FT SPECIAL REPORT

The Connected Business

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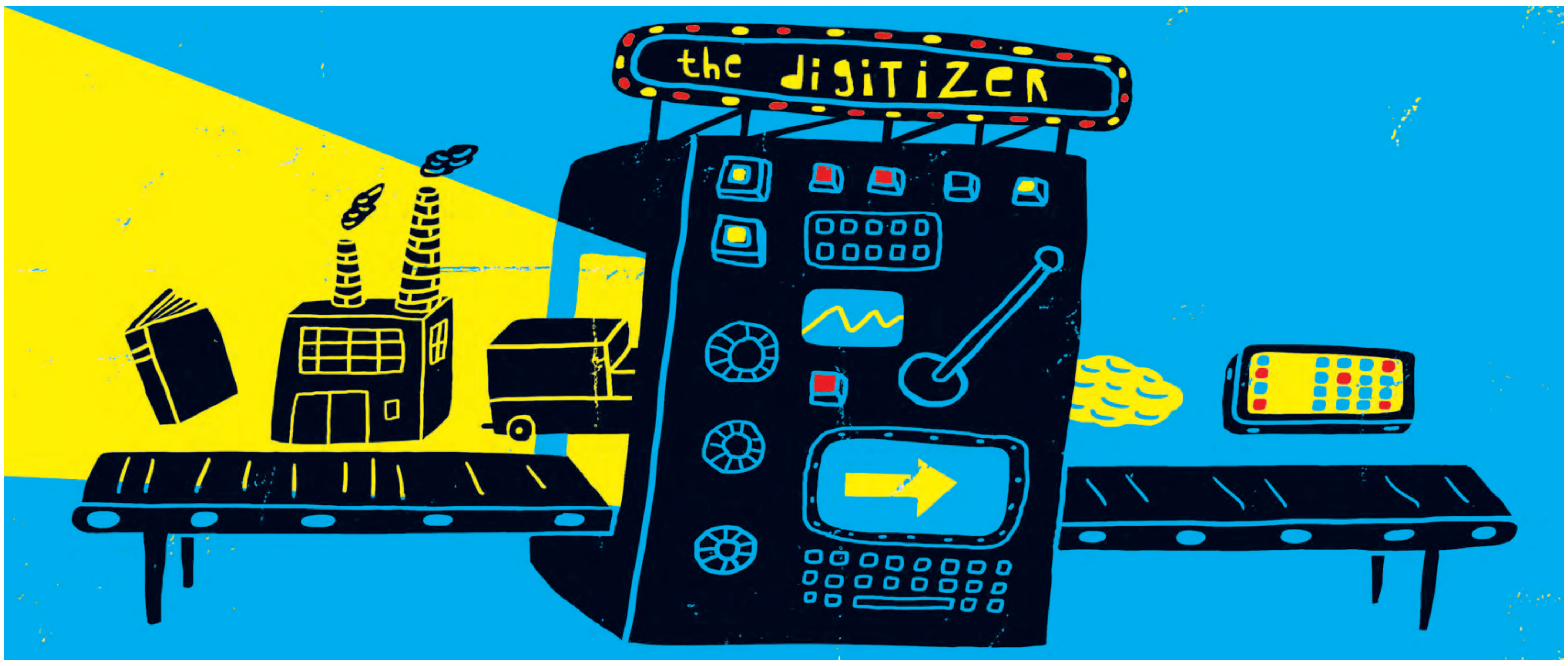


Bold is beautiful: analysts say organisations will not maximise the benefits of their digital strategies unless they think holistically and avoid a piecemeal approach. See Page 2

Oivind Hovland

Inside »

Young, gifted – and digitally savvy

IT departments have long been wary of the under-30s but are finding ways to adapt, writes *Maija Palmer*

Ask someone under the age of 30 about corporate IT and you get a big sigh.

"It was a big shock," says Bradley Tubb, 28 and a senior account director at Clarity PR. "I was a Mac user and when I started my first job it was hard to go from a user-friendly interface to working with something clunky like Microsoft XP.

"One company I worked for gave us corporate iPhones, which sounds great, but as I had my own already I ended up transferring my work emails to my personal phone and the corporate one just kept getting left, uncharged, at the bottom of my bag," he says.

Mr Tubb also admits to being one of the many people of his age who have downloaded programmes that the IT team have not sanctioned and transferred corporate files on and off the cloud to get his job done more efficiently.

"Sometimes I would go and work in a café, and rather than take my heavy work laptop I would just transfer the documents I was working on to my own device using Google Drive."

These days, Mr Tubb is much happier with corporate IT – his employers at Clarity allow staff to bring in their own devices. But his early work experiences are typical of a growing rift between corporate IT departments and young employees who have grown up using smartphones and the internet.

More than half of young employees surveyed by Fortinet, the IT security company, at the end of last year said they were willing to break any corporate policy that restricted use of their own mobile devices at work. Some 70 per cent said they had used a personal account on a cloud storage provider such as Dropbox for work purposes.

"I don't think there's one job where I haven't bent the rules quite far to be more efficient," say Max Tatton-Brown, an independent communications professional in his late 20s.

It is not just that younger employees – who cannot remember a time before the internet and mobile phones – want different gadgets. Their whole approach to problem-solving is different, says Olivier Binse, head of advisory at Deloitte's Digital business in the UK.

"If you asked a group of young graduates 10 years ago to solve a particular problem they would have done a lot of research and analysis. Now, they just post the problem on a social network and see what suggestions emerge," he says.

> 'I don't think there's one job where I haven't bent the rules quite far to be more efficient'

Sometimes, says Mr Binse, senior managers are uncomfortable with the public approach and worry about reputational damage. But, he says: "Sometimes it is a brilliant strategy – what comes out is much better than a whole research programme might have produced."

Organisations, from Macmillan, the cancer charity, to KLM, the Dutch airline, have all tapped into the social media skills of younger employees, getting them to staff official social media accounts and talk to customers in a new way.

A number of companies, including PwC, Vodafone and DHL, are also installing internal social media platforms such as Chatter, Yammer and Jive to make internal communications more efficient.

"In many cases, adoption is driven by the fact that a younger generation is coming in. It is a generation that does not use email in their personal lives; you can't just tell them to go use Outlook," says Oudi Antebi, senior vice-president of products at Jive. "If you are trying to recruit in large numbers it becomes a key component in attracting people. People do ask what tools they will use to get their work done."

Jive's own research suggests that, apart from pleasing young staff members, companies adopting social collaboration tools obtain a 15 per cent boost in productivity.

Security concerns over the new ways of working remain an issue for companies, but IT departments are starting to respond in ways that go beyond issuing a blanket ban.

"Most companies now allow some form of bring your own device," says Siân John, UK and Ireland director of security strategy at Symantec, a security software group.

"And social media use is becoming more mainstream in companies. The IT manager, nervous about sensitive corporate data leaking from social networks and unsecured personal devices, can be reassured with a new set of management tools."

Ms John says that, rather than issuing a ban on cloud storage accounts – which would be flouted in any case – companies can build in controls that stop any truly sensitive data from being transferred out of the corporate network.

"Quite often, employees don't realise what might be sensitive – such as mentioning that they are working at customer site X. We can put in place blocks based on certain keywords," says Ms John. Data being uploaded to cloud storage accounts such as Dropbox can also be encrypted, and Symantec offers Norton Zone, a secure cloud storage service that includes encryption as standard.

Corporate social media platforms, too, are built with many layers of privacy. "If you are working on an M&A deal, you can create a group on the platform that is entirely private, that you would never know existed unless you were invited to join it," says Mr Antebi.

He is convinced that social software will bring profound changes to the ways companies operate. "This is not just another set of software tools. When done right, they will flatten organisational structures and open up the way companies communicate."

These are big claims which may or may not come true. But, at least, some of the friction between young "digerati" and their corporate IT gatekeepers could be starting to ease.

CIOs must face up to 'off-radar' spending on online services

Budgets

Co-operation is vital as decisions on what to buy become dispersed, writes *Michael Dempsey*

Pity the poor chief information officer. Having made it to the boardroom in many companies, CIOs now find their traditional control over IT spending threatened by chief marketing officers and – more recently – chief digital officers.

But they will have to get used to it. The internet has transformed customer-facing businesses, introducing new sales channels and enabling both marketing chiefs and the newfangled digital supremos to claim greater influence over technology budgets.

By 2020, almost 90 per cent of technology spending will originate outside IT departments, according to a forecast last year by Gartner, the IT research firm. The explosion in online sales and marketing is driving this trend.

David Willis, a senior analyst at Gartner, is confident marketing chiefs will be the lead spenders on IT within a few years. They stand together with their digital counterparts, whose role promotes digital strategy and reflects "the frustration that boards have at getting things done in IT", he says.

This shift owes a lot to a profound sense among many board members that their company is not maximising the returns on its investment in technology.

"We're not saying that CIOs are dying out," says Mr Willis, "but they will lose influence if they focus only on operational issues."

> Marketing staff are finding it easy to pay for technology via their company credit cards

The increasing sophistication of cloud computing services has brought this debate to the fore. Marketing staff have discovered how easy it is to launch projects using online services and pay for them with their company credit card.

Often characterised as "shadow IT", these initiatives underpin Mr Willis' prediction that technology budgets will move away from information chiefs.

VMware, a US cloud software house, says many CIOs have recognised the benefits of what it terms "off-radar" IT spending.

More than a third of the 1,500 European IT decision makers VMware polled last year suspected their colleagues had bought cloud services without seeking permission from the IT department.

Marketing and advertis-

Continued on Page 2

Just the ticket: at rock concerts and other events, Ticketmaster customers can choose seats based on where their friends and family on Facebook will be sitting Alamy

Data can be source of power

Competitive advantage Unlocking information on customers is the key, writes *Jessica Twentyman*

In an increasingly digital world, every online interaction that a company has with a customer brings it some more data about that individual, from basic demographics to more in-depth information about their purchasing habits.

Those data can be a powerful source of competitive advantage, helping a company better understand what, when and how to sell the customer more goods or services, if only it can take full advantage of the information it has.

As Angela Ahrendts, outgoing chief executive of Burberry and driving force behind much of the brand's digital transformation, said last year: "Consumer data will be the biggest differentiator in the next two to three years. Whoever unlocks the reams of data and uses them strategically will win."

The trouble is, relatively few organisations have achieved this yet, says Jason Gordon, a partner in the analytics team at Deloitte, the management consultancy.

"It's partly the newness of the problem and partly its magnitude: there's just a lot of data pouring in, through a wide range of mostly very new channels," he says.

"The result is that most companies have barely scratched the surface of where they need to get to in terms of being able to analyse customer data, and understand the customer better as a result, although there is a widespread acknowledgment that this needs to change," he says.

An even bigger stumbling block, he says, lies in gathering customer data arriving through multiple different touch points – the web, mobile, social and so on – and being able to consolidate them to create a single view of an individual across multiple channels.

"This is perhaps where the greatest potential lies for improving the customer experience," he says.

"Today's connected consumer will interact with a business through multiple channels, but to them, it's all the same brand. A single view of that customer can help the brand deliver a highly personalised experience, regardless of the channel."

Despite the challenges involved, some companies are making significant progress, but it requires a highly focused, selective approach to the data that are collected, how they are analysed and the actions they prompt, says AstraZeneca's Mark Montgomery.

"We don't just collect data for the sake of it," says Mr Montgomery, who is the pharmaceutical company's global director for digital and customer insights. "For us, it's about having closer conversations with patients and physicians, from offering them healthcare guidance to getting their participation in clinical studies."

"We've spent a lot of time making sure that we collect the data that really matter and, from the insights that data give us, we come up with actions that will make a strategic difference to us and our audiences – data and actions that keep us nimble and highly relevant."

James Whatley, social media director at Ogilvy & Mather, an advertising company, cites Ticketmaster, the online ticket sales company, as another organisation making significant progress in using data to improve the customer experience. Since 2011, it has allowed its customers to select seats for events based on where their friends and family on Facebook will be sitting.

The smart thing about this is that it works both ways, he points out: as well as enabling a customer to sit near their best friend, it can also help them avoid their insufferable cousin, by choosing a seat as far away from them as possible.

Either way, the customer benefits from Ticketmaster's smart and customer-friendly use of social data from Facebook.

"Online ticket sellers often come under fire for hidden fees and near-monopoly of the industry, but disruptive innovations like this give the company a marked point of difference and keep customers coming back," says Mr Whatley.

As yet, not many organisations are using data to transform the customer experience for the better – so those that do have a real opportunity to stand out, says Phil Dearson, head of strategy and user experience at Tribal Worldwide London, another advertising agency.

"Those that are [can] take what they know about us, in order to anticipate what we might want, rather than carpet-bombing us with options. Alternatively, they can give us a price tailored to our value to them," he says.

There is an important consequence of this increasing focus on customer data and customer experience, says David Mathison, a New York-based executive search specialist and founder of the CDO Club, a networking organisation for chief digital officers and others in related roles.

An understanding of data analysis techniques and approaches is now a must-have skill for anyone with ambitions to lead their company's digital transformation strategy, he says.

"There are plenty of data out there and not enough insight – and that's broadly true across companies, nonprofit organisations and government agencies," says Mr Mathison.

That is not to say that those in charge of starting new digital channels need to be highly technical, "big data" specialists, he stresses: they typically have an insights and analytics team to provide that expertise.

But they must have a very firm grasp of what their data are telling them, "because, after all, that's where competitive advantage really lies".

'There are plenty of data out there and not enough insight'

'It's complicated' Paybacks are uncharted territory where traditional metrics don't always apply

If business leaders were asked to assign a Facebook-style status to their relationship with digital transformation, it would probably read: "It's complicated."

That is the view of researchers from MIT Sloan Management Review, a US-based business journal, and Capgemini, an IT consultancy, who last year co-authored a report about the digital ambitions of more than 1,550 executives worldwide.

On the one hand, bosses recognise the importance of digital transformation: 78 per cent of those surveyed said it would become critical to their organisation within the next two years.

On the other hand, there is a lack of clarity about the pay-off they can expect to see from investing in digital initiatives: about half of the companies surveyed said that they create a business case for these programmes, but many of them are "guilty of fuzzy math[s]," the report finds.

But should company leaders be held back by the lack of a watertight business case accompanied by solid growth projections and return on investment calculations?

Not necessarily, says Jerome Buvat, global head of research at Capgemini Consulting. Digital transformation projects "take companies into uncharted territory, where traditional payback metrics don't always apply".

Instead, he says, smart companies take small steps forwards, via pilot and "skunk works" projects that focus on identifying "quick wins" for further investment.

A skunk works project is one that is developed by a small, autonomous unit with a remit to innovate, often to tight deadlines and on a limited budget.

The term originated at Lockheed Martin, the US aerospace company, in the 1940s, as engineers and pilots worked to refine jet fighter technology, but has since been adopted more generally.

This technique, for example, is often adopted as a necessity by start-ups that disrupt established markets with new products and new ways of interacting with customers, according to James McQuivey, an analyst at Forrester Research and author of *Digital Disruption: Unleashing the Next Wave of Innovation*.

He notes, however, that it is also an approach with which older, more traditional companies frequently struggle.

Yet Mr McQuivey has also seen significant successes among older companies that are prepared to throw away the research and development rulebook and think differently.

"Small, independent teams are critical to digital transformation projects, because they need to be nimble and they have to be free to pursue entirely new thinking," he says.

When these small teams have direct support and encouragement from their organisations' leaders, he adds, their independent status – which lends them some distance from day-to-day organisational politics – gives them the confidence to propose the best ideas, regardless of the impact these may have on deeply entrenched corporate behaviours and beliefs.

The approach is very resource-efficient, adds Mr Buvat at Capgemini. Projects that fail to thrive, or lose their way, can be killed off quickly, leaving resources for more promising ideas.

"Based on what works and what doesn't, an organisation's road map for digital transformation often becomes clearer quite rapidly, without too much time or money being spent."

This should make digital transformation a more manageable prospect for companies.

In any case, it is not as if standing on the sidelines until a rock-solid business case becomes clear is a more sensible option – at least, not according to the MIT/Capgemini report.

"The connected world creates a digital imperative for companies," it says. "They must succeed in creating transformation through technology, or they'll face destruction at the hands of their competitors that do."

Jessica Twentyman

James McQuivey: has seen successes at older companies

Experts urge boardrooms to be bolder

Digital strategies

Many companies are failing to capture the full benefits of their investments, writes *Paul Taylor*

A piecemeal approach to digitisation misses opportunities to gain maximum advantage from digital investments, according to two McKinsey consultants.

"Tools such as big-data analytics, apps, workflow systems, and cloud platforms are too often applied selectively by businesses in narrow pockets of their organisation, particularly in sales and marketing," say Tunde Olanrewaju, a principal in the consultancy's London office, and Paul Willmott, a director.

Insights about big data, for example, can be used not only to enhance customer targeting and adjust pricing in real time, but also for better forecasting of operational-capacity needs, which boosts asset and resource utilisation.

The McKinsey consultants say: "Most enterprise leaders share an important challenge: how to get beyond the small share of the prize they are capturing today by looking for impact across the whole value chain."

For many companies, digital transformation projects have focused on online sales, social networking and mobile applications.

But a year-long research project by McKinsey found the greatest impact on a company's profitability may come from cost savings and changes beyond the interface with customers.

The study suggested that, while digital sales could improve profits by an average of 20 per cent over the next five years, cost reductions could average 36 per cent.

"A too narrow focus on distribution channels means organisations are getting only a small share of the full value that digital transformation can provide," the report concluded.

McKinsey's findings are echoed in research undertaken in the financial services sector by Capgemini.

"Digitisation can create significant cost-saving opportunities for organisations within the financial industry," says Jerome Buvat, head of Capgemini Consulting's Digital Transformation Research Institute.

"Our research found that back-office digitisation can generate as much as 30 per cent annual cost savings for banks."

But, he adds, "most banks are falling into a common trap. They are focusing on the digitisation of customer-facing channels at the expense of back-end infrastructure and processes. There's little business value in launching a new mobile app if it requires too many manual processes and hand-offs at the back office to work smoothly."

Not only may a narrow focus minimise the benefits of digitisation, it may also leave organisations vulnerable to more agile new entrants.

This means companies will need to compete with unprecedented speed and agility, says Hung LeHong, research vice-president and Gartner fellow.

For example, large hotel chains such as Starwood, Hilton, and Hyatt first had to compete against the initial wave of digital business models from sites such as Hotels.com.

Now, these long established groups must compete against new digital business models created by companies such as Airbnb, the room rental site.

To reap the real benefits of digitisation, consultants agree, business and IT leaders will need to adopt a more holistic view of their – and their competitors' – operations.

'Back-office digitisation can generate as much as 30 per cent annual cost savings for banks'

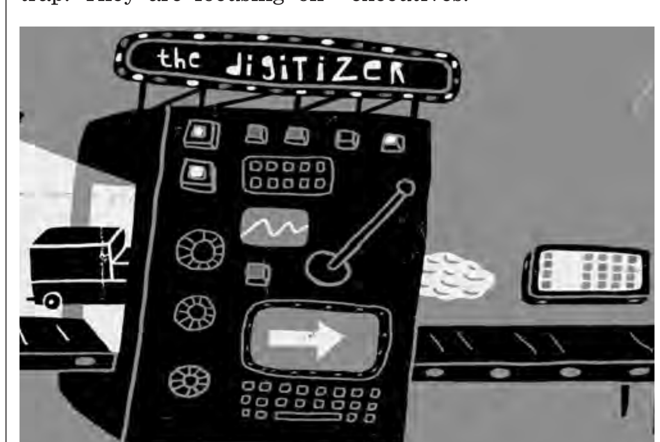
One further issue for boardrooms is that big data are not just structured and transactional but also include unstructured elements such as intentions, thoughts and images.

This mixture can overwhelm executives but also offers big opportunities, says Jason Ward, a senior UK executive at EMC, the software group.

He cites the example of Germany's MAN Trucks, which has been able to evolve its business to provide a fleet management service to operators through the analysis of data collected from cabs.

Many organisations have struggled with similar projects. As consultants at AT Kearney note, the true value of digitisation comes from the ability to collect and retain for analysis every morsel of information on customers.

But this can produce "an overwhelming mess of data with no insight", they say. "Those able to attract and retain the right analysts can transform the mountain of customer data into decisions and strategies for executives."



CIOs must face up to 'off-radar' IT spending

Continued from Page 1

ing departments were the prime culprits, but most information chiefs have reacted to this with equanimity.

In fact, 72 per cent of respondents regarded such off-radar spending as beneficial. They recognised that colleagues would opt for online data storage and email hosting because of the sheer convenience of the cloud. However, IT professionals do worry about the potential security risk of this covert spending, as it may open unauthorised routes into corporate data.

The unstoppable momentum behind cloud IT spending means CIOs are learning to position themselves as honest brokers. Accepting the appetite for popular services, they are facilitating the technology wishes of colleagues while watching out for security vulnerabilities or instances of company rules being broken.

Lee James, head of IT strategy at Betfair, the online betting exchange, reports to CIO Michael Bischoff and says any attempt to block the cloud spending craze would stifle productivity. "Off-radar cloud spending is inevitable in almost any organisation; what matters is how the IT department responds."

Mr James says CIOs should welcome online technology purchases by their colleagues while encouraging them to let IT staff assess proposals and offer advice. Co-operation and co-ordination are crucial, offering a way for information chiefs to maintain influence while accepting that total control over IT spending is a thing of the past.

In light of these trends, global brands are revising their chain of command. When the CIO of Starbucks, the US coffee bar chain, left in 2012, it seized the opportunity to create a digital chief too.

Adam Brotman, CDO and a lawyer by training, has a heady mix of digital ventures to manage. The company operates in 63 countries and has ambitious expansion plans, so Mr Brotman is concerned that projects such as Square Wallet, its mobile payment app, work consistently across languages and cultures. But his brief is wide, extending to matters which would never trouble an information chief, such as in-store entertainment.

The chain's growing relationship with customers via mobile apps and social media is Mr Brotman's focus, and he reports to Howard Schultz, chief executive. Mr Brotman's office is next door to CIO Curt Garner and they and their teams work closely together. Mr Garner sticks to providing the technology infrastructure that keeps the corporation ticking over, while reporting to Troy Alstead, chief financial officer.

Adam Brotman of Starbucks has a legal background

Anyone who thinks the CIO's role at Starbucks has been downgraded should note that Mr Garner has 760 staff answering to him while Mr Brotman's office runs a team of 110.

But a third of the 100 IT projects running at Starbucks relate to customers or to integration with partners, suppliers and acquisitions such as the recent $620m purchase of Teavana, the US tea-shop chain.

The CDO's job is to put a distinct Starbucks stamp on the online aspect of all these relationships.

For Starbucks, this is simply a question of keeping IT connected to the rest of the business. Ensuring a profitable digital identity is a task for CIO and CDO alike.

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Companies take to the cloud for flexible solutions

Efficiency: the cloud is playing a significant role in the supply chain

Computing Hybrid deployments give greater control over processes, writes *Paul Solman*

In just a few years, the cloud has transformed consumers' behaviour. Services such as Google Drive, Amazon's Cloud Drive, Apple's iCloud and Dropbox hold many people's personal data, storing everything from documents and photos to music and video and giving access from almost anywhere.

Businesses, by contrast, have been slower to embrace the public cloud amid concerns over access and security.

Yet the signs are that companies' use of cloud services has begun to expand, with growing numbers running systems such as email services, human resources and administrative processes via the cloud, as well as data storage and back-up. Experts believe the next few years will see a sharp increase in uptake.

Jack Sepple, senior managing director of infrastructure and cloud at Accenture, the consultancy, says: "As recently as 2012, I think there was still some education needed around how to leverage the cloud.

"But now, most organisations are no longer looking at 'Should I use the cloud?' but 'How can I use it?'. They understand the possibilities. The one thing that can sometimes hold them back is concern about security."

Nearly half of large enterprises will be using the so-called hybrid cloud, which combines private and public cloud services, by the end of 2017, according to Gartner, a technology research company.

"In the past three years, private cloud computing has moved from an aspiration to a tentative reality for nearly half of large enterprises," the company said in a report last year.

"Hybrid cloud computing is at the same place today that private cloud was three years ago; actual deployments are low but aspirations are high."

Gartner predicts that between 2013 and 2016, $677bn (£412bn) will be spent on cloud services worldwide. There will be strong demand for all types of services, but BPaaS (business process as a service), where processes such as payroll and ecommerce are run on the cloud, will be the second largest market segment after cloud advertising.

And by 2017, more than half of large providers of SaaS (software as a service), where applications are run on the cloud rather than being installed on individual computers, will offer matching business process services and an integrated PaaS (platform as a service), a hosting environment for users' applications, says Gartner.

James Petter, UK managing director of EMC, the data storage and software group, says: "Organisations move to the cloud for a number of reasons, but they most often relate to agility, control and efficiency. They may be using a private cloud on-premise, an off-premise private cloud or they may put some data into a hybrid cloud.

"Some may even be going to a fully public cloud. But they want to retain information in-house and have the flexibility of the cloud."

Yet Gregor Petri, a research director at Gartner, points out that businesses are not simply transferring existing systems to the cloud. "People are not migrating services, but doing things that weren't possible before, such as in social media, mobile and big data spaces."

One example is in the supply chain. Joe King, senior vice-president at JDA, the supply chain software group, says: "More than just hosting services, the cloud is ensuring availability and performance, protecting data and helping businesses with change management by deploying functions and lessening disruption.

"The cloud is playing a significant role in the whole spectrum of the supply chain, from deciding to buy to the suppliers, distributors and retailers."

In fact, the cloud is allowing businesses to improve all aspects of the customer experience, adds Accenture's Mr Sepple. "It is offering new ways of holding discussions with customers and leading to better collaboration," he says.

"The consumer journey and engagement has improved and there is more customer satisfaction. Integration of chat and video are underpinned by the cloud, and customer relationship management systems and digital social platforms can be deployed much faster and [more] effectively."

One example is the cloud's role in enabling data analytics, says Mr King. "The cloud provides the analytics that are helping demand planners get the best out of their forecasts," he says. "It allows easy access to data to help customers improve the bottom line by improving transport solutions."

The cloud also has an important role in cutting costs. "We habitually see at least 20 per cent savings when services run on the cloud, sometimes much higher depending on the situation," says Mr Sepple.

However, says Mr Petter at EMC: "It's not just about cost but about scale – as an organisation grows, the cloud allows it to gain skills and services."

This point is taken up by Gartner's Mr Petri. "Very often, it is not even costs but about being able to focus on your difference," he says.

The form of outsourcing that the cloud provides can be much more targeted than traditional outsourcing, he believes.

"Business processes can be outsourced at a much more granular level – you outsource one by one and pay for them on a transaction-by-transaction basis. The processes can be outsourced to highly specialised companies who might carry out these functions for 100 companies, so there is a great deal of expertise and gains of scale."

Shoe supply chain has sole version of truth

Case study
Wolverine Worldwide

Cloud hub connects company to suppliers and customers, writes *Jane Bird*

When Wolverine Worldwide, the Michigan-based shoe and clothing group, acquired four brands in October 2012, its turnover doubled to $2.6bn. The acquisition could have been a huge administrative headache, says Dee Slater, chief information officer and vice-president of supply chain.

A cloud service made the process so simple that the transition was seamless, although it had to handle twice as many transactions overnight.

Wolverine sources more than 100m pairs of shoes a year from 110 factories in 20 countries. Its products, which include Keds and Hush Puppies, are sold via websites and retailers throughout the world.

"Acquiring a business worth more than $1bn involved thousands of active purchase orders, masses of goods in shipment, and payment transactions in process," Ms Slater says.

Wolverine's system can respond quickly to changes in fashion

"We didn't lose a single [purchase order], no factories were unpaid, and there was no time at which we didn't know where goods were." Full integration was complete within a year.

Scalability and ease of integrating acquisitions are not the only advantages of using a cloud service, she says. Other benefits are access to best practice in activities ranging from security and compliance to process innovation and the ability to respond quickly to market changes.

Wolverine's use of the cloud dates to 2001, when it began transforming labour-intensive paper-based purchase orders, credit notes and import/export documents into electronic data communicated to suppliers, customers and partners online. "It wasn't called the 'cloud' then," says Ms Slater.

The online, electronic approach helped standardise and simplify data across the organisation. "We're not a technology company, but we want to be innovative in our use of technology," says Ms Slater.

Wolverine has a hub on GT Nexus, a cloud-based global trade "network of networks" that connects companies to their suppliers, customers and partners.

Information such as costs, volumes and dispatch and delivery dates can be uploaded and shared on the hub by partners, such as factories and wholesalers. Buyers know where their goods are, and suppliers where their payment stands.

"There is one set of data and all partners in the supply chain, logistics and finance can access this single version of the truth," says Ms Slater.

And because everything is tracked, Wolverine can focus on the areas where goods are ahead of or behind schedule.

Further enhancements will keep supply chain partners informed about work in progress, such as whether raw materials have arrived or goods are in the packaging phase. This makes it easier to respond to changes in fashion.

"If a style or colour takes off, we will be better able to expedite it if we know what stage the factory floor is at," says Ms Slater.

Is she worried about data on the cloud being vulnerable to security breaches? "Anything online could be subject to hackers, and that worries me," she says. "It's my job to be paranoid."

Organisations ought to think hard before insisting that existing cloud services be customised and adapted for them, she advises.

"You should question why you want to do something differently from the rest of the industry, because it probably means you will miss out on the benefits of the cloud, now or in the future."

On FT.com »

Cloud is silver lining for Fidor
We could never have done it all ourselves, says online bank chief Matthias Kröner
www.ft.com/reports

Analytics and mobility among big 2014 trends

Corporate IT *Paul Taylor* on where CIOs will be spending their money

Cloud computing, data analytics, mobility and socially enabled business processes are reshaping corporate IT, while the emergence of machine-to-machine communications ushers in the "internet of everything".

John Chambers, chief executive of Cisco, the supplier of networking equipment, predicted in his keynote speech at the Consumer Electronics Show in Las Vegas this month that the internet of everything – connecting people, devices and machines – would drive the next wave of global innovation and deliver $19tn in profits and cost savings to the private and public sectors over the next 10 years.

While this wave would be powered by an explosion in the number of connected devices – predicted to grow from 10bn to 50bn units over the next few years – Mr Chambers said it would be about far more than the number of internet-enabled devices and sensors. "This transformation will change the way people live, work and play."

In the meantime, enterprise software is expected to be the strongest growth segment of the global IT market in 2014, according to figures prepared by Gartner, the IT research firm. Spending on business software is expected to grow 6.8 per cent to $320bn this year, after rising 5.2 per cent in 2013.

Richard Gordon, managing vice-president at Gartner, says: "Investment is coming from exploiting analytics to make B2C [business-to-consumer] processes more efficient and improve customer marketing efforts."

He adds: "Investment will also be aligned to B2B [business-to-business] analytics, particularly in supply chain management, where annual spending is expected to grow 10.6 per cent in 2014."

After marking time in 2013, the total global IT market will grow 3.1 per cent to $3.8tn this year, Gartner predicts. It says spending on devices, including PCs, laptops, mobile phones and tablets, will grow 4.3 per cent in 2014 after slipping 1.2 per cent in 2013.

However, the firm slightly revised downward the compound annual growth rate for IT services between 2012 and 2017. This mainly reflects reductions in outsourcing growth rates, specifically, in co-location, hosting and data centres.

"Chief information officers are reconsidering [increasing the size of their data centres] and are instead planning faster-than-expected moves to cloud computing," says Mr Gordon.

Over the past 12 months, the cloud has become an easy choice for mainstream organisations, says Andrew Brabban, Fujitsu UK's director of application services. In the US, for example, 80 per cent of organisations and consumers use public cloud services. Mr Brabban says: "There will be a focus for cloud services in three areas: management, integration and aggregation."

Getting connected: John Chambers gives his speech at CES Bloomberg

Chris Curran, PwC US Advisory's chief technologist, identifies business analytics as the top trend to watch. "With business analytics, companies are realising the advantages of increased innovation, improved productivity, enhanced customer experience and loyalty, and lower costs."

He says advances in sensors, display technologies, and devices will enable companies to monitor people, entities, behaviours, events, and objects.

"Companies will use data originating from these and other technologies to apply new analytic, statistical and computational modelling techniques," he says.

Mr Curran also identifies socially enabled business processes as a big business technology trend. "Business processes across the enterprise will deeply entangle social and community capabilities to enable a new generation of connected employees," he says.

In addition, he says that, since consumers are using their mobile digital devices to monitor their health, check their bank accounts and pay their bills, many companies will need to develop a mobile customer engagement strategy.

Among corporate IT leaders, two main technology priorities emerge, according to Gartner's recent CIO Agenda 2014 survey: renovating core IT processes and exploiting new technologies and trends.

"The core of enterprise IT – infrastructure, applications such as ERP, information and sourcing – was built for the IT past and needs to be renovated for the digital future," says Gartner's Dave Aron.

But he warns that the skills required to undertake the renovation of core IT are different from those needed to exploit such new technologies and trends as digital design, data science, "digital anthropology", start-up skills and agile development.

"Most businesses have established IT leadership, strategy and governance, but have a vacuum in digital leadership," he says. "To exploit digital opportunities and ensure the core of IT services is ready, there must be clear leadership, strategy and governance. Individual digital leaders are not enough; all business leaders must become digital leaders."

Data points Technology by numbers

Mobile

Devices Worldwide combined shipments of devices – PCs, tablets, ultramobiles and mobile phones – are projected to reach 2.5bn units in 2014, a 7.6 per cent rise on 2013, says Gartner. For PCs alone, shipments fell 10 per cent last year to 315.9m units, the worst decline in PC market history. RBC Capital Markets predicts PC unit sales will fall a further 5 per cent this year.

Operating systems Android is on course to surpass 1bn users across all devices in 2014. By 2017, more than 75 per cent of Android's volumes will come from emerging markets.

Payments Forty-three per cent of respondents to Ovum's recent Consumer Insights Survey chose banks as their most trusted mobile payments service provider. Then come credit card companies (13 per cent), online payment providers (9 per cent) and mobile operators (6 per cent).

Investment Mobile operators invest more than $100bn a year in capital spending on their networks. The EU used to account for a third of the world's telecom capex investment, but that has fallen below 20 per cent. Meanwhile, the US has held its capex constant at almost a quarter of the world's total, even though the global pie is getting bigger, according to the CTIA, the US wireless industry trade group.

Advertising The global mobile marketing and advertising market will grow from €6.9bn ($9.4bn) in 2012 to €27.9bn in 2018 – a compound annual growth rate (CAGR) of 26 per cent, according to Berg Insight. By then, it will account for 19.3 per cent of the total online advertising market or 5.9 per cent of the total global ad spend for all media. Globally, mobile search advertising is estimated to represent more than 50 per cent of the total mobile ad spend, followed by display advertising and messaging.

Smartphone security Fifty-two per cent of smartphone users want to use their fingerprints instead of passwords and 48 per cent are interested in using eye-recognition to unlock their screen, according to research by Ericsson. A total of 74 per cent believe biometric smartphones will become mainstream during 2014.

Online retail

US Overall fourth quarter online sales rose 10.3 per cent year-on-year, according to Forrester Research. Mobile sales reached 16.6 per cent of all online sales, up more than 46 per cent over the same period of 2012. Tablets accounted for 11.5 per cent of online sales, against just 5 per cent for smartphones. Tablet users also averaged $118.09 per order, against $104.72 for smartphone users. As a percentage of total online sales, the iOS operating system was almost five times higher than its Android rival, accounting for 12.7 per cent of sales compared with 2.6 per cent for Android. On average, iOS users spent $115.42 per order, nearly 40 per cent higher than Android users. Shoppers referred from Facebook averaged $60.48 per order, versus $109.93 for Pinterest. But Facebook referrals converted sales at more than three and a half times the rate of those from Pinterest.

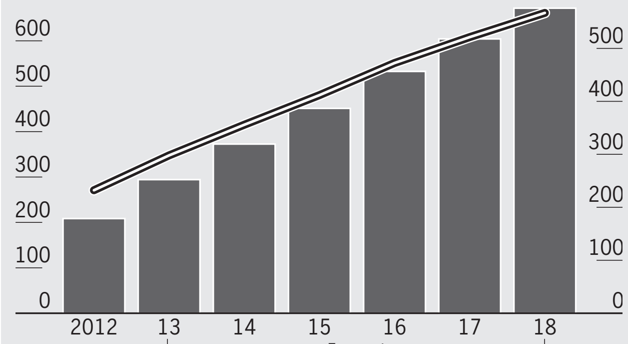
China Online retail sales in China are forecast to surge over the next five years, and the country is set to be the world's biggest ecommerce market by next year, according to Forrester Research. The research firm projects that sales will top $370bn this year, compared with $294bn in 2013, and exceed $670bn by 2018.

Home technology

Connected TVs The installed base of internet-connected televisions in the US will reach 202m units in 2015, up 44 per cent from 140m at the start of this year, according to NPD Connected Intelligence.

Video gaming About 65 per cent of game spending in the US last year was on digital downloads, accounting for $13.3bn of the $20.5bn total, according to Newzoo. Digital game revenues rose by 10 per cent. Tablet gaming is expected to grow at a CAGR of 47.6 per cent until 2016, while smartphone gaming will grow 18.8 per cent.

China online retail sales



Source: Forrester Research