A Public Sector Guide to Getting More From IT

Dell Technologies: Public Sector White Paper in partnership with Intel

Introduction

The Covid-19 global pandemic has had a huge impact on organisations of every size and in every sector, but some have found it easier to adapt than others. Where many established corporates and streamlined start-ups have found the resources to be flexible enough to adapt their business model and their working processes overnight, public sector bodies in government and education have faced different challenges. Inertia, limited resources and inflexible, legacy IT systems have made it difficult to meet the demands of the crisis and continue delivering the services that their citizens and students need. Yet those that have adapted now have an opportunity to use what they have learnt and implemented to transform their organisations in profound and lasting ways.

To understand how education and government organisations across EMEA have met the challenges of Covid-19 and get in front of the potential long-term effects, IDG surveyed over 500 UK and European IT

professionals working in education and local government. Those in education had to work in primary, secondary, or higher education, while those in government had to work in a town, district, or county level body serving between 20,000 and 70,000 residents.

In education, nearly half (49%) of the respondents worked in higher education, with 39% in secondary education, and the remainder in primary. Eighty-three percent were in an IT, Network or Computing Manager role. In government, IT technicians, network managers and IT service managers made up the majority of our respondents, alongside IT Network Managers and IT Computing Managers.
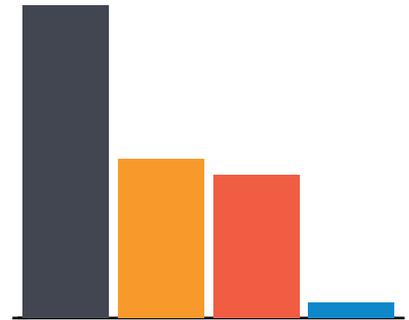
Key Findings

Priorities are changing
While security and business continuity are fundamental priorities for public sector IT, more and more organisations are focusing on delivering better user experiences and improving cost savings and effectiveness. Education organisations are placing more weight on the user experience (where they're eight percent ahead of government bodies), plugging their IT skills gaps, and migrating data and applications from on-premise to the cloud (where they're 20% and 11% ahead respectively).

Constraints are holding public sector IT back
Financial constraints and legacy technology are the most serious impediments to execution. On average, public sector organisations allocate 10% to 11% of their operating budgets to fund IT, and IT budgets are – on the whole – increasing. Yet 85% or organisations face some form of budget shortfall, and most organisations take six to 12 months to acquire funding – often longer.

To what degree does your IT budget meet your IT needs?

- **15%** All our IT needs are met (100%)
- **64%** Most are met (75 to 99%)
- **14%** Much is met (50% to 74%)
- **6%** Less than half is met (<50%)
- **1%** Don't know / Can't divulge

How does your organisation currently manage your IT architecture?

- **59%** Internal resources
- **30%** External consultants
- **27%** Managed Service Providers (MSPs)
- **3%** Don't know

PC refresh can't and won't be delayed
PC refresh in the public sector works on a three to five year cycle, and the consensus is that Covid-19 won't alter this significantly. Performance, cost, quality, durability and product support have become key factors when organisations choose their hardware and providers.
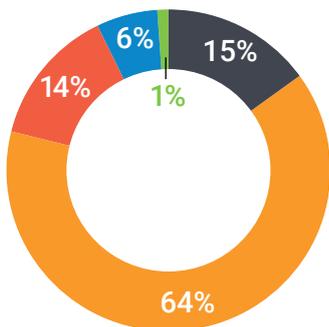
Covid-19 isn't changing how organisations manage their IT
The majority of public sector organisations (59%) manage their IT architecture internally, though a growing number use external consultants and Managed Service Providers (MSPs). This is unlikely to change in a post-pandemic world. Two-thirds of organisations are migrating applications to the cloud, and most do so using internal resources. Again, this is unlikely to change due to Covid-19.

The remote workplace is mainstream
Almost all public sector organisations (93%) have set up remote workspaces in response to Covid-19, and while they recognise security, support and ensuring continuity as the biggest challenges, most feel confident that their existing infrastructure is prepared to support the shift to remote working practices.

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CHAPTER 1
Adapting to the new normal

Like everyone else, public sector bodies are having to adjust to the new normal. Remote working practices, often underutilised within government and education, have – almost overnight and through necessity – been normalised. A 2019 report by the UK's Office for National Statistics found that only 3% of public sector workers worked mainly from home, against 17% of people working in the private sector. In April 2020, nearly half (47%) of workers across all sectors were doing part of their work from home.
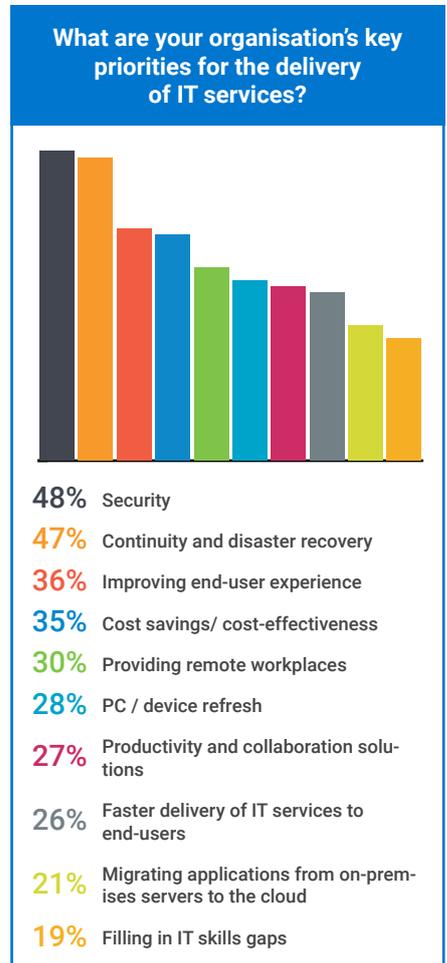
This is mirrored across Europe. Research from the European Foundation for the Improvement of Living and Working Conditions found that nearly 40% of EU citizens started working from home during Covid-19 lockdowns.

While the public sector lags behind the private sector on remote working, the impact is still being felt. Of the organisations we surveyed, 93% have set up remote workspaces in response to Covid-19. Workers in government and public services have found themselves relying on cloud-based services and communications tools that, last year, they might have barely heard of.

Meanwhile, the first half of the year saw more than 1.2 billion children across 186 countries around the globe out of the classroom, leading to a dramatic growth in the adoption of online learning. Further and higher education institutions have also had to make the leap. In early March, the London School of Economics made the call to take all teaching 100% online within the month, establishing a strategy and setting up an online learning platform based on Zoom. The University of Manchester began its preparations in February, so that its remote work solutions and support teams were ready to move once the outbreak hit. The UK's Association of Colleges has reported that, during the pandemic, 70% of providers were delivering online teaching, while 95% had services in place to allow their students to continue learning from home.

Inevitably, such a sudden shift will come with drawbacks. But there have also been positive effects. After all, research from the Research Institute of America has shown that, on average, students retain 25 to 60% more material when learning online compared to 8 to 10% in the classroom. As Cathy Li and Farah Lalani put it in an article for the World Economic Forum: 'Could the move to online learning be the catalyst to create a new, more effective method of educating students? While some worry that the hasty nature of the transition online may have hindered this goal, others plan to make e-learning part of their 'new normal' after experiencing the benefits first-hand.'

Has your organisation set up remote workplaces specifically as a result of Covid-19?

2%
6%
93%

- Yes
- No
- Don't know

What are your organisation's key priorities for the delivery of IT services?

48% Security
47% Continuity and disaster recovery
36% Improving end-user experience
35% Cost savings/ cost-effectiveness
30% Providing remote workplaces
28% PC / device refresh
27% Productivity and collaboration solutions
26% Faster delivery of IT services to end-users
21% Migrating applications from on-premises servers to the cloud
19% Filling in IT skills gaps

While the balance will shift back towards traditional working and learning practices in a post-pandemic world, remote working will remain a part of the mix.

Preparing for challenging conditions

The other major impact of the Covid-19 crisis is a daunting economic climate, with high unemployment, reduced productivity and drops in consumer confidence all likely to take their toll. As governments work to balance debts incurred through Covid-19 emergency programmes, the public sector won't be immune.

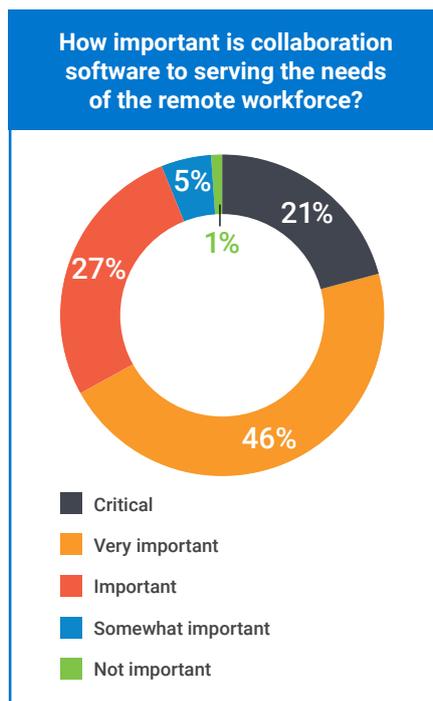DELLTechnologies   Innovation Built-In (intel)
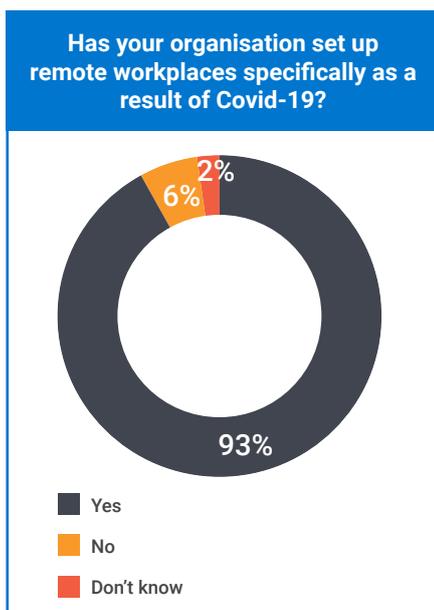
Organisations that already faced budgetary constraints will still struggle to find funding for new projects.

Inevitably, their priorities are changing. When asked to list their key priorities for the delivery of IT services, respondents placed 'security' and 'continuity and disaster recovery' as their top two, with 48% and 47%. 'Improving the end user experience' came next, at 36%, above 'cost savings and cost efficiencies' at 35%. 'Providing remote workplaces' was the sixth largest priority, at 30%. In a challenging landscape, public sector organisations are looking to reduce their spending and ensure that work continues no matter what. Yet they won't compromise on security; a key concern when cyberattacks on government and public service organisations are increasing.

Interestingly, there are slight differences in priorities for educators. Improving the end-user experience becomes more critical, with 40% for education organisations against 32% for those in government. The pressure is on for schools, colleges and universities to deliver systems and services that engage their students while keeping staff working smoothly. What's more, filling IT skills gaps is a bigger issue in education, where it rates five percentage points ahead of government organisations. Perhaps this isn't surprising in a sector where specialist IT personnel are often thinner on the ground, and where many key personnel may also be teachers or non-IT support staff.

Supporting remote work

As mentioned earlier, the majority (93%) of public sector organisations have set up remote workspaces in response to Covid-19, and our research also shows that 75% of education bodies and 74% of government organisations are prioritising the provision of remote workplaces post-pandemic. Respectively, 74% and 63% are

How important is collaboration software to serving the needs of the remote workforce?

- 21%
- 1%
- 5%
- 46%
- 27%

Critical
Very important
Important
Somewhat important
Not important

pushing the migration of applications from on-premise services to the cloud. The public sector is also embracing collaboration solutions, with 21% saying that the software has become critical to them, while the vast majority of those remaining (a further 73%) describe it as 'important' or 'very important'.

This represents a dramatic shift for both working practices and IT infrastructure, and organisations are aware of the challenges. When asked about the most challenging aspects of servicing these new remote workplaces for IT, 41% of respondents listed data backup and recovery, or controlling the security of the home or public networks that remote employees will be using. Concerns around Wi-Fi setups or troubleshooting was at 39%, and 38% cite securing multiple devices. Physical security, employee security training, and a lack of remote support tools also factor. These are all issues that IT can address, but there will be work and costs in doing so.

It's also true that education organisations will face additional

pressures. In April, BCS Chartered Institute for IT, conducted interviews on learning under lockdown, and found that a lack of access to the internet, suitable computers, and teaching resources were leaving many children excluded from online learning. Similar issues have been reported across Europe.

The good news is that public sector IT leaders feel confident that their existing infrastructure can handle the shift. In fact, over half (54%) are very confident or extremely confident, with 39% somewhat confident and only 7% not very confident or not confident at all. This could be crucial, as new infrastructure projects could take resources that could make a massive difference elsewhere.

Pressures and constraints

Public sector organisations are going to need all the resources they can get. When asked what factors could negatively impact their ability to meet their new priorities, public sector organisations list 'lockdown on new investments' and 'insufficient operating budgets' as the top two, at 38% and 34% respectively. Our research pinpoints legacy IT infrastructure as another key issue. The commercial pressures that push businesses to update and upgrade don't always exist in the public sector, and in 2020 it was reported that 14% of UK public sector computers were still running Windows 7, even after Microsoft ended support.

These are pressing concerns within the public sector. Whereas cash-rich corporations and nimble start-ups have the resources and flexibility to adapt new operating models overnight, public sector organisations are often stifled by outdated policies, processes and systems. The pressure will be on them to do more with less, but do it they must. It may seem counter-intuitive, but only by investing will public sector bodies be equipped for what comes next.

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CHAPTER 2
Navigating minimal resources

The temptation in a crisis is always to cut back on new investments, and IDC has predicted that worldwide IT spending will decline 2.7% this year. However, this decline won't apply across the board, and forward-looking public-sector organisations know that the solution lies in focusing on projects with the most potential for short-term advantage and long-term change.

The challenge is doing so when funds are tight, when the effects of the pandemic are already putting budgets and staff under pressure. When asked how the Covid-19 crisis had impacted their IT department, 81% of the respondents to our survey said that there had been increased demand for solutions that support remote work and collaboration, while 79% had needed to purchase new hardware for staff working from home. What's more, 74% had been affected by workforce absences, requiring them to handle these projects with a smaller team. This possibly explains why a lack of designated IT personnel was cited as an impediment to meeting their IT objectives by over a quarter of organisations surveyed.
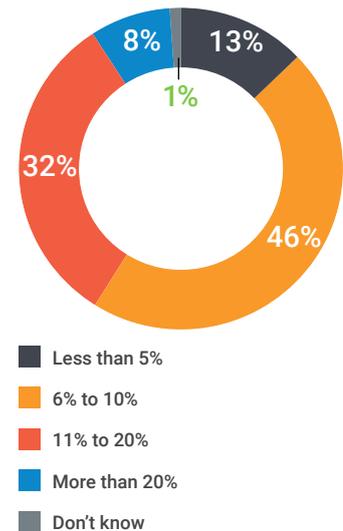
There is good news on the budget front – nearly half (48%) of organisations reported an increase in their IT budget. While a minority (13%) direct less than 5% of their operating budgets to IT, the majority direct somewhere between 10% and 11%, with the most generous 8% of organisations allocating 20% or more. Yet many public sector bodies seem to face the same dilemma; only 15% of our respondents felt they had the budget to meet all of their IT needs, and while 64% felt they had enough to cover most of their needs, that still leaves one in five struggling.

Finding funding

This isn't simply a question of money – it's also one of timing. Of the organisations we surveyed, 55% took six to 12 months to acquire new IT funding, while 17% took more than a year. What's more, there are big national variations. While 43% of IT teams working in the Netherlands could acquire funding within six months, this slips to 25% in the UK.

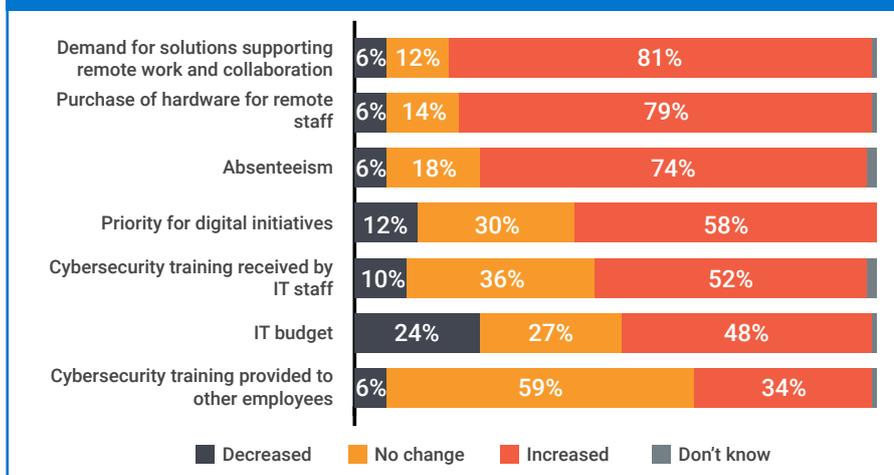Here, Covid-19 will also have an impact. While over a quarter of

respondents felt that funding for IT would be accelerated, over one-fifth (21%) think it will be delayed, and 38% think it will be staggered as organisations shift funding to priority projects at the expense of others. These delays may also turn out to be more severe in the education sector. Where 31% of government bodies expect funding to accelerate, this drops to 26% in education. Where 17% of government organisations believe IT funding will be delayed, this rises to 24% for education bodies.

To compound this, public sector bodies have a reputation for inertia – particularly when it comes to IT projects – with resistance from leaders, budget-holders and workers to anything new, unproven, or potentially costly. Nearly a third of organisations we surveyed picked out organisational inertia as an impediment to their IT ambitions.

What percentage of your organisation's total operating budget is dedicated to IT and IT staff?

- Less than 5% — 13%
- 6% to 10% — 46%
- 11% to 20% — 32%
- More than 20% — 8%
- Don't know — 1%

How has the Covid-19 crisis impacted your IT department?

	Decreased	No change	Increased
Demand for solutions supporting remote work and collaboration	6%	12%	81%
Purchase of hardware for remote staff	6%	14%	79%
Absenteeism	6%	18%	74%
Priority for digital initiatives	12%	30%	58%
Cybersecurity training received by IT staff	10%	36%	52%
IT budget	24%	27%	48%
Cybersecurity training provided to other employees	6%	59%	34%

Legend: Decreased, No change, Increased, Don't know

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Do any of the following negatively impact the ability of your internal IT resources to meet these priorities?
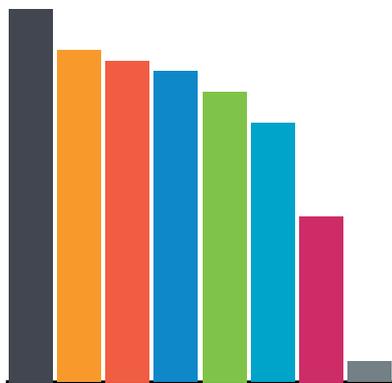
36%	Lockdown on new investments
32%	Insufficient operating budgets
31%	Legacy IT infrastructure
30%	Organisational inertia
28%	Budgeting and planning schedules
25%	Lack of designated IT personnel
16%	None of the above
2%	All of the above

Interestingly, research from McKinsey has highlighted how social dynamics, social biases and a lack of effective strategy can prevent promising initiatives from meeting their desired objectives.

Funding will be challenging within higher education. According to a Deloitte report entitled The Journey to Education's Digital Transformation: "Despite the willingness of HE providers to engage with citizens and shape digital services in collaboration with them, financial challenges may overshadow their technological aspirations over the long term."

It concludes: "With high price tags often attached to digital innovations, successfully marrying their conflicting commitments to cost reduction and technology may be a difficult balancing act for HE providers to pull off."

Closing the skills gap

The technology skills gap is an issue across all industries and organisations, but it's particularly a problem in the public sector – 74% of the organisations surveyed ranked it as a serious concern. Where a lack of designated IT personnel was a serious obstacle for 63% of government organisations, this rose to 83% in education.

McKinsey has explained how a shortage of digital skills is hampering initiatives in e-government, and how this prevents public sector bodies from improving services. Its analysis shows that an additional 1.7 million employees with appropriate technological skills are needed across the public sector in Europe and the UK by 2023 – for complex data analysis alone. The report concludes: "France, Germany and the United Kingdom will each require more than 100,000 additional skilled employees."

What's more, public sector bodies face an increasingly threatening security landscape. For example, the UK's local councils faced 263 million cyber-attacks in the first half of 2019. Without more skilled personnel, public sector bodies will likely suffer from breaches and downtime.

While the effects of the skill gap are felt across the public sector, they're felt particularly keenly in education. On the one hand, our research shows that many bodies suffer from a lack of dedicated IT resources. On the other, many primary and secondary schools still struggle with delivery of education in ICT, due not just to a lack of IT resources, but also a shortage of qualified, enthusiastic teaching staff.

Targeting investments

So, what can public sector organisations do? More investment in IT will help – and of the organisations surveyed, nearly half (46%) expect a higher priority for IT spending in the next cycle. IT teams will need to make the business case for additional investments and show how initiatives could reduce expenditure or make services more efficient in the long-term. Cultural resistance and organisational inertia also need careful handling. Here McKinsey has suggested adjusting strategies to account for social dynamics and 'games' while reallocating resources to the most important priorities. This, they suggest, will unlock public sector innovation.

While conquering the skills gap remains a massive challenge – and one that only education can fix in the long-term – public sector organisations can improve their chances by revising their existing recruiting practices, becoming more proactive in recruitment to meet specific requirements, and by up-skilling or reskilling their existing workforce.

This isn't a time to retreat from big initiatives, hardware refreshes, or software and cloud investments – it's a time to prioritise the obvious wins, the most crucial projects, and target the available resources where they're needed most.

How has the Covid-19 crisis affected how your organisation will prioritise IT investment in the next budget cycle, if at all?
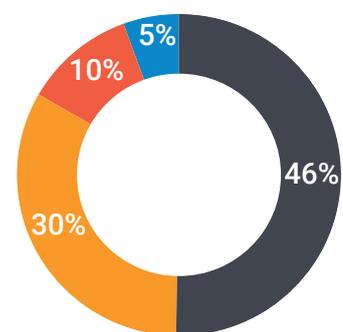
- ■ Higher priority
- ■ No change
- ■ Lower priority
- ■ Too early to tell

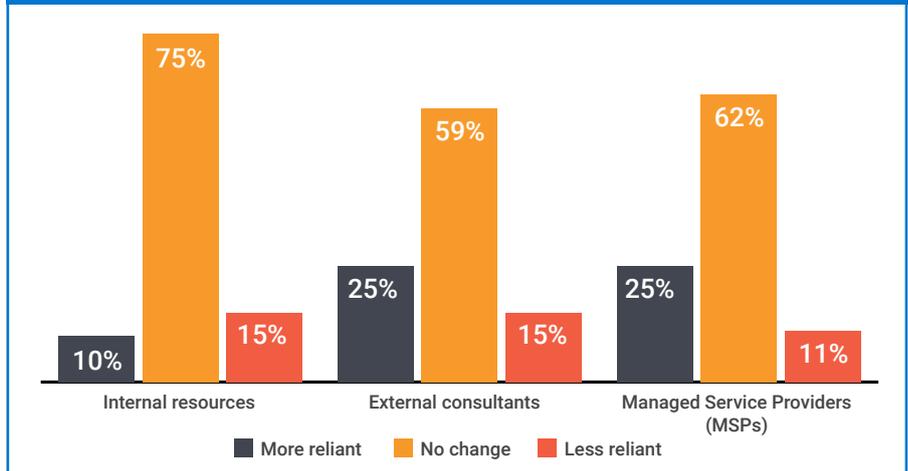**DELL**Technologies   Innovation Built-In (intel)

CHAPTER 3
Leveraging IT as an enabler

Responding to the Covid-19 crisis shouldn't mean abandoning transformation or modernisation initiatives. In fact, it should mean doubling down on them. Speaking to CIO, Capgemini's VP of AI engineering, Gotham Belliappa, has described how "the pandemic has turned these initiatives into imperatives for business survival" by pushing IT to collaborate with other technology departments, to deploy innovative concepts and discover new ways of interacting with customers. This is no less the case in the public sector, where technologies that promote agility, foster business continuity and enable IT to scale are key to providing improved public services.

In government and healthcare, IDC's Jan Alexa and Silvia Piai have talked of how "the availability of reliable and user-friendly digital services will be essential to inform, engage and encourage appropriate

Has the approach to migrating applications from on-premises servers to the cloud changed due to the Covid-19 crisis?

Internal resources: More reliant 10%, No change 75%, Less reliant 15%
External consultants: More reliant 25%, No change 59%, Less reliant 15%
Managed Service Providers (MSPs): More reliant 25%, No change 62%, Less reliant 11%
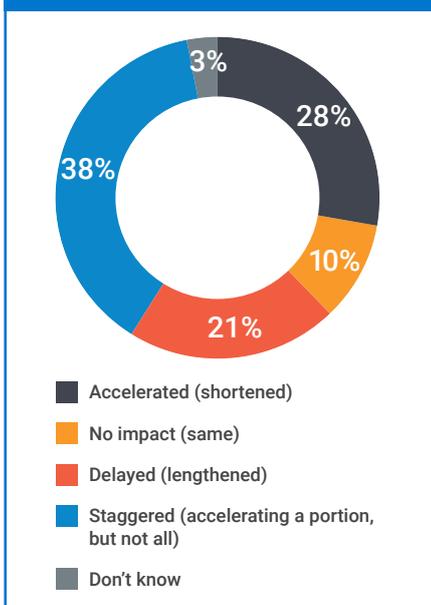
■ More reliant ■ No change ■ Less reliant

behaviour among citizens and patients." Covid-19, they say, has provided "a compelling use case for Big Data and advanced analytics for the public sector." Technology that enables government resources to be reallocated in an agile manner, or that uses automation to handle routine processes and queries, will be vital to doing more with less.

Gartner senior director analyst, Irma Fabular, has argued that emergency-related investments focused on mitigating the effects of the outbreak will lead, in the longer term, to "investments in digital public services, scalable IT and communications infrastructures, predictive data analytics and artificial intelligence." McKinsey has also described how public sector IT strategies need to shift from focusing on cost reduction to focusing on refining the customer experience, improving decision making, and on shifting the public service IT culture from one that's conservative and risk-averse to one that's primed for innovation and collaboration.

Similar shifts are happening in education. Institutions have been pushed to make choices on collaboration platforms, workflows, processes and projects, but that will forever alter how they work and teach. As Ruthbea Yesner, vice president of IDC Government Insights puts it, the pandemic "has forced a global digital transformation in education which will have profound and lasting impacts," adding that "in the near term, educational institutions will accelerate processes and workflows that can be agile, flexible and remote."

As we said earlier, while IT budgets will be under pressure in the public sector, 46% of respondents to our survey expect IT spending to be a higher priority in the next cycle. Nearly a third (28%) expect all IT funding to be accelerated, while a further 38% expect this will happen with priority initiatives. The resources will be there. What matters is how and where organisations target them.

Will Covid-19 change the length of time it takes to acquire funds for new IT investments?

- 28%
- 10%
- 21%
- 38%
- 3%

■ Accelerated (shortened)
■ No impact (same)
■ Delayed (lengthened)
■ Staggered (accelerating a portion, but not all)
■ Don't know

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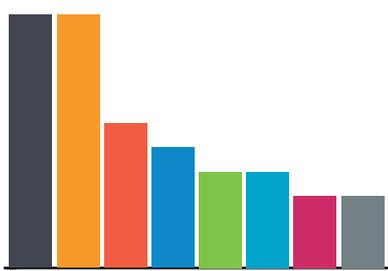
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Routes to modernisation

Here they have choices, many of them complementary. Two in three of the public sector organisations surveyed are already migrating applications from on-premise servers to the cloud, with the majority doing so through their own internal resources, while a few grow more reliant on external consultants and MSPs.

The benefits are noted by IDG editor-in-chief, Eric Knorr, in his introduction to IDG's 2020 Cloud Computing Survey: "With its agility and scalability, especially during a time where cloud-based collaboration tools are essential for a successful remote work environment, cloud computing is showing a strong adoption curve."
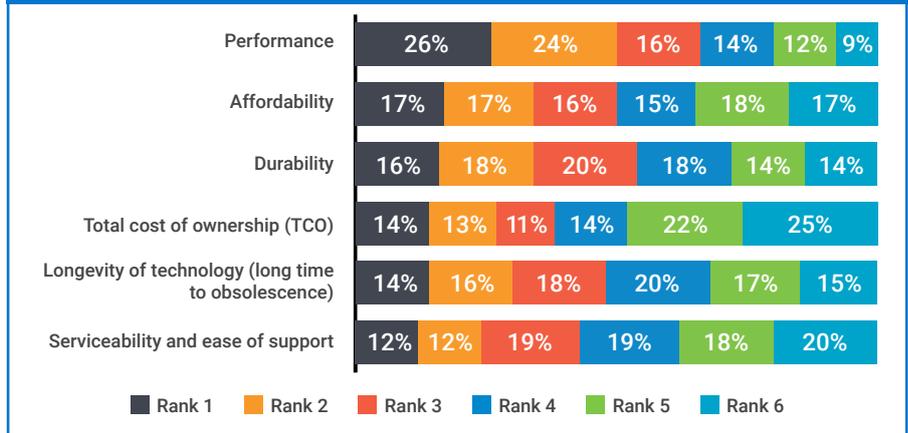
This shift to cloud is part and parcel of a workplace modernisation drive. Our research shows that 93% of public sector organisations have set up, or are setting up, remote workspaces – and that they're looking to leverage both internal and external resources to provide the right mix of access, security, and support.

How would you rank the following PC purchasing criteria?

	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	Rank 6
Performance	26%	24%	16%	14%	12%	9%
Affordability	17%	17%	16%	15%	18%	17%
Durability	16%	18%	20%	18%	14%	14%
Total cost of ownership (TCO)	14%	13%	11%	14%	22%	25%
Longevity of technology (long time to obsolescence)	14%	16%	18%	20%	17%	15%
Serviceability and ease of support	12%	12%	19%	19%	18%	20%

Which collaboration tool is most important to your organisation?

21%	Reliability of connections
21%	Cost
12%	Audio-visual quality
10%	Fully integrated audio and video
8%	Innovation
8%	Simple set-up and configuration
6%	Intuitive user-experience
6%	Simple installation

With this in mind, collaboration software has become a must-have. Sixty-seven percent of organisations responded that it's critical or very important, while a further 27% say it's important. Tools such as Zoom and Microsoft Teams might have become a communication lifeline during lockdown, but they're now an integral part of working culture and operations. Our survey shows that cost, reliability and audio-visual quality have become the priority when choosing solutions, and that manageability and security remain very real concerns. It also shows that organisations that embraced these solutions in an emergency are now working out how to continue using them, both to save costs and work more efficiently – and to enable new ways to operate in an uncertain world.

Avoiding false economies

When budget restrictions are in play, there's always a temptation to spend on software and cloud services but scrimp on hardware and infrastructure. But this is a mistake. Legacy hardware and infrastructure aren't built to support the performance, mobility and security demands of modernised IT, or cope with the applications and data demands required by new AI and analytics tools. Running new software and services on outdated platforms only holds them back.

Luckily, the organisations in our research understand this. While a higher proportion of educators than government IT leaders think that Covid-19 will delay PC refresh cycles, the difference isn't huge: 17% think refresh cycles will be accelerated, while 41% think there will be no impact. What's more, public sector organisations are making choices based on performance, affordability, and durability over the longevity of the technology and TCO. They're not focused on lengthening the refresh cycle or on cutting costs at the expense of all else, but on ensuring that their organisation gets the capabilities it needs to support new initiatives and working models.

The Covid-19 crisis has forced government and education bodies to face challenges that few would have anticipated at the beginning of the year. Yet it's also pushed sometimes slow-moving and change-resistant organisations into embracing technologies and innovations that could transform the way they work long-term. This is an opportunity for IT to double-down on what has worked, finesse what hasn't, and focus on new ways to deliver improved services and a better experience to their staff, their citizens, and their students. With limited resources, they'll have to target and prioritise, but with the right hardware, infrastructure, services and support, the potential is high.

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How Dell Technologies and Intel can help

Together, Dell Technologies and Intel can assist public sector organisations in meeting their priorities while working within their budgetary constraints. Not only can they provide the platform infrastructure to enable more flexible, agile and cost-effective IT services, but the secure, powerful devices that are necessary to take advantage of the latest productivity applications and collaboration tools. Whether work continues at the office or from home, you can work safely and effectively with the best available technology.

A platform for transformation

On the infrastructure level, Dell Technologies and Intel have moved away from traditional data centre models towards more agile and comprehensive solutions that support hybrid and multi-cloud architectures. These empower remote workers, and allow government and educators to work more flexibly, enabling them to innovate and bring transformational new projects to life while maintaining control of security and costs. New compute, memory and storage infrastructure, leveraging Intel Xeon Scalable and Intel Optane DC persistent memory technologies, are enabling more public sector organisations to make use of high-end data analytics and AI technologies at an accessible price, bringing new capabilities for planning, crisis control and decision-making within the reach of medium-sized government and education bodies.

Meanwhile, Dell Technologies' end-to-end security safeguards systems and sensitive public data with reduced TCO and management burdens. Trusted infrastructure security systems cover servers, storage and the network, while hardware-enabled, device-level security protects devices and data without compromising performance, delivering a great, safe experience for users of laptop and desktop PCs.

Prepared for the new normal

The latest Dell Technologies laptops and mobile workstations, based on Intel, provide the ideal fast, secure device platforms for teleworking and collaboration, with security baked in from the BIOS upwards, protecting users on less secure public or home networks from attack. Meanwhile, Dell Technologies and Intel provide public sector IT teams with the tools they need to manage and update PCs remotely and deliver support both within and outside the office. And as organisations roll out transformational applications and initiatives, Dell Technologies devices will have the performance and capabilities they need to fly.

Perhaps most importantly, Dell Technologies works as a 360-degree IT partner for education and government organisations, offering guidance and support on hardware, software and infrastructure, along with security services and expertise. What's more, Dell Technologies can provide public sector bodies with flexible payment solutions, including 0% financing, helping them to deliver new initiatives even when there are delays on funding or budgetary constraints.

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To find out more about how Dell Technologies and Intel can help you make your organisation more flexible, cost-effective, resilient and prepared for what comes next, visit www.dellemc.com/gb/ITMadeReal

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