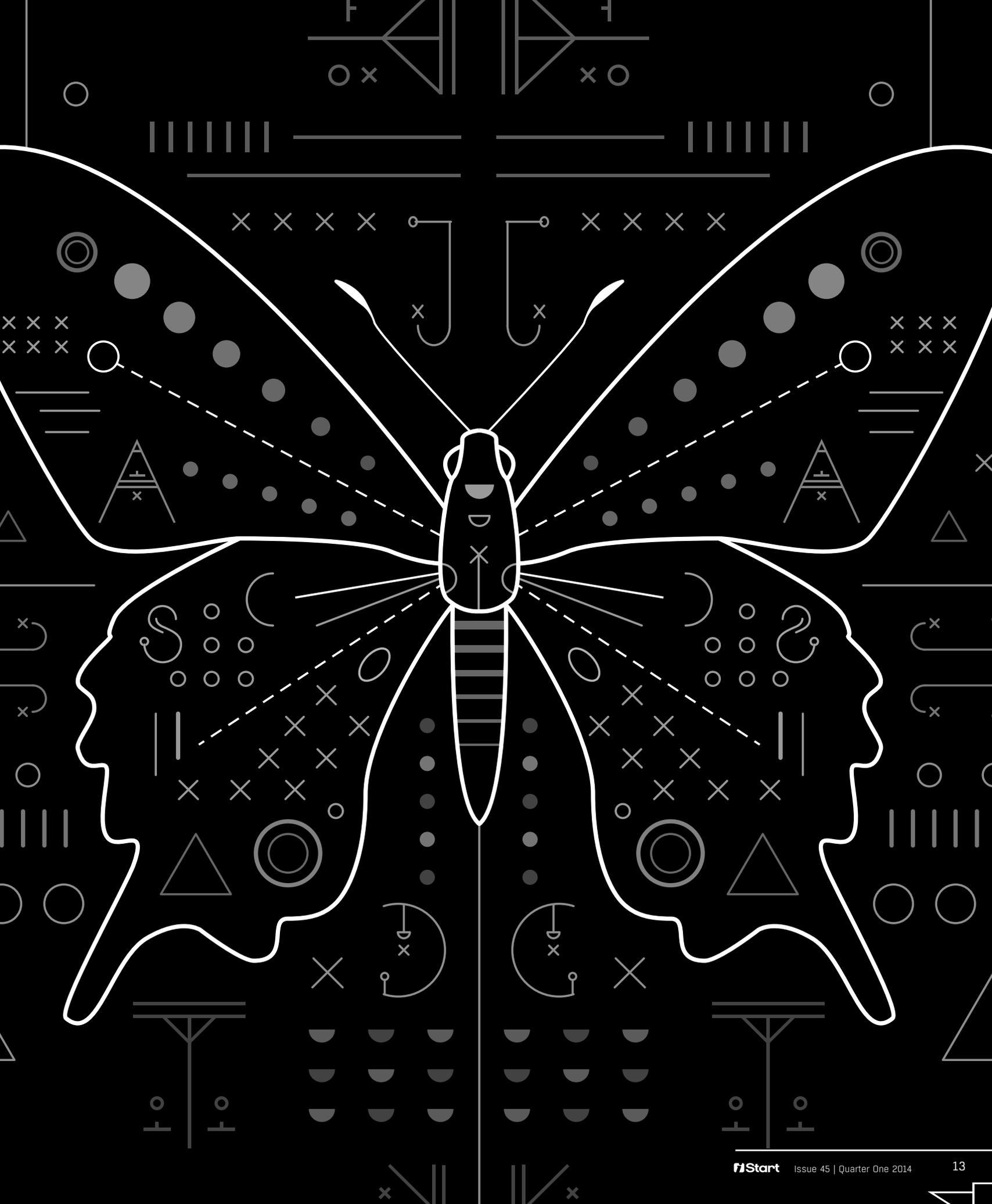# [The anatomy of technology as a change agent]

The joint forces of data analytics, mobile solutions, social applications and cloud computing are disrupting whole industries and forcing change. Businesses that do not adapt are in danger of becoming extinct. **Chris Bell** asks the experts if change today actually begins with technology, and whether it should...

In one of his books the Victorian-era novelist Anthony Trollope warned against considering questions involving great change: "The best carriage horses are those which can most steadily hold back against the coach as it trundles down the hill." He was writing about parliament rather than commerce, and it would be a foolish 21st Century CEO who took his advice to heart, but he articulated the natural human response to change: to resist it.

Disregarding their internal culture – including employee values, beliefs and habits – can cause organisations to fail spectacularly when they attempt to change by deploying technology. Barry Carruth, managing director of Probity Consulting, specialises in improving the infrastructure supporting corporate services. An accountant by trade, he's seen technology projects initiated for reasons of political agenda rather than a grounding in good business sense. But since the economic downturn he's noticed a more prudent approach to technology implementations. "Organisations are putting in more robust processes to evaluate whether a project will deliver change," he says.

Carruth draws a distinction between cultural change and change management, however. "A lot of people set off with the idea of cultural change but with no end-state in mind. As a result the cultural change tends to waver and without an objective it's like an unguided missile." And there's not necessarily a need to change an organisation's culture merely to deploy a new technology, he reckons. "There is a need to put in really good change management processes and bring people along on the journey but the fundamental underlying culture of the business can remain the same."

Probity helped the New Zealand Fire Service to introduce a paperless accounts payable system. "We removed all paper-based purchase orders and invoices and a result of that change was a change in the policies and behaviours of the people in the organisation. This one small piece of technology had an impact on the whole business." But it was change made in the context of its existing business processes. "If you don't look at an application from a process perspective, looking for improvement, all you're going to do is take a round peg out of a round hole and put another round peg back in," Carruth cautions.

There are numerous examples of organisations automating manual processes, many of them dating back to the earliest days of IT. But fundamentally changing a business to anticipate or react to external disruption is what consultants and analysts are warning 21st Century organisations they must prepare for, and this requires an entirely different approach to working, not merely a refining of processes.
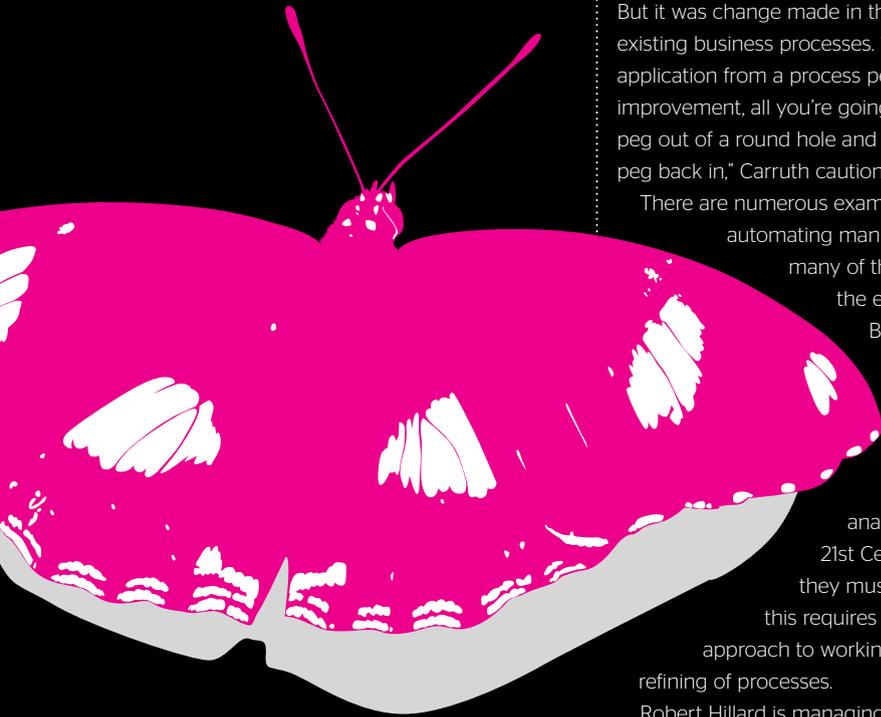
Robert Hillard is managing partner of the technology agenda at Deloitte Consulting in Australia. "The evidence that culture matters is as simple as looking at a software product that in one company is lauded as a case study globally and in another company is thrown out and the stakeholders describe as a complete failure. Some of them might be technical issues where it's implemented badly but the primary difference is that one suits the culture of the organisation well and the other doesn't."

In its paper '*Digital disruption: Short fuse, big bang?*', Deloitte claims "one-third of the Australian economy faces imminent and major digital disruption". Deloitte ranked industries and businesses according to how soon they're likely to experience significant digital disruption. Those who'll encounter it within the next three years it considers to be on a 'short fuse'; those that can expect it in four to 10 years are on a 'long fuse'. Having the human resources to address this disruption is essential, says Deloitte: "This might be achieved through training and good management or, where the pace of change is great, sourcing staff who can contribute the skills required to remain competitive." Our interviewees unequivocally agree the latter is where many organisations fall short.

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Technology as change agent

David Guazzarotto, CEO of Future Knowledge, is a Sydney-based specialist in HR, talent management and social collaboration technologies. He says technology adoption must be driven by behavioural change. "If it's not underpinned by an alignment with a strategic imperative there's a higher likelihood of failure. It's about driving the people side of things."

CEOs and senior executives must ask themselves whether technology is driving change or vice versa, says Guazzarotto. "You should look at the opportunity for change and the need for a better way of working and then report back with a technology that's appropriate. But if the leaders in an organisation are not capable of supporting people effectively, no amount of technology is going to get you across the line."

Organisations trying to out-manoeuvre competitors through innovation – rather than through market-dominance or lower pricing, for example – face a bigger challenge than those merely pedalling water. But knowing your industry and maintaining intelligence about your competitors may be just as effective as being the first mover, Deloitte's Hillard claims. "Trying to identify where the change is going to come is more important than trying to come up with the disruptive technology."

He provides an example from an industry using more efficient platforms and emerging technology to differentiate its offerings. "The car insurance industry is creating telematics: telemetry for motor vehicles. That could mean different packaging of insurance by the kilometre – you pay more insurance if you choose to drive faster, and so on. Customers get frustrated if they're paying a higher premium than their driving habits dictate."

Add agility, not complexity

IBM's global C-Suite study incorporates everyone from CEO, CFO and CIO respondents to human resources, supply chain and marketing chiefs, and IBM says it's based on face-to-face conversations with more than 4000 executives worldwide. Concurring with the findings in Deloitte's paper, these CxOs foresee major

changes in the business landscape within the next three to five years. Most of them regard technology factors as among most important external forces shaping business. The fact every business is today suffused with technology means CEOs – many of whom once wore IT scepticism like a badge of honour – must now embrace it.

"Even the most old-school CEO can't ignore the realities of technology driving change in a macroeconomic sense in their own organisation," says Guazzarotto. One example is in cloud services adoption, which may have the side-effect for many organisations of having to align business processes with what are, effectively, hardcoded IT systems. That contrasts with the commissioning of bespoke or highly customisable applications in the past. For such organisations, competitive advantage will be a question of how good they are at making best use of such commoditised systems, Guazzarotto says. "I come from an ERP background, and in the SAP, PeopleSoft and Oracle days we always talked about best practice. What we're moving to in the cloud era is perhaps 'most common practice' rather than best practice."

Meaningful change comes not from building a cool office, deploying an app then sitting back and waiting for the phones to ring. "Change is thinking about where you are as an organisation, what your strategy is and what the bigger picture threats and opportunities are," says technology evangelist, investor, commentator and business adviser Ben Kepes, who cautions against deploying technology without first considering the underlying organisational culture. "There's nothing worse than implementing an agile product without having an agile organisation."

Deloitte describes agility as "a willingness to make decisions and mobilise quickly. It's about fostering an organisational culture that values innovation and in which people are responsive to change". In software development a number of methods, tools and principles fall under the agile definition and they tend to be based on iterative and incremental development, where products and services evolve through collaboration between self-organising, cross-functional teams.

Change for the better

1. New Zealand Fire Service – paperless accounts
2. Uber – US centralised taxi-ordering app
3. Apple App Store – applications for mobile devices
4. Xero – cloud-based accounting platform
5. Yammer, Chatter – social networking platforms

Change for the worse

1. Ferrit – NZ online retail portal
2. Flying Pig – NZ internet retail store
3. Queensland Health – payroll system
4. Novopay – NZ teachers payroll system
5. Microsoft's 'stack-ranking' – staff rating methodology

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"Traditionally, change had to start bottom-up, had to be cultural," says Kepes. "What we're seeing now is a fundamental shift. The days of the massive, multi-hundred-person organisation are drawing to a close. Those organisations just can't be sufficiently nimble. We're going to see the rise of project-based, team-based distributed organisations."

Adding complexity – which happens as new technologies and capabilities are clipped onto existing practices and systems – causes more problems than the additional functionality solves. "We're happy to add sophistication and complexity," says Hillard. "But it's hard to also remove something every time you add a capability so that your organisation doesn't become too complex; when somebody wants to implement a new system, everybody wants to hang scope off it like ornaments off a Christmas tree."

One problem with viewing the business from the standpoint of its existing processes is that it's akin to analysing an artist's brush-stroke without considering her source of inspiration, let alone the effect the finished painting has on the eye. Creativity, as Kepes points out, is more than the sum of its parts. "You can't systematise innovation," he says. "It just doesn't work that way." For this reason, forward-thinking industrial-scale organisations are getting creative: "They're setting up skunkworks-type operations, where they ring-fence some budget and let people get creative because corporate structures and rigid IT systems don't lend themselves well to that ambition."

All just a game...

An Economist report, *'Agent of Change: The future of technology disruption in business'*, predicts new technologies will result in a general flattening of business hierarchies, "with one victim possibly being the 'middle manager' role".

Hillard, who advises every organisation to look at change through the lens of economic fundamentals, agrees. "The middle-manager whose role was simply to facilitate bureaucracy, to interpret orders from above and execute from below, is enormously at risk. The challenge is to find career paths where people can contribute to

the greatest possible degree across the widest possible footprint their ability allows."

Social media, so-called gamification and virtual teams are set to help companies find new ways of defying disruption. Hillard says large bureaucratic organisations are seeing their staff create self-organised teams on various internal social media products. But companies have to change their culture before people can use them effectively; legacy performance management structures and unimaginative team incentives dissuade potentially talented new recruits.

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> DAVID GUAZZAROTTO, CEO, FUTURE KNOWLEDGE

"They don't want to sit inside a deep hierarchy and receive orders from above," says Hillard. "If you can harness 10 people looking at a difficult strategic problem rather than one person having to make the decision you're going to get a better outcome. It's crowdsourcing decision-making in organisations, using social media or gamification. It's about trying to engage large numbers of people by making our day-to-day jobs into the form of a game and getting people excited and engaged."

Gamification is being integrated into help desk software and used to help increase employee productivity. It's also being introduced as a tool for customer engagement, for encouraging good behaviour on website forums and increasing social network engagement. Some critics dismiss it as another marketing fad; others say it offers

achievement only in its most artificial sense. But Hillard maintains gamification has the potential to assist adaptive, information-driven organisations. "Rather than creating a chain of command and coding that into an approval process, you need a score level in order to be confident that this expenditure or investment has appropriate approval, watching through social media how people choose to get that score."

Guazzarotto agrees social media can support rapid cultural change, but it's still enemy territory for many of the organisations he works with. "By enabling social technologies in your organisation and allowing your employees to engage externally via social platforms you amplify your culture." Conversely, a toxic culture can quickly be exposed for that – negative viral campaigns on social media can do immense harm in a short time; as in the case of English gastro-pub The Plough that laid-off its head chef before Christmas but neglected to regain control of the business's Twitter logon. His subsequent series of damaging tweets suggesting questionable ethics has since been retweeted multiple times.

Carruth agrees a skill-upgrade is underway, with fewer people engaged in mundane processing-type work, but foresees a less catastrophic evolution for middle-managers. "They possibly require less management in those roles than previously, which means there are fewer middle-management roles, but they're declining not disappearing."

Guazzarotto predicts our working methods are fundamentally changing. "I'm advocating the end of the job; in other words, we're not going to be hired to do a particular job, we're going to become part of collaborative structures that are centred on activities instead of jobs and responsibilities and we'll be collaborating with people from all over the world: employees, contractors, industry influencers. Social media is the glue binding all that together."

It's sobering that nearly four in 10 respondents in the *Economist's* survey worry their organisations won't keep pace with technology change and thus lose their competitive edge. Successful change isn't trivial; but then, neither is wasting your energy holding back a carriage horse while your competitors are overtaking you in high-powered motor vehicles.