By Jeffrey Popova-Clark

FIVE MYTHS ABOUT BIG DATA

With technology taking a stronger hold on the day-to-day operations of business, big data is a tool all executives should invest in.

Every second management journal is touting the coming data-driven revolution in corporate decision-making. There is much hype, with some of the IT industry's major players trying to convince managers to part with large sums to create new analytics capability in their business. As with any new buzz, there are kernels of truth to the marketing mania, but you need to be aware of these fallacies when determining what is right for your business's analytics capability.

Data analytics is hard

Many executives believe they need sophisticated software and algorithms, dedicated computing power, and expensive consultants with PhDs in mathematics before they can benefit from big data.

Data analytics does not have to be hard. In fact, you probably have many of the IT tools available in house to start extracting value from the data sources you already own. Most businesses have not even begun to tap the value available within the enormous quantities of unanalysed data already sitting in their normal financial, operational, and customer systems.

If you have access to individuals or teams with the combination of database interrogation, data cleansing or transformation, business knowledge, communication skills, and management support, then you have the key ingredients for a high-performing analytics capability that will add enormous opportunistic value to your business. In my experience, ROIs in the thousands per cent are commonplace in this area.

All big data comes from social media

The myth here is that business value is mainly in streams of unstructured data available from services like Facebook, Twitter, YouTube, and blogs.

Once your analytics team is familiar with what you already have in your own databases and IT toolkits, let them start to look outside your organisation for more sophisticated capability and data streams. Although there is much to be learned from this data and these more powerful analytics capabilities, benefits are incremental over the earlier stage if you have the right skill sets in place.

Data equals improved performance

You might assume that once organisations have a data analytics capability, managers and executives automatically start to use data and facts to make better decisions.

As any cognitive psychologist or behavioural economist will tell you, humans rarely make rational decisions. Even highly successful senior executives make irrational, from-the-gut decisions in the absence of required information and run with it.

In many cases, our newly minted analytics teams are merely given the task of post-justifying already-made decisions. If the data happens to support the gut decision, the analysis is touted far and wide as the reason for the decision. If the data doesn't support the gut decision, they're wrong and get ignored. In such cases, the data is not being used to benefit the decisions of the organisation.

The hardest part of forming an analytics team in your organisation is getting your decision-makers to change the way they make their decisions. They need to get the data before they make their decision, and they will only do this if they trust the source of information. Therefore, the new team should prove itself on some key high-profile projects to become a trusted information source.

Data scientists are IT people with business experience

Technical statistical skills are tough to develop, but they are just as likely found among your non-IT personnel as your IT staff. I would prefer to find a statistically knowledgeable business expert and teach them the required IT skills rather than use a statistically knowledgeable database administrator who has limited business exposure. If you are lucky to have someone who is strong in all these areas, then you almost have a data scientist already.

But you can't shirk on statistical knowledge. Many analytics teams have been formed without this key ingredient, and major mistakes are made as a result. Your analytics team must be able to detect noise, avoid typical causation–correlation confusion, determine error variance, estimate predictive power, understand significance, and avoid the many other data dangers of which most of us are blissfully ignorant. Complex analytical software often protects you from this scary statistical complexity, but your team won't know when the software's assumptions have been violated.

You have to dumb it down

The fallacy here is that end users can only be trusted with sanitised static reports or data cubes they can slice and dice.

Data cubes are probably the most overrated, overhyped IT product of the past 10 to 15 years. IT business analysts spend weeks gathering requirements, analysing source systems, and writing specifications. Developers then deliver a freshly minted cube, precisely as ordered. The users will start playing with the cube and, within 10 minutes, they ask if they can include data that they know is available in their operational system but was not previously included in the cube.

The user may have already decided to ignore this newfangled cube thing and go back to relying on their trusted operational or financial analyst who gets their information direct from the operational system's reports. Admittedly, the cube can still be used for the regular reports where the report developers can merely make a static view of the cube to meet report requirements. However, it might have been easier to let them source it directly from the operational system data in the first place. The cube itself has added little value.

The bottom line

Your analytics team should be providing four services: developing and publishing regular static (or semistatic) reports; providing ad hoc, once-off report requests; contributing unsolicited management advice based on quality analytics of all available data; and enabling end users to conduct their own analysis.

Most analytics teams see themselves as providing the first, and pride themselves as being the trusted source for the second. Quality analytics teams are automatically using the data to unearth business value while helping other parts of the business do the same. They should also be constantly adding capability to the services by expanding the available data sets with data of most benefit to the business, and then integrating those new acquisitions into the pre-existing data. ◦

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About Jeff Popova-Clark
Jeff Popova-Clark has been the principal founding partner of Data Analytics Management Consulting since 1998 and is now working with PwC in Brisbane. He has been applying statistical models to organisational datasets for over 20 years, and worked in several countries as a management consultant and IT project manager. Visit *datanalytics.com* for more information.