NewStatesman

Public Sector 2.0

Resilience, efficiency and reinventing the workplace

in association with

SUNGARD®
AVAILABILITY
SERVICES™

Workplace evolution
Growing influence of London, 2014-2018

London as % UK population
13% to 18%

London as % of UK employment
17% to 28%

London as % of UK GDP
24% to 29%

London as % of UK office-based employment
24% to 30%

What workers want
Top 12

Comfort of work areas

Length of commute

Temperature

Public transport connections

General noise levels

Lighting

Space

Kitchen

Security

Smell

Quality of wireless technology

Proximity to shops

Disaster awaiting
Major cause of outage/data loss

50%
Software failure + network failure

43.5%
Human error

24%
Power failure

14%
Weather

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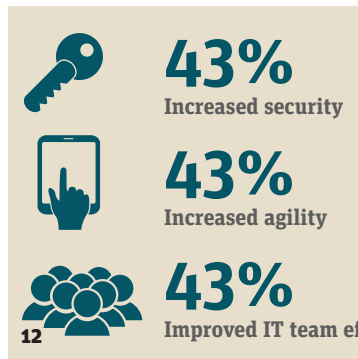
43% Increased security
43% Increased agility
43% Improved IT team ef...
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The efficiency premium

The workplace is changing. This much we know. Transformation is being driven by ever-increasing demands on the nation's infrastructure. Housing is less available and more expensive. Ditto office space. Meanwhile, our road and rail networks are becoming overcrowded, adding to commuting times and detracting from our quality of life.

This capacity crunch is matched only by the technologies – cloud computing primarily among them – that are making a new way of working possible. Employees are becoming increasingly mobile as applications, services and data are made available any time, any place, anywhere. The office, that cathedral of steel and glass, is not about to disappear, but this new way of working – flexible,

agile and mobile – is such that every organisation needs to think hard about how it can enjoy an efficiency premium and ensure resilience against disaster.

This Sungard Availability Services supplement, *Public Sector 2.0: Resilience, Efficiency and Reinventing the Workplace*, focuses on these very issues. It has the public sector in its sights because central and local government has much to gain from these changes but is typically, though not exclusively, slower to adapt to change than its private-sector peers. In the words of techUK's Charlotte Holloway, writing on page nine, "While change can be uncomfortable, it offers new opportunities. Increased flexibility will open up roles to a more diverse range

of people, helping public and private sector unlock talent. It is only by embracing technology that the public sector can remain relevant and achieve the efficiencies required by the impending spending review."

The CBI's George McFarlane (page eight) expresses similar views, urging public-sector transformation to "focus on the outcomes that matter to service users" and seeking "a more creative approach to working across organisations, teams and functions".

Technology is central to all these opportunities. However, adopters of that technology need to be clear-sighted enough to see that long-term gains may come only after short-term complexities. ●

This supplement, and other policy reports, can be downloaded from the *NS* website at newstatesman.com/page/supplements

How to reimagine the workplace

The office – that steel-and-glass cathedral to productivity and collaboration – is not about to disappear, but our place of work, and our place within the workforce, are changing fast

After years of continuity the workplace is now in flux. The office in its late-20th-century and early-21st-century white-collar incarnation – desk-bound workers convened and located by function and service – shares more than a passing resemblance to a Victorian administration that supported early industrialisation. Indeed, the typing pools of the second half of the 20th century could have been modelled on pre-Industrial Age scribes writing by candlelight.

So much for continuity. Things are now changing and changing at pace. The nature of the office is evolving while the workforce, many of its number no longer beholden to a single organisation, is becoming increasingly mobile.

The catalysts are many and varied. Chief among them is technology that is enabling workplace reinvention – think the smartphone and the cloud. At the same time, technology is a potential disruptor of productivity – think overflowing email in-boxes, Facebook and *Candy Crush*. "Mobility, the smartphone and mobile work skills are radically changing the workplace," says Daren Howell, proposition marketing manager for Europe, the Middle East and Africa at Sungard Availability Services.

It is not just technology that is driving this change, however. A lack of affordable housing, overstretched transport infrastructure and its impact on commuting reliability and duration, and the ever-increasing demand for commercial property are prompting a rethink. All this points to a reinvention of the workplace – remote working, new locations and different approaches to the physical space. Yet none of this need spell the demise of the office.

"You'll hear people tell you that the end of the workplace has arrived. I don't think it has," Howell says. "People enjoy the social side of working together in a team environment and then there's the productivity that can be gained from working in it. That's all pretty valuable to organisations. We are social animals, we need company and the face-to-face social stimulation that the workplace offers."

Moreover, Howell says, the office – the "steel-and-glass cathedral", as he calls it – remains an important symbol for commercial and public-sector organisations alike. For evidence of its ongoing appeal look no further than the Googles and Amazons of the world. These may be leaders in collaborative working – more likely than most to adopt and encourage new forms of work organisation – but both have invested in grand headquarters "because

they are the symbol of the brand success, of the brand values", says Howell.

Before exploring some of the implications of this hybrid workplace – an evolving office environment, coupled with remote working – it's worth examining the causes of this shift in more detail.

The worker reinvented

Consider, then, the changing nature of work through the eyes of the employee. It's a story that can be told through the following five trends. First, traditional roles are disappearing, an automated process replacing a human function or a once necessary service becoming redundant. Many admin and secretarial roles are no longer required as more senior staff take on those administrative functions themselves. Meanwhile, there is growing evidence that professional roles such as accountancy might be outsourced to technology in the future.

Second, where roles continue to exist, more and more will be taken up by part-time employees. According to the PricewaterhouseCoopers Workplace Future 2020 survey, 46 per cent of HR managers believe that one in five staff members will be non-permanent by the end of the decade. And, third, contractors will be working for more than one employer, ▶

Old habits die hard: the 20th-century workplace model of workers convened and located by function is slowly being overhauled

▶ invariably creating a portfolio career requiring what Howell calls a "wider skillset to attract more employees".

Fourth, while contractors and freelancers will occasionally be office-based, they are more than likely to be working remotely, relying on mobile and cloud-based technology to access key applications. And because their working lives need no longer be defined by proximity to a physical office their reach and scope becomes much greater, potentially global.

Fifth and finally, those in work will be carrying out more tasks that in turn will make them more critical to the business, becoming a single point of failure should things go wrong. All these factors should inform thinking when it comes to creating a workplace fit for the 21st century.

Office evolution

In an effort to reflect some of these changes in working habits and expectations, organisations have been rethinking the physical space. Howell points to architects' practices that are "purposely designing more 'accidental' ways of meeting and collaborating". That means reworking the conventional meeting room and making better use of corridor space. "That seems to be where a lot of the new productive ideas happen, rather than in the formal setting of the four square walls of the conventional office."

It's not just the set-up that is changing – the location is changing, too. Fuelled by the possibilities of technology but also by the frustrations of commuting and the pressure on housing, businesses are relocating. Some are moving to what Howell calls "Tier 2" areas within London (think the South Bank) in a search for more affordable space. This, in turn, is creating a ripple effect. Some firms are heading to the Home Counties. And many more are heading to the regions, setting up headquarters in Leeds, Manchester, Birmingham and beyond.

Public sector blazes a trail

"This exodus has been driven partly by the government moving its departments out to the regions," says Howell. Prompted by the 2004 Gershon Efficiency Review into the operations of the public sector, the government set a target of moving 20,000 jobs out of London by 2010 – a goal achieved with a year to spare – and a further 15,000 over the next five years. In his subsequent review of relocation efforts,

Ian R Smith noted: "These actions…help create a better pattern of government. By setting a good example, the government may also promote more rigorous thinking about location in the wider economy, in the interests of UK competitiveness."

Since that time, Howell notes, the Met Office moved from Bracknell to Exeter and a large chunk of the BBC moved from White City to Salford in Manchester. "In both cases, the new offices are contemporary, world-class environments in which to work." Others will follow.

Besides the physical moves, budget cuts and the recession have brought about broader changes in workplace practices. For example, the public sector has introduced more flexible and mobile working enabled by cloud computing and what Howell describes as "desktop as a service". This, he says, is particularly prevalent in the health service. The offer of flexible working has dissuaded local council and government department employees from heading to the private sector. And it has

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"It takes one little glitch and everything comes to a grinding halt"

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allowed those organisations to introduce hotdesking and reduce office footprint.

"Having said that, you have to get the IT right," Howell says. "We have become aware of examples where the move to a virtual desktop environment has not been as well thought through as it should have been. This has resulted in a poor user experience. For example, taking up to 30 minutes or more to log in every morning simply because the specification of the virtual desktop solution wasn't up to the task. That quickly adds up to a significant cost in terms of lost productivity."

The capacity crunch

Meanwhile, a squeeze on infrastructure is forcing organisations to rethink their office locations and it should signal alarms to those keen to mitigate risk. From telecoms to roads and trains, most parts of the UK are running near to capacity at peak times. This, Howell says, "means that all it takes is one little glitch and everything comes to a grinding halt."

The lack of fat in the system is "the number-one cause frustrating productivity in the UK", he says. "We have to

smooth out the peaks and troughs." And as it is with the M25 – to pick just one example – so it might be with the office unless other business continuity measures are introduced. The spare office – once used for ad hoc projects and as a back-up should problems arise – is being jettisoned as companies look to save money. Those without a contingency plan – and space – will inevitably struggle in the event of a disaster. Howell says the likes of Sungard AS are able to offer capacity on a need basis, allowing companies to scale up and scale down as required.

This extra capacity is not just for disaster recovery, where it provides a range of emergency workplace facilities complete with IT and telephony and Desktop As a Service for production IT. It can also be for competitive advantage. Howell offers the example of an education customer keen to drive up its student intake. In the past, the institution would set up its own call centres once a year in its own buildings but this proved inefficient. Instead, Howell says, it now makes use of Sungard AS's premises for a handful of days at a time, bringing in department heads and students to man the phones and take calls from prospective students. Although he doesn't share absolute numbers, he says the calls have grown "exponentially year by year", providing a much stronger share of the student base than before. "If you times that by £9,000 a year, that's an awful lot of income that wasn't there before, simply by adopting a smarter approach to the workplace and using technology to increase productivity." The ability to scale up and scale down capacity works on both a physical and a technology level.

Managing risk

These facilities are designed to help mitigate disruptive threats, too. Broadly, there are two causes of disruption. First, there are technology-based threats such as a server outage or a network crash. Second, there are macro or external shocks. These range from flooding and pollution to economic instability, pandemics, terrorism (cyber or otherwise) and civil disorder. When such threats are realised, customers put into effect – or invoke – their disaster recovery plans. This process is known as an invocation.

The Disaster Recovery Preparedness Council measures major invocation causes across the globe and its 2014 report it found that these were the key causes:

- software and network failures, accounting for 50 per cent of outages and loss of data; followed by:
- human error (43.5 per cent);
- power failure (24 per cent);
- weather (14 per cent).

From his experience, Howell says power, communications and hardware failures always top the causes of invocations list. Analysis of his customer base (*see chart*) bears this out.

- Hardware accounts for 21 per cent of invocations, followed by:
- communications (19 per cent) and
- power (14 per cent).

Other notable reasons include fire (11 per cent), environmental failure and flood (both 5 per cent). Civil unrest, data corruption and terrorist activity all account for a few percentage points, and though not common contributors to disruption, they cannot be discounted.

In a further illustration of how the changing nature of the workplace is impacting risk, consider the second most common of these factors. Telecommunications was once highly reliable when organisations used the conventional public switched telephone network (PSTN). This network typically promised "five nines" uptime – that's 99.999 per cent reliability. Today, organisations have moved or are moving to IP (internet protocol) telephony. "It's now subject to the same sort of disruption as experienced with other software," Howell says. "It can be hacked or corrupted. So we're starting to see comms rise up the list to be more and more a cause of disruption."

Freakish or commonplace?

As for power outages, he says the workplace remains "stubbornly subject to disruption". He points to the curious case of an exploding pavement in the Holborn area of London this year that brought power down and led to the evacuation of a number of nearby offices. It may seem like a freak occurrence but a Freedom of Information request, released in August, revealed that there had been 80 such incidents in London since 2010. Moreover, the Health and Safety Executive suggests there were 40 incidents in 2014 alone. Causes vary and include electrical faults and gas leaks. "It's becoming quite a threat to organisations in the London area," Howell says.

Given the volume and variety of these rare and not-so-rare threats to business as

2014 All Invocations by Cause
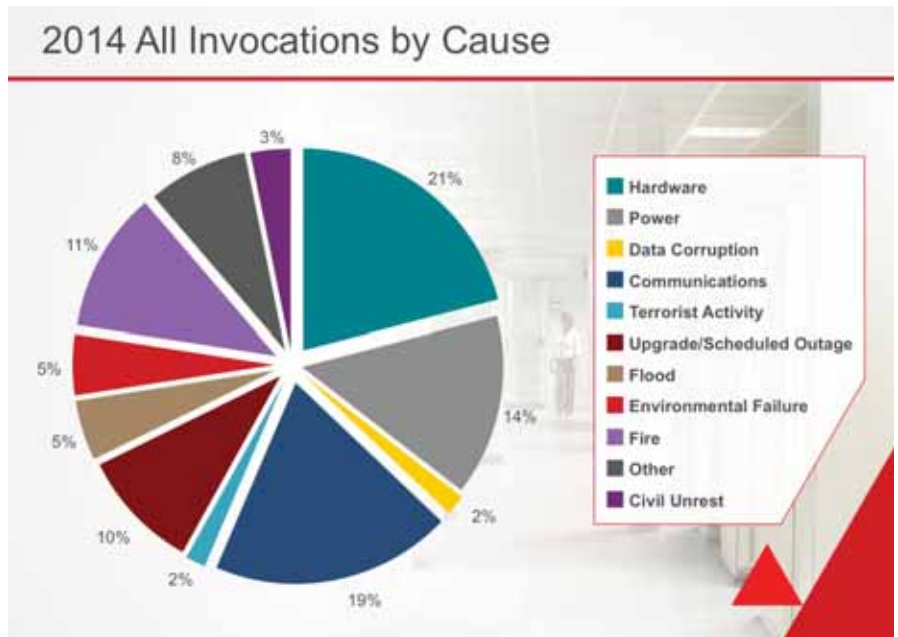
Operational impact: annual figures based on Sungard Availability Services' customer experiences

usual it is perhaps surprising that many organisations take a lax approach to risk management. According to the Disaster Recovery Preparedness Council's report, three out of four companies worldwide are failing to prepare for disaster. The report also found that of those companies that do have a disaster recovery plan, 65 per cent failed their own tests.

The impact of failure – caused by technology outages, macro and external events – can be costly. One in five organisations that experienced a problem indicated that it had lost anything between $50,000 and more than $5m. Fourteen per cent of those affected admitted that recovery costs proved well beyond what they had budgeted for.

And then there's the non-financial penalty. Outages and disasters create reputational damage in 10 per cent of cases, according to the same report. In a quarter of cases organisations admitted that recovery took up time that impacted on business. To those public-sector organisations that have turned to technology in order to introduce more flexible working patterns and reduce real estate, Howell has a final warning. "Government departments should still be mindful of the need to mitigate disruption. Workers using virtual desktops still need power and communications. So don't think of virtual desktops as being the silver bullet that solves both production and recovery ills. It is part of the solution but not all of it."

The policy wish-list

The final risk is neither from an act of God nor technological breakdown, but from a failure by policymakers to appreciate and adapt to the changing environment. Howell says government – both central and local – needs to assist more. For example, he says, risk assessments for home workers remain overly bureaucratic, with the red tape falling firmly on the side of the employer. "I'd like some relaxation," says Howell.

"I'd like to see the introduction of some online risk assessments that are then sent back to the organisation rather than putting the onus on the organisation. After all, I'm sure employees are quite capable of assessing their own risk and putting in place the right furniture and technology."

The Health and Safety Executive has made attempts to alleviate the burden, Howell says, but overarching EU directives still ask too much of business, public and private.

More broadly, Howell calls on government to build a cohesive set of policies and strategies to deal with rising populations and creaking infrastructure. "And if you can't manage that," he says, "then you've got to have a back-up plan that enables people to have more flexible working arrangements that doesn't put the onus – and the costs – on the business.

"There needs to be a much smarter way of working for UK plc." ●

Why tech-enabled collaboration is a must

The low-hanging fruit has been picked and now it is time for hard decisions. To put finances in order and reshape the public sector requires a more creative and innovative approach to working together, writes the CBI's **George McFarlane**

Once May's general election was over, public-sector focus turned to the Comprehensive Spending Review and on 25 November the Chancellor, George Osborne, will finally define the budgetary settlement for the next parliament. It will be a telling moment.

The Spending Review marks an important milestone for public-sector employees. Why? Because it will confirm that the approach that has been taken over the past five years – doing the same for less by removing inefficiencies – will not be enough to get public finances where they need to be over the next five years. The low-hanging fruit has been picked. The easy decisions have been taken. The next step, although essential, will be difficult.

That is why the solution will have to be transformational in nature, with a focus on the outcomes that matter to service users and a more creative and innovative approach to working across organisations, teams and functions. It will mean moving beyond departmental silos, something that has historically been a big challenge for the public sector.

So, how do we get there? At the Confederation of British Industry we believe that there are a number of specific opportunities across central government and local public services, including the NHS. For central government the first opportunity is to adopt shared services, typically back-office functions such as human resources and procurement. There has been some progress here but, critically, not every department has bought in to the idea. And that is a missed opportunity. Undoubtedly, it's hard culturally and technologically, to say nothing of the governance and contractual complexities, but shared services are essential to drive up efficiencies and drive down costs. Officials need to understand that they work for the government, not just a particular department. Technology-enabled collaboration is a must.

More broadly there's a big opportunity to digitise transactional services. The work of the Government Digital Service in championing digital has proved significant and the CBI believes there could be annual savings of up to £1.4bn if government completes this journey.

> ## The NHS is data-rich but information-poor. Good analytics are essential

Looking locally, there is an opportunity to overhaul the anachronistic, paper-based and highly bureaucratic courts system. Consider that in 2014, 54 per cent of trials were defined as ineffective because they didn't go ahead as scheduled or they ended unexpectedly without a hearing.

A digital approach would drastically reduce failure – in-person hearings replaced by online hearings, evidence shared by email or via conference call and more family and civil courts cases conducted online. A single, common information management system would aid this transformation, not only connecting courts together but also linking them to other public services such as local government and the police. It would not only simplify the experience for users of these services – offenders and victims alike – but it would reduce administrative costs and present an opportunity to design better support services for vulnerable people.

Meanwhile, the National Health Service faces a huge budgetary challenge. Over the past five years it has managed to duck tough spending decisions, benefiting from a wage freeze and a ring-fenced budget. Over the next five years the population will continue to age, putting pressure on health and social-care services alike, while technology demands will increase. The NHS won't be able to shy away from the big decisions any more.

It's time to concentrate on productivity and efficiency. The NHS is data-rich but information-poor. Analytics will be essential to assess what interventions will be most effective and then to share those across the system. The interim report into operational productivity in the NHS, released by Lord Carter of Coles in June 2015, highlighted the extent of the opportunity. Increasing human resources and administrative productivity through tighter management of annual leave, sickness and training alone could yield up to £1.6bn in savings.

That's the opportunity. Realising it will require investment and innovation – and the role of business in supporting the public sector to achieve those goals will be essential. What we need are different, collaborative partnerships between the public sector and those who provide it with goods and services. ●

George McFarlane is head of public services at the CBI

Five ways to adapt to the new world of work

Personal technology is infiltrating the workplace, generating new ideas and challenges. While the private sector grasps change with relish, the public sector remains cautious. It's time for bold decisions, argues techUK's **Charlotte Holloway**

It is becoming more important than ever to create organisations that can develop and execute plans that fit with an ever-changing environment. We live in an era when the amount of data we collect is growing exponentially – algorithms, devices and apps are disrupting and reinventing entire industries – changing the way people work in the process. Recent research by PWC showed that 66 per cent of us see the future of work as a world full of possibility and believe we will be successful in that change. Fifty-three per cent think technological breakthroughs will transform the way that can be achieved. Given this environment of constant change, traditional career trajectories are a thing of the past – the idea of nine to five at a desk or linear work plans is no more.

Parts of the private sector are quick to react, and they understand what is at stake if they don't adapt – but what about the public sector? Worryingly, in a recent techUK survey of civil servants, we found that only 22 per cent of respondents felt that tech was an enabler for them in their day-to-day jobs. Given this, how do we make sure the public sector isn't left behind? Here are five thoughts.

1. Think mobile, not location

Employees increasingly want to work remotely or from home, accessing the office when required. They need to know they can get professional services and support on demand. People will always want some face-to-face time, whether for meetings with colleagues and clients or for working on special projects. Sir Charlie Bean recently highlighted the controversial move of the Office for National Statistics to Newport in 2007, which resulted in the loss of most of its experienced staff. An approach that incorporated mobile and flexible working across multiple workspaces might have made a new way of working more appealing and enabled them to retain talent despite the move.

2. The dawn of HR analytics

Although not a widely used practice across industry, let alone the public sector, the use of employee data, generated by the explosive growth of wearable technology and project-specific apps, will deliver

> Only by embracing technology can the public sector remain relevant

new insights and benefits. As these are realised, more organisations are set to adopt person-specific performance analytics.

3. Be bold and "show your workings"

Only by holding ministers and departments to account on their use of evidence, can we incentivise a wider use of data in policymaking. Tech can play a powerful role to help track and demonstrate the impact of a policy move. Initiatives such as the What Works Centres and the Behavioural Insights team should have big data analytics at their core.

4. Experience of adapting to change

Jobs are not going away, but the shape of jobs will change. Policy isn't going away, but projects will change. Officials should wear experience of transformative projects as badges of honour, just as the private sector does. This requires the bravery to try new things and a willingness to fail. It is not a culture inherent in our public sector but it will be vital to the successful adoption of new technologies.

5. Civil servants at the coalface of public service delivery need to be open to embracing a diverse tech scene

Officials should be encouraged to keep pace with the latest developments in tech. Organisations need to be experimental and test new ideas to further the business and maximise the experience of employees. With Matthew Hancock recently stating that government's role is to ensure interoperability and the availability of APIs, the digital civil servant should stay alert to new opportunities to harness what this means in practice.

We are experiencing a time of great change – personal technology is infiltrating the world of business and generating new ideas and challenges. This is influencing how, when and where we work. Although change can be uncomfortable, it offers new opportunities. Increased flexibility will open up roles to a more diverse range of people, helping public and private sector unlock talent. It is only by embracing technology that the public sector can remain relevant and achieve the efficiencies required by the impending Spending Review. ●

Charlotte Holloway is the associate director of techUK

Silver linings? Naturally

Cloud-based technology promises fast, efficient and agile computing — all at lower cost. It might just be the perfect answer for the public sector, so long as short-term complexities are properly managed

Technology enables. Technology disrupts. Technology is a means to an end. And although technology is not an end in itself, it is indicative of what both the CBI and techUK call a transformational change that promises to remodel the public sector in the coming years.

Cloud is the overarching technology in a digital panoply but it's about more than IT, says Naureen Khan, associate director of public sector, central and local government at techUK: "It's about changing business models. It's about sorting out the 'wiring' of government."

And, she adds, "The public sector recognises the importance of digital but it doesn't quite know how to go from where it is to being in a position where it becomes 'digital by default'."

Meanwhile, the CBI's head of public services George McFarlane (*writing on page eight*), urges the public sector to find solutions that are "transformational in nature, with a focus on the outcomes that matter to service users and a more creative and innovative approach to working across organisations, teams and functions. It will mean moving beyond departmental silos, something that has historically been a big challenge."

Both Khan and McFarlane hint at the opportunity cloud offers but also the challenges it presents, especially to a public sector – central and local government and beyond – wrestling with cultural resistance, a capabilities deficit and ongoing budget pressures. All this is coupled with the short-term complexity that comes with creating a hybrid IT environment that melds new – cloud – with legacy.

First, let's consider the benefits of cloud.

Speed, agility, cost

"The beauty of cloud is it's an on-demand service that organisations can get access to as and when they need – to answer citizen demand or organisational demand," says Sue Daley, head of programme (big data, cloud and mobile) at techUK. "Cloud is there so organisations can scale up and scale down. It gives them a much more flexible computing resource they can use as and when they need it."

This view is reflected by public-sector organisations when asked about the business benefits of cloud. According to a Sungard Availability Services survey, respondents agreed that benefits include:
- enhanced availability – 60 per cent;
- greater agility – 58 per cent;
- more successful technology refreshes – 51 per cent; and
- reduced costs – 54 per cent.

The promise of reduced costs is predicated on an architectural shift away from the upfront capital expense (Capex) that typified technology adoption when organisations needed to purchase their own servers and networking hardware to an ongoing operational expense (Opex) model where hardware and connectivity is rented on a subscription basis.

To take just one theoretical example, it is not hard to imagine how the UK's regional police forces would benefit from faster, more secure and simpler access to forensics data and witness accounts through the cloud. The speed and agility of access would be matched by a reduction in operational overheads.

Cloud adoption

Given the apparent benefits, is the public sector flocking towards cloud? The evidence is mixed. A Freedom of Information request, made public in June 2014, revealed that cloud spending through the government's G-Cloud digital marketplace across 26 local councils totalled £385,000. Those 26 councils have an estimated collective IT budget of £440m, which means that G-Cloud spend accounted for just 1 per cent of the total. This, critics concluded, is symptomatic of a reluctance to invest in the latest technology. However, others – including the Society of Information Technology Management (Socitm) – pointed out that a ▶
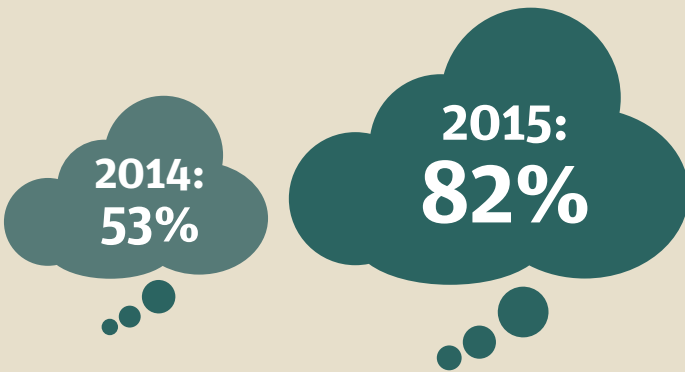
The cloud paradox: despite promising long-term simplicity and cost savings, cloud can prove complex and expensive in the short term

Public sector and the cloud

Cloud adoption
Number of public-sector bodies using more than one cloud-based service

2014: 53%

2015: 82%

£390k
UK public-sector average spend on cloud over past five years

£943k
UK all-sector average spend on cloud over past five years

Public-sector cloud opportunities
Expected return from cloud computing

43%
Reduced IT costs

43%
Increased security

43%
Increased agility

43%
Improved IT team efficiency

35%
Increased availability

35%
Reduced IT complexity
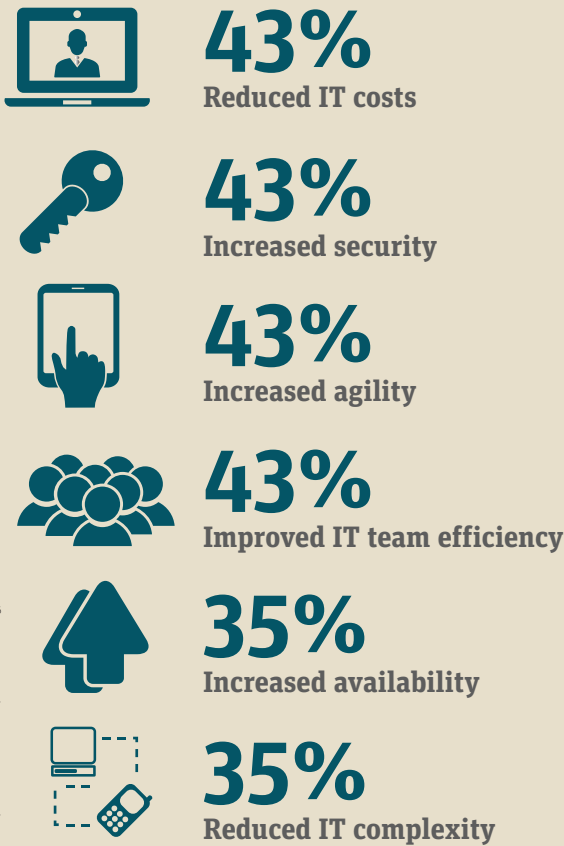
Public-sector cloud challenges
Reasons for moving back to physical environment

42%
Complexity

50%
Cost

38%
Lack of trust in capability

28%
Lack of trust in availability

SOURCES: SUNGARD AS, VANSON BOURNE, FEBRUARY 2015; CLOUD INDUSTRY FORUM. GRAPHICS BY LEON PARKS

lack of spend through G-Cloud did not necessarily mean a lack of cloud spend. A Socitm spokesman, quoted on the technology website v3.co.uk, said: "Low use of G-Cloud does not correlate with low use of cloud services, and indeed many councils are using cloud services from other procurement frameworks or directly from vendors like Google."

Elsewhere, figures from the Cloud Industry Forum (CIF) suggest that public-sector spend – £390,000 per body across the past five years – remains modest compared with the average across all industries – £942,912 across the past five years.

Meanwhile, those looking for positive signs of adoption, too, can draw on the CIF research, which also suggests that the proportion of public-sector bodies adopting more than one cloud-based service rose from 53 per cent to 82 per cent between 2014 and 2015.

Moreover, the Sungard Availability Services research found that 60 per cent of public-sector organisations plan to invest further in cloud services within the next 12 months.

Capability and culture

"Among the public sector there's a clear recognition of the potential of the cloud to deliver efficiency and savings," says techUK's Naureen Khan. "In terms of where the public sector is optimising its use of cloud, that's not quite happening. It's patchy."

Diagnosing the problem, Khan cites "capability and culture" as twin causes and points to a techUK survey of public-sector employees, carried out by Dods Research in April 2015. It found that 71 per cent of civil servants in key roles believe that internal culture is a big barrier to effective adoption of technology. Meanwhile, over a third of respondents involved in the design or procurement of IT services think that their department's capabilities in change leadership, innovative thinking and digital capability are unsatisfactory or poor.

"How do you tackle the culture?" asks Khan rhetorically. "That comes from leadership at the very top." It's about incentivising people to use the cloud, to point out the organisational benefits, the employee benefits and about delivering taxpayer value.

"The job of the civil servant is to work with the market to see what's out there and deliver efficiencies."

The skills deficit is another challenge to overcome and it is symptomatic of a trend, especially prevalent in central government, to award large, long-running projects to third parties. This has rendered most in-house technology and technology project management skills redundant. "The government is now on a journey to bring those skills and capabilities back in-house," says Khan. John Manzoni, permanent secretary of the Cabinet Office, and Matthew Hancock, minister for the Cabinet Office, are understood to be driving this change.

Keith Tilley, executive vice-president of global sales and customer services management at Sungard Availability Services, says: "With so much investment in moving towards a cloud-first approach, it's critical that any u derlying challenges are overcome as soon as possible. Not only in terms of continuing to drive forward this model of IT, but in ensuring that front-line services are ultimately benefiting from new forms of IT both – from the cost savings it can deliver and the more effective services it can provide to end-users and UK citizens."

> "Hybrid IT is a stepping stone to a cloud-first environment"

Caution and conservatism

Resistance comes in other forms, too. First there is a reluctance to experiment for fear of compromising vital services. "If one supermarket goes under there are plenty of others but there is only one government. So that change is difficult." Second, there are concerns around cloud security. Guidelines on data classification are making it harder to decide where data should reside. There will be types of personal data that will need to be kept within the confines of the EU, perhaps even within the UK. This may go against the grain of cloud computing, which is about dispersed, geographically agnostic hosting. Then there's what might be termed the twin paradox of cost and complexity. Cloud promises to reduce both but in the short to medium term they increase.

The cloud paradox

The Sungard Availability Services research is instructive on costs. It found, on the one hand, that 57 per cent of public-

sector decision-makers counted cost savings as one of the initial business drivers for deploying cloud. On the other hand, it found that eight in ten public-sector organisations have encountered some form of unplanned cloud spend. Unforeseen external maintenance costs and additional systems integration expense are common, the survey found.

TechUK's Sue Daley acknowledges that unplanned costs matter but insists that short-term difficulties are outweighed by long-term gains. "In any digital transformation it can take time for organisations to realise those cost benefits," she says. "But the cloud does deliver this more quickly and efficiently because of the service element. That journey is the same for all organisations."

Complexity, too, is a puzzle. Many organisations now find themselves running their business across a number of different IT platforms – on premise servers, data centre services, public cloud and private cloud.

This multi-platform approach is commonly known as hybrid IT and there seems to be plenty of evidence that it is making things harder for organisations, at least in the short term. An October 2015 Sungard AS survey of 150 senior IT decision-makers in the UK found that while 92 per cent identified hybrid IT as a critical component of their success, nearly half (47 per cent) rated their current IT estate as either "very" or "extremely" complex. Cloud has added to that complexity.

"In the public sector, IT complexity is an inevitability," says Roy Gray of the IT infrastructure department at NHS Trust Moorfields. "Resources are stretched, yet we're expected to remain on the cutting edge of technology, delivering the latest services as well as highly confidential data with no room for disruption in service.

"We do everything we can to stay up to date – sharing resources with other public-sector organisations, or borrowing ideas and implementing them ourselves. Unsurprisingly, it can become very complicated very quickly.

"And it's not going to change; we'll never get any smaller – we're always going to expand and expand and expand. We need to be able to deal with this."

Stepping stones

Keith Tilley cautions against seeing cloud as a panacea. "Cloud computing may seem to be the natural way forward ▶

► for enterprise IT," he observes, "but it is not simply a case of turning off legacy systems and pushing old processes into new environments.

"Most organisations in the UK have legacy applications – many running some of their most critical applications – and as such, hybrid IT is a necessary transition in the adoption of cloud services. It is very promising that organisations recognise the strategic value of hybrid IT but it is equally disturbing that half of our respondents feel unable to cope with the level of complexity it has added to their business.

"Hybrid IT might be, for many businesses, a stepping stone towards a cloud-first policy but a failure to invest in the right applications now will lead to significant issues in the future."

"In terms of complexity we are not there yet," says Daley. "As a result you will get legacy systems, historical systems as well cloud working side by side. And that's where interoperability is becoming so important. Enabling systems and architectures to talk to each other – and API play a huge role in that."

It is in the context of complexity that Khan urges the public sector to embrace the G-Cloud framework as a means of buying cloud services. "It's easy and simple and it's a lot better than what was there before," she says. "It's a government tool; it's there, it works. There's no reason why procurement shouldn't be using it."

For local government organisations in particular there are perhaps two avenues open to them. The first is to make a virtue of the fact that they are relatively small, with relatively small IT budgets, and to use the Opex model of cloud to get up and running quickly to test, experiment and iterate. Alternatively, these organisations can join forces with other authorities and build shared services that enjoy economies of scale and efficiency. There is doubtless scope for many to do both.

For Daley, it's about using cloud to solve problems. "Where the cloud has most to offer is in helping organisations address an issue or overcome a problem business is trying to solve," she says. "That's where private-sector organisations get the most value from the cloud. It's about identifying what is the need, what is the problem we are trying to solve and how cloud can help us do it. That should be the same in the public sector." ●

Five steps to cloud success

1. Identify business drivers for moving to the cloud

Cloud computing should now be the first solution to be considered when adopting new systems within the public sector.

However, to ensure that it does successfully move towards a cloud-first approach, IT decision-makers need to work closely with the rest of their organisation – whether that is local council managers, those delivering front-line health care such as GPs and nurses, or police forces, to understand their key challenges, goals and objectives, and then to assess where cloud can help address these.

2. Determine how ready you are for the cloud, including migration

Cloud may seem like the right approach, but different public-sector organisations are at different stages – particularly when comparing local to central government. Similarly, when it comes to migration, not all services or applications are candidates for the cloud.

Look carefully at the technical requirements and interdependencies of the machines and applications. Will the new cloud platform support these requirements? Questions around where the data will be stored in the cloud are also crucial for the public sector. For example, in some instances, is there a guarantee that data will stay on UK shores?

3. Assess the criticality of your overall IT estate

Data security is critical within the public sector, just like any other organisation. However, the public sector does face much larger restrictions as to where a cloud service can be provided from, along with correct data classification requirements.

However, not all data is born equal, and data relating to social services or police records, for example, does not require the same level of data protection as waste and recycling. Migrating non-critical/less sensitive data to the cloud presents a great opportunity to assess, optimise and streamline the IT estate.

4. Nail down cloud service level agreements (SLAs) from the start

Agreeing on the correct SLA can guarantee availability, security, capacity, performance and upgrades, among other things.

Considering what elements are included in an SLA is essential to ensure that the cloud deployment meets expectations right from the start. Start by working with cloud service providers (CSPs) that are aligned to deliver a partnered solution, as opposed to just a "product off the shelf". You'll most likely be sharing in any risk and less likely ever to need your SLA to take effect. It is also important to consider the entire service delivery model; an application that guarantees 100 per cent availability, for example, also needs to be supported by the same level of availability across the infrastructure that it sits upon. And for all CSPs with which you're contracted.

5. Managing the money

Many people assume that the cloud is automatically cheaper than what is currently being used, but preparation, migration, utilisation and ongoing management costs all need to be considered.

Think total cost of ownership *v* benefits of investment, and not just about trying to identify total savings. A clearly defined billing model at inception is critical, including how costs are calculated and in what increments.

With further spending cuts on the way for the UK public sector, it is critical that the cost of cloud is assessed correctly from the outset, ensuring the best spend of taxpayers' money and avoiding wasteful spend on IT. ●

This checklist originally appeared in Sungard Availability Services' white paper "Digital by Design: Avoiding the Cloud Hangover in the Public Sector". To download a copy visit: sungardas.co.uk/cloudhangover

Stormy skies: public sector and the cloud

A cloud-first mandate seems like progress, widening public-sector flexibility and agility. However, this approach may be forcing many organisations to adopt IT systems that simply can't support their needs, cautions **Keith Tilley**

Look at any victory in modern IT and it's likely you will find cloud computing somewhere in the mix. Its success has become a self-fulfilling prophecy; cloud computing gives organisations the tools they need to deliver better services, faster, to the general public, but it has also played a central role in creating demand. People feel that if they can have access to their workplace, their bank details or shopping via mobile technology, they should also be able to interact with the public sector in this way, from health care through to policing and tax returns.

IT is experiencing a renaissance, with CIOs and their teams central to effecting organisational transformation. For the public sector this is especially true, with cloud computing now mandated as the foundation for new IT investment.

Cloud computing has the potential to reduce costs dramatically across health, education, central and local government. But only if it is deployed in the right way.

Recent research by the Cloud Industry Forum demonstrates just how quickly adoption is increasing; the number of public-sector bodies using more than one cloud-based service has risen from 53 per cent to 82 per cent between 2014 and 2015.

While spending has been fairly modest to date – an average of £390,000 per UK public-sector organisation across the past five years, compared to an average of £942,912 across broader industries, our own research revealed that this spend will almost double over this calendar year (2015-16) to £610,333. Indeed, cloud solutions which hold the appropriate security accreditations help support the growth of cloud across a broader range of applications and for more data-sensitive services across the government.

As with any well-established organisation, the public sector is already committed to running much of its mission-critical processes across a pre-existing IT estate. A "rip and replace" route into the cloud is not a viable solution; instead, cloud adoption has generally been built as an extension, replacing end-of-life solutions, with service bought through the government's Digital Marketplace (formerly the G-Cloud). Offering access to a large number of innovative services, the framework opens the public sector to both SMEs and established service providers.

On-premise and external services work in tandem. This is hybrid IT

Organisations are now building estates using traditional on-premise solutions alongside external services. These include public and private cloud, co-location, or managed hosting services. This is hybrid IT. However, despite the cost savings and efficiencies that cloud computing can be the catalyst for, we found UK public-sector organisations collectively spending more than £300m every year on unexpected costs for managing and maintaining cloud computing environments.

Alongside this, over half of all UK public-sector organisations believed that the cloud had increased the complexity of their IT environment. Sixty-seven per cent of public-sector organisations stated that hybrid IT complexity was hindering their ability to innovate. This despite nearly half believing that hybrid IT was necessary to remain competitive – and one-third that said it had improved customer service.

At face value the cloud-first mandate seems like progress, but although it may be intended to widen the flexibility and agility of organisations, it could be having the opposite effect, forcing many into IT systems that simply can't support their needs. Steps must also be taken to allow for how the cloud will actually link back to wider organisational goals. The public sector must ask itself: will this solution keep data as secure as it needs to be? Can it be accessed by the right employees – or even the general public – as and when required? Does it give employees the ability to do their job more efficiently and more cost-effectively? Does it future-proof the organisation and allow for openness and collaboration?

Delivering the infrastructure to ensure an organisation can deliver front-line services is difficult at the best of times; going it alone is nigh-on impossible. Questions over return on investment, total cost of ownership and service level agreements are liable to keep CIOs awake at night – but they are essential to create a partnership you can rely on and trust to represent value for money for the public purse.

It's about picking the right partner to provide the right mix of platforms for the right applications. ●

Keith Tilley is executive vice-president of global sales and customer services management at Sungard Availability Services

It's simple:
IT is complex

Modern society's demands on public sector operations are increasingly complex. Today's hybrid IT environments have to deliver the right mix of services, technology, vendors and processes to support the unique needs of health, education, central and local government bodies.

Such diversity creates complexity, which in turn slows progress and hinders innovation, something 67 per cent of public sector organisations are currently experiencing.*

Delivering the infrastructure required to ensure an organisation can deliver front line services is difficult at the best of times, going it alone is nigh on impossible. Sungard Availability Services provides an approach that's tailored to your operation's requirements – from legacy to cloud and resiliency to continuity. Helping you to adapt to meet compliance, cost and efficiency demands, to deliver the outcomes which are right for you.

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