Brief

The truth is not out there: big data, leadership & organisation

Is Big Data about perfect evidence, expertise or big consulting hype? Or is it about empowerment, the power of collective insight and better speed of response?

Information is the glue that holds together units, whole organisations, supply chains and business partnerships. Performance, accountability, planning and decision-making are all built on data. It used to be the case that data was a strong source of competitive advantage. Technology has transformed the accesses to data, as well as the sources and analysis of it, at an increasingly rapid rate. In some ways this means that the glue is melting and the competitive advantage evaporating.

There is little doubt about its potential importance. One study by Bain suggests that those that embrace what is now possible in terms of data and analytics will significantly outperform others financially – partly by making more effective decisions, much faster. But those that succeed appear to be doing so by significantly changing the way data is used across their business, embedding skills in every part, and putting major resource and effort to overcome internal resistance and building the will and the skill to use the data effectively throughout the organisation.

If the form and availability of data changes, what does it mean for organisations? We look at four themes from the wide range of recent material (trying to steer around the volume of hype coming from some vested interests). This included recent best sellers *Big Data* and *Big Data at work*, as well as one of original iconoclastic books on the subject *Blown to Bits* (see full list of sources at the end).

1 'Information is power': embrace the shift from leader to employee

Instead of a manager 'keeping you informed' about what is going on, everyone can inform themselves much more easily - and the issue now becomes how to use the knowledge and how to encourage people to use it for the benefit of the whole business. The better and more available the data, the smarter people's actions and decisions will be. However, are leaders ready for such transparency and empowerment and are employees ready to use it?

The human side of this shift will be more difficult, and often get less attention and resource, than the technology and strategy side of 'Big Data'. In many cases, such as logistics company UPS using new ways to keep their vans drivers informed of smart routes, it will only deliver value if drivers are ready and motivated to work in more flexible and unpredictable ways that before. Some may feel, for example, that it removes special skills and decision-making freedom that they enjoyed before.

Or take the example where externally available data may be more useful and accurate than that which the company can provide their employees – are we ready to encourage this, or admit that our information is not good enough? The website FlightCaster has become popular with airline employees, as their predictions for flight arrival and departure times, and delays, appears more accurate, and much faster, than those supplied by the airlines themselves.

Business can also now be guided by employees in new ways that are much more useful and easier to make happen. Google, Microsoft, Ely Lilly, Intel and Siemens among many other organisations, use internal prediction markets to tap into employee expertise to forecast sales, choose product launches and make other strategic choices – with better outcomes than by leaving it to senior managers, or by using market research or other forms of data analysis. This is a shift in mindset and capability – not just process.

2 There is no single truth, we can't predict the future: our role as leader is to curate

'Big Data' tells us what is now, not what will be, or why. In 2009, Google found how to predict the spread of flu – much faster and more accurately than official experts – with a combination of 45 search terms whose use matched the geographical spread of the virus. Amazon uses algorithms to recommend what we should read next, better than any human reviewer can provide recommendations for us. But these examples – indeed this type of data - do not tell us why, or be accurate more than a few weeks ahead. Indeed Google Flu Trends has proved inaccurate since 2009 – even against some more traditional sources of data.

Psychologists have shown us that are particularly drawn to data that appears to support our existing views, or seek analysis that does that. So we will be even more drawn to powerful data analysis that does just that. In addition: more, better, data and analysis does not give us cause and effect, or the single truth.

In a recent experiment by The Observer newspaper, Orlando – a ginger cat - picked stocks for a year ahead better than professional investors with computer models, beating their return on investment by 11% to the 'professionals' 3%. This is a similar outcome to the experiment run by the Economist many years ago when it asked four groups to predict aspects of the world economy 10 years ahead. The best answers came from the group of London dustmen, rather than the group of finance ministers, the group of multinational CEOs or the Oxford students.

We may laugh at the embarrassment of these 'experts', but our over-dependence on experts – especially those who have access to data and 'the answer' is a genuine psychological risk. Neuroscientists have conducted experiments where people are put into fMRI scanners and asked about financially-based decisions. The scans showed that when part of the sample was also provided expert advice, the parts of the brain that makes independent decisions seemed to switch off.

The point here is that the more data we have, the clearer it becomes that there is not a perfect view of anything. Pursuit of the truth, or of perfect data, is a distraction.

Our job as leader is not to be soothsayer, or be the best expert in the business, or even to decide who else is *the* expert – but instead to curate: to reduce clutter, provide guidance and encourage others to engage and reach their own conclusions. It is also our role as leaders to ensure that there are people around us who challenge us – and ensure we do not believe we have all the answers.

3 Focus on faster, more flexible response – and allow more informal organisation

The further out we plan, the less likely that what the data shows, will be true. As the old military strategy saying goes: no plan survives contact with the enemy – and the same is true of a business plan and the market. But we can have feedback as we go that is fast and accurate. Taking advantage of feedback fast and effectively means we have to make decisions with built-in flexibility, make sure we are continually assessing, and then make adjustments. This is about a whole mindset and making sure people are empowered to act in response to feedback – not just the approach to the process of planning.

In standard organisation design, hard-wired structure closely informs information channels. If you are organised by geography, or market segment, or product, your reporting lines and information will follow those lines. Now, with widely available data - and the ability to work virtually - informal and fluid forms of organisation structure are able to flourish. Informal networks and adhoc groupings can tackle an opportunity or challenge, be highly effective for the business, and be held accountable for what they do without having to redesign the organisation or make it more complex. This requires change: more flexibility of ways of working, more trust, and a comfort with being transparent – all become more important.

4 Don't lose the wood for the trees

Too much data can be deadly. Research into the NASA Columbia shuttle disaster of 2003 analysed powerpoint that engineers used to brief bosses on the damage done to the wing and its tiles while in orbit. The slides were full of data, some of it highly misleading. They lost sight of the meaning, while being under the illusion of making well-informed choices. No-one in the team was standing above the data and seeing the key evidence for what it was. For similar reasons, this is also why US military now ban powerpoint for internal briefings – reserving it purely for 'hypnotising chickens' – briefing the media. As US Brigadier McMaster has said: "Powerpoint full of facts is dangerous because it can create the illusion of understanding and the illusion of control."

As leaders, our role is to help focus the team, and the whole organisation, on key points, and their root causes - and to always test for alternative choices.

Sources

Sources used for this article include: Davenport: *What makes Big Data projects succeed* (Harvard); Davenport: *Big data at work: dispelling the myths, uncovering the opportunities* (Babson College and Deloitte); Evans, Wurster: *Blown to bits: how the new economics of information transforms strategy* (Boston Consulting Group); Fung: *Google Flu Trends' Failure Shows Good Data > Big Data* (Harvard blog); Harford: *Big data: are we making a big mistake?* (FT)*;* Hertz: *Eyes Wide Open – How to make smart decisions in a confusing world* (Cambridge); Kinni: *Employee management in the "Big Data" era* (Booz & co blog); Mayer-Schonberger, Cukier: *Big Data – A revolution that will transform how we live, work and think* (Oxford University and the Economist); McAfee, Brynjolfsson: *Big Data: The Management Revolution* (Havard, MIT, Sloan); Pearson, Wegener: Big Data: the organisational challenge (Bain & Co); *Big Data: lessons from the leaders* (Economist Intelligence Unit).