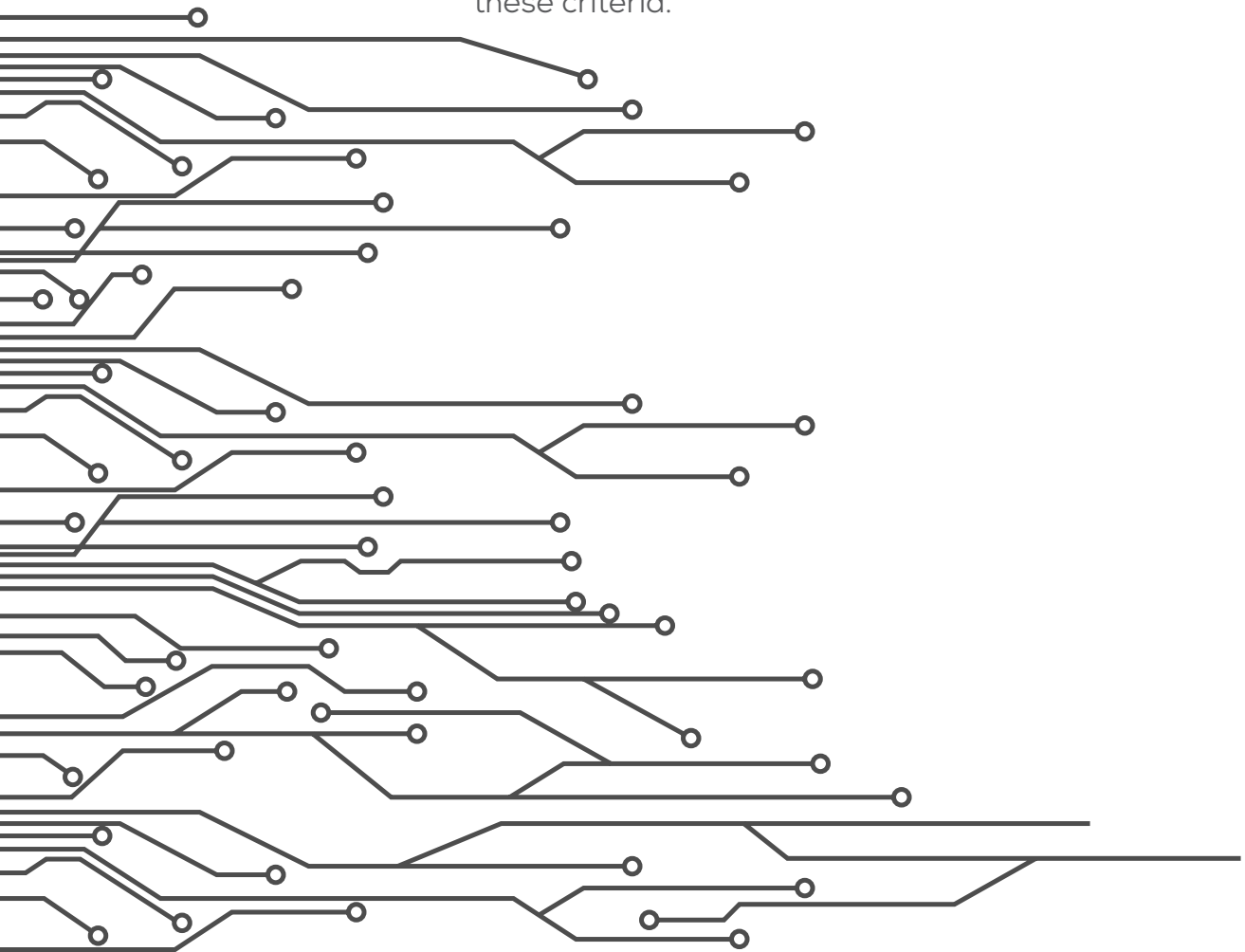
3. Assessment of current analytics competency

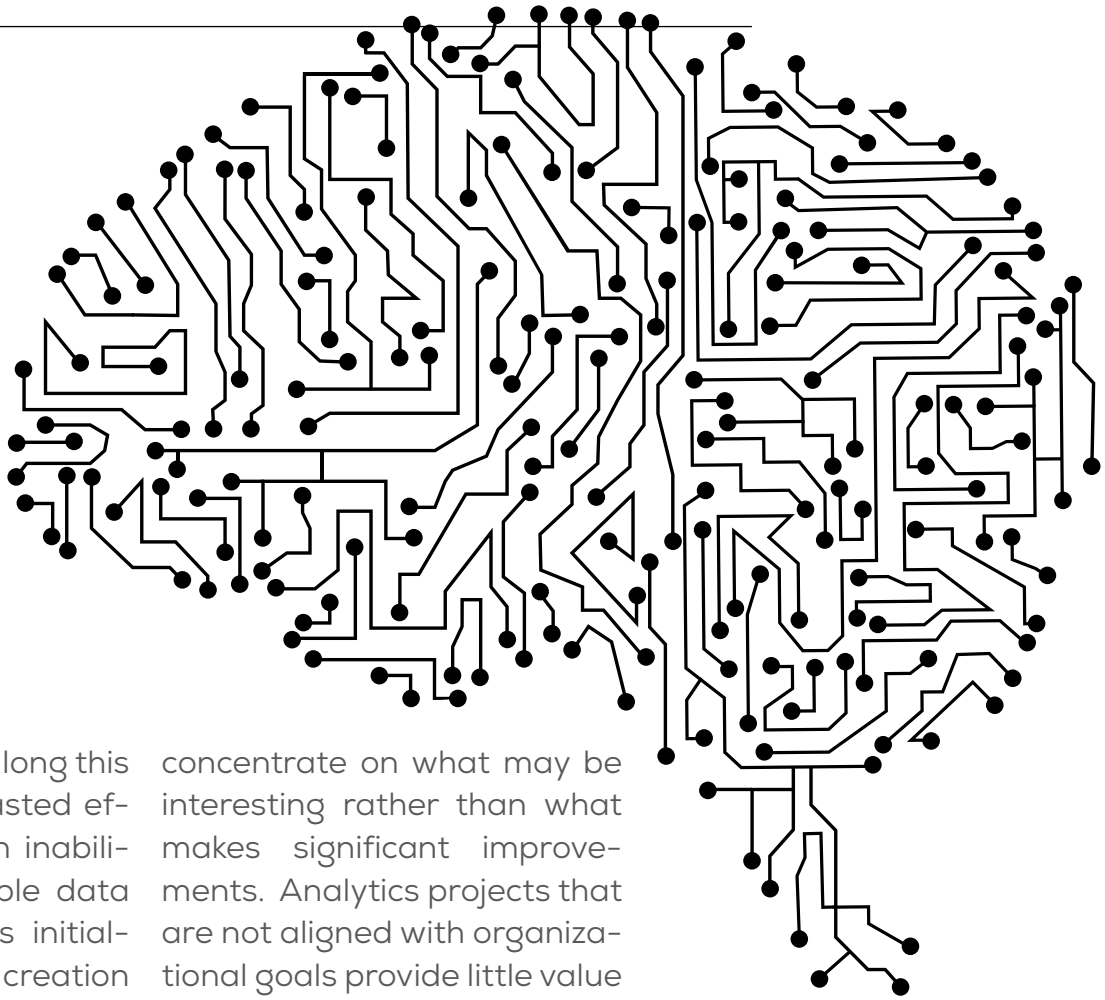
Organizations typically struggle to assess their analytics competencies and as a result they aren't evolving quickly or seeing significant ROI. Davenport, Harris and Morrison (2010) describe the DELTA framework for assessing the analytical competency of an organization, where the dimensions of the framework correspond to Data, Enterprise, Leadership, Targets and Analysts. We have created a modified version of this framework that allows sports organizations to quantify their level of competency across these criteria.

4. Setting realistic, valuable, growth-oriented analytics goals

When setting analytics goals, sports organizations often expect results too quickly or in unattainable depth in a small space of time. In their book, Competing on Analytics: the new science of winning, Davenport and Harris (2007) describe a series of analytical techniques each providing increasing competitive advantage . From lowest to highest these are:

- Standard reports
- Ad hoc reports
- Query/drill-down
- Alerts
- Statistical analysis
- Forecasting/extrapolation
- Predictive modeling
- Optimization





Skipping techniques along this series can lead to wasted effort mainly due to an inability to gather actionable data without each process initially. For example, the creation of a broadly used, recurring standard report (less complex) is likely more valuable than an optimization model (more complex) that does not get acted upon.

Each new project is an opportunity for an organization to grow its analytics competency. One way to achieve this growth is by moving to the next level of analytical technique as a new project is initiated.

5. Aligning analytics goals with the organization

It is important that analytics goals are aligned with the broader organizational goals. Laursen and Thorlund (2010) provide their "Business Analytics Model" that can be used to ensure that analytics goals are aligned. It is very easy to concentrate on what may be interesting rather than what makes significant improvements. Analytics projects that are not aligned with organizational goals provide little value and in doing so threaten the viability of future projects.

6. Execution and avoiding common pitfalls

There are a number of common pitfalls that organizations, and more specifically leaders, succumb to that decrease the likelihood of a successful sports analytics program.

One pitfall is attempting to implement an analytics program without hiring personnel with expertise. While many people believe they are capable to analyzing sports data, the production processes of many professional sports are complicated. It is very costly in terms of company resources and the long-term viability of the analytics program to make decisions from inadequately

trained personnel that are unable to incorporate the underlying production process of the sport. While analytics has shown to be effective in baseball, the underlying production processes of many other sports are more complicated.

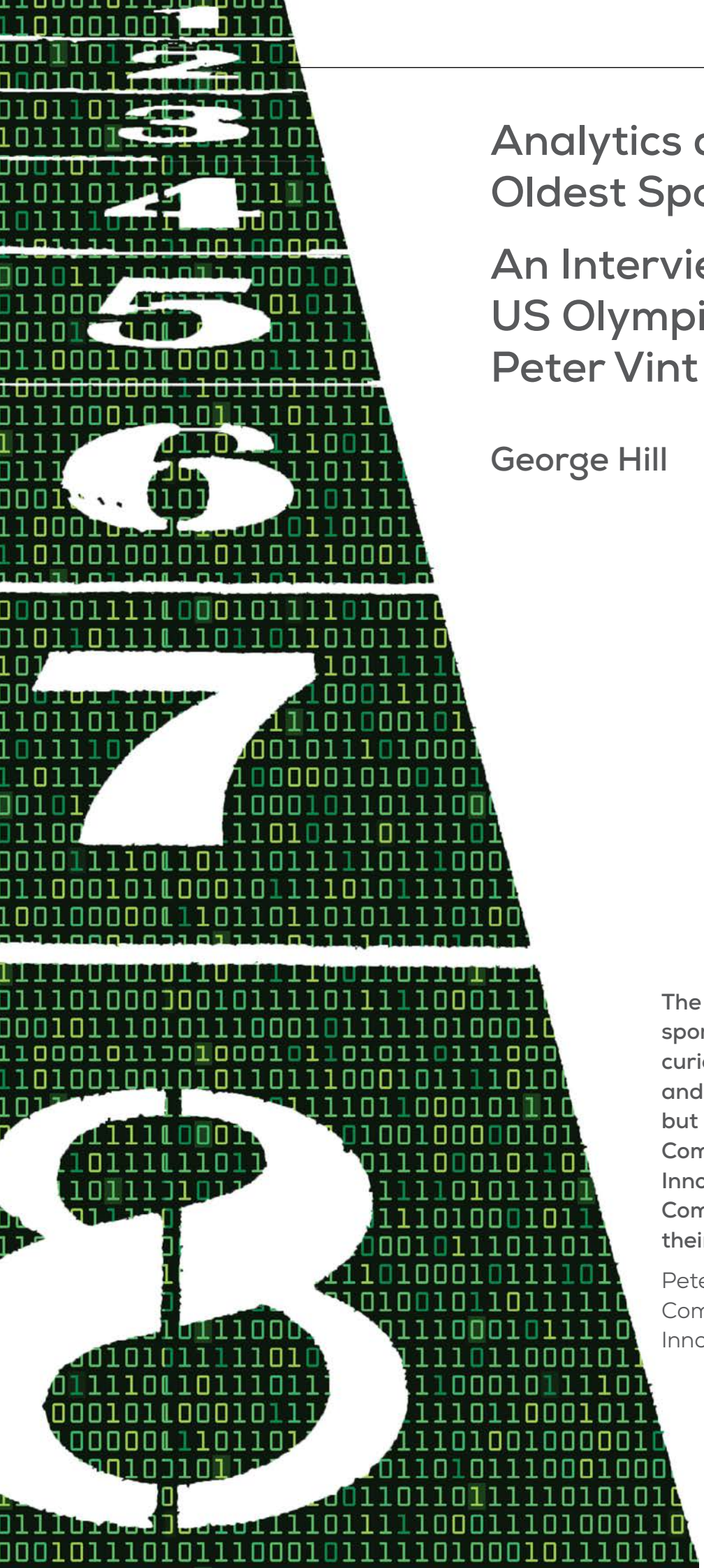
Another pitfall is the belief that more/higher-quality data is required to discern reliable information. In general more data is better than less data. However, the collection and analysis of more/higher-quality data can be costly while organizations often have an abundance of unused and extremely detailed data. Furthermore, more data is often not necessary to create an effective analytics model and/or process. A misconception among sports decision-makers is that information on how an outcome is achieved is necessary to measure a player's contribution to that outcome. Adequately trained personnel can identify a player's contribution to an outcome without analytical data that may show unviewable information.

Finally, the data management and program costs are often underestimated. One of the pillars of a successful analytics program is ensuring that data is available in a presentable way to decision-makers and analysts. Partnering with an analytics platform provider is likely to be the most effective solution for sports organizations that are in the early stages of their analytics program. This allows them to build internal competencies while simultaneously benefiting from the information discerned from the analytics.

Conclusion

Combining the best practices developed by practitioners and researchers with their experiences of working with sports organizations on their analytics programs, we have constructed a Sports Analytics Management Program (SAPM) framework. This can be used to design, implement and measure a sports analytics program as it grows. It includes clear support from senior management, the establishment of an analytics champion, setting effective growth-oriented goals that are aligned with the organization and hiring trained analytics practitioners.

Effective use of analytics allows decision-makers to be more informed and consistently make better decisions. By implementing their analytics program through a structured process, sports organizations increase the likelihood that the program will be effective, valuable and sustainable.



Analytics and The World's Oldest Sports Event:

An Interview With The US Olympics Committee's Peter Vint

George Hill

The oldest and most famous sporting event in the world is a curious place to consider analytics and performance technology, but Peter Vint, Senior Director, Competitive Analysis, Research & Innovation at United States Olympic Committee, is a driving force behind their adoption.

Peter Vint is the Senior Director of Competitive Analysis, Research & Innovation with the United States

Olympic Committee. He previously served as USOC Director of High Performance supporting five National Governing Bodies that won 64 medals during the London Olympic Games.

I was lucky enough to sit down with Peter at the Sports Analytics Innovation Summit in London to discuss sports analytics and their adoption across olympic sports.

One of the elements that I was most interested in was how the perception of analytics has changed in the past 5 years.

Peter sees sports analytics as a complimentary source of information that has allowed coaches to make informed decisions. This shows a more grounded approach, the kind that is needed to push forward the idea of analytics amongst it's doubters.

The rise in popularity of sports analytics has also been interesting and Peter accredits it's use to Moneyball, the book surrounding Billy Beane's success using analytics at the Oakland A's.

The release of this book allowed people to think about what analytics could do for their teams, whether in baseball or other sports. The competitive advantage that the teams who were the early adopters had was then noted and more teams began to pick it up.

One of the reasons and indicators of the growth in the industry has been the conferences that Peter has attended. Conferences From MIT, Innovation Enterprise and Leaders have pushed forward sports analytics and allowed free spreading of new ideas. Not only the frequency of these conferences but also the attendance at them have impressed Peter and he says act as not only a catalyst but also an indicator of sports analytics success.

I was also interested in Peter's take on potential reluctance or hesitation from coaches who have spent careers basing their techniques from gut feeling rather than numerical data. One of the reasons that this has been the case in a few coaches and performance directors, according to Peter, has been down to the adoption of statistics and expecting instant results.

Due to the nature of analytics, the results and analysis will be more effective if more data is collected over a longer period. Therefore there may be some negativity if there is additional effort initially with no payoff in the near future.

However, Peter believes that given the kind of people that he has met within the industry, that they possess the skills to communicate and demonstrate the benefits of analytics to coaches who may not be thoroughly convinced.

Regardless of this, Dr. Vint mentions that most coaches are supportive of analytics and see it as a way to improve what they are doing already. There is a stereotype of coaches held by many that makes them out to be stuck in their old ways and unwilling to change what has worked for them in the past. Peter maintains that this is not the case and that most coaches are not only willing, but advocating the use of data and new technologies.

One of the elements of analytics that coaches currently struggle with is the measurement of mental aspects and this is something that Peter is trying to address. He admits that throughout sports analytics, there has been a struggle to measure these aptitudes, which can have an affect on the physical analytics.

Being able to run a certain speed during training and preparing physically is only half the battle, if an athlete cannot deal with the pressure of performing in front of a large crowd or with the weight of expectation, then they will never be able to perform at the highest level.

The measurement of these attributes is currently difficult to quantify but Peter believes that the way around this current issue is to continue challenging scientists and professionals to find a way to quantify the affect.

With the advantage that we have seen given through the measurement of physical attributes within sport, this should realistically be the next truly revolutionary quantified factor in performance.

In Dr. Vint's words:

"Anything that we can use to get closer to some measurement of outcome, from whether it is a sports psychology intervention, work with mental skills or even an adequate nutrition programme measuring the impact of this on performance or athlete wellbeing or maybe just the availability of quality training sessions, somehow and somewhere there are metrics that make sense, it is just a case of challenging people to find those"

One of the most interesting aspects of sports analytics, is where they are likely to be in 10 years time. Peter has a balanced view on this which depends on how effective coaches can find them and how willing they are to fully adopt them.

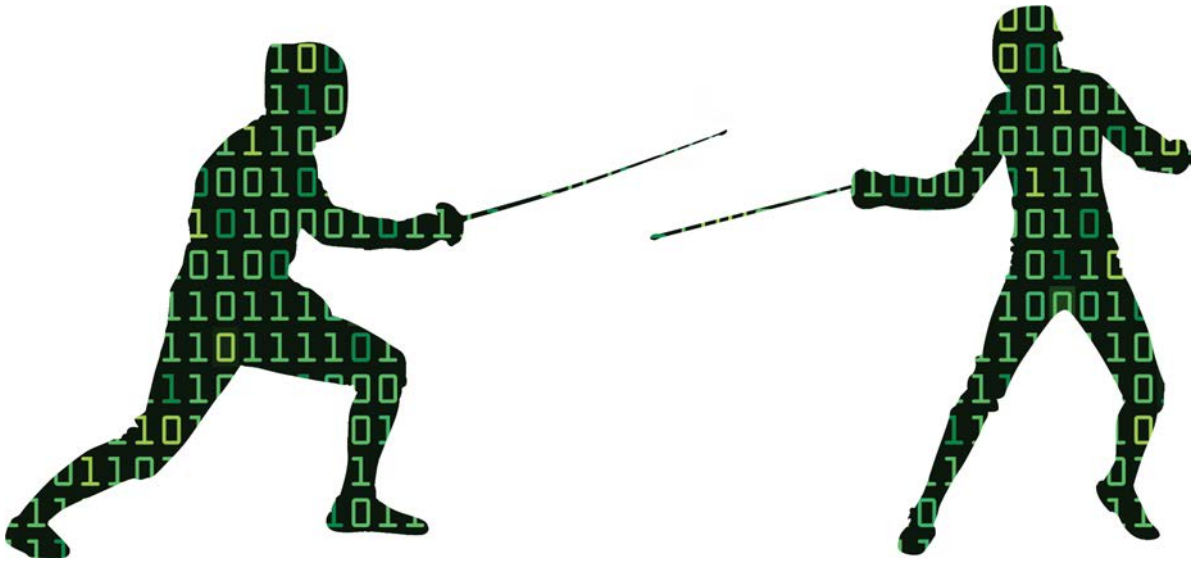
"It could be relatively short term if others can't actually make sense of it and teams cannot continue to gain competitive advantage from it"

The example of Billy Beane is an indicator of this "the ideas that he had set forth and were described in Michael Lewis' book were ultimately caught on from the rest of the baseball market pretty quickly and the competitive advantage that he had was soon lost"

If not correctly managed Peter thinks that:

"I can see a time where they will be so much data that the advantages gained by each club will be pretty remote but the perception of the advantage could still exist."

With people like Dr. Vint currently working at the sharp end of analytics and the balanced views that he holds on their use, there is the likelihood that their growth will continue to be productive and balanced.



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