Global Intelligence for the CIO

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of the employee tech agenda

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Volvo Cars, on driving innovation
at the Swedish automaker

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Welcome to the latest edition of The Global Intelligence for the CIO, the exclusive publication for group CIOs, brought to you by global ICT company Fujitsu.

The main thread running through this issue is "digital disruption," with analyses highlighting how it is creating new business approaches, delivering game-changing technologies and even fighting off existential challenges to whole industry sectors. And for CIOs, the challenge is to turn such upheaval into opportunity, positive outcomes and business value.

Our Special Report examines an area that two years ago looked like a walk in the park — allowing employees to purchase and use their own devices in a work environment. But the adoption of bring-your-own-device policies has proved anything but easy, with issues thrown up around economics, security, legislation, technology integration and more. As users seek to extend the model to bring-your-own-services, we explore which BYOD models are working best for CIOs.

This issue’s Strategic Focus, meanwhile, digs deep into how one sector is dealing with a disruptive onslaught. Mobile technologies have provided a host of upstarts with the opportunity to wrestle the customer relationship from the giants of retail banking — especially through ingenious smartphone payments solutions and mobile wallets. But, interestingly, this has spurred major banks into action, with several — BBVA, Barclays and Standard Chartered, among others — innovating with agile and creative solutions, not characteristics always associated with IT in that sector.

Banking is not the only industry where IT is having a transformational impact. Digital capability is now a key attraction for many car-buyers, and our interview with Klas Bendrik of Volvo Cars for our This Way Up profile explores how the CIO has a vital role to play in successfully navigating such transformational change.

A prime example of disruptive innovation is also highlighted in our Cover Story, where social technologies are under the spotlight. Our interview with David Sacks, CEO of enterprise social network market leader Yammer, explores the prospect that in the not too distant future core business applications will have a social element, changing forever the way organizations work.

As ever, you’ll find further discussion of these and other issues at our website, kcio.com, where you can access video interviews, case studies, CIO appointments news and more. And you can also follow us on Twitter at @GlobalCIO — where news of CIOs coping with digital disruption is a constant theme!

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SAHER ARAR
Deputy CIO & head of IT strategy and planning
National Bank of Abu Dhabi
Top of My Agenda, p36

“How can we serve our customers better?” is the question constantly on the lips of NBAD’s Saheer Arar. One of his key objectives is to lead the company’s “Bank in a Box” program, which is enabling its strategy of rapid international expansion. And underpinning this is a need to move at lightning speed, to ensure the bank is ready to provide its new and existing customers with the services they want, when they want them. To this end, Bank in a Box will enable NBAD to get any branch—or even operations in a new country—up and running in four weeks (as opposed to eight months or more previously).

Of course, digital technology is a key enabler of this, and it is no accident that Arar, as a business-focused IT leader, is in charge of the program. In this issue of IT, he explains how he is tackling the many technological and management challenges the program has thrown up.

KIM STEVENSON
VP & CIO
Intel
Barometer, p20

Information technology is “mission critical” to an organization’s success, believes Kim Stevenson, CIO at the world’s largest semiconductor maker. By extension, that means, of course, so is the CIO—in which case, Intel’s future is looking bright with Stevenson in charge of IT for the company’s 82,000 employees.

In her visionary keynote at Fujitsu Forum 2012 in Munich (see Events, p8), she explained how the CIO is now a key factor in ensuring the business stays ahead of the competition. “IT sits at the intersection of enabling your business to be the disrupter or your business being disrupted by someone else,” she told delegates. And in this issue’s Barometer, she also explains how Intel’s extensive bring-your-own-device program is helping to inspire such disruption, by ensuring the company reaps the benefits of innovation from the consumer technology space.

BRETT KING
CEO
Movenbank
Strategic Focus, p43

Few industries are likely to be disrupted over the next few years as severely as retail banking, where the mobile technology revolution is set to change forever the way customers access their money and make payments. No one, therefore, is better qualified to comment on how to survive such game-changing market transformation than Brett King, CEO of Movenbank, the world’s first mobile-only retail bank.

In this issue’s Strategic Focus, American Banker’s Innovator of the Year argues that the current giants of retail banking—and their IT departments—must adapt quickly to this new tech-driven customer behavior, or risk becoming irrelevant as more agile competitors emerge. And King’s message serves as a valuable lesson for other industries: if you fall behind the “behavior and expectation curve,” you must prepare to suffer the consequences.

KLAS BENDRIK
VP & group CIO
Volvo Car Group
This Way Up, p45

No CIO demonstrates better how to make the move from the back office to the front line of business value-generation than Klas Bendrik, IT leader at Swedish car manufacturer Volvo. His background, which involves a mixture of business and military training, has ideally placed him to become one of the new generation of CIOs who see operational efficiency as just a starting point—a platform on which IT can become a catalyst for innovation and business transformation.

Bendrik’s role at Volvo extends as far as helping to develop the next wave of in-car IT that is set to reshape the automotive industry. He is particularly excited by the advent of the “connected car,” envisaging a scenario where the vehicle will become a platform to which digital services can be transmitted. As he stresses in our This Way Up profile, “When technology adds value to the user of the car... that’s where the [business] value comes.”
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THE HUMAN FACE OF BIG DATA

The vast digital datasets that qualify for the term “big data” are often defined in cold, functional terms. Phrases like “slicing and dicing petabytes of customer data” or “scrutinizing the digital exhaust of millions of online consumers” suggest businesses are the only ones in a position to benefit from big data analytics.

But in recent months one high-profile project — The Human Face of Big Data — has set out to take a global snapshot of the societal impact of the digital world. The crowdfunded initiative, backed by information management company EMC and led by Rick Smolan, famed as the creator of the Day in the Life series of coffee-table books, took as its premise that the real-time visualization of data from sensors, satellites, smartphones and other digital sources is enabling humanity to sense, measure, understand and affect aspects of our existence in ways previous generations could never have imagined.

The initiative, which echoes the vision of a human-centric intelligent society defined by ICT vendor Fujitsu, involved thousands of individuals around the world capturing how digital data is changing our lives. The resulting stories, images and real-time information have been visualized in a stunning book, an iPad app, essays from noted writers, infographics and live events. One of those images, of a newborn child, perhaps sums up the scale. During the first day of a baby’s life the digital data created about it (images taken and shared, medical records, SMSs, etc.) is equivalent to 70 times the analog information held in the US Library of Congress.

See: humanfaceofbigdata.com
Reshaping ICT — reshaping business

Cloud, mobile, big data, consumerization... Organisations need to embrace the new technology agenda to succeed long term, said speakers at Fujitsu’s latest global event.

The current wave of innovation in information technology has the potential to transform business and society — and organisations able to ride that wave will prosper, while those that miss the opportunity are likely to fall behind. That was the principal message from keynote speakers at Fujitsu Forum 2012, the Japanese ICT company’s annual customer and partner event held recently in Munich.

Addressing delegates at the event, which attracted 12,000 visitors from across 90 countries over two days in November, Fujitsu corporate senior vice president and president of international business Rod Vawdrey argued that the technology industry is experiencing a “once-in-20-year tectonic shift,” where the megatrends of ICT — such as big data analytics, mobility, high-performance computing and cloud delivery models — are converging to “reshape ICT and, we hope, reshape business.”

A key way in which Fujitsu is helping to support CIOs with this transformation, Vawdrey explained, is “our broad and comprehensive vision to deliver what we call Cloud Fusion.”

He described Cloud Fusion as having three attributes that add major value for organizations: delivering advanced integration of multiple clouds; enabling actionable insights from big data in real time; and delivering services from distributed applications in an on-demand, self-service model.

Vawdrey cited the example of enhanced agricultural production in Japan, which is being enabled by Cloud Fusion services, suggesting that such techniques could be applied just as successfully in industries as diverse as healthcare, transport and natural resources.

Also speaking at the conference was Fujitsu president Masami Yamamoto, via a live video link from the company’s headquarters in Tokyo. He pointed to the exponential increase in computing power in recent years — in a world where, for example, a smartphone contains more processing power than a supercomputer from just over a decade ago, at a fraction of the price — and the previously unimaginable possibilities this is creating.

Such advances, he said, have enabled ICT to move from being a means of streamlining back-office operations to having the power to deliver game-changing business transformation.

An example of this in action, Yamamoto suggested, is the way that organizations are now able to gather and process vast amounts of data in order to optimize decision-making within marketing and sales teams, or to accelerate time to market in new product development. “By transforming ICT, we seek to transform business,” he said.

The value of such big data was also top of mind for Dr. Joseph Reger, CTO of Fujitsu Technology Solutions, who argued that an organization’s ability to turn its data into valuable insight far outweighed the value of the data itself. “We are living on the exabyte scale. We have enough data,” he said. “But is [volume] all that big data is about? No. We have to make sense of it and understand it.”

He argued that the combination of vast amounts of unstructured data (for example, from social media sites), an increased ability to process it in real time (using faster in-memory databases, such as SAP HANA), and new, affordable analytic methods and tools, is allowing organizations to create entirely new business models.
The challenge, said Reger, is understanding which questions to ask in the first place. “Therefore, you’ve got to know your business and what you’re using your data for,” he urged the audience.

**Innovation drivers**

One of the guest keynote speakers at the event, Oliver Bussmann, global CIO of enterprise software giant SAP, concurred that big data is one of the key ICT trends transforming business, alongside mobility and cloud computing. And to that list he added social media and the consumerization of IT — the latter, in particular, “will be the new innovation driver,” he said. “It’s real and it’s not going away.”

This, claimed Bussmann (recently voted European CIO of the Year for 2012) means that a new kind of CIO must emerge in order to manage an enterprise environment where employees are finding their own technology solutions regardless of those offered by their IT departments. To remain relevant, he argued, CIOs must therefore change from being functional leaders to strategic leaders, where IT becomes an essential part of how the organization improves its customer offerings. “Start your innovation projects now,” he urged, “and include your end users and partners in the process.”

Kim Stevenson, CIO of microprocessor manufacturer Intel, also argued that IT — and therefore the CIO — is now mission-critical to business success. Pointing to enterprises such as photography giant Kodak that have failed to embrace technological change fast enough, she issued a stark warning: “Disrupt, or be disrupted.”

“IT sits at the intersection of enabling your business to be the disrupter or your business being disrupted by someone else,” she explained. It is therefore critical that CIOs ensure their organizations’ technology forms a basis for superior business performance, she said. To underline her point, she quoted Intel’s chairman, Andy Bryant: “If Intel’s IT is mediocre, Intel is mediocre. If IT excels, Intel has a foundation for excellence.”

**THE CONSUMERIZATION OF IT WILL BE THE NEW INNOVATION DRIVER FOR BUSINESS. IT’S REAL AND IT’S NOT GOING AWAY.**

Stevenson echoed this philosophy: “That’s how we as an IT organization align with our company’s vision: we want to provide the foundation of excellence so we can be the disrupter in the market.”

It’s also vital that IT keeps up with the speed at which business leaders must operate in an increasingly fast-paced world, she said. “IT has to move not just fast, but fast in the right direction. So picking the right technology and the right problems to solve is an important part of how we create value for our business units.”

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Fujitsu Forum 2012
keynote speakers
(clockwise from
top left): Masami
Yamamoto,
president of Fujitsu,
已成为 joins
Tokyo; Rod
Vavdrey, president
of the company’s
international
business;
Oliver Bussmann,
global CIO of SAP;
Dr. Joseph Reger,
CTO of Fujitsu
Technology
Solutions;
Kim Stevenson,
CIO of Intel; and
Benno Zolner,
CIO of Fujitsu
Technology
Solutions.
The CIO of Fujitsu Technology Solutions, Benno Zollner, also argued that consumerization is one of the major challenges facing CIOs today, as technology departments are constantly having to respond to user-driven requirements. Specifically, he said having to support multiple devices in a workplace where users want to combine their own private ICT environment with a business ICT environment presents significant issues, particularly in areas such as security, cost and device management.

One solution to this, he suggested, is Fujitsu’s Personal Cloud service, currently under development, which will enable users to access a wide range of business productivity applications securely from any connected device (see Innovation, page 34).

Powerful business tools
Sharing the stage with Zollner, Satoru Hayashi, executive vice chairman at Fujitsu Technology Solutions, highlighted a range of new products and services that the global ICT giant is offering its clients to help them stay ahead in today's fiercely competitive business environment.

Examples included Fujitsu’s Cloud Store, which offers SaaS applications from a range of vendors (and will form a key part of Fujitsu’s Personal Cloud), and its work with SAP to provide data center solutions like SAP HANA in-memory databases (see Innovation, page 33). He also reminded the audience of Fujitsu’s broad hardware offering, ranging from mobile devices to one of the world’s fastest supercomputers. “There is nothing we cannot compute,” he said.

This emphasis on IT as a key business differentiator was echoed by Thomas Stanley, VP of global alliances and system integrators at data storage solutions provider NetApp. Organizations in the future will have to focus on innovation, flexibility and globalization, he said, adding that IT can be an enabler for this. He pointed to NetApp’s own success, and its 18-year partnership with Fujitsu, as an example. “Our success is based on our ability to focus on the customer — and ensure that new technology genuinely solves a problem,” he said.

Ulrich Homann, chief architect for worldwide enterprise services at another close Fujitsu partner, Microsoft, made a similar point when he highlighted how increased computing power and storage, combined with high-speed Internet connections and innovative software, is transforming the data center and enabling organizations to exploit cloud computing to its maximum potential. This, he claimed, is driving business innovation.

“At the end of the day, it’s all about the user finding new ways of exploiting IT services,” he said.

For more views from CIOs Oliver Bussmann of SAP and Kim Stevenson of Intel, see Barometer, page 20.

Fujitsu Forum 2012 keynote speakers, continued (from top): Thomas Stanley, VP of global alliances and system integrators at NetApp; Satoru Hayashi, executive vice chairman of Fujitsu Technology Solutions; and Ulrich Homann, chief architect for worldwide enterprise services at Microsoft.

Fujitsu Forum 2012 by the numbers

- 12,000 visitors from across 90 countries (up 18%)
- 54% of delegates from IT or executive management
- 2,193 channel partners
- 107 journalists (up 10%)
- 9 conference keynotes
- 39 breakout sessions with 4,726 participants (up 11%)
- 460 expert talks (up 20%)

Watch videos of all Fujitsu Forum 2012 presentations at: tinyurl.com/bpdr8z
Who’s moving where...
New roles for IT leaders around the world.

Stand-out CIOs

澳大利亚
Broadband provider NBN has named John McLachney as CIO.

奥地利
Christian Neugebauer is the new IT director at drive system and testing developer AVL.

加拿大
Rail operator Canadian Pacific has appointed Michael Redeker as CIO.

法国
Jean-Christophe Lalanne is now executive VP of information systems at Air France and Air France-KLM.

澳大利亚
Safia D’Ziri has become CIO of global news company Agence France Presse.

德国
Stephan Fingerling is now CIO at truck and bus maker MAN.

德国
Deutsche Börse has hired Hauke Stas as its new IT chief.

卡塔尔
Dimitris Mavroyiannis, previously head of IT at Eurobank, is now CTO of Commercial Bank.

澳大利亚
Peter Boone has become chief innovation officer at chocolate maker Barry Callebaut.

英国
Chris Taylor, interim CIO at media company News International, has been appointed to the permanent position.

皇家苏格兰银行
Scott Marcor has made Scott Marcor CIO for its markets division.

美国
Steven Van Wyk will be the new head of operations and technology at PNC Financial Services.

印度
Conglomerate Reliance Industries has appointed Sumit Chowdhury as CIO of its wireless subsidiary Infotel Broadband.

荷兰
Management and engineering consultancy ARCADIS has named Gerard Spans as CIO.

卡塔尔
Dimitris Mavroyiannis, previously head of IT at Eurobank, is now CTO of Commercial Bank.

美国
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英国
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43% of US CIOs report to the CEO, 27% to the CFO, 19% to the COO.

Public sector growth

- The Australian Department of Parliamentary Services has appointed Eija Seltis as its first CIO.
- Peter Lawrence is the Australian Department of Defence’s new CIO.
- Jacques Marzin has become head of Disci (Direction interministérielle des systèmes d’information et de communication), effectively making him France’s government CIO; he succeeds Jérôme Filippini whose now leads SGMAP (Secretariat général pour la modernisation de l’action publique).
- The Swiss Federal Tax Administration has appointed Dirk Lindemann as CIO.
- The US Securities and Exchange Commission has made Pamela Dyson its deputy CIO.

(Society for Information Management, 2012 CEO Survey)
In an era when employees are expecting to select many of their own IT solutions, the onus falls on CIOs to take control of the BYOD agenda to avert potential chaos — while delivering major business benefits.

Words: James Lawrence  Photography: Nato Welton

**In this 10-page report:**

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A few years ago, Noah Broadwater, CTO of Sesame Workshop, noticed an alarming tendency in his organization. Employees at the New York City-based educational media company, most famous for the children's TV show Sesame Street, were buying almost any device they liked for use in the workplace and having the cost of it signed off on expenses by their departmental managers. He went to his CFO and told him, “You’ve got a huge problem. You have a lot of people buying a lot of devices that aren’t being inventoried — and it’s costing you a lot of money.”

Broadwater offered a two-step solution. First, he implemented a policy where users could select a device from an approved list (as long as they had a valid business case for needing one). This would then be purchased at a reduced rate by his organization. Then, he allowed users to bring their own devices into the workplace, where they would be fully supported by his IT department.

Either way, Broadwater points out, the business saved money, and employees were able to use the IT they needed to do their jobs effectively in a secure, managed environment. “We all know consumers in every organization are bringing their own devices into the office. This is something that happens every day whether we like it or not,” he says. “So we decided we would leverage this change.”

IT leaders have, for many years, been losing control of key parts of the digital environment used by people within their organizations. And one of
the clearest manifestations of this phenomenon, best known as the consumerization of IT, is the growing trend for employees to use privately-owned equipment — most commonly a mobile phone, tablet, laptop or memory stick — for work purposes. What’s more, in an era of commoditized, “freemium,” cloud-hosted software, many are also self-selecting IT services to achieve their work goals, rather than sticking with what is being offered by their IT department — if, indeed, an appropriate solution is available at all.

Analyst group Forrester estimates that at least 53% of global knowledge workers have used some form of self-selected IT in the workplace — whether that is a device they paid for themselves or an application/web service that is not officially sanctioned by their organization. (For more research in this area, see Data Feed, page 19.)

Many CIOs have struggled in the face of this rogue technology onslaught and have attempted to avoid the kind of chaos faced by Sesame Workshop by locking down usage within their organizations. But now, the consensus among most forward-thinking IT leaders is that the tide of consumerization is unstoppable, and must be embraced rather than denied.

One way in which many, like Broadwater, are choosing to do this is by officially implementing sophisticated and carefully guided “bring your own device” (BYOD) programs. When handled effectively, these can deliver significant benefits to the organization as a whole, and to the IT team, and can also boost the CIO’s personal standing among business colleagues.

Ted Schadler, a principal analyst at Forrester, says one of the key questions IT leaders must ask before considering a BYOD program is exactly why employees are adopting their own IT solutions. “People tend to harness new technology to accomplish a goal,” he says, pointing to recent Forrester research showing that 56% of workers who have used their own IT for work purposes say they did so “because I needed it and the company didn’t provide an alternative.” In other words, they couldn’t see any other way of doing their job effectively, he says.

However, he also highlights a somewhat more alarming figure. When IT decision-makers were asked why they thought people brought their own IT into the workplace, only 26% believed it was “to get the job done” — whereas a whopping 76% thought it was simply “because it’s something they use at home so it’s convenient to use at work.”

These contrasting statistics, argues Schadler, indicate a major disconnect between what is really driving BYOD — that is, the fact that IT is not providing employees with suitable solutions — and what IT leaders think is driving BYOD. “This data should shock you,” he says.

His advice to CIOs is that they must seek to clearly understand what is happening in their workplace by consulting regularly with the workforce — and then fully embrace the phenomenon, whatever it is driving it. “Don’t fight it, or you’re going to lose them,” he urges. “Instead, ask them questions about how you can help them take advantage of that new technology. It requires a different mindset.”

Brian Katz, global head of mobility engineering at French pharmaceutical giant Sanofi, shares this view and fully embraces BYOD. For him, the approach is rooted in the conviction that IT exists first and foremost to enhance business performance. “We’re all about enablement,” he stresses. “You partner with the business, you figure out what their need is, and that’s how you move forward — because if you don’t, you’re not going to be the IT [provider] for the company much longer. The business is going to go around you.”

Setting the ground rules
A key first step along the path to BYOD for both Sanofi and Sesame Workshop has been to establish simple, easily understood policies to ensure difficulties related to device management are pre-empted.

At Sesame Workshop, every employee who wants to participate in the BYOD scheme has to attend two lunchtime training sessions where the policy is clearly set out. Explains Broadwater: “We say, ‘You can use your own device, but here are the rules if you do. This is what you agree to. If you lose it, we’re wiping your whole device. Are you OK with that?’ Most employees say yes. For those who don’t, we say, ‘OK, you don’t get to use your own device. It’s that simple.’”

Such clarity, combined with user input, is key when devising a policy, advises Broadwater. “Don’t create policies that look like a lawyer wrote them, or are 10 pages long that nobody’s going to read. Have your users help you draft it, and create something that’s easy to understand.”

Despite this kind of liberalization, most organizations don’t allow a free-for-all in terms of mobile device selection, Katz explains that his company’s BYOD policy, like many others, lists precisely which devices will or will not be supported — via its mobile device management solution — and this depends on the degree to which it is possible to remotely manage the hardware. “We figure out the capabilities of each device, and let people know up front, ‘You buy this one and you’re fully supported in our ecosystem; you buy this other one and all we’re giving you is email,’” he explains. “We found that very quickly people moved themselves to a device that’s supported.”

When it comes to questions of support, however, IT leaders are now finding that they have to deal with issues that go way beyond those of traditional mobile device management. Steve Damadeo, US IT operations manager at German engineering multinational Festo, is finding that employees are increasingly approaching his helpdesk expecting support for applications or services that they have deployed without IT’s knowledge. He strongly believes that turning away such users is counterproductive in the long run.

“There really is, in my opinion, no line between supporting the application and supporting the device, it’s supporting the individual,” he says. “You really need to say, ‘I understand this is not where it came from, but we’re going to do what we can to help you.’ My people are given the responsibility to support as much as they can. The words that are most likely to get someone screamed out of my office are ‘It’s not my job.’”

Katz has a clear understanding of the reasons why such a situation may occur in the first place, which harks back to
“Have your users help you draft your BYOD policy, and create something that’s easy to understand.”
Schadler’s views on the underlying drivers of BYOD. “When it comes to an application they’re using that you don’t know about, it’s for one of two reasons,” says Katz, “Number one, the application you offered them is what I call a ‘craplication’ and they don’t want to use it — and let’s be clear, a craplication is anything that’s got a UI or UX that makes it harder for you to do your work. Or, number two, you don’t offer something.”

Simply telling the employee to stop using the application is not an option, says Katz, “You’ve got two choices,” he argues. “You can say, ‘Let’s take a look at your solution,’ or, ‘Let’s see if we can offer a better one that fits our corporate policy better.’ But you have to do one or the other.”

DamaDeo agrees, saying there is generally a worthwhile pay-off to such an approach: “If we do this it will turn an employee from a person who’s hiding something from you into someone who becomes your advocate.”

**Securing the data**

Underlying all of this, of course, is an overwhelming concern for enterprise security. The thought of thousands of unsecured, uncontrolled devices accessing corporate systems from anywhere in the world is enough to send most chief security officers’ blood pressure off the scale. And, of course, few CIOs would sanction such a situation, despite having to respond to the clamor for BYOD.

An increasingly common solution is to shift the emphasis on security away from the hardware at the periphery and towards the place where business value is really created; corporate data. Damadeo offers some simple, straightforward advice to secure the data: “Secure the data, not the device. You don’t really have control over the device security except for some minor elements. What you do control is your data, and that is the crown jewels of your environment. That is what is going to make your money and what differentiates you from your competition.”

George Baroudi, CIO of Long Island University (LIU), one of the largest private academic institutions in the US, also follows this approach. His organization recently gave iPads to 16,000 of its students — as long as they paid their tuition fees on time and provided the necessary paperwork required to study at the university, such as vaccination certificates. Because LIU holds a lot of sensitive data — proprietary research as well as student records containing sensitive academic, financial and medical information — security is of paramount importance to the organization.

Baroudi’s solution has been to secure all sensitive data in a private cloud that can only be accessed by approved users on approved devices. And by maximizing the chances that students are using devices deployed by the organization — even though ownership, and therefore maintenance costs, are passed on to the students themselves — management of the program has been relatively straightforward. “We made sure that all the devices are configured in such a way that we know who’s looking at the information,” he says. “The enterprise can control every breath they take if they are on our cloud.”

Another benefit of the iPad deployment, Baroudi finds, is decreased use of memory sticks (which, of course, cannot be plugged into an iPad). “One of the biggest problems in our sector is that somebody can walk up to any machine, plug in their USB key and walk away with all the information on that device. But that is no longer an issue,” says Baroudi.

When embarking on LIU’s BYOD program, Baroudi admits that his own CSO was the hardest person to persuade that this was the right policy to adopt. He advocates involving the security team from the outset, but, ultimately, not allowing security to get in the way of the huge benefits BYOD makes possible. “The CSO has to be told, ‘Figure it out instead of slowing it down,’” he says.

**Driving innovation**

However, if a CIO can resolve such security and management issues, a successful BYOD policy can go way beyond the most obvious cost savings or employee satisfaction to deliver even greater value to the enterprise; there is a growing consensus that it can be a key driver of agility and innovation.

“One of the biggest BYOD shibboleths in an organization are also the most innovative,” says Schadler. “Empowered and resourceful employees, who can and will use technology to solve a problem, are very valuable. Your job as CIO is to prioritize and scale up their ideas — and sometimes even their technology choices. By doing so, you will help shift the fulcrum from control to agility.”

Baroudi has seen this in action in his own organization. “Faculty were quick to innovate,” he confirms. “For example, some started classes on digital photography through the cloud.” Although this kind of autonomous action caused a few problems for IT that had to be resolved (some of the apps deployed had not yet been cleared for security, for example), he considers this a small price to pay in return for the added business value created.

Broadwater agrees and has some forthright advice: “IT is there to serve the company; saying ‘no’ keeps the company from doing its business. Saying ‘yes’ or ‘maybe’ or ‘let’s find a better solution’ gets the company to do their business better.” Or, as he sums up: “It’s time to stop the no.”
CASE STUDY
How a BYOD program has delivered major cost savings at the US Equal Employment Opportunity Commission.

When Kimberly Hancher, CIO at the US Equal Employment Opportunity Commission (EEOC), learned that her 2012 IT operating budget was to be reduced to $15 million — down 15% from 2011 — it was not immediately clear to her where cuts could be made without impacting on the agency’s performance.

She started gradually, reducing contractor services and eliminating some software maintenance contracts. After that, she turned her attention to the agency’s $800,000 per year budget for mobile devices, with the aim of slashing it by 50%. First, however, her team conducted a thorough assessment of how the 550 BlackBerry devices that the agency issued to around 22% of its workforce were being used.

The results were surprising: “We found that 75% of our users never made phone calls from their BlackBerrys. Email is the killer app. They either used the phone on their desk or their personal cellphone to make calls, because it’s just easier,” says Hancher. She adds that some devices were hardly used at all: staff parked them in their desk drawers and only ever took them out when travelling on agency business.

Hancher suggested a two-pronged strategy for device cost reduction. First, the EEOC would negotiate with its wireless carrier to optimize rate plans for all agency-provided mobile devices. Second, it would implement a bring your own device (BYOD) pilot program.

For the first part of the strategy, initiated in November 2011, devices that weren’t used were eliminated and remaining ones were moved to a bundled rate plan. The immediate effect was a saving of $240,000.

The second part of the strategy, meanwhile, came into force a month later, when the commission launched the first phase of its BYOD project. It convened an advisory group to work on relevant policies and later enlisted 40 volunteers who agreed to relinquish their EEOC-issued BlackBerrys and use their own smartphones.

The commission’s IT team worked with cloud-based mobile device management (MDM) provider NotifyLink to configure the exchange of email between EEOC’s email gateway, NotifyLink’s host, and the agency’s pilot participants who were using a range of iOS and Android devices. This MDM system costs the agency $120 per user, per year, and allows its IT team to manage security settings on employee-owned devices and remotely wipe government data if devices are lost or stolen.

Within the first three months of 2012, the number of BlackBerry devices the agency owned was cut from 550 to 463, and monthly recurring costs were reduced by between 20% and 30%.

By June 2012, the commission was ready to extend BYOD to employees still using agency-issued BlackBerry devices, but also gave them two other options: to trade in their BlackBerry for an agency-issued mobile phone with voice features only, or to keep their BlackBerry, on the understanding that the EEOC will no longer offer replacement devices.

The current BYOD program requires employees to pay for all voice and data usage, even for work purposes. That may prompt some cost-conscious users to stick with their EEOC-issued BlackBerrys for now, the agency acknowledges. “However, for EEOC’s younger employees, their personal devices appear to be an extension of their personalities, so to speak,” says a published statement by the commission. “For seasoned workers, their personal device allows them to do administrative work from home.”

Hancher agrees. “While I’m not advocating working 24/7, it is just more comfortable to sit and do timecard approvals on a Friday night in the comfort of your own home instead of during the working day, when your attention should be on more complex and business-oriented issues," she says.

For more on the US Government’s BYOD policies, see The White House’s toolkit: tinyurl.com/bse9yqw
BOARDROOM VIEW

Dion Hinchcliffe, chief strategy officer at Dachis Group, says the CIO must work with users to provide the technology they demand.

We are in the midst of a perfect storm of technological change. The user experience has been transformed for the first time since the graphical user interface was introduced more than 20 years ago. Now it's all about the touchscreen interface. IT delivery is changing, too, and is happening increasingly via browsers and mobile apps. The rapid growth in tablet computing means there is no doubt that the tablet will eclipse the PC by 2015, if not sooner. And we're seeing most CIOs taking mobility from somewhere in their top 10 to their number one most pressing issue, as executives and the rest of the business demand service delivery on these devices.

When user experience and IT delivery change together, then the ways we design and deliver IT must change, too. For example, if your IT isn't extremely easy to use, or requires training to be able to engage with it, then you're in big trouble.

Yet the real issue we're facing is not with mobile devices, but mobile data. App stores are creating a new conduit for users that is disintermediating corporate IT. This is probably one of the most disruptive threats: users get access to an unlimited number of tools in seconds, use them for work and then discard them (and the information they contain) when they're no longer needed. It's hard for traditional IT to compete with that speed of delivery and keep track of how those apps are being propagated outwards.

But smart mobile is about much more than just devices. Today's models are bristling with functions such as microphones, video, GPS, gyroscopes and accelerometers, which are enabling some very interesting business applications. So smart mobile is also a way to revolutionize how we do things in our companies. At many organizations, however, there's still this attitude: "We didn't invent these technologies. They're being imposed upon us from outside. They're not designed by us, for us. This isn't how we do IT."

But technologies are now being designed everywhere for consumers and then brought into the enterprise — and that's how we need to do IT from now on.

For example, the CIO of a large US media company realized he had a major challenge with consumerization. Employees were going out, getting their own IT, doing their own outsourcing and implementing their own "bring your own device" policies.

"Every CIO has to look at how to stay relevant."

He said to them, "Look, I want to be a solution provider. I understand our organization and our architecture best, and I understand you users better than anyone on the outside. So I want you to let me bid on everything you need in terms of IT, but I also want you to go out and see if you can find anyone that can provide it better. If you do, and I can't match them, then I'll work with that service provider and make it work for you."

What we see here is an IT leader placing himself directly in competition with the whole world — a trend that is happening anyway — and making an opportunity out of it. Like him, every CIO has to look at how to stay relevant and avoid being completely disintermediated from the service delivery process.

It's a challenging time for IT leaders, but it's also a time filled with opportunity. They can do more than they ever could before, but they've got to move forward and respond differently. It's time they disrupted themselves before the world does it for them.

Dion Hinchcliffe's book, Social Business by Design, is out now.
DATA FEED
Tracking bring your own device trends.

THE BYOD EXPLOSION

- More than half of global information workers under the age of 45 believe the IT they have at home is better than the IT they have access to in the workplace. This breaks down to 57% of 18- to 30-year-olds and 54% of 31- to 44-year-olds. (Forrester)
- Worldwide, there are approximately 340 million consumer-owned smartphones and tablets being used in the workplace. (Juniper Research)
- Self-selected cloud applications are prevalent in the enterprise: without their IT departments’ blessing, 44% of global organizations are using Dropbox, 42% are using Google Docs, and 22% are using YouSendIt. (Osterman Research/Accelion)
- In a global survey of information workers: 8% have paid for a tablet they use for work.
- 21% have paid for a smartphone they use for work.
- 38% access unsanctioned websites or applications for work.
- 53% have done at least one of these things. (Forrester)
- 60% of US and European companies deploy BYOD programs for smartphones; 47% deploy BYOD programs for tablets and laptops. (Forrester)

BUSINESS BENEFITS

- 70% of companies cite increasing worker productivity as a key driver for BYOD programs. (Forrester)
- 12% of mobile enterprise workers work more than 20 hours a week over the global average. (Pass)
- 70% of companies that have implemented a BYOD program report increased bottom-line revenues. (Forrester)
- 61% of companies that permit employees to use their own mobile device experience higher employee satisfaction. (Aberdeen Group)
- 43% of mobile workers store their smartphone within reach when they sleep at night. (Pass)

SECURITY CONCERNS

- 69% of company-owned smartphones can be remotely wiped — compared to only 24% of personally-owned smartphones being used for work purposes. (Osterman Research/Accelion)
- 44% of company-owned smartphones — compared to just 10% of personally-owned devices — can be scanned for malware. (Osterman Research/Accelion)

"The rise of BYOD programs is the single most radical shift in the economics of client computing for business since PCs invaded the workplace.”

Gartner

WHY EMPLOYEES USE THEIR OWN IT FOR WORK

<table>
<thead>
<tr>
<th>Reason</th>
<th>Employees Say</th>
<th>IT Thinks</th>
</tr>
</thead>
<tbody>
<tr>
<td>I need it for work and my company didn’t provide an alternative.</td>
<td>56%</td>
<td>26%</td>
</tr>
<tr>
<td>It is something I use at home and want to use at work.</td>
<td>72%</td>
<td>25%</td>
</tr>
<tr>
<td>It is better than what my company provides.</td>
<td>29%</td>
<td>18%</td>
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Don’t know/other: 9%

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BAROMETER

Exclusive: IT leaders on the issues that matter

What kind of challenges does implementing a BYOD policy present?

Kim Stevenson
VP and CIO
INTEL
World’s largest semiconductor maker with annual sales of $54bn

Since 2004 the market for consumer IT has exploded and the market for business IT has effectively been flat. So if you're an investor, where are you going to put your money? You’re going to invest in the growing market, of course, not in the flat one.

So we have to appreciate the fact that, for the foreseeable future, innovation will come from the consumer market first. As CIOs, we have to ensure that we reap the benefit of that right across our companies.

We’ve done a few things at Intel in response to this situation. In particular, we have enabled a BYOD program for phones and tablets – we’ve been very aggressive in this area. And we saw very quickly that there was a proliferation of choice. What this meant was that we went from one OS environment and about four or five choices of hardware to multiple mobile operating systems and many, many choices of hardware.

So, in order to ensure that our people are able to get the maximum benefit from the program and make the best choices, we analyze device options and OS upgrades, and publish a proactive evaluation before something new hits the market.

“For the foreseeable future, innovation will come from the consumer market first.”

For example, before the iPhone 5 was launched, we told our people what we thought of the device, and they could follow our recommendation or not. (And generally our employees are technically astute enough to heed the advice we give)

As a result, we’ve been able to achieve a lot of customer satisfaction — such as when we tell people to avoid specific technology for a certain period of time because we believe they’re going to have problems with it.

This proactive approach has really helped to improve the image of IT and has got us in front of some of the challenges that can arise when supporting the consumer market environment.

Brian Katz
Global head of mobility engineering
SANOFI
French healthcare giant with more than 110,000 employees in 100 countries

You don’t need a BYOD strategy. Anyone who says that you do is trying to sell you something. BYOD is purely and simply about who owns the device, nothing more. What you do need, though, is a mobile strategy, and BYOD only needs to be a small part of that.

The thing to care about is what employees do with the device, regardless of who owns it. Organizations should be looking to write mobile policies based on what they want to limit employees from doing and — here’s a big one — they should be trying to tell employees what they do want them to do. Who actually owns the device only affects this slightly.

However, it does matter how you manage the devices and control access to corporate systems. In order to ensure our BYOD policy is manageable from a security and support point of view, at Sanofi we don’t say employees can bring whatever device they want. We say that, based on the controls and the abilities of the device, they will get certain levels of access.

So, we’re pretty easy-going about iOS. When it comes to Android, we look at Samsung and Motorola devices, but, for example, we won’t look at LG devices, because we do not feel they have security controls that we are able to manage.

But information security is a problem that has existed for years. Half a century ago, people were going home with briefcases that contained sensitive information. Why? Because they didn’t get all their work done during the day and they had to get it finished.

The same has been happening with laptops for 20 years. But mobile brings the issue to the fore and enables you to start tackling the problems you should have been tackling already. Information management is not new. But now you have a reason to actually do it.
George Baroudi  
CIO  
LONG ISLAND UNIVERSITY  
One of the US’s largest private universities

The desktop of the future will be a mobile one. Simultaneously, the generation leaving college and university is demanding to have only one device, while the line separating their private and work lives is fading — and this is driving their expectations going into the corporate world. In this climate, therefore, BYOD is absolutely critical.

Encouraging our employees to adopt a mobility mindset is also very important to us. As a consequence, SAP is now the world’s second largest enterprise user of tablets, with over 18,000 deployed to date. We have also moved from supplying employees with a single company BlackBerry to allowing them to choose from more than 10 different mobile phones, running either Android, Apple iOS, BlackBerry or Windows.

And, for those who don’t qualify for a corporate mobile device, in the last year we have been rolling out a BYOD program on a country-by-country basis, starting in Asia, then North America, South America and now Europe. We have learned a lot from the rollout. First, the business effort required is almost equal to the IT effort, due to the many issues around data privacy, legal, security, HR, taxation, communication and so on. Second, BYOD needs a country-by-country approach: we started with a global framework, but that had to be adjusted to meet local requirements — although we always use the same mobile device management tool as with our corporate devices. Third, strong leadership from the CIO is necessary to clear the many hurdles that could slow down or halt the implementation.

I am convinced that the BYOD trend is not going to stop. On the contrary, I believe it will soon start to include other devices, such as laptops and desktops.

Oliver Bussmann  
EVP and global CIO  
SAP  
Enterprise software vendor with annual revenues of €14bn

We are a global university with branches in 10 countries, including India, China and Australia, as well as various locations in New York state. Our employees and students could be anywhere, so we have to ensure they have access to the data they need wherever they are. As CIOs, we must stay ahead of the curve and realize that implementing a BYOD policy is an effective way of facilitating that — and, indeed, it’s the best way to offload a great deal of maintenance contracts.

At the same time, I believe it’s a myth that if people bring their own devices to work they’re going to compromise the network. Here, a clear policy is extremely important, because you don’t want IT to say, “We will support anything.” You have to be precise in telling employees that corporate information must be protected, and we will protect it — but you have to tell them in the same breath, “We understand the need for you to use this device or application.”

So, in our organization, we need more IT analysts who understand our users’ functional needs, and fewer geeks that just say no.

BYOD policies are not a question of one size fits all. There are multiple ways of rolling one out, and the route we have taken at Long Island University is to focus on the “IT” in IT — the information. So we will ask the user, “What information do you need to access to get your work done?” Then we will give them security clearance that will allow or restrict access based on that information and what device they are using.

Meanwhile, behind the scenes, nothing is going to change. We still have our IT infrastructure, we still have our single sign-on, we’re still going to be watching out for any bad issues that may arise. In that respect, BYOD doesn’t change many of our processes.

THE VERDICT

Does BYOD create real business value?

68% yes
32% no

Although the majority of global CIOs believe that employee-owned technology programs can generate value for the organization, a significant proportion of IT leaders is still not convinced they deliver demonstrable payback.

Poll of 20 IT decision-makers worldwide conducted by 1 December 2013
The new business conversation
Yammer CEO David Sacks has championed the value of social networking in

Words: Kenny MacIver Photography: Eric Millette

There’s a far-reaching change about to happen in the way business gets done, the way people work, the way organizations function — and it’s a change many business leaders have yet to consider. For two decades, the core applications that underpin most enterprise operations — embodied in broad ERP packages of financial, manufacturing, HR, logistics and other key software — have aimed to maximize productivity and efficiency by integrating information and processes across the organization.

But one fundamental aspect has apparently been missing, and its absence, in the view of a growing number of analysts and visionary CXOs, is actually inhibiting further efficiency gains, slowing time to market for new products, thwarting innovation and stymieing agility. The shortcoming of business applications: they are not social.

Today’s applications lack a natural communications fabric that might enable people to (among other things) be constantly aware of each other’s activities, flag up their current project interests and available skills, “discover” experts and solutions to problems right across the enterprise, and, in acknowledgement, signal appreciation of other people’s work.

The upshot is that sales staff in one division of a company who are working on the delivery of a new campaign, for example, might be oblivious to the fact that colleagues elsewhere have already created just such a promotion. Or a logistics team might spend days emailing ➤
the enterprise. Now he plans to inject a social layer into business applications.
around the company trying to find a way to support the fulfillment of a sophisticated order in a remote region of the world, when colleagues with all the information they need may never get to hear of their challenge.

David Sacks, CEO of Yammer, the enterprise social networking start-up, which was snapped up by Microsoft in July 2012 for $1.2 billion, wants to change all that. Over the past four years, Yammer has pursued the goal of bringing social networking inside the enterprise, evangelizing it as an effective business tool. But sensing that the role of social in the enterprise is much more fundamental, Yammer’s mission has now been redefined: “To make all business applications social.”

Yammer, of course, is not alone in wanting to bring Facebook- and Twitter-like capabilities to the enterprise and its core applications. Salesforce.com, with its Chatter software, has grafted a social context onto its sales, service and other apps, and made that capability available for other developers within its ecosystem. At the same time, the major software powerhouses such as SAP and Oracle have been talking up the potential for similar social layers in their application suites.

But with a social enterprise platform that is open and independent from underlying applications — and with the financial muscle of Microsoft behind it — Yammer is making a strong play as the natural platform for weaving social into the fabric of business software.

Yammer’s confidence that it has a shot at that lofty goal is bolstered by the fact that enterprise social networking has already established formidable value in its early years. “When CEOs and CIOs realize how social networking can help them achieve their business objectives, they get pretty excited,” says Sacks. “These types of tools form a unique platform that can really drive business transformation and company-wide cultural change.”

That excitement is certainly evident at some big-name customers — the likes of Shell, DHL, Molson Coors, 7-Eleven, Supervalu, Vodacom, LexisNexis, LG Electronics and Pitney Bowes are all keen to talk up the benefits of social media and the breadth of deployments across their workforces of a tool originally thought to be only applicable to knowledge workers.

Supervalu, the US retailer whose regional supermarket brands Lucky, Shop ’n Save, Albertsons, Hornbacher’s and others are clustered in different regions around the US, has become a poster child for the value created by Yammer. Historically, its store managers in different regions rarely communicated about ongoing issues — even though they experience very similar challenges.

“Suddenly they saw that barrier come down,” says Sacks, “so they could share best practices, or highlight an effective merchandise display or sales approach. If you look at the Supervalu feed today, it’s full of photos of things that are working, as managers use their tablet or smartphone to capture and share images of successful in-store campaigns in a matter of seconds.”

That interchange also gives the company’s leaders unprecedented visibility of what’s happening at thousands of stores, he says.

But the deployment of social networking at Supervalu goes well beyond store managers: in fact, the Yammer service has found its way so deep into the rank and file of such companies that Sacks and his team have had to find a way of provisioning employees who don’t even have a company email address.

There’s a similar story at US gourmet burger chain Red Robin. With 365 restaurants across 42 states, it has struggled to keep any kind of consistent flow of communications across outlets. “By connecting all their store managers through Yammer, the company has been able to crowdsource ideas very quickly — new product launches, customer feedback, sharing best practices, recipes, and timesaving approaches. It has created an indispensable feedback loop,” says Sacks.

As those examples suggest, the kind of companies that see the greatest benefits are typically sliced across geographies, departments or business units. “They use Yammer to bridge those gaps, to connect people from across the company, enabling levels of communication that just weren’t possible before,” says Sacks.

The default rival to such a service is, of course, email. But the critical role of that venerable communications mechanism in business is destined to fade, he says. “Email is great, as long as you know who in the company has the information you need, you’re not going to send an email to ‘All’ saying, ‘Hey, does anyone have the answer to this?’ The beauty of enterprise social networking is that you can simply post a message in an open environment and people can jump in and answer your question or direct you to the person who can.”

Email will get displaced rather than replaced, he says. And that process is already well underway. “Companies actively using Yammer report email reductions of as much as one third. It’s about communicating more efficiently,” he adds.

In many cases, it hasn’t been the IT organization or senior management that have championed such benefits and brought social media into the enterprise. “The pressure was initially coming from the bottom up,” says Sacks. “It was really employees who brought enterprise social networking to most customers.
"The pendulum has swung, and most enterprises realize business software is going to be social."

They just pumped up demand to be able to communicate in this way. And the fact that Facebook, Twitter and other social networks have become part of many of their lives was certainly a factor in exerting pressure for similar functionality in the corporate environment.

"There is clearly a gap between the way people communicate in their personal lives and the way they do so at work," says Sacks. "Thanks to tools such as Facebook and Twitter, they're able to communicate more efficiently and have started to wonder why they can't communicate this way at work. The main way of disseminating information in the workplace is still through the org chart where you have to go to your manager to get the information you need, or if you're on the official email lists for the relevant team. So I think there is a huge pent-up demand to be able to communicate in this more open, efficient way."

There is also an increased expectation in the wider workforce to have access to such tools. "It's reached the point where job candidates are asking questions about the types of tools you will provide and if one is an internal social network," claims Sacks. "It's them trying to gauge how progressive the company is.

"So it started as this very grass-roots, bottom-up initiative but I think it's now become a top-down priority for companies to embrace tools like this."

That is a far cry from Yammer's early days when industry watchers were skeptical that social networking could be a viable business tool. What Yammer delivered was "a communications revolution within the enterprise," says Sacks. "It's simply the most efficient way to enable many-to-many communication, with lots of people all talking at once. Before, there was no way to really do that. The pendulum has swung and most enterprises realize that business software is going to be social."

Sacks believes that business applications, complete with a social layer, will actually change some of the fundamentals of business process and practice. "In the past, applications were primarily about individuals doing their work, but now, as most software is moving to the cloud, people are increasingly working alongside each other and really do want these sharing features to be baked in," he says.

At this stage the kinds of features he's talking about allow users to share a live profile of their activities with others. "When it was just you, you didn't ever need a profile, but when there are lots of people participating in a sales or service app, for example, profiles are feeds that show the actions people are taking."

Borrowing from the Twitter model, in such environments employees can follow each other and be notified of actions and changes. "On a certain level as soon as [applications] software moved to the cloud it was kind of inevitable it was going to be social because now you have other people working on the same datasets," says Sacks.

"A lot of processes get replaced by more open communications: it speeds things up, you get business agility. The social innovation of software is just about creating good software, and that's why I think it's so inevitable."

What's more, visibility is a very effective mechanism, he argues. "We have the opportunity to build ambient awareness into applications, to
make information discoverable in a way that it wasn't before. Previously, people had to think specifically about sharing something to get it to you. Now you can just discover it and you can see it in the feed or you can follow a data object and be notified about any alteration. It is changing the way we work. Being much more aware of what colleagues are doing helps eliminate redundant work or the redoing of tasks.

"That is very different from the passive inanities of the past, which purported to address the same business opportunity, but were more about information storage than people. Business is becoming much more people-centric."

But the prospect of adding social as an integral part of all applications creates a challenge: how does that layer reach across all applications and not just foster discrete conversations within the HR function, sales and so on.

That's where Yammer wants to play an even wider role. "Four years ago we tried to convince people that social had a place in the enterprise. Now people are complaining that they have too many social solutions or they've got social happening in too many applications and they're not tied together," says Sacks. Yammer's proposed solution is its Enterprise Graph, announced in late 2012, which aims to create "a universal conversation layer."

Sacks says: "People don't want social silos. They don't want these conversations to be fragmented. The whole point of social is to bring the whole company together. It stands to reason that no single business application is going to be able to create the linkage between all these different apps, but that is really what we're trying to do with our platform. It's a way of connecting all of your people and your business data and applications."

The aim is to do away with what he calls "social sprawl." People think they should be able to share information easily while working within applications, he says, but they don't want that to be a separate step. "When everyone was working on individual applications or on-premise applications they weren't being inherently social; any sharing happens as a separate step. Now everyone's working in these applications at the same time and they're all universally connected. The future is to make social into all business applications, with Yammer acting as a hub at the center of all that."

What Enterprise Graph provides is the means of grafting useful social elements into any business application, he says. "All the elements of a social network — seats, profiles and connections, 'follow' relationships and 'liking,' we've made them all embeddable."

He argues that organizations need an industry player who stands back from the interests of the applications market. "If every application builds its own social network, you'll end up with social network sprawl where conversations are fragmented in a bunch of different places."

"If your CRM app has its own social network, you're only talking to other people who are using CRM in sales and maybe customer service," he says. "But if you have a question for the parts department, you're stymied. By embedding a Yammer feed you're talking to everybody across all of your apps and that conversation is searchable and discoverable by people in other applications. It's better for customers if they have one social layer, one conversation layer across the enterprise."

That might preclude any single applications vendor from addressing that need — even if they could. Vendors whose expertise is in ERP, CRM, HR and other applications are not suddenly going to become adept at social technologies, he says. "It's just not in their DNA. I don't expect companies who've completely missed the boat on social to suddenly get it and be able to deliver a capable product."

There's an inevitability to what he thinks will happen next. "All business applications will become social. The question is how that happens. I'm sure that these large vendors will seek to bake in social features for their applications and that's all well and good. But that doesn't replace the need for a company-wide tool, irrespective of what applications are being used. What we're doing is providing an option for developers and customers to not have to reinvent the wheel here; they can just take Yammer and make any app social."

That potential for adding a social layer to all kinds of business applications was certainly a key factor in Microsoft's decision to purchase Yammer last year. Aside from the opportunity to use its vast distribution network to accelerate sales of Yammer (Sacks says the company will continue to be run separately), the plan is to integrate the social tool with some of the most widely used products in enterprise IT today — namely, Office, SharePoint, Dynamics and Skype. "We're going to be maintaining Yammer as the standalone service it's always been for our customers, but over time you'll see us integrate with those popular applications to deliver a seamless social experience across the enterprise," says Sacks.

"Our goal with this platform is to standardize social — to give employees a uniform social experience."
Innovation
THE AGE OF MASS CUSTOMIZATION
Are we witnessing the dawn of a new industrial revolution?

A perfect storm of technologies and innovation, including 3D printing, crowdsourcing, and open source technology and design, is combining to create what could be a new era of “mass customization.” It is becoming increasingly easy — and cost effective — to let consumers tailor products specifically to their needs. Indeed, customers may well soon start to expect this as standard, particularly in industries such as fashion, consumer hardware and automotive manufacturing.

This is the era of the so-called “makers,” according to one of its chief proponents, Chris Anderson. Until recently the editor-in-chief of Wired magazine, Anderson has quit his day job to focus on his manufacturing start-up, 3D Robotics. In his latest book, Makers: The New Industrial Revolution, he argues that in an age of custom-fabricated, do-it-yourself product design and creation, the collective potential of a million garage tinkerers and enthusiasts could drive a resurgence in manufacturing in post-industrial countries, using new technologies such as 3D printing combined with crowdsourced, open source design. He foresees a future where the “print” button becomes a “make” button.

We are seeing this mass customization already in the automotive industry. Established carmakers such as Ford and BMW are offering high levels of personalization in car specification, but a new US company, Local Motors, is taking this to another level with crowdsourced car manufacturing. People submit design prototypes, getting feedback from a 30,000-plus community of designers, fabricators, engineers and enthusiasts around the world, and Local Motors then helps to build the best ones in a small factory over a couple of weekends. Its first community-designed vehicle is a 6.2-liter, V8-engine offroader that can be built for $75,000.

Such production models also have the potential to boost economies where traditional manufacturing is in decline. As analyst J.P. Gownder of Forrester predicts: “Mass customization offers an alternative to the mass-produced, price-is-everything Asian factory model. While the US and EU won’t regain their lead in manufacturing, mass customization will lead to a small but important re-industrialization for built-to-order production.”

DATA FEED

- 35% of US online consumers are already interested in customizing product features or purchasing build-to-order products to personal specifications. (Forrester)
- MakerBot claims to have sold 10,000 3D printers in 2011. The company’s new Replicator 2 Desktop 3D printer, which builds up objects in layers only 100 microns thick, costs just $2,195.
- The 3D printing market worldwide is predicted to be worth $3.1 billion by 2016, rising to $5.2 billion by 2020. (Workers Association)
THE TRANSFORMATION OF THE PC

Device convergence plus Microsoft’s radical new UI promises to reshape the workplace.

Predictions of the death of the PC have been greatly exaggerated. Although the explosion in the tablet market has caused a decline in sales of desktop and laptop devices in recent years, global annual PC sales for 2012 still totaled upwards of 340 million, according to most analysts—which hardly suggests a moribund market.

However, what is changing dramatically is the PC itself, as a new wave of products come to market with attributes inspired by smart mobile devices, such as touchscreen control and greater flexibility and portability. This device convergence has been boosted by the launch, in October 2012, of Microsoft’s Windows 8 operating system, the first user interface developed for both mobile and desktop form factors.

Some of the latest hardware from ICT company Fujitsu is a good example of where the market is heading. Its new X line range of desktop devices—which features the ESPRIMO PC, the FUTRO thin client and the Display X monitor—can all be controlled by the traditional keyboard and mouse combination, or by using their touchscreen interface. What’s more, they support the mirroring of smartphone displays, while it is also possible to tilt the 23-inch screens to a completely horizontal position, so they can be operated as if they were large tablets.

Meanwhile, there are also several “hybrid” laptop/tablet devices entering the market. A leading example is Fujitsu’s STYLISTIC Q702 hybrid tablet, which has a touchscreen that can easily be detached from the keyboard, so it can function either as a regular laptop or as a tablet, without any loss of computing power.

Such devices are attractive to CIOs, says Lim Teck Sin, VP of product marketing and engineering at Fujitsu PC Asia Pacific. “One compelling feature is scalability,” he says. “These devices run Windows 8 so can be integrated into any Windows-based enterprise infrastructure. They also allow multiple device integration and enhanced collaboration, by enabling content to be synchronized across different devices via the cloud.”

Lim also believes this new wave of PCs will create opportunities for more dynamic work environments. “These devices are designed with great flexibility in mind,” he says. “Content delivery, and content creation, are literally at the user’s fingertips, allowing for more efficient workflows, faster decision making and faster responses.”

WHAT’S NEXT

Trends to watch for in 2013 and beyond.

Analyst group Gartner has identified the key strategic technologies that it believes will transform enterprise IT. Here are five of its most significant predictions:

- **Personal cloud** Portable and always on, the personal cloud will connect the web of devices, platforms and services people use daily, shifting the focus away from the PC to the cloud.
- **In-memory computing** Storing data directly in a computer’s memory instead of on a hard drive will allow some types of lengthy batch processing to be performed in near real time.
- **The Internet of Things** The concept of millions of non-computing items being connected to the Internet will become more of a reality. Smartphones and other intelligent devices will communicate with body sensors, home entertainment systems and millions of other previously inert objects, creating new apps and services.
- **Strategic big data** Data complexity and volume are forcing organizations to abandon single enterprise data warehouses in favor of multiple content management systems, warehouses and file systems tied together with data services and metadata.
- **Enterprise app stores** Many organizations will deliver mobile applications to employees through their own private app stores.

Further reading: tinyurl.com/d74twy7
Google Glass
Some of Google’s best brains are working on a head-mounted display that is worn like a pair of spectacles and controlled by a combination of voice commands and eyeball and head movements. The glasses will run on Google’s Android operating system and will be GPS-enabled location-aware, have their own 3G or 4G data connection, and camera and motion sensors — all instantly delivering information that’s directly relevant to the wearer’s surroundings.

If Google manages to solve some of the massive engineering challenges presented by this project, then the implications for customized location-based advertising and personalization of services will be huge. Developers will get their hands on an “Explorer Edition” of the glasses in 2013. Meanwhile, Apple and Microsoft are working on rival devices.

Smart clothing/intelligent textiles
Although power supply and cost are currently still significant barriers to the mainstream adoption of smart clothing technology, some 300 million body-worn wireless sensor-based gadgets will be on the market by 2016, with Bluetooth Low Energy (BLE) technology having a major impact, according to analyst firm Smithers Apex. The scope for smart clothing and e-textiles is vast, ranging from the fashion industry to health and the military.

Current examples include garments that incorporate smartphones and sportswear that features sensors to track performance. In the near future we are likely to see sensors in shirt sleeves that can identify a bleeding wound and tighten the fabric into a tourniquet, anti-infection polymers added to fibers, and military uniforms that communicate with satellites.

Palm vein security
As big data becomes more valuable, it will become the target of increasingly sophisticated security threats. Therefore, as Dr. Joseph Regev, CTO of Fujitsu Technology Solutions, puts it: “Big data requires big security.”

One solution is palm vein recognition, which works by using an infrared light to map — and subsequently recognize — the unique vein pattern beneath a person’s palm. Fujitsu is a leader in this sector, and has been supplying palm vein security solutions to banks in Japan for nearly a decade. The challenge for the future is to make this technology cheaper and more portable. Fujitsu Laboratories, the company’s R&D unit, has developed the world’s smallest palm vein authentication sensor, with a thickness of just 5mm, paving the way for widespread inclusion in mobile devices. Fujitsu says it delivers the same high degree of accuracy as its existing PalmSecure products, which have false rejection rates of 0.01% and false acceptance rates of 0.00008%.
Wireless medical monitors
One of the biggest growth areas in wearable technology, and one with the potential to have a massive impact on society, is the medical and health sector. Current gadgets include continuous glucose monitors for diabetes sufferers, but medical devices are predicted to become increasingly sophisticated, ranging from brainwave-measuring headsets to smart clothes with embedded medical sensors.

The goal for clinical professionals is prevention of health problems and better outcomes through earlier detection — something that can both save lives and cut the longer-term cost of treatment. The growth in these devices will lead to an increase in patient data, however, and that will pose security challenges for healthcare IT professionals and doctors alike.

More than 100 million wearable wireless medical devices will be sold annually by 2016, according to analyst ABI Research.

Sports and fitness monitors
Sports-related monitors are forecast to be one of the largest growth areas of wearable technology, with a compound annual growth rate of 45% between 2010 and 2016, reaching just under 80 million device sales globally in 2016, according to ABI Research.

The $150 FuelBand, launched at the beginning of 2012 by sports product manufacturer Nike, is the most successful monitor to date. It is a rubber bracelet worn on the wrist during the day, tracking all of the owner’s activity through a three-axis accelerometer, and linked to an iPhone app. A web and mobile ecosystem built around it allows users to set daily goals and accrue “NikeFuel.” The FuelBand continuously tracks this progress and lights up from red to green throughout the day, hitting green when the goal is reached. Ease of use and the ability to deliver real-time personalized feedback are key factors in the product’s success.

Illustration: Arunas Kacinskas

IF THE APP FITS, WEAR IT
As mobile technology becomes smaller and more powerful, IT is set to move closer to the body.

For most of us, our experience of digital technology worn on the body is probably limited to the calculator wristwatch of the 1980s. However, as technology moves beyond the desktop to ubiquitous mobile computing and the Internet of Things, where objects are tagged and integrated seamlessly into information networks, wearable IT is likely to enter the mainstream over the next few years.

Use of body-worn sensors is forecast to grow rapidly in the short term, due to a range of factors, from wireless protocol standardization and new mobile technology to social networking application capabilities. The market for wearable devices was worth $800 million in 2012, but mobile industry analyst Juniper Research predicts 2014 will be a watershed year, with it almost doubling to $1.5 billion, while a separate prediction from IMS Research puts the market at $6 billion by 2016.

Nitin Bhas, a senior analyst at Juniper Research, says: “With consumers embracing new technologies and form factors, wearable devices ranging from fitness accessories to heads-up displays will be more prevalent in the consumer market. While fitness and entertainment will have the greatest demand from consumers, within an enterprise environment the demand for wearable devices will be greatest from the aviation and warehouse sectors.”

This growth in wearable IT will present both opportunities and challenges for the enterprise. As well as more immediate benefits, such as enhanced employee mobility, there will be an explosion in data transmitted by these devices that will need to be stored, secured and analyzed, but also the chance to exploit this by streamlining processes, cutting costs and identifying new revenue streams.
EXPLOSION OF CREATIVITY

Digital economy organizations need to rethink employee, customer and business relationships, says Ade McCormack.

As we all know from school economic history, the industrial economy was preceded by the agricultural economy. In that environment, work and life were inseparable and social interaction was essential for survival. It was only in the industrial era that a transition to work and life being two distinct activities began, with the aim that they co-existed in some kind of balanced way. Moreover, social interaction was diluted and often discouraged unless it in some way related to the turning of business process cogs.

But with information technology propelling us into the digital economy, in many respects we are seeing a return to some of the characteristics of our agricultural roots. Social capital is a new currency and workplace integration has become the new norm. But it would be a mistake to presume that your organization can be a significant player simply because it has invested heavily in new technologies. Fundamentally the digital economy is a return to a people-oriented economy — and technology is simply the enabler.

So what are the characteristics of this human-centricity?

★ Genuine “digital economy organizations” are different from their industrial predecessors in that work is no longer constrained by location. Work is where the worker needs it to be; mobility is critical.

★ They focus on building trust in their brand and, in turn, increasing their relationship capital. They know customers will buy from an organization if it is considered to be trustworthy.

★ They know that consumers in the digital economy are looking for great experiences, not just the acquisition of products or services.

★ Decision-making in this new environment is faster and better because the tools available are not just backward-looking (as with classic business intelligence) but also predictive, drawing on a much larger pool of (big) data.

★ Innovation and cost management will become increasingly one and the same. Great innovation is needed so organizations can bring developed-world products and services to the mass markets of the developing world. Once achieved, such ultralow cost innovation can then be woven back into developed-economy offerings.

★ An imbalance in talent supply/demand will put workers in the driving seat. New economy workers will determine many of the terms of their employment. As a result, organizations should make sure that they have the tools necessary to progress both their professional and social objectives. With increased automation, the people most valued within organizations will be those who can demonstrate creativity. To get a better sense of people management in the digital economy, think unmanageable characters, such as Salvador Dali or Andy Warhol, as opposed to the traditional, “compliant suit,” so valued in the industrial era.

As an organization’s army of creatives grows, new structures will need to be put in place to enable these people to collaborate as if they were a collective super-genius. Social media again becomes key, along with other connectivity tools that allow the organization to sweat its human capital. Clearly, command and control as a management style is no longer appropriate. Organizations won’t be able to control the sentiment surrounding their brand and will be barely able to control their staff. That will mean the model of leader as servant facilitator will proliferate. Strategy will not be planned based on vision at the top, but on the capabilities of the organization’s people base, with the increased volatility of markets resulting in strategy and tactics blurring into one.

At the same time, decentralised leadership will mean decisions are made closer to the point of impact, with new technology providing the rules engine and data to facilitate decision-making on the front line.

For CIOs, a deep understanding of the emerging digital economy presents a major opportunity — to become more strategically relevant to the organization. And moving from the “victim” of business strategy to its co-creator has got to be a good thing.
MEGAWATT MONITORS

Smart IT aids compliance with new European energy efficiency regulation.

Energy efficiency is set to rise up the IT agenda again as the European Union (EU) exerts pressure on businesses and public sector organizations to meet ambitious targets to reduce both greenhouse gas emissions and energy usage by 20% by 2020.

The European Parliament passed its Energy Efficiency Directive (EED) into law in October 2012, which will force organizations with more than 250 employees or €50 million (US$65m) in annual revenues to perform energy usage audits.

Andrew Dornghue, an analyst at 451 Research specializing in eco-efficiency, says: “The EED probably won’t have that much impact on IT departments in the short term, but CIOs should see it as another reason to invest in tools and technologies to improve how they measure and report enterprise IT energy usage. This should obviously include office IT such as PCs and printers but also data center energy use, which can make up a significant portion of a company’s overall energy usage.”

One technology that can help businesses comply with the EED audits is Fujitsu’s Eco Track software-as-a-service tool. This captures all the information required to support the process and enables businesses to better monitor and manage their energy usage. “I’d be surprised if customers didn’t find a positive net return on that investment in the first year of use,” says Dr. Joseph Rege, CTO of Fujitsu Technology Solutions.

SAP HANA TURBO-CHARGED FOR OLTP DATABASES

In-memory appliance tuned for transaction processing as well as analytics.

“The biggest breakthrough in our innovation strategy,” That’s how SAP co-CEO Jim Hagemann Snabe described the company’s in-memory database, HANA, at the enterprise software giant’s Sapphire conference in Madrid in November. Now two years old, HANA has reached a milestone in its development, with the announcement that it can now be used not just for analytics but also for online transaction processing (OLTP).

In effect, this creates a super-fast platform for business applications where speed is critical. An in-memory database such as HANA resides in the main memory of a server, eliminating the mechanical process of reading and writing to disk and thus vastly speeding up database operations. In other words, organizations can process more transactions faster.

At Sapphire, Snabe’s co-CEO Bill McDermott announced the company’s first app running on HANA: SAP 360 Customer, which bundles the database with customer relationship management (CRM) tools, social media monitoring, collaboration and mobility, so that customers such as high-end fashion retailer Burberry, an early adopter of the product, can analyze customers’ preferences and buying habits while they are still in store or on its website.

“We chose CRM [rather than other business processes] because we feel our customers are more interested in redefining customer relationship management and finding new growth opportunities there,” Snabe said. “But I can assure you that we have not stopped our efforts elsewhere. If anything, we’ve increased them, in order to have our entire business suite running on HANA.”

In fact, several more HANA-based apps, designed for vertical markets, were also news at Sapphire. These included SAP Liquidity Risk Management, for financial services companies; SAP Accelerated Trade Promotion Planning, for firms in the fast-moving consumer goods space; SAP POS Data Management, for retailers; and SAP Customer Usage Analytics, for telecommunications, high-tech and financial services companies that do volume billing.

Using HANA removes a lot of the complexity that currently exists in IT operations because of the need to accommodate “slow-moving” disk systems, according to Snabe.

With a view to eliminating further complexity, at its Fujitsu Forum 2012 event in Munich in November, Romanian ICT giant Fujitsu announced that its FlexFrame Orchestrator product, a data center management platform for IT environments running SAP, will also support HANA. FlexFrame is able to dynamically move HANA workloads between servers, resulting in improved uptime rates and fewer spare nodes needed for failover. At the same time, it ensures that IT administrators aren’t required to directly manage all the elements in the complex clusters that often underpin HANA.

Meanwhile, Snabe claimed at Sapphire that companies can now use HANA as an operational platform for transaction processing, predicting that the traditional disk-based relational database may be on its way out. “The Stone Age didn’t end because we ran out of stories,” he quipped.
WHAT DOES 4G MEAN FOR BUSINESS?
Faster services set to cut costs and increase agility.

More than 40 countries have now joined the global rollout of 4G LTE (Long Term Evolution) wireless technology, ranging from the US, the UK and Japan to Tanzania and Uzbekistan.

LTE is the term for a 4G wireless standard that is capable of delivering mobile upload and download speeds up to 10 times faster than 3G — and this faster connectivity brings potential benefits for businesses, especially those with large mobile workforces.

A study based on 14 in-depth interviews with 4G LTE-enabled businesses worldwide, plus responses from more than 1,200 decision-makers, undertaken by UK mobile operator EE and consultancy Arthur D. Little, highlights some of the benefits. In one example, a US-based construction company has reduced project completion times by up to a third, using 4G to send vast quantities of critical data in the field back to base in real time.

In Germany, a city hospital is testing 4G-enabled ambulances in an attempt to improve survival rates of stroke victims by transferring high-resolution computerized tomography images en route to the hospital. In the trial, “alarm-to-therapy” times have been cut by 54%.

Meanwhile, other businesses are using 4G LTE to set up a fully-connected office almost anywhere, dramatically increasing agility and responsiveness.

THE RISE OF PERSONAL CLOUD
How to enable employees to work anywhere, any time — while making major cost savings.

“The personal cloud is poised to eclipse the PC as the hub of consumers’ digital lives by 2014, as rapid growth in the use of apps and services introduces a new paradigm for how people store, synchronize, share and stream content,” predicts analyst firm Gartner.

And, as every CIO knows, what happens in the consumer space is likely to create a high demand for similar IT capabilities in the workplace.

Anticipating this, ICT company Fujitsu announced in November at Fujitsu Forum 2012 that it is trialing its own Personal Cloud service. This will allow corporate users to access business applications and services — securely hosted on Fujitsu’s Global Cloud Platform — via a web browser from almost any network-enabled device.

Fujitsu hopes that the service will meet the burgeoning demand for increased workforce mobility and flexibility, in a world where employees have a growing expectation of access to business information and services from absolutely anywhere and at any time.

Benno Zöllner, CIO of Fujitsu Technology Services, is leading the internal trial. “This represents a major change, not just in the technology but also the mindset,” he says. “There is an expectation of a completely new user experience.”

However, there is another major bonus: Fujitsu predicts that its Personal Cloud will bring significant savings through reduced costs for device management and security, while also lowering overheads for administration and maintenance. Zöllner has high hopes that Fujitsu’s own direct costs will be reduced by more than 30% as a result of using Personal Cloud.

“The concept is intended to future-proof current technology by making almost any device sold today fit for the Personal Cloud, while also ensuring that organizations are able to cost-effectively extend their classical infrastructures into the cloud,” Zöllner adds.

Once the trial phase has been completed, and Fujitsu has incorporated feedback received from internal users and partners, it expects to offer the service to enterprise customers in spring 2013.
BIG DATA ANALYTICS

“The ‘Industrial Internet’ is going to be another big evolution of productivity, as companies interface, access and develop the analytical layer that surrounds their products.”

JEFF IMMELT, CEO, GENERAL ELECTRIC

GE’s CEO Jeff Immelt has long understood the pivotal role that information technology plays in shaping the fortunes of the $150 billion engineering company. But now he’s put a name to the combined digital forces that will underpin its future. The “Industrial Internet” takes what he calls “big iron” (jet engines, locomotives, power generators and the like) and surrounds that with big data analytics, the Internet of Things and M2M technologies—all empowered by the kind of deep domain expertise and industrial ecosystem that is part of the DNA of companies like GE. Launching the vision at a specially convened conference, Minds + Machines 2012, in Silicon Valley in November, Immelt predicted that the Industrial Internet will deliver a leap in productivity, as well as “massive monetization and value opportunities in the industrial space.”

As he illustrated in his conference keynote: “Right now, when a plane lands and we have to overhaul the engine, we don’t know what we are going to find until we open it up and decide the work-scope. In the future that’s going to be a digital work-scope. By the time a plane lands we are going to know exactly what it needs. We’ll have timed it perfectly—we’ll know what needs to be replaced, what needs to be repaired. By taking the analytics that come from the engines themselves and the digital work-scope, we can take out maybe half the cycle time for our customers. So massive productivity for our customers and for GE.”

And his confidence in those benefits is being backed by some pretty big bets. GE has announced plans to invest $1 billion in start-ups focused on technologies that will enable the Industrial Internet.

- GE’s white paper on the Industrial Internet: tinyurl.com/dku3atl
- Video reports from Minds + Machines 2012: tinyurl.com/o5bduw
Rapid global expansion

NAME: Saher Arar

POSITION: Deputy CIO and head of IT strategy and planning, National Bank of Abu Dhabi

CHALLENGE: To deliver a “Bank in a Box” solution to enable the company’s international growth plans

The National Bank of Abu Dhabi is one of the United Arab Emirates’ largest banks and has operations in 12 other countries, including Egypt, Sudan, Oman, Hong Kong, Malaysia, France, Switzerland, the UK and the US. It is now embarking on an ambitious growth plan that includes expansion into 35 countries by 2020. Since it was founded in 1968, its main focus has been corporate banking, but it is now also moving into retail.
The National Bank of Abu Dhabi (NBAD) has an aggressive international growth strategy. How are you implementing that, and how is IT supporting the plan?

We currently have a major initiative called “Bank in a Box,” which I'd compare to franchising — like McDonald's, for example — where everything is the same no matter where you are in the world. Likewise, we want to have the same sort of feel when you go to any NBAD branch, no matter where you are. To do that, you need to have standard technology, whatever the location. And to have the same technology you need to have the same processes worldwide. So there are several streams happening at the same time at NBAD to allow us to get to the point where Bank in a Box is achievable — and I have the pleasure of managing them.

What are these main streams of activity?
In a nutshell, we are working on: the creation of a new target operating model for the group (as we are primarily a corporate bank but are now expanding into retail operations); application portfolio standardization; establishing the same processes, policies and procedures in every country; implementing a single, new core banking system; and centralizing everything in a single data center at our head office. That data center will be backed up by a disaster recovery (DR) site, also situated in the UAE, plus we'll have a cold DR site out of the region. Some of these streams are IT-related and some are not, but for the sake of consistency and accountability, and in order to coordinate activities between IT and the other business functions, it was decided to combine them all under one program with a single manager.

What will be the major business benefits of Bank in a Box?
A huge one is speed to market. We don't want to spend six to eight months planning and six to eight months implementing. We will just say to the local branch, “OK, these are the services we provide. Which ones do you want?” And they will all be available from our centralized servers. We're hoping to get any branch, or even a new country, up and running in four weeks — whereas in the past it has taken eight months or more.

Why is speed so important?
Mainly because customers are not going to wait for you to be ready. If other banks have a service that customers are looking for, and you're not doing it yourself, they will just go somewhere else. On a personal level, I had that experience when I was looking for a new car recently. I wanted a convertible white model with a brown interior; I went to Mercedes, they didn't have one, I went to Porsche, they didn't have one, I went to BMW, they had one. So I bought it. I wasn't loyal to one brand. I just wanted that type of car. And customers are going to have the same feeling whether it's a bank, a car, a hotel or a restaurant. So we have to be there and ready every time the customer demands a new service.

What are the main challenges you are facing?
Beyond all the technical and business process transformations, the biggest challenge is change management. Getting that right is what will make or break the program. We have a change management team, and as a starting point we sent them to our subsidiary in Egypt — where we have begun implementing our new core banking system — to identify who will be most affected by these changes, and how, and what kind of learning curve is required. We had a concern that if an employee has been doing something at the bank a certain way for the past 20 years, and now we have to tell them, “We're going to do it in a different way from now on,” then most probably they'll tell us to get lost.

However, we found that in Egypt they have suffered for a long time with an old core banking system, so they believe that by buying into the new way of working they will reap the benefits faster than anyone else. This kind of learning can then be transferred to other markets.

They also realize that this initiative is coming from very high up in the business — and this really helps us to manage the change. The Bank in a Box program has support right across our executive committee, and without this we wouldn't be able to do it. We have seven senior general managers and a chief executive, and I meet with them regularly so they can shake their support down to other levels. This helps their direct reports to ensure their teams are in line with what the bank is trying to achieve.

You are an IT leader who is managing rapid business transformation. Is it IT's role to lead this kind of change? It cannot dictate, but the business cannot live without IT and the enablement it provides. If a head of business thinks that without technology they can compete, they're mistaken; and if IT thinks that without understanding the business they can lead, they're also wrong. To add more customers and penetrate more markets, the business needs technology. The lines between business and IT are getting very blurred; so at NBAD we're building bridges between the enterprise architecture, IT technology, and planning and strategy offices. When I talk to the various lines of business at NBAD, I don't speak the language of technology — or even business. I speak the language of customer service and, like all of my colleagues, must ask continually, “How can we serve our customers better?”

"I bought it. I wasn't loyal to one brand. I just wanted that type of car. And customers are going to have the same feeling whether it's a bank, a car, a hotel or a restaurant. So we have to be there and ready every time the customer demands a new service."
Dealing with digital disruption

Mobile technologies are reshaping the retail banking landscape. How are the giants of financial services responding to the new threats and opportunities?

Words: Graham Jarvis & Kenny Macleod  Illustration: Michael Kirkham

The soaring numbers must make uncomfortable reading for retail bankers everywhere. Across the sector, technology-fuelled upstarts are appropriating huge volumes of core financial transactions — transactions that would traditionally have been the preserve of venerable financial institutions — by exploiting innovative models enabled by mobile technologies. Take just three, high-profile examples:

- **Square**, the three-year-old mobile payments start-up headed by Twitter co-founder Jack Dorsey, now processes transactions worth over $10 billion, on an annualized basis, for the two million US small business customers that use its plug-in credit card reader with their mobile devices. Next up for the company: international expansion and the aggregation of multiple retailers’ “value stores” in the Square mobile wallet.

- **MPesa**, the mobile phone-based money transfer service pioneered by mobile network operator Safaricom (now owned by the UK’s Vodafone) handles annual transactions valued at over $10 billion for its 15 million registered users, with transaction volumes running at an estimated two million per day.

- In an average week at Starbucks, customers make over two million payments using the coffeehouse chain’s mobile app. Recently it started offering the option of using a mobile wallet to make purchases.

As those examples highlight, the challengers to traditional banking may be mainly focused on mobile payments, but as commentators such as Jim Marous, business author and veteran banking strategist, point out, this is determining the stakes for retail banking in the future: “If banks give up the payments function, they can say goodbye to the customer relationship.”

Sensing that raw opportunity, a disparate field of aspirant competitors is rushing to grab a piece of the action. Alongside online giants such as PayPal, Google and Facebook are credit card companies who want to own the customer’s wallet; mobile network operators who see location and communications as the basis for financial transactions on the move; mobile device manufacturers who sense they might control the banking platform of the future; peer-to-peer payment companies where simplicity and ease of use is the compelling story; retailers who want customers to transact through stored-value “cards” residing in digital wallets; and numerous rivals to Square outside of the US such as Sweden’s iZettle. And all of those moves are before the mighty Apple, with its 400 million iTunes accounts, or Amazon, with over 188 million active accounts, have even started to play their hands.

What such newcomers are all salivating over is the chance to disintermediate the banks, at least in selected areas. As Anthony Duffy, director of client engagement and consulting at global ICT giant Fujitsu, highlights, their goal is to “manage away” routine transactions from...
banks and in the process encroach on the critical relationship that banks have traditionally had with the customer—and their money.

One active participant in that disruption is Craig Oliphant, head of mobile payments at O2. “Banks need to recognize the changing landscape—it is moving away from traditional models,” he says. And that means an abrupt shift in focus from the bricks-and-mortar branch to the mobile context in which customers increasingly want to transact.

Aggregated analyst estimates of how interaction will change in coming years suggest that by 2016 mobile will be the most common customer touchpoint for banks, with an average of 20-30 interactions per month. That compares with a forecast of 10 sign-ins each month for web banking and only one or two visits to a branch every year.

Banks need to respond to changing patterns of customer-centric customer engagement, keeping a close eye on—and learning from—the initiatives of new (as well as existing) competitors, says Green. Like other major banks, RBS already has a relatively strong online banking proposition and a complementary set of mobile banking capabilities, enabling customers to manage their finances from anywhere at any time.

The bank (which also has a subsidiary in NatWest in the UK and Citizens Financial Group in the US) boasts two million mobile banking customers in the UK alone, who on average each use the service 26 times a month. “Different banks are responding in different ways,” says Green, “with some trying to keep up with new entrants, others launching cutting-edge services, and most forging different kinds of partnerships (including with mobile operators, retailers and mobile app specialists) to bolster their positions.” All of this activity is reinvigorating the market, he adds.

Two other banks are demonstrating that point, and indicate that some of these incumbent financial powerhouse are being far from complacent.

In recent years, Spain’s BBVA has been preparing for the impact of customers switching their focus away from its branch network. When customers deal through remote channels, “everything changes,” says Luis Ugina, global head of new technologies at BBVA. “Our aim is to control the destiny of the bank when faced with these kinds of remote relationships.” Mobile apps—and the frequency with which they are refreshed—are proving critical. By rolling out a new mobile banking and related product every quarter, each time with significant new features, the bank has been able to engage with the remote customer and gain a larger share of their wallet. Ugina says, “When the user sees that the upgraded version has useful features, it improves their relationship with the bank.”

BBVA launched its core mobile banking app in December 2011. And with each release—in March, June and September 2012—the upgrade in functionality has been accompanied by a major jump in user numbers. In just one year, active users went from 150,000 to almost one million.

One reason for this success is that the delivered functionality is a direct reflection of user requirements. In planning for new versions, BBVA monitors thousands of relevant blogs, feedback websites and social networks, as well as taking direct requests from customers and user ratings of existing features. Currently 50% of all new functionality being rolled out is based on customer feedback and 35% comes from BBVA line-of-business managers, leaving a 15% for innovations from the technology staff.

But BBVA’s mobile engagement aims to go beyond practical functionality. The intimate relationship that individuals have with their mobile devices has presented the bank with the prospect of deepening its relationship with customers through the use of big data analytics techniques. It has introduced a “happiness indicator,” which reacts to data collected from the user’s financial profile in near real time to reflect their activity—shopping for clothes, going to the cinema, paying their mortgage, or some other transaction—which may influence their mood. Taking that further, the app can indicate merchants nearby where the purchase of a treat “can make you happy,” says Ugina.

Gamification is also working well for the bank. BBVA Game awards points to users when they execute transactions, check their balances, and so on, with the prospect of amassing enough points to enter a prize draw. Half a million people now have BBVA Game installed, says Ugina.

New banking metabolism

Rapid innovation was also something that UK bank Barclays has demonstrated with its highly successful Pingit mobile payments app. “From the idea to the build, test, pilot, marketing, implementation and launch took just eight months,” says Graeme Jones, head of mobile engagement. “That broke the mould for Barclays. But that’s mobile. It’s about increasing the metabolic rate within banking: that’s the way this new world works.”

In the 10 months since its debut, Barclays has rolled out six releases of Pingit. The initial app enabled its UK customers to make payments to each other of up to £300 ($480), just by knowing the recipient’s mobile number. That was quickly extended to cover payments to customers of other banks. Jones reports that in 2012 Barclays recruited more new accounts using Pingit than through its online account opening process.

Subsequent releases have included a “request payment” function; a business-friendly QR code facility; an extension of the upper transfer limit to £750 ($1,200); and the opening of a payments corridor to Africa, with Kenya (home of the M-Pesa transfer system) as the initial target. Further locations will follow, says Jones, and the platform’s flexibility supports the prospect of joining them up to create a “global payments ecosystem.”

As of November 2012, 1.3 million people had downloaded Pingit, with the average age of users standing at 27.

Banks are only too aware they need to react to the “new entrants and competitors vying to eat their lunch,” says Fujitsu’s Duffy. Whether that meal amounts to a few crumbs or a banquet will depend on how agile and innovative the traditional suppliers can be in the next few years.
Case study
Standard Chartered Bank

The international financial group has stolen a march on competitors with its innovative mobile apps.

Executives at Standard Chartered Bank have been quick to grasp how the proliferation of mobile devices around the globe has triggered a major shift in banking customer behavior. And that has presented the Asia, Africa, and Middle East-focused group with the chance to stand out from many of its competitors as a technology leader and innovator.

"We recognized that mobile creates a significant opportunity to improve services and convenience for our customers," explains David Lynch, group head of consumer banking operations at Standard Chartered. "But there was also an understanding that the pace of the shift to mobile was going to be different in each of the particular markets in which we’re present."

While smartphone adoption may be at a mature stage in developed economies, that is certainly not the case in many of the developing markets in which Standard Chartered operates. And the bank has a considerable pedigree in serving such diverse needs. "In the early stages of mobile banking, we led with SMS, and even today SMS meets certain customer needs on feature-phones and provides alerts on smartphones," says Lynch. That said, the company’s focus going forward is firmly on native and mobile web apps, and the new patterns of banking they inspire.

Mobile devices are forcing banks to think about the context in which customers interact with them, Lynch says. They have to recognize that when customers are on the move, their needs will be different to when they are sitting at their desks or at home. As a result, Standard Chartered is focusing on improving the convenience and speed of interaction that mobile customers expect. In some markets this goes beyond pure banking; for example, customers in some countries are using the bank’s apps to locate nearby restaurants that accept Standard Chartered credit cards or to take advantage of “hot deals” at retailers and share those with their social groups.

"We created smartphone apps such as Breeze Places, Breeze Living and Breeze Good Life for such purposes, putting enormous emphasis on design and simplicity — you can’t build a cut-down version of your website and expect it to work in the same way," says Lynch. Another example of compelling design, but in more familiar financial services territory, is the recently launched Breeze Trade, an app for mobile equities trading.

Lynch says there are plenty of lessons to be drawn from Standard Chartered’s experience to date. One is the need to draw on a diverse app development skills base. In assembling the team to work on its Breeze series, the company pulled in individuals from outside the traditional world of banking. Experts in design, psychology and foreign languages were grouped with people with “hardcore engineering skills.” This enabled the team to ensure the apps were truly compelling, he says.

Another critical element has been to ensure customers appreciate that their mobile banking and payment transactions are completely secure. A cutting-edge example of this has recently been introduced to Standard Chartered customers in Singapore, where the bank has launched a series of credit and debit cards embedded with secure token generation which authenticates mobile and online transactions — an innovation that sets it apart from rival security approaches.

Such developments have not gone unrecognized in the banking industry. In both 2011 and 2012, Global Finance magazine presented Standard Chartered with the award for the world’s Best Consumer Internet Bank — a success story that stems not from any blind focus on what technology can deliver, Lynch highlights, but on putting the customer firmly at the center of all its mobile thinking.
Case study
Nationwide Building Society
The UK’s mutual financial institution exploits second-mover advantage to launch fully-integrated mobile app.

Tony Prestedge, CIO of Nationwide Building Society, is feeling a mix of accomplishment and relief. In November, the UK building society finally joined the app age, with the launch of mobile banking software for iPhone and Android devices — a service that offers the company’s existing Internet banking customers the ability to manage their money on the go, to check balances, to move funds between Nationwide accounts, and to make payments to existing payees. It’s a project that Prestedge has led personally, as part of a wider, £1.5 billion ($2.4bn) IT transformation program that was already underway when he joined the building society in 2010, but which he has overseen ever since. That was in addition to an already full plate: he is also responsible for operational strategy, customer operations, and governance and risk.

Even though many of Nationwide’s financial services competitors are already on the second or third iterations of their mobile offerings, and smartphone penetration among UK mobile subscribers has risen to over 50%, Prestedge is unapologetic about the delayed entry to the market, “We took the decision early on — about 18 months ago — that we would take longer to launch, but that when we did, mobile banking would be properly and fully integrated with our multichannel operations.” In contrast, many rival offerings are standalone apps that offer little more than balance checking.

Prestedge also ruled out the possibility of using packaged software and third-party intellectual property to create the Nationwide mobile banking app, which would at least have had the advantage of speeding up delivery. “It was critical to me that, as a company, we owned the intellectual property around our mobile banking offering right from the start,” he says.

If Nationwide had used a packaged platform to deliver its app, he believes, it might have been too similar to the mobile apps offered by its rivals. “That would not be good for a company that wants every element of its service to customers to be unique and distinct,” he says.

“My other concern was that, if we had used a package, such as Monetise, we’d be committing to a third-party development program in which the technology might not be able to adapt if, over time, the way that our customers want to use the mobile technology changes. I wanted technology that we could exploit for some time to come, without having to look at a replacement,” Prestedge adds.

As a result, Nationwide has had third-party help to code the app, but kept tight control over the intellectual property and has built it with future developments, such as near-field communication (NFC), firmly in mind. Prestedge has also committed to an ambitious three-monthly upgrade cycle for mobile banking. “This first iteration is just that — a first iteration. We didn’t need to include all the possible capabilities on day one and we also intend to be led by our customers in terms of expanding those capabilities in future,” he says.

“We’re a building society, and that’s a very special type of organization, but we’re also one with 15 million individual customers, which touches one in four British households,” he says.

“What I worry about most is using technology in a way that keeps our brand relevant for all of our customers. Some will still want a traditional passbook, made of paper, but others might consider a digital passbook on their mobile phone — that could be part of our next upgrade, for example. But what I keep in mind at all times is that this is a marathon, not a sprint.”
An imperative for change

Bank customer behavior — driven by mobility — is shifting fast. It’s time to get on board or get out of the way, says Movenbank CEO Brett King.

Alongside the cracks in the façade of what was once a secure banking system, the retail banking space has also faced an entirely different challenge: a threat to the very role of banking itself. In an age where I use my mobile phone and the Internet more than I watch TV, and where bookstores, video rental stores and other mainstays of physical retail commerce are morphing into digital forms, banks are looking increasingly out of touch.

The problem is one of relevance. Mobile devices and the Internet are causing a massive shift in bank practices, distribution models and competitive landscapes. Banking is no longer defined by a physical distribution network or physical artifacts; it is no longer somewhere you go but something you do.

We’re seeing a sea-change in bank customer behavior, with technology at its center: behavior that will change typical interactions and channel preferences of the day-to-day banking relationship: behavior that will render irrelevant many of the processes, contracts, business rules, metrics and systems of current retail banks; behavior that will redefine what it means to be a bank.

By 2016, the average retail banking customer will interact with a bank 500 times a year via mobile, tablet, web and ATM, but might actually speak to someone from the bank fewer than five times in that entire year and visit a branch maybe twice. This trend is already creating a significant behavioral gap between the consumer and the institution, one that is being filled rapidly by better-positioned, non-bank competitors like PayPal, Square, Apple, Starbucks, and P2P lenders.

Be assured that this is not just a disruptive and controversial, What we used to regard as banking is about to receive not just a make-over but a complete reboot.

Four-stage revolution

There are four key phases to this upheaval in customer behavior. The first occurred with the arrival of the Internet, and has been amplified by social media. The web changed forever the way customers accessed their bank and their money, and this gave them control and choice.

The second phase is occurring right now: the emergence of smartphones and tablets is a driver for portable or mobile banking. The third phase is the game changer — the loss of physicality and the move to mobile payments on a broad scale. NFC-based mobile wallets and stored-value card micropayments are already here, but more is to come. This third phase also involves the convergence of people’s mobile phone with their credit/debit card. When these changes occur, the public’s need for cash will reduce rapidly, and the disruption will be far-reaching. So as soon as phase three hits, the battle for the basic bank account will be on — and it’s likely to result in the mobile phone becoming the day-to-day bank account.

Think of it this way: what’s the difference between a prepaid balance on a city transportation pass — such as the Oyster card (London), Octopus card (Hong Kong) or MetroCard (New York) — and a deposit in a checking account/savings account? ▶
STRATEGIC FOCUS

How would we explain the difference in the deposit-taking mechanisms of a basic bank account, a prepaid debit card and a prepaid telephone contract? And what if all prepaid accounts allowed people to pay at a point of sale using an NFC-enabled phone?

The fourth phase will be the unhinging of the basic bank account from the bank. This will occur gradually over the next decade, and banking will never be the same again because it will be everywhere, and anyone will be able to provide its basic services.

The ability to store a balance or take deposits is no longer the sole domain of “banks” that have a full blown banking license. As value stores begin to abound and the mobile wallet gets hooked into everything from the iTunes store to Facebook credits, loyalty cards, transport systems, and beyond, the basic bank account will become the ultimate commodity.

When banks lose this day-to-day account to the mobile phone or commodity value stores, they will just be left with specialist banking products, investment management and the movement of funds.

Matching the pace

In the near future, it is likely that retail banks will be predominantly information technology companies, with banking being simply the utility provided by them. As customers move their day-to-day relationship to a mobile wallet, hinged to a bunch of value stores that give them the functionality of a basic bank account, the banking sector will lose a vital platform for relationship development.

And if it takes just months for new emergent technologies to insert themselves into the mainstream and change behavior, and a bank has a 12-24 month development and deployment cycle (typical of most banks’ IT departments), then it’ll be at least three to four years behind if it waits to see someone else’s ROI demonstrated before it commits. That’s more than enough time for an agile intermediary and third party to take a big chunk of its customers, for revenue to disappear, or for the remaining margin to be hammered into non-existence.

In the end, many banks that were household names during the 20th century will cease to exist as they are displaced or consolidated. There’s not even a choice of when banks invest any more — if they’re not already heavily investing in all of these technologies, they are well behind the behavior and expectation curve, and will be disrupted.

Brett King’s latest book, Bank 3.0, is out now.
Klas Bendrik, CIO at Volvo Car Group, believes it’s essential for IT to take the initiative in an industry being transformed by digital technology.

Words: James Lawrence Portrait: Joe McKendry

Klas Bendrik is VP and group CIO at Volvo Car Group. His career has spanned more than two decades and also includes spells at several other of Sweden’s largest organizations, most notably Mölnlycke Health Care, ABB, ASSA ABLOY and the Swedish Navy.

“The vision statement is very simple,” says Klas Bendrik. “To make IT a competitive advantage for Volvo Car Group.”

Fortunately for the Swedish automotive manufacturer, its CIO learned to set — and deliver — such clear, precise objectives at an early stage in his career. When he was called up to do his military service in his late teens, his love of sailing led him into the navy. Instead of opting to serve the bare minimum time, he decided to join the Swedish Naval Academy, where he quickly rose to the rank of lieutenant captain. “I learned a lot about putting teams together, and getting them to understand what the objective is and how they are going to get there,” he says of his three years in the military.

Now, at Volvo, Bendrik is deploying the same skills. He has broken down his vision into four key areas of focus: customer relevance — that is, ensuring IT plays a full role in delivering the right products and services to the market in the most profitable way; strengthening Volvo’s support of its dealership network; significantly reducing
time to market by boosting the IT capability of Volvo’s R&D function, particularly with regard to its world-leading safety technology, and increasing operational efficiency.

Bendrik sees the last of these as the essential foundation on which the rest must be built. “You can spend a lot of time spotting innovations and opportunities,” he says. “But if something doesn’t work from an operational aspect, your credibility as a CIO disappears.” However, it is arguably the first — customer relevance — which best demonstrates his dynamic and business-focused approach to the CIO role, particularly in a market sector that is being disrupted so rapidly and fundamentally by digital technology.

Energy prices are rising exponentially, and a burgeoning demand for more fuel-efficient and environmentally friendly vehicles is reshaping the automotive business. Added to this, a generation of “digital natives” is now entering the car-buying market, with an expectation that the vehicles they drive should be constantly connected to the rest of the world, in a similar way to their phones, PCs or any other device they own.

Forward-thinking manufacturers, therefore, have realized that competitive advantage no longer lies in factors such as engine size or performance statistics, but increasingly in technology-enabled fuel efficiency and the digital services that can be delivered to their vehicles (the so-called “connected car”). These can range from real-time traffic information and Internet-streamed in-car entertainment, to safety alerts or the ability to book a repair at the nearest dealership.

“I’m 100% certain that IT will play a more and more vital role in Volvo’s product offering. This is potentially one of the biggest changes in the automotive sector for many years,” says Bendrik. And he is determined to be at the forefront of this new era. “It’s important for a CIO to be sensing what is happening on the core product side, because if you don’t, and you’re not proactive, the whole organization might miss out on opportunities.”

**Focusing on the value chain**

Bendrik sees an opportunity for automotive companies, such as Volvo, to be not only manufacturers, but also providers of digital-enabled services that allow owners to adapt, personalize and “update” their vehicles during their lifecycle. And this brings him to the importance of maintaining a constant focus on the customer. “It’s not the IT in itself that generates the value,” he says. “It’s actually when technology adds value to you as a user of the car, and adds simplification to your life — that’s where the value comes.”

In this vein, Volvo is one of only two companies in the world (the other is Google) to have successfully tested driverless cars on public roads. It is also developing a smart recharging system for its future range of electric vehicles, where owners can plug their car into any regular domestic power socket and the cost of the electricity will be charged back to the owner of the vehicle, who may not necessarily be the owner of the socket.

Such game-changing innovations require strong partnerships, Bendrik emphasizes: cross-functional ones within the business, particularly with R&D, marketing, sales and customer service; and also externally, with telcos, utilities, governments and so on. The CIO, he believes, is ideally positioned to help the organization develop the new business skills required to ensure such collaborations flourish. “We need to extend our partnerships to other value chains,” he says. “But as soon as
you talk about cross-collaboration in the value chain, it requires IT."

Bendrik also finds IT an exciting domain to work in due to the rapid pace of change. "It constantly requires you to move on. If you are static, someone will overtake you," he says. Again, it was during his early years in the navy when he learned such lessons. "I realized the importance of being able to adapt quickly when things change. In the military, like in business, you have a clear goal, but then that becomes impacted in terms of what other people or organizations are doing, or the environment around you. You have to keep the initiative — and that is a valuable lesson for a CIO."

Indeed, Bendrik has shown such adaptability throughout his working life. He originally planned to stay in the navy and build a career on the high seas. However, the call of business was too strong, and he combined his military service with studying for a degree in finance and logistics at Sweden’s Gothenburg University. After graduating, he joined engineering giant ABB in 1995 as an IT management trainee — and was the first person with a business background in the company's history to do so.

While realizing that a deep understanding of the capabilities - and limitations - of IT is crucial, he believes that having business, rather than computer science, training has been a key success factor in his career. "It has always allowed me to act as a translator and enabler between the different domains," he explains.

After two years at ABB, Bendrik moved to the consulting arm of PwC to help grow its IT practice in Norway. This led to his first senior IT leadership role, when, in 2002, Mölndalje Health Care offered him the opportunity to return to his native Gothenburg as IT director. The newly-formed business was a carve-out from Swedish personal care and paper products manufacturer SCOA. As well as dealing with all the challenges that represented — basically building a standalone IT operation from scratch — Bendrik had his first line management experience in a global operating model. The company was also undergoing a period of rapid expansion, and shortly after joining he stepped up to the CIO role following a corporate restructure.

"It required a steep learning curve in my process capabilities," he says of his three years at Mölndalje. "We were simultaneously building a company, recruiting people and implementing new systems — and all these components had to work together to deliver customer satisfaction."

Following a brief spell at IT consultancy Accenture, Bendrik was offered the opportunity to join lock manufacturing conglomerate ASSA ABLOY, one of Sweden’s largest companies. The organization had grown into a large multinational through acquisitions of local brands, and one key IT challenge here was to find the right balance between creating efficiencies through global standardization and recognizing the need for regional variance to deliver maximum business benefits.

His solution, which he has applied throughout his career, was a relentless focus on the value chain, and only implementing change where it created benefits for the customer. "Here, I was truly exposed to complexity — in the supply chain, with the financial situation, with the products, and the decision structures. But I realized it was important not to standardize IT for the sake of it. The prime purpose of IT is to drive top-line growth, bottom-line improvements and get happier customers. Sometimes standardization would deliver that, and sometimes not. So that value-chain thinking became very important."

Platform for the future

Bendrik’s laser-like focus on planning, execution and leadership came into its own with the move to Volvo in December 2010. He was told by his new bosses that, at first, he would have a single, precise objective: to secure a successful IT separation from Ford Motor Company, the US automotive giant that had owned Volvo since 1999 and sold it to Chinese vehicle maker Geely in August 2010. The project required nine months’ planning and nine months’ execution. During this time, the challenges were many and diverse. For example, more than 400 applications had to be moved, replaced or cloned; 500 new servers had to be deployed; and the car servicing applications used by Volvo’s global network of more than 2,300 dealers in 100 countries had to be migrated during a single weekend. "Even simple things like the email system had to be replaced over one weekend," says Bendrik. "And all at the same time as our volumes were growing at 20%!

What’s more, there was a complete halt on any process improvements during the separation period. "I found that smart. But," Bendrik emphasizes, "the objective was to separate — and also build a platform on which, afterwards, we could improve."

With the separation successfully completed, Bendrik now runs a fully independent IT organization and has been able to turn his attention to setting the company’s IT strategy for the future — and in particular to ensuring that his team is able to maximize the opportunities presented by "connected car" technologies, as well as other key challenges, such as enabling rapid growth in China and maximizing big data opportunities.

He is full of enthusiasm, but warns that there is still a long way to go in terms of how IT is transforming the industry. "We are just at the start of the journey — and not even at the first destination," he smiles.
“Are organizations maximizing their use of big data?”

Martin Hayward argues that too few companies know how to deal with big data, while Dr. Simon Moores says all that’s missing are people who can make sense of it.

“Big data does not necessarily equal big insight.”

When I left university in the early 1980s I joined advertising agency Ogilvy & Mather. We used to sit around in planning meetings saying, “If only we knew who was buying this stuff we are trying to sell, and if only we knew which shops they visited, what they bought and when they bought it, which TV programs they watched, where they were at any point in time, what they thought of the brand and who they talked to.”

Here we are 30 years later and we are capable of answering all of these questions. There is a massive amount of data available to help us move from treating people as averages to treating them as individuals.

There are many phrases to describe this tidal wave of data. The one I’ve been using for some years is “the new oil” because it’s precious and needs to be located, extracted, and refined.

In my experience, however, big data does not necessarily equal big insight. Data in itself is useless. Insight is kind of useful. If you can do something with the insight, it’s even better.

But I’m not sure that many organizations have even made the first step along that journey yet.

We’ve had data for years and, yes, we’re going to have a whole load more, but most organizations aren’t very good at dealing with the data they’ve got already.

For example, in the UK, the world
of financial services holds the best big data on everyone that has ever been gathered – and has done nothing with it. Only my bank and my wife know how much money I’ve got, but my bank has singularly failed to send me a single piece of relevant communication in the 30 years I’ve been with them.

The reason it works in food retail (with loyalty cards) is you buy 60 things in a supermarket every week. So every week you get 60 data points. Try and apply the same model even to other retail categories and it just doesn’t work. For example, you might go to a DIY shop three times in a weekend because you’re painting a bedroom, then they won’t see you for two years. So how useful are those three data points? They’re no use at all.

Golden age of relevance
Nobody yet has a full big data set. It’s very hard to take what the food retailers have done and apply it to other categories because of the level of interface.

Companies that are in good data positions include Google and Facebook because they have such frequent interactions with users, and telcos also have lots of data flowing perpetually.

We could be on the cusp of a golden age of business, having the ability to understand and respond relevantly to our customers like we’ve never been able to before. Competitive advantage will come from analysis, but don’t try to boil the ocean so you’re faced with so much information you can’t make sense of it.

"The shortage of data scientists is a constraint in many sectors."

Analyst group IDC predicts that the amount of digital information created annually will grow by a factor of 4.4 from 2009 to 2020. Google and countless other companies are thrashing at the epicentre of this data explosion, both enabling and taking advantage of it.

So which tools lie at the heart of the big data revolution? One example is Apache Hadoop, a popular open source version of MapReduce, which makes it possible to run applications on systems with thousands of nodes involving thousands of terabytes of data. Its biggest advantage? Speed.

MapReduce is not a database but a process: it’s a programming technique popularized by Google and is used to boil down terabytes of Internet clickstream data, log files, network traffic, streams and masses of text from social network feeds. One of its biggest distinctions is its ability to handle unstructured text.

Facebook manages around two and a half billion items of content each day and its Prism project can automatically replicate and copy data wherever it’s needed in a geographically dispersed Hadoop network. This separates the data and allows a logical and local view of results. The business opportunities are vast and it isn’t lost on companies such as Amazon, which is rapidly evolving its elastic MapReduce computing web services, cloud hosting and its S3 storage business, which leverages large Hadoop clusters.

The underlying benefit of all these new technologies lies in the ability to process and analyze big data in a cost-effective manner.

Brain power
While these are important breakthroughs, what is equally important are the people with the skillset and mindset to put them to good use. On this front, demand has raced ahead of supply, and the shortage of data scientists is a constraint in many sectors.

The problem does not lie with the technology but in finding people with the intuitive basis and training to make meaningful connections from the data they are accessing.

IT is just a tool. Businesses need to have a strategy to better understand how they deal not only with their legacy data, the SQL-type data they’ve used in the past, but also customer data, social media data and everything that’s going to be available to them in the future, all amalgamated through one source.

The advance of big data shows no sign of slowing. If companies sit out this trend, they risk falling behind as competitors gain nearly unassailable advantages.

Think of big data as a huge wave starting to crest. If you want to catch it, you need the people who can surf.
“You need to set goals, put a well-thought-out plan in place and then just go for it.”

David Higgins
CTO/CIO, OxForex
Australian foreign exchange group
Endurance mountain bike racing

I compete in two different types of race: endurance events of 100km or more and 24-hour events, where a team of four people race laps in relay over 24 hours. I started cycling about five years ago, just with friends and pretty much on local trails, particularly around Sydney’s Manly Dam, which is just up the road from where I live. But I have always been fairly competitive and it only took a year or so for me to need more from the sport, so I started entering endurance mountain bike events.

Finishing my first 100km race was just an awesome feeling. You really don’t know how you’re going to handle it until you get out there. I picked one of the toughest rides for my first race. It was incredibly hot that day and I didn’t manage my nutrition and water intake very well. At about 40km I thought I might curl up and die — and, to be honest, that sounded like a good option at the time! Still, I stuck it out and crossed the finish line.

Being on the starting line with sometimes thousands of like-minded individuals, all just wanting to get out there and give it a red-hot go, is a great feeling. On some of the more technical trails, it’s good fun to push the bike and yourself harder and harder. Those moments when you almost feel your wheels letting go and your heart jump into your throat are a thrill.

There will always be several different routes you can take, so committing yourself to a route that’s going to be a challenge and knowing that getting it wrong could mean taking some skin off at best or a ride in a helicopter at worst does get the blood pumping.

The main attractions for me are the fitness challenge, being in the outdoors and teamwork. I see a lot of parallels with my work as a CIO: you have to set yourself goals, put a well-thought-out plan in place that gives you the best chance of success; and then just go for it, bearing in mind that things can and do change, and you need to be ready for that. I think I’m a naturally driven person with high expectations of myself. Mountain bike racing has just given me another avenue in which to push myself.”
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