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Government Digital Transformation in a Post-COVID World

IN PARTNERSHIP WITH Appian

Executive Summary

Dods Research surveyed over 100 UK technology decision makers within central government about their digital strategies and challenges during COVID-19. This whitepaper explores the key research findings and highlights the digital transformation priorities that government leaders should consider in a Post-COVID world.

• COVID-19 has stopped the world in its tracks and overtaken Brexit as the top digital transformation disruptor among government technology leaders with almost two thirds (64%) claiming the pandemic has impacted their organisation's digital transformation plans.

• In the wake of COVID-19, digital transformation has taken centre stage in enabling and enhancing the shift of government departments to remote working. This unprecedented transition has left legacy systems grappling with an ever-increasing volume of data that needs to be processed. At the same time, there is growing demand for fast, efficient, and seamless digital experiences.

• Looking to the future, government IT decision makers see improving operational efficiencies (90%) and simplification (78%) as top digital transformation goals. But what challenges lie ahead for government? As COVID-19 has accelerated digital transformation, government IT decision makers highlight existing infrastructure, technology incompatibilities, and lack of internal expertise as key barriers for progression within government organisations.

• Emerging technologies such as intelligent automation is speeding up digital transformation within the public sector and can improve time and cost efficiencies, processes and the digital experience for workers, businesses, and citizens. Encouragingly, the government is committed to the adoption of technologies to support automation. In fact, 80% are currently implementing automation technologies, and 69% agree that automation will help address operational challenges.

• To bolster digital transformation, some government departments are deploying low-code automation solutions. These solutions address challenges associated with efficiency, costs, agility, security, and user experience, whilst being much more accessible to a broader range of business and technical users. However, awareness of low-code among government decision makers is still low at present, with 82% unaware of low-code automation platforms and their capabilities.

• As government leaders adapt to remote working and set out their future plans, this paper outlines ten key recommendations to drive digital transformation strategies in a post-COVID world:

1. Consider automation to speed up processes and efficiency
2. Strive for simplicity
3. Improve the government worker and citizen experience
4. Consider low-code options
5. Invest in the right solutions and save money
6. Source and retain talent and skill sets
7. Place security at the core
8. Modernise infrastructure with scalability
9. Adopt a culture for the future
10. Improve the availability and quality of data

Background

As the UK begins to recover from COVID-19, government departments face a challenging period of policy uncertainty as the nation adjusts to a new way of living and working. Remote working has become the norm and government digital transformation strategies must adjust to cater for the changing technology demands of UK citizens and businesses. But what are the biggest factors affecting digital transformation across government? Where do most organisations' priorities lie? And to what extent has COVID-19 affected digital transformation efforts?

Between June and July 2020, Dods Research teamed up with Appian and surveyed more than 100 technology decision makers within central government. The research set out to understand the current challenges facing government leaders, with a focus on digital transformation, attitudes towards automation and levels of awareness and use of low-code platforms. This whitepaper summarises the main themes and provides considerations for a post-COVID world.

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The Shifting Priorities of Digital Transformation

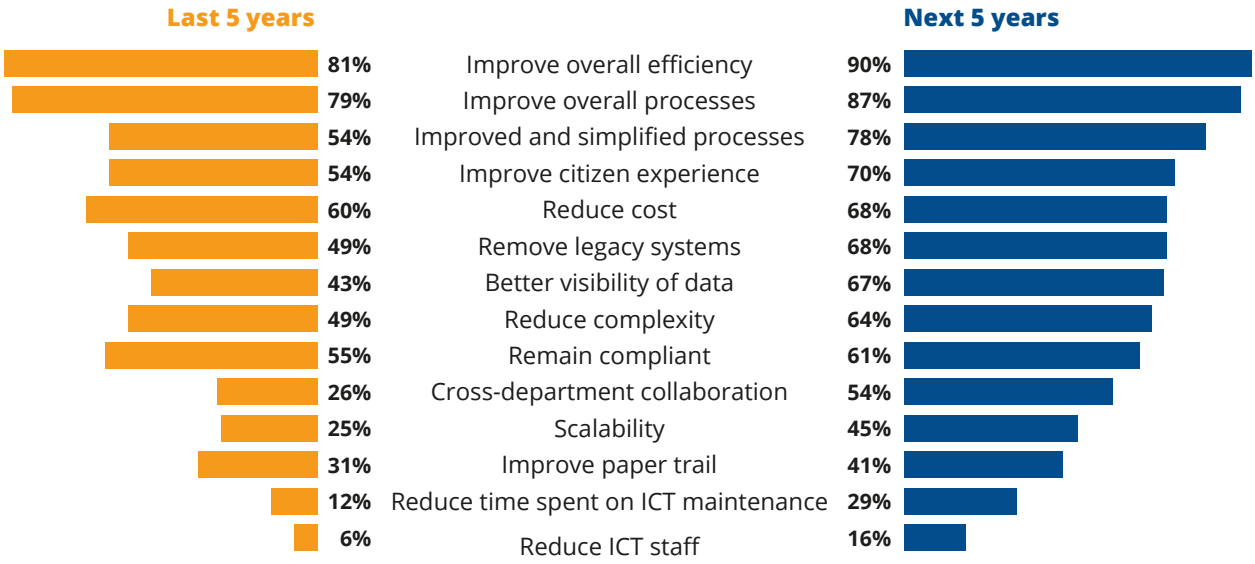
COVID-19 has changed government technology priorities, forcing the re-evaluation of pre-pandemic digital transformation strategies and plans. Rishi Sunak, Chancellor of the Exchequer, delivered the first budget of the UK government in March 2020, announcing a record increase in R&D and technology investment to £22bn per year by 2024, taking R&D annual spend above the USA, Japan, France and China. This announcement was just before COVID-19 escalated in the UK, which has resulted in further investment in digital transformation to cope with the pandemic. Increasingly sophisticated digital services provided by the private sector have inflated citizen expectations of government technology services. Consequently, the UK public sector must continue to invest in R&D and technology, increasing their digital agility to stay ahead.

Past Priorities

Almost all government decision makers interviewed in our research stated that their organisation had implemented digital transformation initiatives over the last five years, or plan to do so in the next five years. In terms of the top initiatives for government digital transformation in the past, there is a significant focus on process transformation and activities that focus on efficiency improvement. Figure 1 shows that 'Improve operational efficiency' was the top priority (81%), followed by 'Improve overall processes' (79%). The third goal over the last five years focusses on lowering costs (60%).

The fourth priority in the last five years was 'Remaining compliant' (55%), followed by 'Improving the citizen experience' (54%) and 'Improved and simplified processes' (54%).

Figure 1: Digital transformation priorities past and future



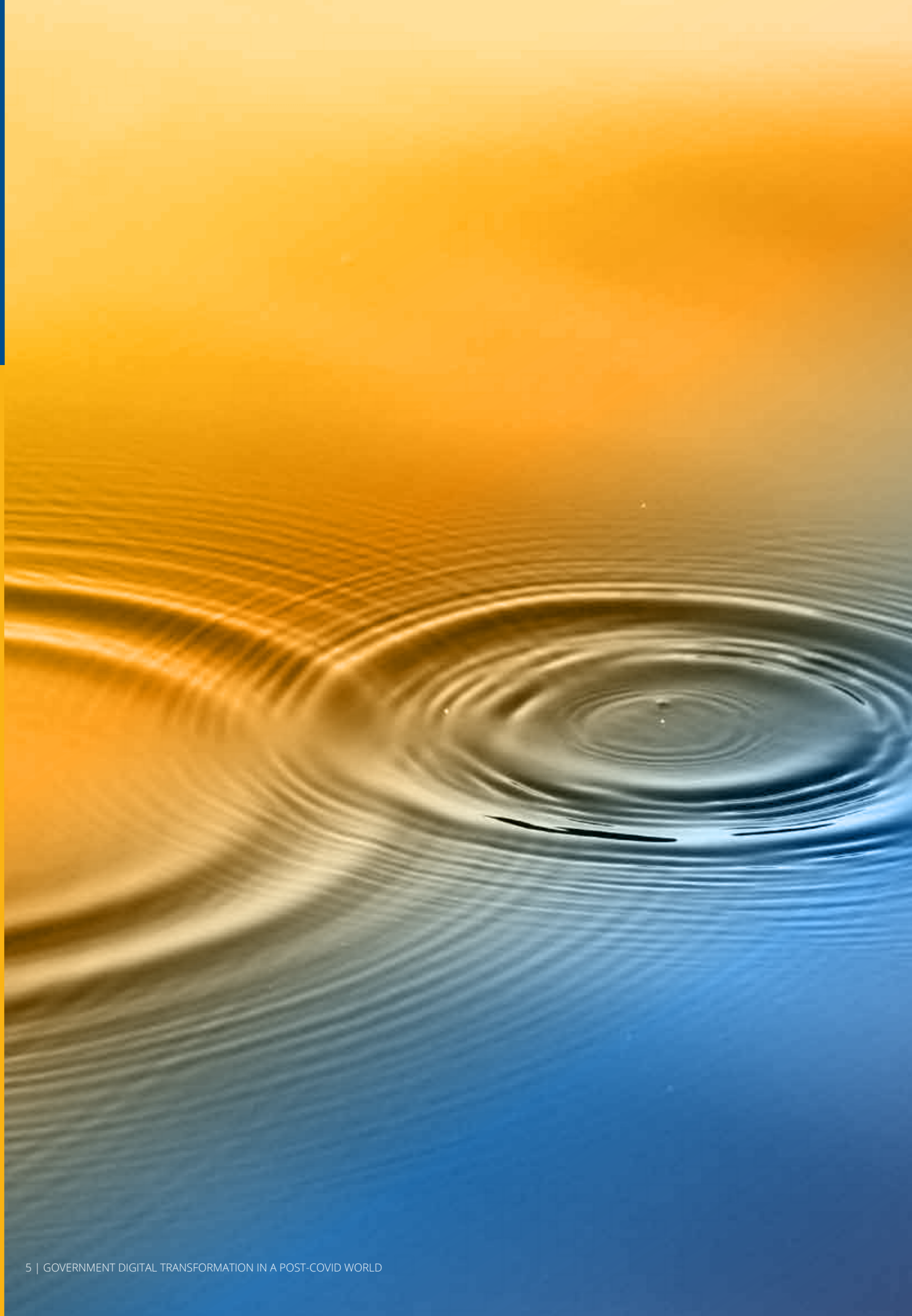
Q. What are the priorities of your organisation's digital transformation initiatives? Please select all that apply during the last 5 years, and also for the next 5 years.

Future Priorities

If we then fast forward to digital priorities in the next five years, we see that scores for all digital transformation initiatives were higher than the last five years. This is not surprising since COVID-19 has triggered a new 'tech revolution' with remote digital transformation at its core.

> "In some ways COVID has helped identify that working digitally rather than reliance on face to face and paper-based files is a must and will hopefully mean that this is prioritised going forward"
>
> *– HEO, Home Office*

> "Digital transformation has happened overnight, and everybody has adapted"
>
> *– SEO, Department for Transport*



Process transformation remains a common theme for digital transformation in the future, with the top two priorities remaining the same as the previous five years ('Improve operational efficiency' top with 90%, followed by 'Improve overall processes' 87%). 'Improved and simplified processes' is also high on the future digital transformation agenda in the next five years among 78% of government technology decision makers, jumping up the rankings to third (from fifth for past digital priorities).

The increase in remote working due to COVID-19 has forced the need for increased simplification as government departments quickly adapt to accommodate and service the needs of both workers and citizens in the most speedy and efficient manner. Simplification will also help create a faster, leaner, more agile public sector digital service and will enhance both citizen and employee efficiencies and experiences. 'Improving the citizen experience', is a key factor for central government and the fourth highest digital transformation priority among government technology decision makers (70% vs. 54% for the previous five years). An example where government digital transformation has enhanced the citizen experience includes the improved (and almost instant), online tax returns and rebate process.

Whilst technology can help governments become more effective and efficient, and ultimately improve the experience for both government workers and citizens, the global pandemic has driven many government departments to re-evaluate pre-pandemic digital transformation priorities. NHS Primary care has shifted almost overnight from face-to-face GP appointments, to nearly 100% e-consult and the use of the NHS App for ordering repeat prescriptions doubled in March 2020. In addition, we have witnessed remote hearings across the courts system, the quickfire development of digital services in areas like the furlough scheme, and huge demand for online bookings for coronavirus tests.

Emergence and Value of Low-code Automation

More than ever, UK citizens want convenience, efficiency, and a seamless digital experience and many government departments are turning to automation to help deliver this. Automation can save time as well as speed up processes, increase productivity and efficiency whilst lower operating costs. Automation technology and artificial intelligence (AI) makes it possible for machines to mimic human tasks and help governments prioritise their digital transformation plans and budgets which has become particularly important during the pandemic.

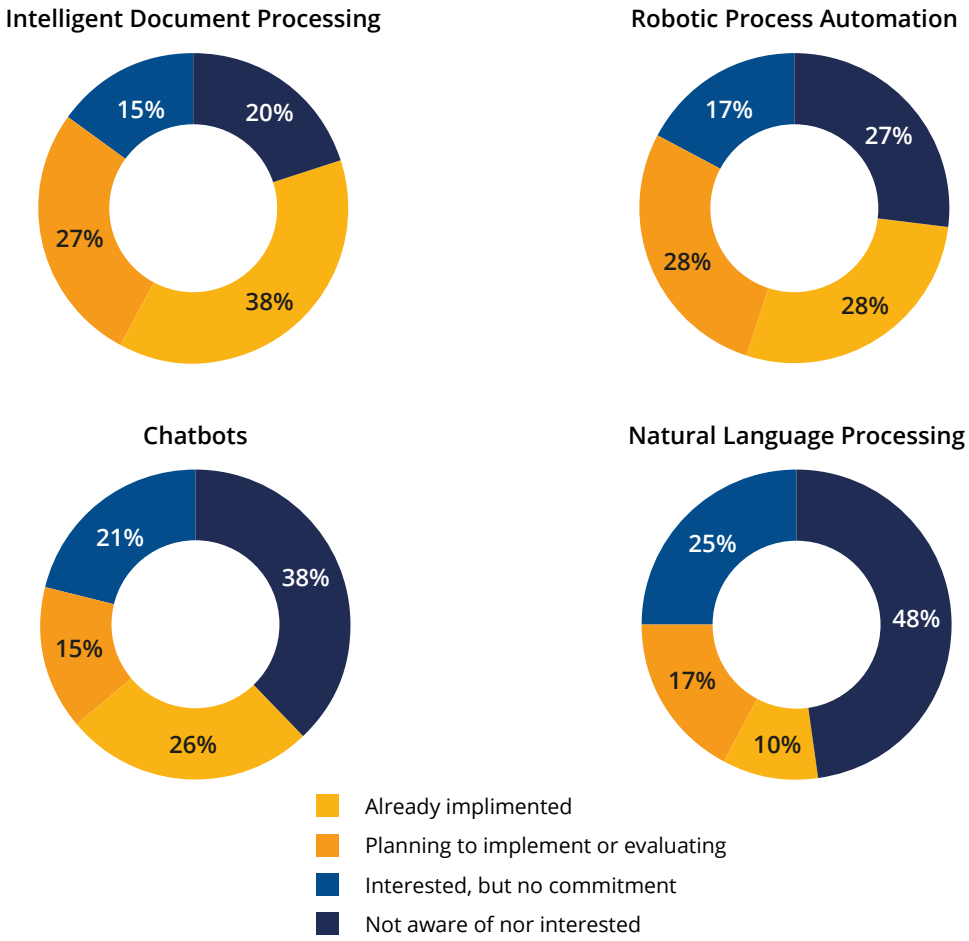
Consequently, automation processes have become more important than ever for organisations following the overnight shift to remote working which has put intense pressure on legacy processes with a high reliance on manual processing. As the volume of available data and the need for efficient processing increases, more government departments are implementing robotic process automation (RPA) to manage high-volume, repetitive tasks within legacy processes and applications. RPA is increasingly being used by government IT decision makers to improve operational efficiency, enhancing the user experience and citizen experience and ultimately deliver faster results.

There is also growing interest among government technology leaders in other emerging interfaces such as low-code. These cloud-based platforms can be easily integrated into existing systems and help reduce the amount of time required to design and deploy enterprise applications. Rather than the manual task of coding an application line by line, a low-code platform enables the end-user to draw it like a flowchart. This makes the process and user experience far more engaging, which in turn, empowers government departments to deliver solutions much faster.

However, at present there is a low level of awareness of low-code among government IT decision makers with more than eight in ten (82%) unaware of the software or its capabilities, and only 8% claiming to understand it. Of those respondents aware of low-code, it was felt that the barriers preventing organisations from implementing low-code solutions were linked to decision makers being unaware of low-code solutions, or prioritising open source software.

Encouragingly, automation is certainly on the agenda for government decision makers, with 80% currently implementing these technologies. Almost seven in ten (69%) agree that 'In the future, automation will support my organisation to address operational challenges'. Looking at current and future automation transformation plans, almost two thirds (64%) of government technology leaders are either currently implementing or plan to implement 'Intelligent Document Processing' in the future (Figure 2) and 56% claimed have already implemented or plan to implement 'Robotic Process Automation' within their organisation.

***Figure 2:** Automation transformation plans*



Q. For the following list of technologies, which statement best describes your organisation's current implementation plans as part of any digital transformation initiatives?

COVID-19 Accelerating Digital Transformation

UK technology leaders are facing high levels of uncertainty due to COVID-19, and organisations must quickly identify and act upon digital strategies that can lead to future positive outcomes post-pandemic. The COVID-19 pandemic has, understandably, overtaken Brexit as the top digital transformation disruptor among government technology leaders with 44% claiming the pandemic had highly impacted their organisation's digital transformation plans, compared to 21% for Brexit (Figure3).

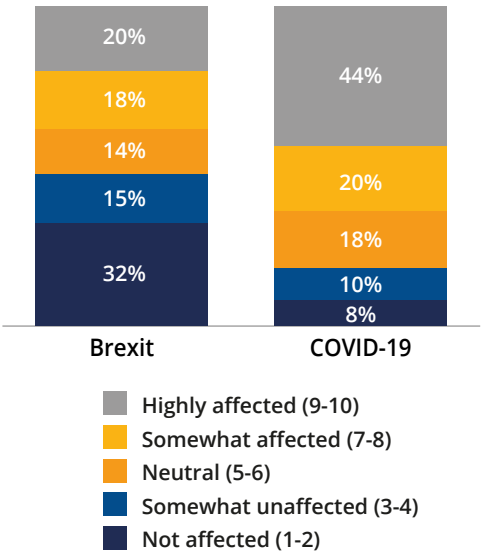
This demonstrates the significant impact COVID-19 has had on public sector technology plans in just a few short months. However, whilst the pandemic has almost stopped the world in its tracks, the implications of Brexit on public sector digital transformation plans should not be underestimated. Government IT decision makers felt that the main impacts of Brexit on the public sector focused on change, the creation of new policies, reduced funding, and project delays or cancellations. There was also a view among government decision makers that EU Exit is diverting resources and attention from other important areas and increased workload.

> "It has delayed things as it's harder to implement digital transformation when you can't easily access relevant systems/people"
>
> *– HEO, Ministry of Defence*

> "Brexit had taken the lead and other projects have been put on hold to accommodate due to financial and resource constraints"
>
> *– HM Revenue & Customs, HEO*

> "Resources and budgets have switched over to Brexit-related digital transformation"
>
> *– HM Revenue & Customs, Grade 7*

***Figure 3:** Impact of COVID-19 on digital transformation within your organisation*



Q. Have any of your organisation's digital transformation initiatives been affected by COVID-19 and Brexit?

COVID-19 has resulted in some positives, as it has accelerated digital transformation strategies at pace including the use of collaborative technologies such as Zoom, and Microsoft Teams reached record levels in March 2020. Cloud-based software has become crucial in addressing demands for scalability, improving collaboration, reducing cost, as well as integrating and automating digital services.

Almost overnight, organisations have had to ensure that the technological infrastructure and security measures were in place to enable the smooth transition to remote working, and at the same time continue to deliver 'business as usual' services, whilst keeping employees safe. This has been challenging for some government departments with systems that lack a web interface/remote access, particularly when workers have been unable to access the buildings containing the terminals. Consequently, government departments and IT functions have scaled up to adapt to change, and there is a clear acceptance that COVID-19 has paved the way for new ways of working, with digital transformation at the heart of this transition.

"More flexible working has meant the introduction of better communications tech, different ways of communicating and the need to meet high security benchmarks"

– Grade 6, Home Office

"All IT has had to be scaled up to accommodate a much higher percentage of staff working from home. Less red tape around new initiatives and previous plans have picked up pace"

– Executive Officer Ministry of Defence

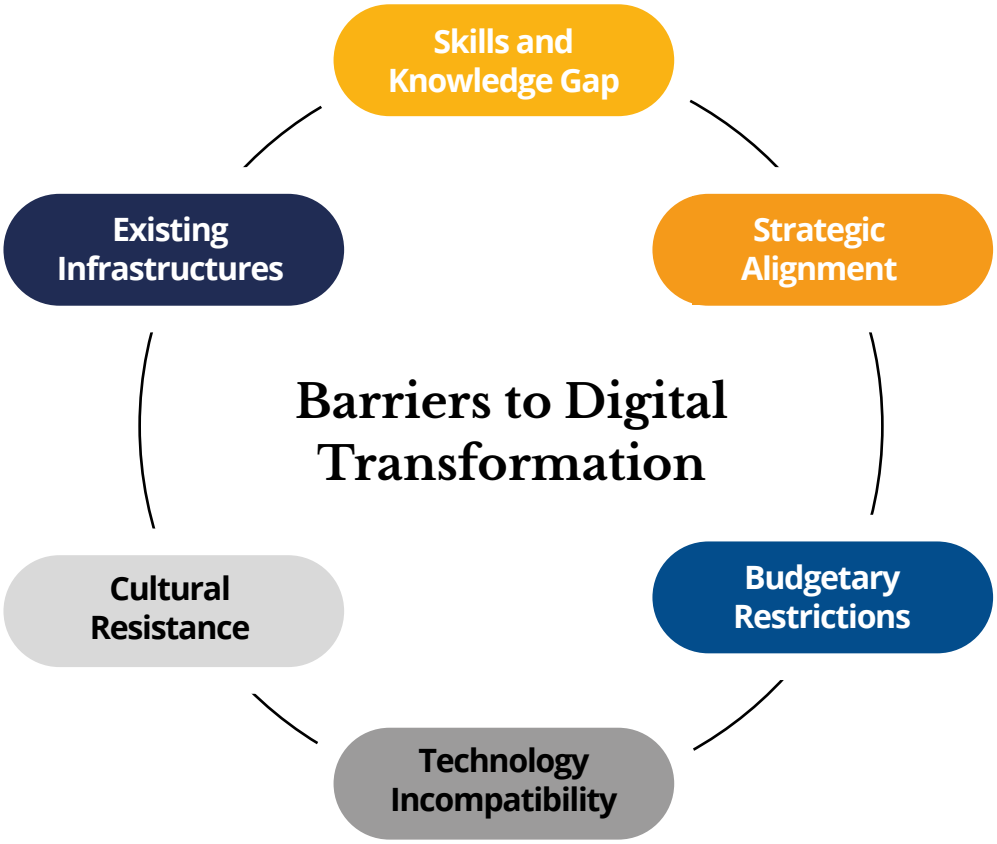
"Initially it had delayed plans to implement new systems. However, the drive to remote working has proven to senior management and operational staff that digital is the solution to many of our problems"

– ANONYMOUS

Digital Transformation Disruptors

COVID-19 has forced organisations to re-order digital transformation priorities, but there can be complications disrupting the path ahead. Our research highlighted that digital transformation is not purely about integrating the right technology and systems at the right price, but also involves a change in organisational culture and structure, and having the right people with the right skills in place to progress. Figure 4 outlines SIX key barriers to digital transformation identified by government technology leaders.

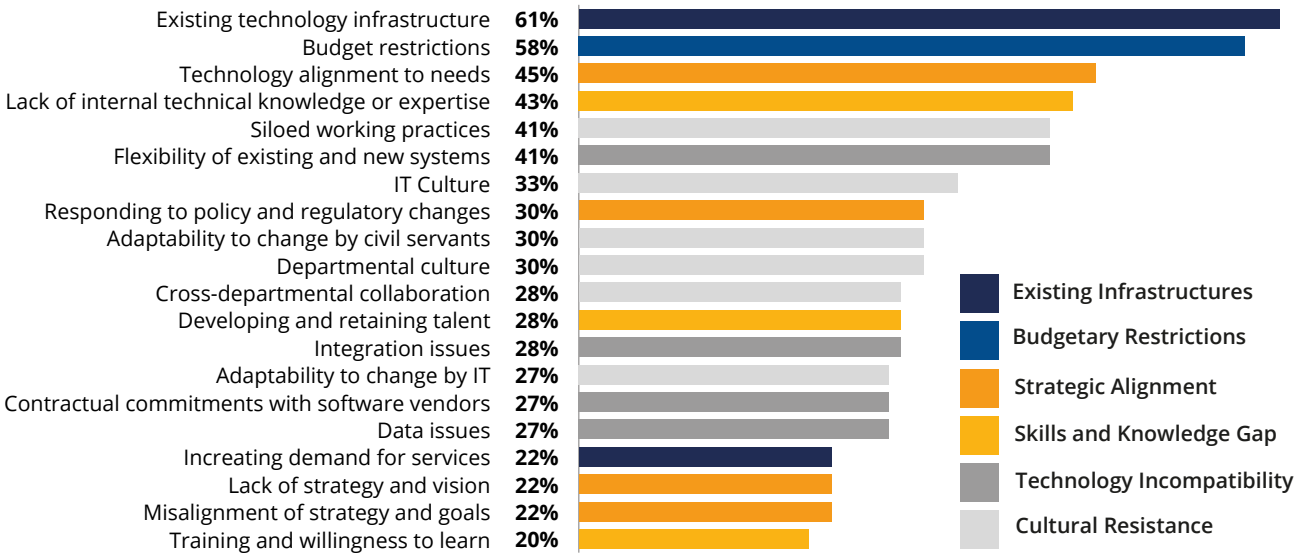
Figure 4: Six Barriers to Digital Transformation



1. Existing Infrastructures

As demand for digital services increase, government technology decision makers are under increasing pressure to keep up, and having the right information, technology components, and infrastructure in place to service government departments and citizens is essential. This is clearly the biggest challenge for government technology leaders with more than six in ten listing 'Existing technology infrastructure' as the number one barrier to digital transformation (Figure 5).

***Figure 5:** Barriers to digital transformation*



Q. What are, or what have been, the greatest barriers to your organisation's previous digital transformation initiatives? Please select all that apply

2. Budgetary Restrictions

Any digital transformation requires investment, and IT budgetary restrictions are the second highest digital transformation disruptor (58%) behind existing technology infrastructure. COVID-19 has led to a significant reallocation of IT budgets and resources to remote working priorities as organisations quickly adjusted and adapted to change.

3. Technology Incompatibility

Digital transformation is often disrupted by contractual obligations to existing software suppliers or legacy systems which prevents government technology decision makers from adopting faster and more efficient ways of running their departments.

> "Legacy systems that are not designed to act as information services when interacting with other systems"

– Grade 6, Ministry of Defence

Government technology leaders are under increasing pressure to keep up with technology agility by offering advanced sophisticated digital architectures, automation, and software. But government technology is often outdated, running on incompatible incumbent systems that are difficult to integrate and lack agility and flexibility.

> "Barriers for digital transformation.... are due to legacy system contracts and their compatibility with new IT software"

– HEO, HM Revenue and Customs

Over four in ten (41%) government decision makers cited 'Flexibility of existing and new systems' as a barrier to digital transformation and 28% listed 'Integration issues' as key obstacle for technology progression. Among those who cited 'Integration issues' as a barrier to implementing digital progression, the main reasons focused on legacy systems or software restrictions, lack of standardisation and the incompatibility of integrating old systems to new.

> "Complex hybrid IT estate makes it difficult to integrate new infrastructure, services, and applications with legacy versions"

– SEO, HM Revenue and Customs

> "Our old kit was so old due to lack of previous funding it was simply not able to integrate into any new system"

– Executive Officer, Ministry of Defence

> "Too many digital projects all working on different platforms have meant it's very difficult for them to work side by side"

– SEO, Home Office

4. Cultural Resistance

There is often the misconception that if an organisation upgrades its technology, digital transformation is complete. But organisational culture is crucial to the success of any digital initiative, and cultural barriers within an organisation, or the inability to embrace cultural change can block transformation. 41% of government decision makers identified 'Siloed working practices' as a key barrier for digital transformation. Other obstacles included 'IT culture' (33%), 'Departmental culture' (30%), and 'Cross-departmental collaboration' (28%). Digital transformation cannot progress without the right business culture in place, and organisations must be agile and adaptable to succeed. The challenge is to align people and departments to ensure all are working towards the same digital goals.

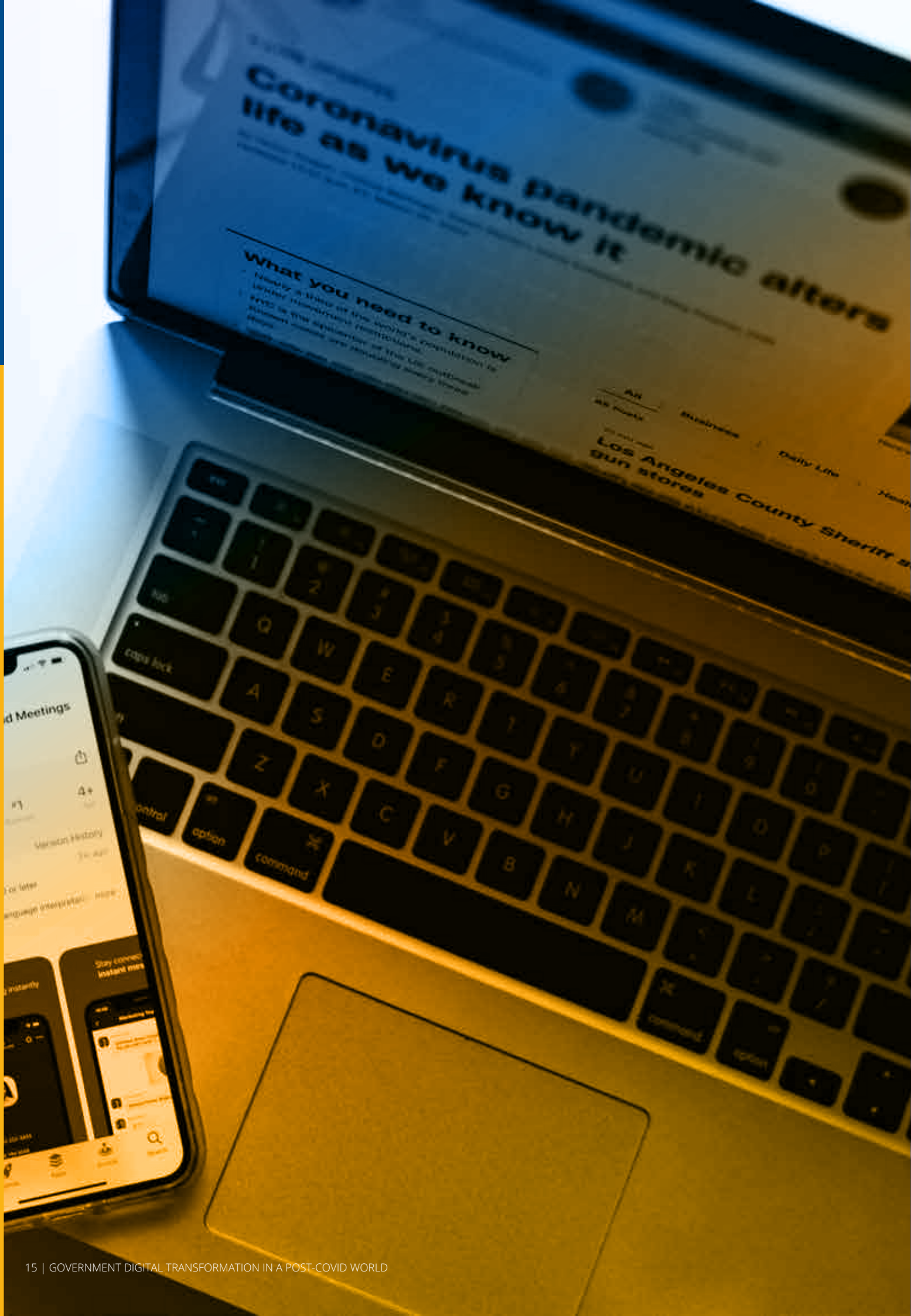
5. Skills and Knowledge Gap

People are a critical part of digital transformation and an essential ingredient to organisational culture. The public sector is renowned for its shortage of technology skills and training, and heavy reliance on contractors and consultants. This is confirmed by 43% of government technology decision makers who highlighted 'Lack of technological knowledge or expertise' as the leading obstacle for digital transformation. However, once the right staff and structures are in place, it is important for government departments to adopt the right organisational culture to retain and develop talent. This is clearly an area that requires further focus, with 28% of government decision makers claiming that 'Developing and retaining talent' were barriers to transformation, and 20% stating 'Training, and willingness to learn' were obstacles.

6. Strategic Alignment

The 2012 Government Digital Strategy transformed and digitalised some of the most high-volume government services, and since then, the public sector has continued to evolve, and government departments and teams have become better at collaborating and sharing platforms, systems, code, data, and processes. However, there is still much to be done. 45% of government technology decision makers highlighted 'Technology alignment to needs', as an objection to digital transformation. In addition, 22% of government decision makers cited 'Lack of strategy and vision' and the 'Misalignment of strategy and goals' as objections for progression.

As demands for the latest technology advancements within government continue to grow at pace, along with the additional disruption and challenges associated with COVID-19, it is essential to align organisational needs with the right technology and skill sets, and ensure that all government workers are on the same page to push digital transformation efforts forward with a clear strategic vision.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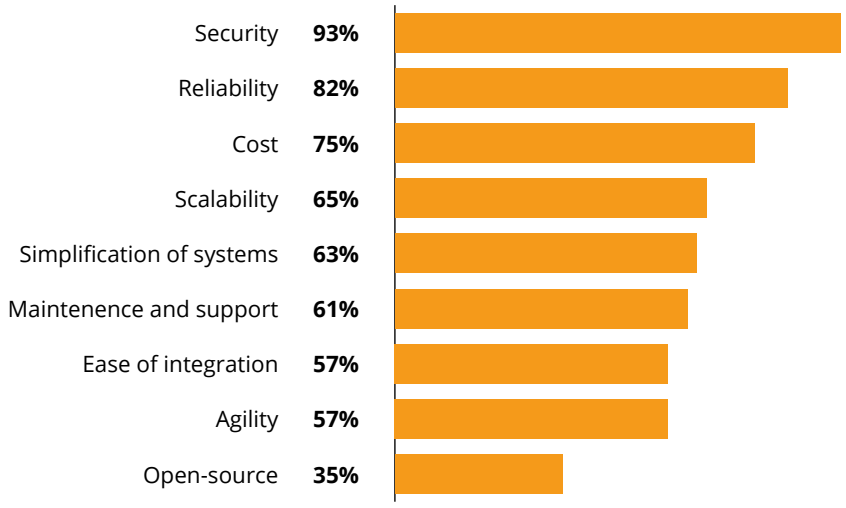
Selecting The Right IT System

The importance in security and safety for government workers and citizens has escalated due to the surge in remote working due to COVID-19. When seeking out the most appropriate IT systems to implement digital transformation successfully, not surprisingly, 'Security' is top of the agenda, and considered 'very important' by 93% of government technology leaders (Figure 6). Reliability is the second most important factor when selecting an IT system with 82% of government technology leaders considering it 'very important' in the process.

Reliability is at the heart of technology. Governments demand reliability and require a system that continually performs according to its specifications offering repeatability, robustness and predictability of technology components and processes, but ultimately delivering an efficient and trusted digital service to workers and citizens.

Over 60% of government technology decision makers considered 'Scalability', 'Simplification' and 'Maintenance and support' as 'very important' components when selecting an IT system with 'Ease of integration' and 'Agility' scoring 57%. Despite a general preference among the public sector for open source to enable them to custom code, it is low on the agenda for government technology leaders - with only a third considering it a 'very important' consideration when selecting an IT system, suggesting a willingness to change. The public sector needs to look for alternatives to open source since it is time consuming and requires technical teams to code, and consequently has a heavy reliance on consultancies and contractors, which also costs time and money. Low-code automation could present opportunities for the public sector, since it addresses many of the problems associated with costs, agility, security, and user experience of building new applications for government departments and citizens.

Figure 6: Factors influencing choice of IT System % 'Very important'



Q. What are the most important factors to consider when choosing a new IT system? Please rate on a scale of 1-10 with 1 = not at all important and 10 = extremely important (all rating each factor 8+)

Ten Considerations for UK Government Digital Transformation

1 Consider automation to speed up processes and efficiency

Automation is speeding up digital transformation within the public sector and is high on the agenda for government technology decision makers with 80% currently implementing these technologies. There has been an increased focus on automation, particularly where it can improve efficiencies and processes, improve the experience for both workers and citizens, and ultimately save time and costs. Working with suppliers that offer a complete automation platform will be key.

2 Strive for simplicity

Achieving a balance between simplification and innovation is a key goal for government technology leaders and getting the balance right is important for the long-term success of digital transformation initiatives. 'Improved and simplified processes' was high on the priority list for future digital transformation' along with 'improving the citizen experience. The inability to simplify the processes and IT systems will inhibit the digital transformation process. Replacing the complex IT landscape with a reduced number of interfaces and clunky technology will accelerate the transformation process allowing governments to be more agile for the pace of change whilst improving the citizen experience.

3 Improve the government worker and citizen experience

UK citizens expect an efficient, consistent, and seamless user experience when dealing with government departments. In addition, government workers require the architecture, systems, and processes to minimise mundane, time consuming tasks that often require heavy or complex coding. Government technology leaders should consider introducing automation options that can speed up processes and remove laborious tasks that enable talent to work on higher value projects and ultimately improve the worker experience.

4 Consider low-code options

COVID-19 has created increased pressure on existing legacy systems and processes with a high reliance on manual processing, and in many cases has exposed their limited capabilities. This has also accelerated the demand for automation processes, with 80% of government technology leaders claiming to be implementing some form of automation technologies. Low-code interfaces can unlock the potential for government organisations to simplify and speed up their automation initiatives. The systems require minimum coding and enable non-developers to design and build low- to mid-complexity solutions that improve worker efficiency and further digital transformation initiatives. At present there is a low level of awareness of low-code among government decision makers with 82% unaware of the software or its capabilities. This presents significant opportunities for low-code vendors, and also for the public sector as a whole to capitalise on these capabilities to improve efficiency and enhance the experience for government workers and citizens alike.

5 Invest in the right solutions and save money

Budget restrictions were cited as the second highest barrier to digital transformation among 58% of government decision makers. As organisations attempt to keep up with the pace of technology transformation in the public sector, it is imperative that they review their incumbent costly systems that are often clunky and are not agile for the pace of change. Government technology leaders need to invest in the right solutions that could improve and speed up processes, integrate current architectures, and automate mundane processes which will consequently save money.

6 Source and retain talent and skill sets

Skills and knowledge gap was identified as a key barrier in digital transformation within government driven by a 'Lack of technological knowledge or expertise' as a key obstacle alongside developing and retaining staff and training/ resistance to learn new skills. Although the priority to reduce ICT staff increased in importance in future priorities the level is low at 16%, suggesting this is not a key priority with the focus to upskill and develop the current IT talent. Selecting systems that engage staff and reduce the complexities of hard coding, whilst mitigating the need for a heavy reliance on consultancies and contractors and enabling the current IT talent to be retained and armed with the necessary skills and knowledge, is key. Increasingly, government departments are looking for solutions that enable end users to be more engaged with the design and delivery of solutions. This effectively will close the gap between end user requirements and the technology deployed.

7 Place security at the core

Not surprisingly, the safety, privacy, and security of citizens and citizen data is considered 'highly important' among 93% of government technology leaders when identifying an appropriate IT system and technology partner to work with. Governments have a duty of care and responsibility to protect the privacy of citizens. As cyber-attacks grow in frequency and sophistication, it is more important than ever to choose the right system to protect citizen data and protect against cyber-crime through every stage of digital transformation. Security and reliability are hugely important and when selecting technology vendors to partner with certifications are important, as well as regular third-party audits to ensure systems are operating effectively and safely.

8 Modernise infrastructure with scalability

'Scalability' was the fourth highest consideration among government technology leaders when looking for an IT system with 65% considering it to be 'very important'. 'Scalability' also increased in the priority hierarchy due to COVID-19. Given the investment and commitment required in digital transformation within government it is important for government technology decision makers to focus on scaling digital across the government infrastructure for both the medium and long term, delivering sustainable and scalable modernised digital infrastructure. Care must be taken in selecting solutions that extend and improve the capacities of existing legacy applications, as well as introducing new infrastructures that can both integrate old systems and improve current architectures, systems, and processes.

9 Adopt a culture for the future

Cultural resistance was identified as a barrier to digital transformation among government technology leaders, with the key hurdles focusing on IT department culture, lack of collaboration, and overall resistance to change. Successful digital transformation within the public sector requires alignment of mindset and focus across departments introducing the right systems, infrastructures, and platforms to engage workers, and enable the efficient running of digital services to citizens. It is essential to build agile workflows with a culture of collaboration to focus the company's digital transformation mindset to be citizen centric.

10 Improve availability and quality of data

In order to improve the availability and quality of data, and the analytics required for decision making in successful digital transformation initiatives, it is hugely important that government IT decision makers select cloud-based data solutions that can easily access, and integrate with, legacy government systems and data. This is essential to maintain data quality and ensure the smooth delivery of information to government decision makers and citizens with scalability in a post-COVID and post-Brexit world.

Survey Profile

Almost a third of all respondents worked for the Home Office (32%) with 20% working for HM Revenue and Customs. Just over one in ten (11%) worked for the Ministry of Defence and equal proportions (6%) fell within the Cabinet Office. In terms of job position, only 9% of respondents were in Administrative roles, with the majority falling into 'Executive' positions (64%); 25% were Senior Executive Officers, 21% were classified as Executive Officers and 19% HEO's (Higher Executive Officers). More than a fifth (23%) were Senior Civil Servants Grade 6 or 7 (13% and 10% respectively).

Appian

Why Appian?

Appian's low-code automation platform accelerates the development of mission-critical applications. Government departments, defence organisations, and many of the world's largest corporations trust Appian applications to improve and accelerate acquisition modernisation, logistics and asset management, regulatory and statutory compliance, organisation transformation, and citizen experience.

Appian enables government organisations to deploy enterprise applications faster, and without coding. Government authorities build secure applications that address their needs—rather than relying on costly, heavily customised packaged applications. The platform offers significant flexibility over traditional solutions by enabling the rapid design, development, and deployment of mission and back-office systems.

The Appian platform provides a single view of all data across systems and data sources, increasing productivity and improving programme outcomes, without necessarily having to create another data silo. Appian provides application users with a unified, actionable view of all relevant data, across databases, legacy and external systems. The platform allows organisations to tap into any data repository without forcing the import of data into the application environment. Appian provides no-code integration with databases, web services, SAP, Microsoft, Esri, and other applications.

The Appian platform combines robotic process automation (RPA), artificial intelligence (AI), and robotic workforce management (RWM) with workflow and case management to quickly deliver results with a high return on investment. Appian RPA provides organisations with software "bots" that automate high-volume, repeatable tasks within legacy processes and applications. By adding the power of Appian RPA to their applications, government organisations can dramatically improve operational efficiency, citizen experience, and staff engagement. Government organisations can deploy secure and scalable applications in the cloud, on-premises, or in a hybrid environment—with full mobile and offline capabilities. Appian allows organisations to respond quickly to legislative, regulatory, and policy changes and swiftly adapt to new government requirements.

» For more information, visit Appian Government Solutions

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