

British cycling and the power of 'marginal gains' - Black Box Thinking - Matthew Syed (2015)

- **“Success** is about developing the capacity to think big and small, to be both imaginative and disciplined, to immerse oneself in the minutiae of a problem and to stand beyond it in order to glimpse the wider vista.”

– Matthew Syed, 'Black Box Thinking' (2015)

“The success of **Brailsford** is legendary. When he joined British track cycling as an adviser in 1997, the team was behind the curve. In 2000 Great Britain won a single Olympic gold medal in the time trial. In 2004, on year after Brailsford was appointed performance director, Britain won two Olympic gold medals. In 2008 they won an astonishing eight gold medals and, at the London Olympics in 2012, repeated the feat.

The most prestigious form of competitive cycle is professional road cycling. Britain had never had a winner of the Tour de France since the race was established in 1903... but in 2009, Brailsford embarked upon a new challenge. He created a road cycling team, and announced that they would win the Tour de France within five years. In 2012, two years ahead of schedule, **Bradley Wiggins** became the first-ever British rider to win the event. The following year, they triumphed again when **Chris Froome** won the general classification.

So how did this turnaround happen? Brailsford's answer was clear: *“It's about marginal gains... the idea that if you break down a big goal into small parts, and then improve on each of them, you will deliver a huge increase when you put them all together.”*

If the answer to a big question is difficult to establish, why not break it down into lots of smaller questions? ... By looking at part of the challenge at a greater level of magnification, it's possible to see what really works, and what doesn't. By breaking a big problem into smaller parts, it is easier to cut through **narrative fallacies***. You fail more, but you learn more: test, fail, learn.

*“It is very easy to sit back and come up with **grand theories** about how to change the world. But often our intuitions are wrong. The world is too complex to figure everything out from your armchair. The only way to be sure is to **go out and test your ideas** and programmes, and to realise that you will often be wrong. But that is not a bad thing. It leads to progress.”* (Esther Duflo)

As Brailsford puts it: *“I realised early on that having a **grand strategy** was futile on it's own. You also have to look at a smaller level, figure out what is working and what isn't. Each step may be small, but the aggregation can be huge.”*

For example, to obtain the most efficient bicycle design, British cycling created a wind tunnel. This enabled them to isolate the aerodynamic effect, by varying the design of the bike and testing it in identical conditions... They make sure that the cyclists sleep on the same mattress each night to deliver a marginal gain in sleep quality; that the rooms are vacuumed before they arrive at each new hotel, to deliver a marginal gain in reduced infection; that the clothes are washed with skin-friendly detergent, a marginal gain in comfort...

Marginal gains is not about making small changes and hoping they fly. Rather, it is about breaking down a big problem into small parts in order to rigorously establish what works and what doesn't. Ultimately, the approach emerges from a basic property of empirical evidence: to find out if something is working, you must isolate its effect. Controlled experimentation is inherently 'marginal' in character.

Brailsford puts it this way: *"If you break a performance into its component parts, you can build back up with confidence. **Clear feedback is the cornerstone of improvement.** Marginal gains, as an approach, is about having the intellectual honesty to see where you are going wrong, and delivering improvements as a result."*

Creativity not guided by a feedback mechanism is little more than white noise. Success is a complex interplay between creativity and measurement, the two operating together, the two sides of the optimisation loop.

... Every error, every flaw, every failure, however small, is a marginal gain in disguise. This information is regarded not as a threat, but as an opportunity.

Marginal gains may seem like an approach that only big organisations can hope to adopt. But a willingness to test assumptions is ultimately about **mindset**. It is about intellectual honesty and a readiness to learn when one fails.

Where might there be opportunities to apply the theory of marginal gains in your context?

And where might this have most impact?