



LEARNING TO FLY

Is your business struggling to make its technology really drive innovation? A strong CIO has the power to drive that change and make a difference. Over the next 10 pages GORDON SMITH builds a picture of what the job entails and the challenges it involves

CHIEF information officers may not be faster than a speeding bullet, more powerful than a locomotive or be able to leap tall buildings in a single bound, but a checklist of an ideal CIO's abilities reads suspiciously like a superhero's CV.

In a recent report, the industry analyst Gartner defined the IT leader of the future as one who can champion change, spur innovation, unify employees across business units and act as a role model. "The job of the CIO, quite simply, is very difficult. Every CIO has to make it up as they go along – there isn't any best practice and there aren't so many tools to help a CIO be successful," said Martin Curley, who wants to do something about it.

To stretch the superhero analogy further, you could even say Curley has a dual identity. By day he is global director of IT innovation and research at Intel, managing a network of IT Innovation Centres. But he also has another role as a driver for change in IT management. He has written a book *Managing Information Technology for Business Value* and is co-director of the Innovation Value Institute. This consortium operates from NUI Maynooth and has wide cross-industry backing with 40 members including Google, Chevron, BP and analyst houses like the Butler Group and IDC.

IVI's grand vision is to transform the way organisations get value from IT through researching, developing and disseminating an academically proven and industry validated best practice model for IT. This way, it hopes to give CIOs and IT managers the tools they need to start creating business value from strategically investing in information technology.

At a seminar held at the Maynooth campus this summer, Curley summed up the premise of the IVI as follows: "Business value is the contribution IT makes to helping an organisation achieve its business objective." Outside experts endorsed the work of the IVI. IT governance expert Peter Weill of MIT welcomed its developments because they promise to be far broader than the narrow frameworks that exist today, such as ITIL or COBIT. Ralf Dreischmeier, vice president with the strategy consulting firm BCG, said his organisation was committed to making it an industry standard. "We're looking to find the right balance between academia and practicality – that we're delivering something people can use," he said.

That's for the future. The challenge is that many organisations currently struggle to come close to capturing or managing true value from their IT investments. Hardly a week goes by without new



Martin Curley,
co-director of the IVI

evidence showing up the gulf between IT and the business it's meant to support. A survey from IBM earlier this year found just 16pc of chief information officers (CIOs) felt that technology potential is really benefiting their companies' development, despite broad agreement that IT permeates their organisations in a very profound way. Almost 80pc of those surveyed believed that the integration of technology and business was very important but only 45pc felt that their company had made a good job of it. Data from Microsoft (see page 34) reaches broadly similar conclusions. As Curley observes, there are just a handful of companies where IT is seen as a core competency and not simply a cost centre — Wal-Mart and Dell being two rare examples of the former.

In too many cases, the majority of IT budgets are tied up in routine tasks like maintenance — upwards of 80pc in some cases. Becoming a more mature IT organisation means going past this, putting in place more rigorous governance structures and processes. "It's not what you spend but how you manage it," said Curley.

Another speaker, Professor Joe Peppard, director of the information systems research centre at Cranfield University, said the dominant orthodoxy considers IT as an island within the business rather than one that stretches out across every part of an organisation. "In 25 years' time, we'll be saying 'can you believe people thought IT wasn't part of the business?'" Alluding to the debate about whether a CIO should be a generalist or a technology specialist, Peppard also argued that much of the knowledge required to build an information systems strategy lies in the business, not in the IT department. "IS competencies are not about technology, but people," he said.

The IVI wants to establish a framework underpinned by two core themes: IT Value and IT Innovation. To that end, it hopes to propose methodologies, tools and practices that will allow organisations to manage their IT capability. Initially, the consortium's work will focus on two areas: developing and gathering support for the IT Capability Maturity Framework (IT-CMF) and the IT Capability Maturity Model (IT-CMM). Curley said the group plans to publish "something that we hope will be of use to the CIO community" some time next year. He describes it as a "compass for CIOs" — a roadmap of best practices that have been shown to work in other companies or public sector organisations.

But the benefits are there to be grasped. Studies at the Massachusetts Institute of Technology have found organisations that truly embrace technology tend to be the leading performers in their fields. So for CIOs, it's just a matter of taking the first few steps, or perhaps more appropriately, learning to fly.



Business value is the contribution IT makes to helping an organisation achieve its business objective'



Chevron's champion

IF the CIO really is the superhero who can come to the rescue of a business and help it to become stronger, then it's only fitting that one of the role's leading exponents comes complete with a mild-mannered alter ego. Gary Masada of Chevron does not even have a background in technology: in fact he is actually a trained chemist. "Not being an IT person allowed me to come in and ask stupid questions," he jokes.

Since taking on the role in 2003, he has become widely regarded by outside observers as an example of a CIO as 'chief innovation officer'. Chevron intends to use IT not just to keep the business ticking over, but to help transform it. The key to earning more money from the business to invest in new IT projects is to earn its trust. "If you want to do innovation, the first thing you have to do is prove that you really can manage an effective IT organisation, that your IT organisation can deliver the products and services they say they're going to do. You have to operate with excellence," he says. The first step on this journey was to centralise and standardise IT operations at Chevron through a project called Global Information Link (GIL), now on its third refresh.

The numbers behind Chevron's IT infrastructure are staggering. A million emails per day; four million ERP transactions; 72,000 PCs; 10,000 servers; 2TB per day growth in data storage. Since 2003, the IT function has grown by 53pc and the company's technology spend came to US\$1.3bn last year. The IT staff comprises a team of more than 3,500 people, half of whom are based outside the US.

When deciding to drive innovation within the organisation, Masada gathered a small team around him and opted not to work in isolation but to talk to peers in other companies such as Intel, Agilent and Procter & Gamble.

Masada doesn't claim exclusivity on what he has done. "All of the things we learned come from best practice companies, about the things they do to drive innovation," he points out. "This could be done in the pharmaceutical industry or in the high tech industry. It could be some best practice. If it's new to



Gary Masada, Chevron

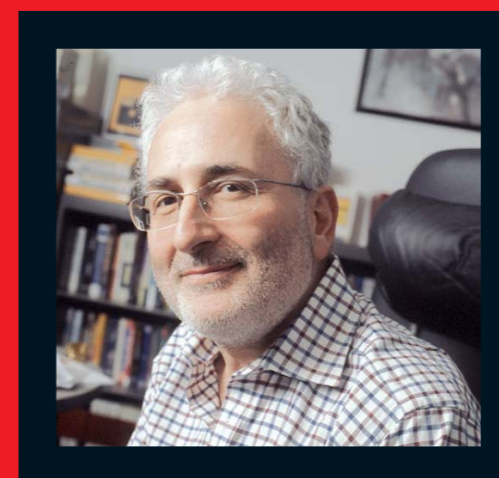
Chevron, it's innovation." Establishing innovation within an organisation is a complex undertaking, he adds. Masada acknowledges his good fortune in not having to create a culture from the ground up. "It turns out we have an innovation culture, it's just not managed," he says. "We talk of innovation as something new that introduces business value. This isn't introduced for IT fun. It gets the business thinking, 'this innovation is for us'."

The Chevron initiative has the full support of top management and a three-year budget to work with. The global innovation services group seeks innovation from all parts of the organisation. Internally, other business divisions within Chevron have seen the progress and have approached the group to see if innovations that started as IT projects can be applied to their own areas.

Masada defers any praise that comes his way, believing it's "premature" to think of him as a chief innovation officer and says "we're just starting our journey". The project has been dubbed 'Everest' — just to remind anyone who thought it was easy.

Innovation isn't just restricted to a select few projects that get the green light. "Money is also available for new ideas that might not quite be ready for prime time and need a little more work and research to mature." Innovation is still very much at the embryonic stage within Chevron, but it's the clear goal. Masada has deliberately refrained from applying metrics to this too early, for fear that it kills innovation before it has a chance to flourish.

Top performing firms are better at managing IT. They're better at managing everything, but they're more IT-savvy



PETER WEILL is Director of the Center for Information Systems Research (CISR) and a Senior Research Scientist at Massachusetts Institute of Technology (MIT). CISR was founded in 1974, and conducts field-based research of practical benefit to senior IT and business management. Weill has conducted extensive study into the role, value and governance of IT in enterprises. In his work he has shown how companies with solid IT governance and clear views of investments are more profitable and see higher returns on equity and he has published several award-winning books, numerous journal articles and case studies on IT governance. *Knowledge Ireland* spoke with him on a recent visit to Ireland.

Weill's WORLD

Knowledge Ireland: What has your research shown about what's seen as the CIO dilemma - having to 'keep the lights on' but also adding value and moving towards innovating?

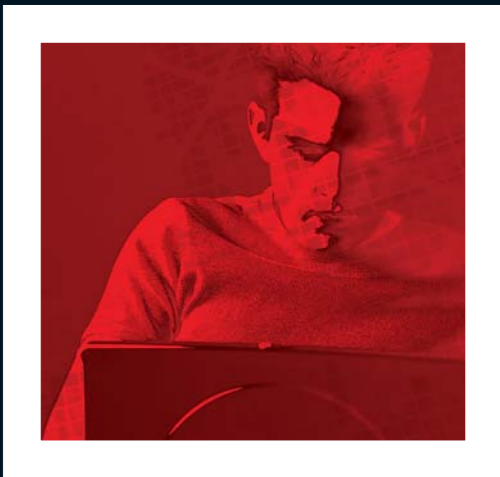
Peter Weill: I don't think it's a dilemma. As we've seen in our research down at MIT, to do innovation or to create topline value, IT has to prove that they can run their own business and that means a couple of things, including good unit cost in IT — something that is still an issue for us as an industry. How do you get good benchmarks for unit cost, how do you know the vendor is giving you a good unit cost? I'm much less concerned about total spend on IT than I am about unit cost. And unit cost varies by country. The second thing is SLA (Service Level Agreement). If you think of a 2x2 [graph], of unit cost and SLA, you have to decide where you want to be for each of your infrastructure services. Actually Intel have an annual IT report that they produce every year. I think it's not a dilemma — if you don't do the first issue, which is provide services of cost and quality, you haven't got a chance of stepping to the next level.

And to me, the next level's not innovation actually. The next level is then delivering new projects. If you think of a pyramid, the bottom layer is service delivery. The next layer has three elements — project delivery of business initiatives, the second is relationships and the third is governance.

And those three have to be also in good shape before you can do the business innovation, growth of topline, IT lead.

Because if you don't have those two layers, what happens is, you trip up and we don't coordinate and we end up with not being able to deliver on business projects as well as our own services.





We're seeing kids coming out of high school with more technical skills than they've ever had before but they're not well prepared to make a change in anything

Knowledge Ireland: In that case, how mature is IT in terms of being able to measure all of those things?

Peter Weill: What you'll find is an amazingly strong correlation: top performing firms are better at managing IT. They're better at managing everything, but they're more IT-savvy. If you think of high/high in terms of spending on IT and savviness, there's a 20pc premium on return on invested capital. And if you look at low spend and low savvy, it's about 25pc negative premium.

What it tells you is that IT savvy is one of the ingredients of getting value from IT and so it's a bell-shaped curve. The work that IVI is doing as a way to increase the average by having a consortium-based maturity model, is absolutely brilliant. [IVI director] Martin Curley is one of the few executives that's well known worldwide in this area and does a wonderful job of being an ambassador. He and his colleagues and IVI are trying to do something that's never been done before. And it's a way to increase maturity.

Back to your question, the interesting part about this is that you will always be compared to the average in your industry, so it's a constant battle. It's not as if you're going to one day get mature. If everybody follows the maturity model, all that happens is that the IT industry's effectiveness moves one step to the right and everybody does better.

And that may help in determining whether we should spend money on IT versus advertising or whatever but it won't distinguish individual companies. And that's why I think this has to be an open source consortium.

Knowledge Ireland: We've seen different frameworks — where does this fit in? What's the unique selling point of this particular framework?

Peter Weill: That's hard to say and it's not been empirically validated yet. Frameworks are only useful when they're empirically validated and that's the problem with many of the COBITs and ITILs. They aren't empirically validated, typically, and they need to be. It's one of the things that distinguishes MIT is that we do empirical validation of all our frameworks.

Knowledge Ireland: What are the skills a senior IT leader needs to have, in your opinion?

Peter Weill: We did this really interesting study of CEOs and other non-IT senior executives and asked them what are the things the IT organisation has to do, and they came up with ten. And then we said 'what are the things you have to do as non-IT leaders to get value from IT?' and they came up with eight. Then we ran the numbers of these eighteen things against predictors of firm performance and what we found was only four things distinguished a company. So all the rest are table stakes. And the rest included enterprise architecture and running efficient IT operations and prioritisation. The four things that really made a difference from a leadership point of view — two on the IT side and two on the business side — were delivering new projects, developing new business applications or acquiring them. The faster you do that, the better.

And the second within the IT organisation was business process re-engineering and organisational change.

Now, I would say the IT organisation plays well to the first. But the second has not historically been part of the IT organisation so this is a real opportunity to step up because the senior executives are saying 'we want you to do this, you see across the firm'. The only exception to that is companies that have process owners.

That's on the IT side. On the business side there are two things that distinguish companies in terms of getting value from IT and one of them is being very clear on needs identification — something that is very difficult to do — and prioritisation. What is the need and how do we prioritise?

The second thing the business organisation needs to do is have effective IT oversight. So how do we get value, transparency of the process, governance or metrics?

If you're high performing on those, in our analysis, you get more business value from IT. All of the other things — managing the IT budget, managing the IT function, funding IT; no difference.

Knowledge Ireland: You make the point that IT historically hasn't been part of organisational change. But is there a danger that by putting IT in charge of a 'soft' or 'human' area that it becomes too much the preserve of technical people?

Peter Weill: That's a good question. Well, firstly the CEOs in this research are asking IT to do it. They don't mean alone. What they mean is, we're going to make organisational change together and the senior executives see much less of a DMZ [demilitarised zone] between IT and the business. They see those people all working for the company and they are to work together towards change and creating value.

Do you give someone, a single person, ownership for organisational change? No. I think it's something that's the responsibility of all senior executives. But in the end, people who are writing systems and making investments have the opportunity to do process re-engineering and to do change management. At least if not do it, enable it.

Now do we have the skills in IT to do that right now? I think there's a huge shortage in Ireland, a huge shortage everywhere and it's not being taught in computer science degrees anywhere in the world really. We don't probably teach it at MIT. What we do is teach it in MBA programmes which are more integrated in their nature.

Knowledge Ireland: Do you think this education and skills development should be happening much earlier?

Peter Weill: It should be happening in high school. I think one of the things is we're seeing kids coming out of high school with more technical skills than they've ever had before but they're not well prepared to make a change in anything — organisations, families. There's a different skill set.

Communicating is something that we do at MIT that all of our engineers, technical people and students are required to take classes in — oral and verbal and understanding the steps in organisational change, the risks involved. We're a technical institute so it's a big change.

But that said, I we should be teaching more systems thinking to business leaders so in accounting degrees, economics and arts degrees, you should be learning something about systems thinking because that will help you bring the wisdom from both.

We're at a time in the world where education needs to be more general. You get the job because of specific skills but you get promoted and have an influence because you have a broad education.

Do you give a single person ownership for organisational change? No. It's the responsibility of all senior executives