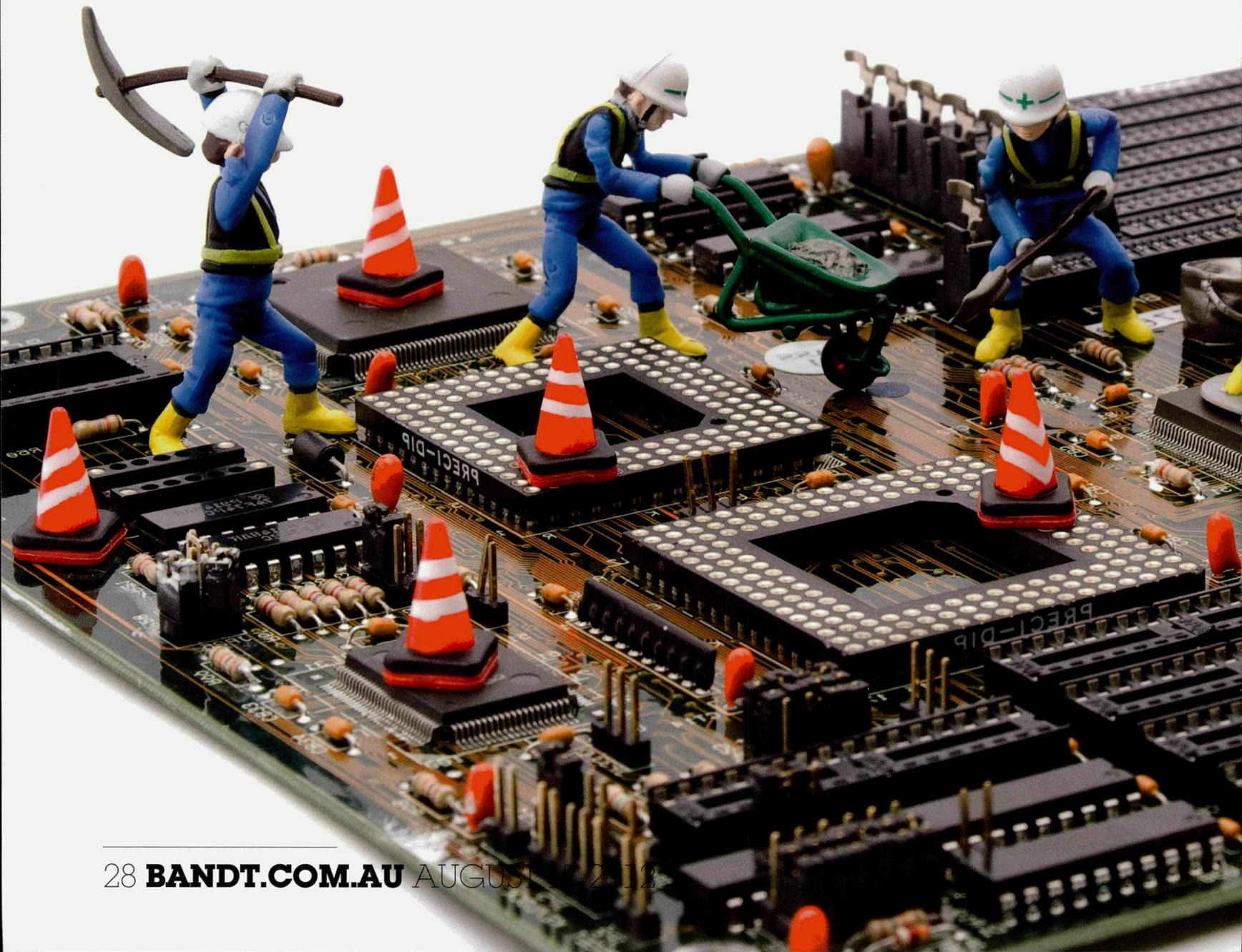


THE **BIG DATA** DILEMMA



Big Data is the next big thing in the marketing and advertising industry. But what is it and what does it mean for the industry? **Jessica Kennedy** discovers there is gold amongst the piles of data for those willing to put in the hard yards



Trucks, drills and pearl-wearing tycoons will have no place in the next global mining boom. Instead, data visualisation tools and cloud computing services will be among the devices used to facilitate the boom. It will be the domain of analysts, whose most common injuries will be strained eyes and RSI.

Instead of minerals, the fruits of the new mining wave will be valuable customer insights scraped from mounds of data by specialists employed by companies such as Telstra or Woolworths.

Every day, 2.5 quintillion bytes of data are created. So much is now produced that 90% of the world's data was created in the last two years alone, according to IBM. This influx of information has given rise to an emerging trend known as Big Data.

David Carlson, director of customer insights at direct marketing agency Wunderman, defines Big Data as "very large volumes of data – think millions of transactions – consisting of multiple types of data (structured and unstructured) which can be used to describe customer behaviour". Forrester analyst Brian Hopkins defines it as "techniques and technologies that make handling data at extreme scale economical" in his Forrester blog.

Exactly what makes up Big Data is up for debate, but the benefits of harnessing the copious amounts of information are not.

Big Data is driving marketing towards its Holy Grail – a 360-degree customer view that can drive personalised customer experiences and improved ROI with real-time insights.

However, a number of issues – including a lack of buy-in from company leaders, skill shortages, budget constraints and the overwhelming nature of the information – are holding the market back. But, globally, companies are recognising the benefits and investing heavily in Big Data.

Global market intelligence company IDC predicts enterprises will invest more than US\$120bn in data capture and analysis across hardware, software and services by 2015. The massive investment is justified by a 2011 study by McKinsey Global Institute, which estimates that a retailer using "big data to the full has the potential to increase its operating margin by more than 60%".

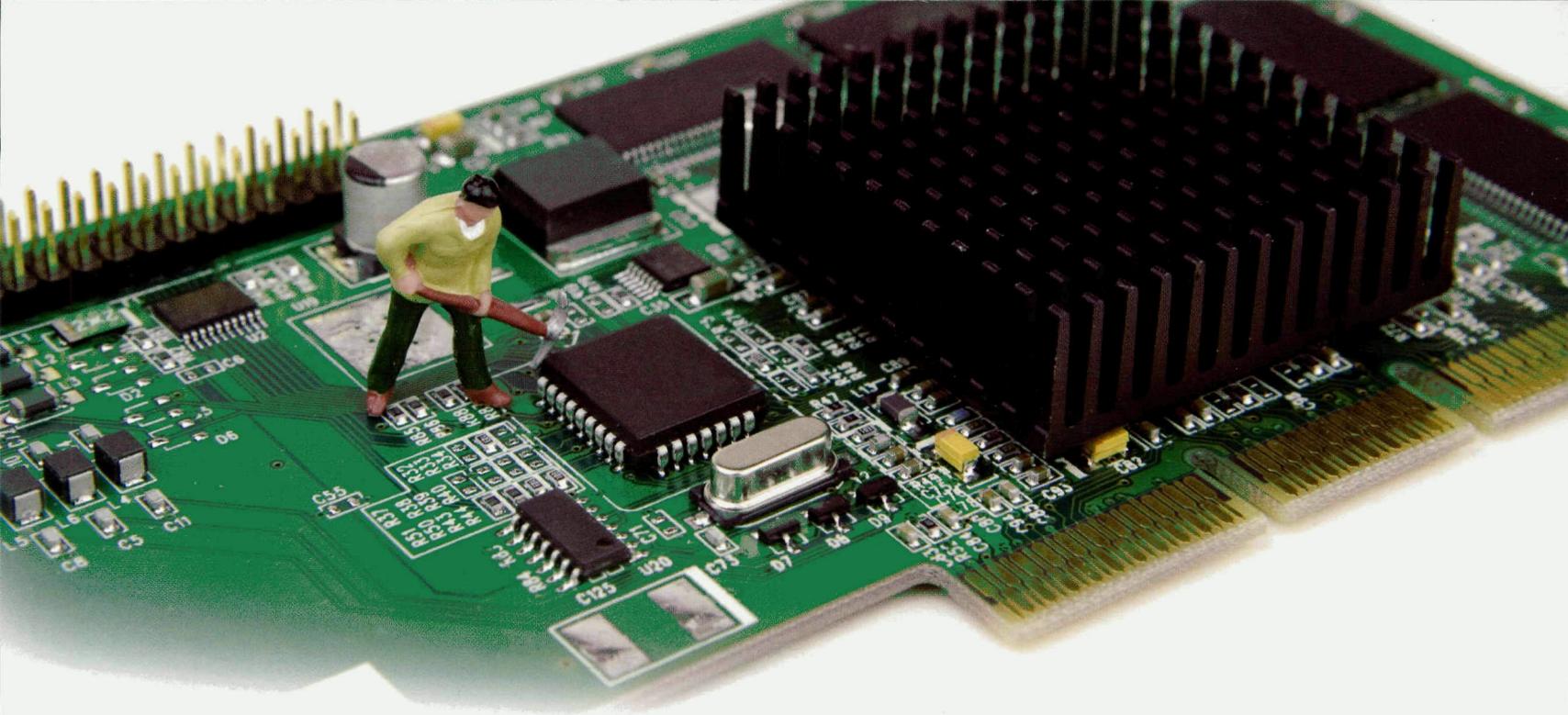
Marketers can also use Big Data to help find the optimum mix of channels, according to Christian Bartens, managing director of data services agency Datalicious. By combining online behavioural data, campaign response data, customer profiles and transaction information, Bartens says marketers "can do some predictive algorithms to suggest the next best product or the next best interaction".

Carlson says the new analytic tools will allow marketers to be far more niche in how they approach customer communications, offers and engagements.

"The concept of running six to eight segments across the customer base is a thing of the past," he adds. "Now we can mine data with highly sensitive predictive models which allow us to select the best customers – so we can run more frequent highly tuned activity which in the end delivers better ROI. And by the way, it means we don't fatigue customers with irrelevant touch points."

Tim Beveridge, director of insights at email and cross-channel marketing agency Responsys Asia Pacific, believes Big Data can be used to make merchandising and new product decisions.

"In the case of house brands, that data can be used »



to fuel product development or service innovation," Beveridge explains. "In a more simple way it can just be used to help merchandising decisions - what products you put at the front of a store to tempt people to come in."

Big Data's benefits are numerous, as are the interpretations of what it does and doesn't comprise.

Volume, variety, variability and velocity

Warren Billington, managing director of interactive marketing services company Acxiom, says: "Ultimately, Big Data is the result of the emerging data explosion that is taking place as a result of much stronger media fragmentation."

Big Data consists of both structured and unstructured data. Customer service calls, emails, mobile, transactional information, social media data and online behavioural data are all part of Big Data.

For BMF's head of marketing sciences, Rob Chandler, it is "data that you wouldn't necessarily use on a day-to-day basis within the worlds of CRM or standard modelling - it's all the other stuff".

The numerous sources mean there are lots of variables at play, which can confound analysis making it hard to find insights.

Clint Bauer, partner and head of technology at direct marketing agency Lavender, agrees that it is data derived from multiple sources and, due to its volume and real time nature, it exceeds "the analytical or processing capacity of today's conventional systems and databases". He adds: "It ranges from terabytes to petabytes."

Beveridge adds: "Basically if it requires a service, has structured and unstructured elements and it's extremely complex to analyse or get meanings where you require a specialist tool and specialist analyst to drive it, then it is probably Big Data."

Based on this, Bartens asserts that "most marketers in Australia don't even have enough data to qualify". Companies which may meet the criteria include the big banks, telcos and those with robust loyalty schemes such as retailers and airlines.

While experts agree Big Data involves a large volume of information from many sources, they cannot agree on exactly how large the data needs to

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be or the number of sources it involves, leaving many to ask - "does my company have Big Data?".

"I'm not sure if the term 'Big Data' is very helpful - it's probably more alienating than it is inclusive," Beveridge surmises.

The Australian Direct Marketing Association's (ADMA) chief executive, Jodie Sangster, elucidates: "The problem with it is that it is so vast - how do you pull all of those strings into something and make sense of it in any sort of timely fashion?"

But before organisations can hope to make sense of the stream of never-ending data, they need to address the siloed nature of their businesses.

A business challenge

To achieve a 360-degree of the consumer, organisations need to be able to combine their structured data with their unstructured and anonymous information. But most businesses

still operate in silos - with online data collected in one area and offline in another. Billington says this is a major handicap. "There are issues around how companies are actually organised from an operational and cultural perspective - they are still very siloed and still very channel centric."

An ADMA poll from last year revealed that more than 50% of marketers still store channel data in siloed locations and 57% of companies handle analytics for each channel or business independently.

"They are understanding the complexities, they are understanding the benefits. But generally there is confusion around how they are going to be able to tie those two worlds together," Billington adds.

According to Datalicious' Bartens, a lot of companies do not even use a common unique customer identifier across the different areas of their businesses. "Most companies have multiple different customer IDs in different databases so it is physically impossible for them to match it up."

To harness Big Data, companies will need to overhaul their operational structures. Businesses are recognising the need for a restructure, with four out of five attempting to develop or implement an integration strategy. However, only 15% are happy with their current integration achievements, according to the ADMA.

Wunderman's Carlson says the impending changes will be felt everywhere, from front line sales to customer service. In the short term he says the marketing and IT departments will be more intertwined: "This might put marketing back where it belongs, complementing finance and operations. After all, marketing is where the sales come from and where customers know and understand the brand."

James Burge, Asia Pacific managing director of market research and data collection company Research Now, concurs and believes this integration will continue "with the development of more sophisticated platforms and rapid investment in programmes by large information management specialists, like IBM and Microsoft".

However, a restructure requires serious investment and needs to be instigated by the CEO, chief financial officer or chief marketing officer.

"It's not a marketing decision, it's a business decision. You need buy-in from the top to be able to invest in the data infrastructure that will allow you to move down this path," Sangster explains.

But, the CMO Council says senior marketers are "overwhelmed" by the growing volumes of customer data. However, in a recent CMO Council report, Camille Baumann, regional director of marketing for analytics software and services company SAS, said the rise of big data has forced Asia Pacific's CEOs and CMOs to "finally pay attention to analytics".

"Analytics has been around for decades – mainly in the domain of business analysts, programmers and researchers – but now, it has become a top priority of the C-suite agenda," Baumann said. "It is a growth area in IT that defies economic trends. And it is stated that future investments in analytics will be driven by the CMO office, not just IT."

A constrained budget was identified as another issue hampering attempts to deal with Big Data by 30% of marketers – more than any other factor, according to the ADMA.

But Billington says marketing budgets do not need to be inflated, only re-directed. "You are going to save millions of dollars in being more efficient in the marketing you do," he exclaims. "As a result, you will get ROI and can use that to invest in technology and infrastructure to support that ongoing."

For small to medium businesses (SMBs) the barrier to entry can be quite high. But as more tools enter the market their prices will decrease. Cloud services are a good option for SMBs, according to Bauer: "Cloud-based services lower the barrier to entry and reduce the overall operating and IT costs traditionally associated with a project of this nature,

as you only pay for the services that you use."

But throwing money at the newest tool, technology or an expensive restructure is not enough. "You need to have the right team on board to make that database or infrastructure work for you," Sangster says. "It is a big business challenge."

Fresh Blood

Organisations will need to recruit "specialist analysts who are able to join the dots and run the right statistical methods to glean the insights", according to Responsys' Beveridge. As more analysts become entrenched in marketing departments there will be an emergence of new positions, according to Carlson. "I think we will see high level think tanks lead by scientists in positions that are not currently considered as 'normal' business roles."

But McKinsey Global Institute is predicting a severe talent shortage which will hinder businesses' abilities to make the most of Big Data. The research group says that by 2018 the US alone could face a deficit of more than 140,000 people with deep analytical skills. The study also suggests there will be a need for an additional 1.5 million managers and analysts with Big Data knowledge. This will put more pressure on marketers to sharpen their data IQ.

"The marketer these days is almost required to be a technologist, a data specialist and a channel specialist," Sangster says.

But few are. This skills gap plagues the industry, from the most senior marketers to the greenest. "I hazard a guess that at no point is any marketing degree right now talking about data and the use of data," says Danny Bass, GroupM's chief digital officer.

Sangster is of the same mind and says university »

"ANALYTICS HAS BEEN AROUND FOR DECADES IN THE DOMAIN OF BUSINESS ANALYSTS, PROGRAMMERS AND RESEARCHERS. NOW IT HAS BECOME A TOP PRIORITY OF THE C-SUTTE AGENGA."

CAMILLE BAUMANN, SAS



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marketing courses need to be refreshed. "We really need to turn those courses around so people coming into marketing are much better equipped with the skills they need rather than theoretical marketing."

While Big Data may appear nauseatingly complicated, Beveridge says data "doesn't have to be a big, scary, intimidating thing". He feels that while companies may need an expert to manage the high-end analytics "even a one-man-band marketing department can collect some data and make use of it in smart ways". The data explosion can make it harder to single out insights but Burge says "the challenge lies in sorting the wheat from the chaff". "Findings are extensive but the key is in identifying those fit for the job in hand and those with real impact."

To avoid drowning in data, marketers must work out what needs answering before starting the analysis. "Don't boil the ocean is the advice we give," Billington says. "Also be prepared to adjust your assumptions as you work through," Carlson adds.

The challenges experienced gearing up for Big Data in the Australian market are by no means unique with the sticking points mirrored worldwide.

Overseas

When it comes to Big Data, "Asia Pacific organisations lag behind the US and Europe in data warehouse, business intelligence, and analytics investments", according to the CMO Council. But the council does not expect the gap to last.

Sangster believes the US is ahead of Australia in terms of technology while the UK leads data usage. "But I don't think you can point to any country and say 'right, they have the answer', because they don't," she adds. Stumbling blocks such as the talent shortage and lack of Big Data know-how at C-level are global, with markets worldwide grappling with it.

Bauer believes local organisations do not struggle to capture data, "but what to do with it after the fact is often where the ball gets dropped".

Carlson says there are pockets of excellence within Australia but he thinks there is still a "significant gap" between best practice data driven businesses and the rest. "We need to increase the overall average across the board in how we derive insight to support marketing efforts."

Just as marketers are struggling to get on top of their data, Big Data has thrown agencies – be it media, creative or direct – into a tail spin as they attempt to make sense of the crushing tide of data.

The agency point of view

"Agencies are really struggling," says BMF's Chandler. "If you look at a direct or CRM agency they are getting into minutia of detail but they don't see the big picture," he says.

"Ad agencies don't see enough of the detail, media agencies do some great analytical projects, but very few are truly in a position where they can look at it from a holistic perspective."

Bauer says the majority of agencies are not equipped to handle the volume or unstructured nature of Big Data. "Additionally most of the tools currently being used by agencies are not suitable for, or indeed were not developed with Big Data in mind."

However, Sangster champions direct marketing's ability to successfully ride the data tsunami. "The foundation principles of direct marketing are coming to the fore. Across the board you have to understand those direct marketing principles to make sense of data."

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Technology and data management have been "core game changers" for media agency GroupM, says trading director James Parkinson. "All of our investments over the past five years have been around the technologies and platforms we need to invest in to get faster insights."

The network has an 11-person 'knowledge team' that oversees trading and data analytics across all data platforms, offices and states with three to four products set to be launched per quarter. The appointment of Southern Cross Austereo's head of strategy and analytics, Paul Simpson, as chief knowledge officer was key to GroupM's strategy.

Bass says agencies, like brands, need to hire people from different backgrounds who can spot a glinting insight in mounds of data. He says creative technologists who can "marry technical skill with creativity", engineers and even radiologists can get the job done.

Amid the focus on data and technology, creativity could be forgotten. Chandler says there is "paralysis by analysis" and agencies must remind clients that data is a springboard for creative ideas. Carlson believes the influx of data is breeding more creativity as "smaller more targeted activity needs standout creative". Sangster says creativity plays a "critical role" and will be the differentiator in data driven marketing. Equally crucial for marketers is making sure their customer data is well protected.

Big brother

Big Data holds a wealth of possibilities, but privacy concerns and government legislation could see it all unravel. "Every online interaction gets tracked starting from your service providers log files to the meta data appended to an image you uploaded to one of the social sites," Bauer says.

"Take this into account with all the sensor and mobile data being collected, big data, particularly personal data behavioural analysis, has the potential to erode privacy on a much larger scale."

The need to re-examine privacy laws is clear – reviews are underway locally and overseas. Sangster, who once labelled Australia's draft privacy laws an "impediment to the digital economy", is anxious new laws should take into account future developments.

"I am concerned that if we do have restrictive privacy laws that aren't future looking, we will be in a position where it stifles our ability to gain the opportunities from Big Data and what

I really don't want to happen is for Australia to be placed in a position which other countries aren't."

With privacy reviews running alongside the rise of Big Data, the latest mining boom is set to be rocky. ■



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