

# Digital Transformation in Government



## Overview

- Digital transformation is broadly defined as the use of digital technology at one or more of the following levels: changing processes and services from analogue to digital, rethinking the way a process or service is provided, or redesigning the way a business or organisation runs through the implementation of digital technology.
- The 2025 State of Digital Government Review found that 25% of government services are “outdated” and 47% of services offered by central government are not digitised.
- Government digital transformation has multiple potential benefits, including improved service efficiency, cost savings, and enhanced citizen engagement by streamlining processes and speeding up service delivery.
- Challenges to digital transformation in government arise across a range of areas, including finance and funding, communication, skills, leadership, project and departmental structure, and cultural resistance.
- Potential negative effects of government digital transformation include environmental harm, digital exclusion, health and social harms and decline in service resilience.
- A checklist of questions to inform parliamentary scrutiny has been developed in collaboration with stakeholders.

## Background

Definitions of 'digital transformation' vary widely and often involve the implementation of digital technology at one or more of the following levels:<sup>1-4</sup>

1. Changing processes and services from analogue to digital.<sup>2,3,5</sup> For example, creating a system for making driving licence applications online, instead of via a paper form.<sup>3</sup>
2. Rethinking service delivery with digital technologies,<sup>2,3</sup> by allowing data and systems to be shared across departments and services.<sup>3</sup> For example, 'Tell us Once', a cross-government initiative to reduce the number of contacts an individual has with government when reporting a death.<sup>A</sup>
3. Redefining business operations to transform processes and services for better efficiency and outcomes.<sup>9,10</sup> For example, in 2021 Tandridge District Council launched a digital transformation programme to change how their services (such as planning and benefits) were delivered.<sup>B 11</sup>

The UK Government has identified digital transformation as key to public service reform, offering the potential for improved services, productivity and cost savings.<sup>12</sup> Digital services are often more economical than analogue services,<sup>13,14</sup> and can better integrate operations between services and departments for improved outcomes.<sup>15,16</sup>

The National Audit Office (NAO) has concluded that "digital transformation and modernisation of government services are instrumental in achieving efficiencies".<sup>8,17</sup> The Government estimated that over £45 billion per year of savings and productivity benefits (4-7% of public sector spend), could be realised with full digitisation of public sector services.<sup>12</sup>

Despite the possible benefits, government digital transformation may have negative consequences. These could include:

- greater digital exclusion,<sup>C</sup> (for example, for those unable to use digital technologies who may be unable to interact with public services)<sup>19</sup>

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<sup>A</sup> Tell us Once is a long-term collaboration service between the Department for Work and Pensions (DWP), HMRC, DVLA, HM Passport Service and local government, as well as some public sector pension providers.<sup>6,7</sup> The service allows individuals to register a death online, after which Tell us Once automatically informs relevant departments and local government organisations,<sup>6</sup> who automatically stop council tax charges, cancel any driving licence and passport, and stop pension payments.<sup>6,8</sup> The service was launched in 2011 and became available across England, Wales and Scotland in 2020. According to the DWP, Tell us Once has resulted in estimated annual savings of over £20 million by preventing overpayments.<sup>7</sup>

<sup>B</sup> The transformation involved the development of "MyTandridge Account", that aims to provide residents with the option of self-service for activities such as council tax, business rates, benefits, housing, planning, recycling and waste.<sup>11</sup>

<sup>C</sup> Digital exclusion broadly refers to people who cannot fully participate in society because they have limited access to the internet or digital services, or are unable to use them.<sup>18</sup>

- decline in service resilience, for example, due to increased vulnerability to cyber-attacks<sup>20</sup>
- environmental harm through increased energy use, CO<sub>2</sub> emissions and electrical waste<sup>21,22</sup>
- impacts on health (such as social isolation,<sup>23–25</sup> stress and anxiety), including when engaging with public services.<sup>23,24,26,27</sup>

In January 2025, the UK Government published the State of Digital Government Review.<sup>12</sup> This found that 47% of services offered by central government are not digitised,<sup>D</sup> meaning they involve manual or paper-based steps.<sup>12</sup> For example, Defra stated that 83% of its services are form-based, using more than 500 forms across the Department.<sup>12</sup>

A European Commission study comparing how European governments delivered digital public services in 2021, found that 81% of national government services across 36 European countries were available online.<sup>28</sup> The study calculated e-government performance, based on data obtained from survey questions.<sup>E 28</sup> The average overall e-government performance score for all European nations was 68%, and the UK achieved a score of 69% (Figure 1).<sup>28</sup>

This POSTnote examines where responsibility for digital transformation lies within the UK Government, the potential benefits of digital transformation in central and local government, and the barriers to implementation. It also highlights the potential negative consequences of digital transformation.

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<sup>D</sup> 53% of approximately 780 services hosted on the GOV.UK services page have a digital pathway, excluding pages classified as 'read-only' by AI (large language model) analysis.<sup>12</sup>

<sup>E</sup> e-Government performance was calculated based on survey questions assessing: 1) user centricity - the extent to which information and services are available online, 2) transparency - the extent to which services are designed with user involvement, 3) key enablers - the extent to which digital tools such as electronic identification support secure identification and communication between a user and a government service, and 4) cross border services – the extent to which citizens from other European countries can access online information and services through electronic identification and documents.<sup>29</sup> A similar study was conducted in 2024 but did not include the UK.<sup>30</sup>

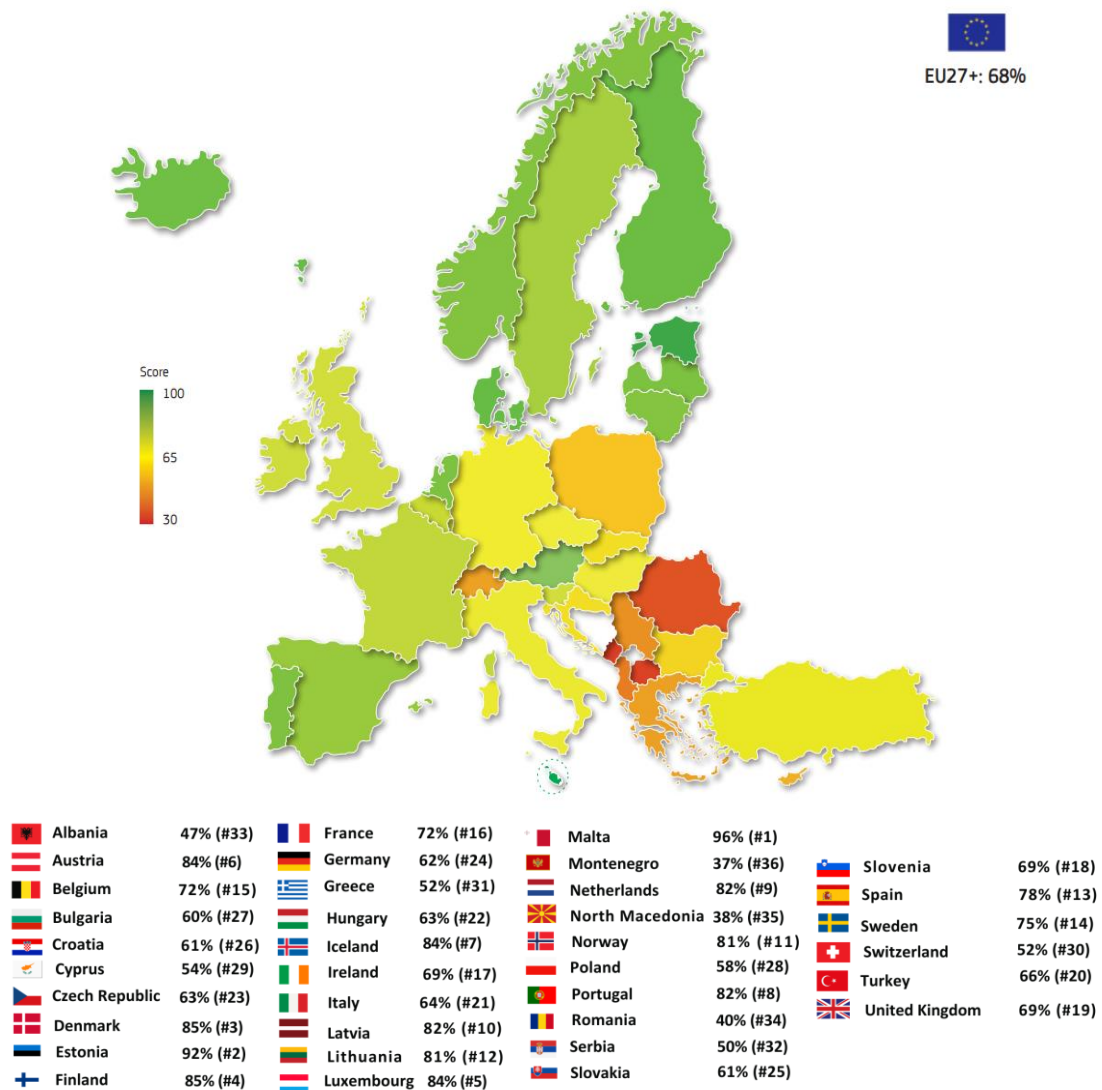


Figure 1: Overall e-government performance of individual European countries as a percentage from 0% to 100%.<sup>29</sup> Figure adapted from eGovernment Benchmark, Capgemini *et al.*, European Commission, 2021.

## Who is responsible for digital transformation in Government?

Plans were announced in 2024 by the Department for Science, Innovation and Technology (DSIT) to create a new “digital centre of Government”,<sup>31,32</sup> called the Government Digital Service (GDS).<sup>33</sup>

GDS was formed by merging the former GDS, the Central Digital and Data Office (CDDO), the Incubator for Artificial Intelligence (AI),<sup>F</sup> and the Geospatial Commission.<sup>G 31,37</sup> It is led by the Government Chief Digital Officer (CDO)<sup>38</sup> and supported by a panel of technology experts.<sup>31,39</sup> GDS aims to create a “more convenient and time saving experience for the public.”<sup>31</sup>

It is anticipated that individual government departments will continue to lead their own digital transformation, with the new GDS supporting where appropriate.<sup>38</sup>

## Announced plans

The government has announced several digital initiatives in 2025,<sup>38</sup> including:

- Creation of a national data library, to provide researchers access to public data sets, led by DSIT.<sup>38</sup>
- Plans to modernise general practice in the NHS by requiring GP surgeries to allow online appointment requests to improve triaging.<sup>40</sup>
- Plans to pilot GOV.UK Chat, a text-based user interface for the government’s website with the aim of resolving queries quickly.<sup>38</sup>
- A GOV.UK App, to allow citizens to manage all their government activity in one place,<sup>41</sup> with a personalised homepage for quick access to information on services such as MOTs, vehicle tax, and benefits.<sup>42</sup>
- A GOV.UK Wallet, to securely store digital government documents, such as those used to prove identity or eligibility to access specific services, like benefits.<sup>43</sup>
- A new AI accelerator programme that will upskill digital professionals into machine learning engineers to bring AI expertise into government departments.<sup>38</sup>

The government has proposed the Data (Use and Access) Bill,<sup>H</sup> which aims to “support modern digital government”.<sup>45–48</sup> The Department of Health and Social Care

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<sup>F</sup> The Incubator for AI aims to “harness the opportunity of AI to improve lives, drive growth and deliver better public services”.<sup>34</sup> Its activities include testing ideas, developing prototypes, sharing work across government, and helping departments to identify AI opportunities.<sup>34</sup>

<sup>G</sup> Geospatial data describes where places, objects and people are in relation to a geographic location.<sup>35</sup> The Geospatial Commission was an expert committee with responsibility for setting the UK’s geospatial strategy and coordinating public sector geospatial activity.<sup>36</sup>

<sup>H</sup> The Data (Use and Access) Bill includes measures such as: creating a government register of trusted digital verification services to increase users’ confidence; developing a national underground asset register to increase the efficiency and safety of underground work by providing secure access to data about the location of pipes, cables and other apparatus; and smart data scheme provisions to allow communications providers and financial services providers to share customer data with third-parties, following a customer’s request.<sup>44,45</sup>

has also highlighted digital transformation as one of three strategic shifts in its 10-year health plan.<sup>I 49</sup>

## Benefits of digital transformation in the public sector

Digital transformation can improve service efficiency,<sup>50</sup> reduce costs,<sup>12</sup> and enhance government-citizen engagement.<sup>51</sup> There are many examples of projects that showcase the potential benefits of government digital transformation, both internationally and within the UK.

## Digital transformation in the UK

Public sector digital transformation projects take place on a variety of scales, from national to local.

Nationally, the NHS has implemented a range of digital projects aimed at improving efficiencies, such as Electronic Health Records, telemedicine tools for patient advice and monitoring,<sup>52</sup> and 'NHS Jobs' (Box 1).<sup>53</sup>

### Box 1: NHS Jobs

The 'NHS Jobs' digital recruitment platform has been highlighted as an example of the potential long-term benefits of public service digital transformation.<sup>53</sup> Before its creation,<sup>54</sup> advertising was mainly limited to paper-based national, local and specialist publications.<sup>53</sup> This made it difficult for jobseekers to find relevant roles and was costly for the NHS, with over 10,000 staff across 700 organisations involved in recruitment alone.<sup>53</sup>

Launched in 2003, NHS Jobs is a platform that streamlines NHS recruitment<sup>53</sup> by sharing 'back-office' processes to reduce duplication.<sup>55</sup> It enabled national vacancy advertising and application management.<sup>53</sup> NHS Jobs neared 100% adoption across 700 NHS organisations within approximately 18 months,<sup>53</sup> and is estimated to have saved the NHS more than £1 billion, over 20 years.<sup>53,56</sup>

#### What factors contributed to the effectiveness of NHS Jobs?

- 1) Similar versions were widely used by other organisations, which meant 85% of the functionality of NHS Jobs had already been proven.<sup>53</sup> Investment focussed on customising the remaining 15% for the needs of the NHS.<sup>53</sup>
- 2) The then Department of Health, (now the Department of Health and Social Care) provided funding for its creation and ongoing provision.<sup>53</sup>
- 3) A publicity campaign was used to raise awareness of the service among NHS organisations.<sup>53</sup>

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<sup>I</sup> Other strategic shifts include moving care from hospital to the community and from treatment to prevention.<sup>49</sup>

- 4) NHS Jobs went further than being an IT system, by providing services centrally that met the specific needs of NHS organisations.<sup>53</sup>

## Examples of digital transformation in local government

Locally, councils have implemented digital innovations to enhance services and efficiency.<sup>57–59</sup>

### Lancaster County Council (LCC)

In 2023, LCC identified inefficiencies and errors in its manual stock control, ordering and financial tracking of the meals it provided to schools, care homes and day centres.<sup>60</sup> LCC partnered with software company Civica to digitise the process, to enable real-time tracking of stock, orders and financial data.<sup>60</sup> Civica stated that the system improved communication between schools and the council, enabling quicker decision-making and reducing paper-based costs (for example, printing costs) by 70%.<sup>60</sup> They also stated it reduced food waste, improved budget management, and allowed staff to focus on meal provision over administrative tasks.<sup>60</sup>

### Hillingdon Council (HC)

In 2025, HC became the first UK local authority to use voice automation and AI at scale by creating an AI-driven telephone and messaging system. Estimates suggest this has reduced the cost per call by 5%, compared to manual methods that required an equivalent of 25 to 30 full time employees.<sup>12</sup> According to the NAO, 19% of the UK Government bodies they consulted in 2023 were using AI to directly provide a public service or engage with the public.<sup>61</sup>

## Examples of projects that did not deliver their original aims

There are significant examples of government digital transformation projects that did not deliver expected outcomes or stay within their original budgets.

### Police National Computer

The Home Office programme to replace the Police National Computer for a more modern cloud-based service has been delayed by over 5 years.<sup>62,63</sup> Originally expected in 2020, it is now due to be completed in 2025/26.<sup>62</sup> The service aims to join-up police information systems and move existing data into a new technology platform, helping officers to use information more effectively to detect and prevent crime.<sup>64</sup> The project's budget increased from £671 million to £1.1 billion.<sup>62</sup>

### NHS Programme for IT

Launched in 2002, the NHS National Programme for IT aimed to create an electronic health record system, but was dismantled in 2011 due to challenges such as overambition and poor project structure.<sup>65</sup> The Public Accounts Committee noted that the total cost of the programme was uncertain, and estimated a final cost of £9.8 billion.<sup>66</sup>



## International examples of digital transformation

- Denmark – ‘Digital Post’ allows citizens to send and receive government documents via an online communication service.<sup>67</sup> The Danish Government said that “The key to digital success is trust”,<sup>68,69</sup> with a 2022 government survey finding 77% of their citizens either “agree” or “strongly agree” that they trust their public digital services.<sup>70</sup>
- Estonia – As of 2024, Estonia offers all of its public services online.<sup>71</sup> The ‘X Road’ system integrates public and private sector data, allowing systems to operate together. It enables, for example, the police to access data from the health system, tax board or business registry, and vice versa.<sup>72–74</sup> Estonia also introduced compulsory national digital ID cards for signing contracts, voting and accessing health information, amongst other uses.<sup>75</sup>
- Singapore – Singapore’s ‘Seniors Go Digital’ programme helped older citizens access digital services.<sup>76</sup> The programme supported over 210,000 seniors between 2020–2023,<sup>77</sup> teaching skills like setting up ‘Singpass’,<sup>78</sup> a digital identity pass for online services.<sup>79</sup> The Singapore Government has said that it focuses on trust, growth and community,<sup>80,81</sup> to promote innovation, digital literacy and inclusivity.<sup>80,81</sup>
- Sonoma County, California, USA – Local government officials partnered with IBM to support the coordination of services like health, child support and probation, to prevent gaps in the social safety net.<sup>82</sup> IBM identified a siloed organisational structure, which restricted data sharing.<sup>82</sup> It developed a technology platform to improve data sharing and coordination.<sup>82</sup> This initiative claimed to help reduce homelessness in the county by 9% between 2018 and 2020.<sup>82</sup>
- Ukraine – The Diia App offers the world’s first digital passport and access to 14 other digital documents and 25 public services.<sup>83</sup>

## Barriers to digital transformation in government

Digital transformation in local and central government can face barriers relating to funding, communication, skills, leadership, structures and processes, and culture.

### Funding

Digital services require ongoing funding. Stakeholders including the NAO and the Public Accounts Committee, have concluded that the UK Government’s largely annual funding model hinders long-term strategic improvements. Departments report that it is easier to secure funding for capital spending (e.g. to improve infrastructure) than resource expenditure (e.g. day-to-day running costs).<sup>84</sup> This can make it difficult to maintain services once built.<sup>84</sup>

The State of Digital Government Review found that 65% of digital and data leaders in government felt the funding model did not support investment in existing digital



services.<sup>12</sup> Half of leaders indicated that budgets for legacy system remediation was frequently reallocated to other initiatives.<sup>12</sup> For example, digital modernisation and innovation work was delayed in the Driver and Vehicle Licensing Agency due to funding being reallocated to an urgent legislative change.<sup>12</sup>

In 2025, the government announced plans for financial support to improve legacy systems and continuous funding for transformation programmes.<sup>38</sup> It also outlined a new approach to digital funding in Spending Review Phase 2.<sup>J 38</sup>

## Communication

Some stakeholders suggest that government digital transformation projects assume effective communication between different teams, which may not always be the case.<sup>15,85–87</sup> The fragmented structures of public sector organisations can also lead to service and system duplication.<sup>12</sup> A lack of vision, understanding and communication about project goals and progress may indicate that a project is likely to fail.<sup>15,16</sup>

## Skills

The public sector struggles to attract and retain digital talent, partly due to less competitive compensation compared to the private sector.<sup>12</sup> A typical central government cyber specialist earns an estimated 35% less than private sector peers.<sup>12</sup> This can result in a reliance on outsourcing digital work to contractors who may lack institutional knowledge.<sup>97</sup>

The challenge is even greater in local government, where an estimated 2% of the workforce are digital data professionals, compared to 6% in central government departments and 8-12% in regulated private sector industries.<sup>12</sup> In August 2024, the Government launched 'TechTrack', an apprenticeship programme to build digital and data capabilities for public sector transformation.<sup>88</sup>

Reliance on external vendors may result in a lack of internal data management infrastructure. According to the State of Digital Government Review, this has happened at Defra, where AI development is outsourced due to the absence of an AI and data science team.<sup>12,89</sup>

## Leadership

The 2024 Digital Leaders Study<sup>K</sup> and the Cabinet Office's 2021 Organising for Digital Delivery report found concerns about the lack of digital fluency among senior civil

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<sup>J</sup> The report emphasised the need for: 1) iterative funding for innovative technologies where funding is based on demonstrated progress rather than forecasts, 2) performance-based funding for live digital services by linking funding directly to outcomes via regular reviews, 3) work with departments to understand, leverage and implement funding effectively, and 4) investment plans to reduce legacy systems and prioritise cyber risk reduction over short term savings.<sup>38</sup>

<sup>K</sup> The Digital Leaders Study 2024 was conducted by the Global Government Forum, a research business that aims to help leaders in public sector organisations to learn from their peers overseas. The study interviewed 10 digital leaders in the UK Government. Interviewees ranged from permanent secretaries to senior leaders in digital roles. They included people from ministerial departments, No.10 Downing

servants outside of digital roles.<sup>90,91</sup> Stakeholders have suggested that many senior leaders in both central and local government lack understanding of digital or data,<sup>84,92–94</sup> including non-technical knowledge of how businesses are affected by, and transformed, using technology.<sup>95</sup> This can lead to over-ambitious targets and poor communication and decision-making, hindering successful digital transformation.<sup>84,92–94</sup>

The government and others have suggested that leaders lack incentives to prioritise digital transformation, as they are not rewarded for focusing on digitisation, reliability or risk mitigation.<sup>12,96</sup> Experienced operational teams are often consulted, but rarely able to lead decision making, despite their key role in business insight and employee engagement.<sup>97</sup>

Some stakeholders warn that AI is being treated separately to digital transformation, with different leadership, accountability and deployment.<sup>98</sup> Concerns have also been raised that government often views AI as a “shiny new toy”, that can be added on top of existing software, rather than a tool that is integrated at a deeper level to support digital transformation.<sup>10</sup>

In 2025, the government announced that all public sector organisations must have a digital leader on their executive committee, and a digital non-executive director on their board by 2026.<sup>38</sup> In late 2024, the LGA launched a digital leadership training programme to enhance senior managers’ skills for implementing technology in local government.<sup>99</sup>

## Structure and processes

Limitations in digital transformation structures and processes include legacy IT, data quality, departmental and organisational silos, project structure and management, and procurement.

### Legacy IT

The CDDO defines a legacy system as one that is: “based on an end-of-life product, no longer supported by the supplier, impossible to update, no longer cost-effective, or considered to be otherwise above the acceptable risk threshold”.<sup>12</sup>

Legacy systems are costly to maintain, pose security risks, and complicate data access and integration within and between departments.<sup>93,98,100</sup> Lack of investment makes transitioning to new systems harder.<sup>97</sup> For example, NHS England’s use of the NHS number was hindered by legacy systems unable to handle its digit length, requiring some healthcare providers to create their own identifiers.<sup>101</sup>

The scale of legacy IT in government is not consistently measured.<sup>102</sup> The State of Digital Government Review estimated it to include 28% of systems in central government departments.<sup>12</sup> It noted that HMRC relies on costly third-party services to maintain its outdated systems, and the Cabinet Office struggles to upgrade systems due to funding cuts.<sup>12</sup>

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Street, the Cabinet Office, non-ministerial departments, and executive non-departmental public bodies.<sup>90</sup>

In 2025, GDS mandated that all Ministerial departments should report legacy IT assessments to the CDDO annually.<sup>103</sup>

The Public Accounts Committee found that departmental IT functions are often underfunded, leading to inadequate investment in upgrading and maintaining legacy systems (see Funding).<sup>93</sup> Local government faces similar challenges, with outdated systems hindering modernisation due to funding constraints,<sup>104</sup> and the high costs associated with migrating to cloud-based systems.<sup>L 104</sup> A lack of capacity within local authorities to drive cloud adoption can also be an issue.<sup>12,104</sup>

## Data quality, collection and use

Digital transformation requires access to good-quality data.<sup>12,105,106</sup> Data contained within government systems is often poor-quality, inconsistently recorded, fragmented and underused. Data quality standards and approaches vary between departments and between local and central government.<sup>12,98,101,104</sup>

In 2019, the NAO found over 20 different ways of identifying individuals and businesses across 10 departments and agencies, with no standard format for recording data like names, addresses and birthdates.<sup>98,101,107</sup> The Ministry of Justice reported that legal restrictions surrounding data collection were a barrier to digitising the HM Courts and Tribunal Service (HMCTS).<sup>M 108</sup>

## Departmental and organisational silos

Silos can form due to a lack of communication between policy makers and service providers, hindering digital transformation in both local and central government.<sup>12,17,104,113</sup> Departmental silos can lead to fragmented services, inefficient resource use and limited standardisation and interoperability.<sup>96</sup>

## Project structure and management

Overambition,<sup>115</sup> project size and complexity, unrealistic timeframes, and inflexible plans, can be challenges to digital transformation.<sup>97</sup>

Government digital transformation is often viewed as a discrete project, implying a perceivable start and finish.<sup>15,16,85</sup> Industry stakeholders suggest that this mindset is unhelpful due to the unpredictability and continually evolving nature of digital transformation.<sup>15,16,85</sup> This can result in a lack of focus on the outcome,<sup>85</sup> and risks attempting to deliver change as an isolated programme, rather than allowing for incremental changes and adaptation of operational services (which is more typical of digital organisations in the private sector).<sup>97</sup>

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<sup>L</sup> The LGA has said that the cost to move to cloud-based systems can be prohibitive for councils given that cloud costs require additional revenue spend.<sup>104</sup> With the large amount of data involved in cloud migration, it can be challenging for councils that do not have a strong data asset management system.<sup>104</sup>

<sup>M</sup> Before the 2019 HMCTS digital reform,<sup>108–112</sup> all applications made by solicitors or individuals were paper-based, requiring in-person oaths.<sup>108</sup> The digitalisation of services allowed most administrative tasks to be completed online, however, due to legal requirements, HMCTS still needed to receive and integrate a physical will with an application.<sup>108</sup> HMCTS stated that this introduced inefficiencies, as wills and applications were entered into the system at different times, and this was a primary obstacle to effectively transforming the probate service.<sup>108–112</sup>

## Procurement

A 2025 NAO report estimated that the UK Government spends at least £14 billion annually on buying and obtaining digital services.<sup>116</sup>

Pressure to deliver quickly can lead to contracts being awarded before the objectives and requirements of the transformation are understood.<sup>116</sup> This can result in buyers misunderstanding what the market can deliver, as well as unrealistic timelines.<sup>116</sup>

Complex procurement and rigid contracting can slow technological adoption.<sup>117</sup> The Public Accounts Committee and others have noted that digital transformation procurement is often treated like infrastructure projects.<sup>85,94,116,118</sup> However, unlike construction or infrastructure projects,<sup>4,15</sup> departments often cannot fully define or identify the scope and requirements of a digital programme upfront.<sup>94,116,118</sup>

Market concentration poses a particular challenge to digital transformation at the local government level.<sup>12</sup> The LGA's National Advisory Group for Procurement stated that it is essential for local government to have a strong relationship with key suppliers, to ensure that suppliers are better informed of issues affecting the industries and markets in which they operate.<sup>119</sup>

The State of Digital Government Review noted that key IT systems (such as those supporting child social care and elections) rely on a small number of suppliers, increasing the challenge of ensuring high performance and value for money from those suppliers.<sup>12</sup>

According to the LGA, local government-specific suppliers are frequently excluded from central government's strategic supplier relationship management programmes.<sup>N</sup> <sup>104</sup> The fragmented nature of local government technology purchasing, due to councils operating independently, also makes it difficult for them to collectively bargain for better prices, value, or more innovative solutions.<sup>104</sup>

## Cultural resistance

Resistance to change may also inhibit the adoption of digital technologies. This may stem from a natural tendency to retain what is familiar,<sup>120</sup> or people's previous experiences of failed change programmes.<sup>121,122</sup> It may also arise from concerns about the loss of community due to fewer in-person interactions,<sup>123</sup> or a lack of trust in digital technologies and data use.<sup>124,125</sup>

## The potential negative effects of digital transformation

Digital transformation may have unintended negative effects, such as environmental harm, digital exclusion, health and social harms, increased cyber security vulnerabilities, and IT outage risks.

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<sup>N</sup> A strategic supplier relationship management programme refers to the process of identifying who the strategic suppliers to local government are and engaging with them to improve performance, reduce cost, seek additional social value, mitigate risk, and harness innovation.<sup>119</sup>

## Environmental harm

The Organisation for Economic Co-operation and Development (OECD) noted that digital transformation technologies, like AI, can help the transition to low-carbon power systems and reduce energy use.<sup>22</sup> However, they can also lead to environmental harms:

- **Increased energy consumption and carbon emissions** – digital transformation often relies on data centres, cloud computing and AI, which consume significant energy and produce carbon emissions if powered by non-renewable sources.<sup>126–128</sup>
- **Electrical waste (e-waste)** – as governments adopt new digital technologies, old hardware<sup>o</sup> may require disposal.<sup>129,130</sup> The UK is the second biggest contributor to global e-waste per head,<sup>131,132</sup> and improper disposal can release hazardous materials into the environment.<sup>133,134</sup>
- **Resource depletion** – water-cooled systems are often used to prevent the overheating of servers in data centres, which consume significant amounts of water.<sup>126</sup> Digital transformation can increase the demand for raw materials like metals and rare earth elements, which are finite and environmentally harmful to extract.<sup>135,136</sup>

## Digital exclusion

Digitally excluded individuals may struggle to interact with digital public services, due to a lack of internet access,<sup>18</sup> costly devices, or a lack of digital skills (POSTnotes [643](#) and [725](#)).<sup>137</sup>

The Good Things Foundation estimated that in 2024, 8.5 million people in the UK lacked basic digital skills.<sup>p 137</sup> The people most likely to require government support services are often groups with lower levels of digital skills, raising concerns that pressure to use online services could result in further disadvantages (such as people not claiming the benefits they are entitled to).<sup>138,139</sup>

The House of Lords Communications and Digital Committee reported that many public sector online services lack accessibility features for users with additional needs, like screen reader support for the visually impaired.<sup>140</sup>

## Health and social harms

Digital transformation changes how we interact with technology,<sup>141</sup> reducing face-to-face interactions through services and processes.<sup>26</sup> Excessive use of digital technology has been linked to social isolation,<sup>23–25</sup> stress, anxiety, sleep disruption,<sup>27</sup> and impaired emotional intelligence.<sup>142</sup>

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<sup>o</sup> Such as computers, servers, printers and mobile phones.

<sup>p</sup> The Good Things Foundation has stated that examples of basic digital skills are switching on a device, filling out a digital form, and connecting to WiFi.<sup>19</sup>

## Service resilience

The digitisation of public services creates new opportunities for malicious actors.<sup>102</sup>

Between 2020 and 2021, 40% of the 777 cyber incidents managed by the National Cyber Security Centre (NCSC) targeted public sector organisations, including government, emergency services, and law enforcement.<sup>102,143</sup> A 2023/24 self-assessment of 35 UK Government departments revealed significant gaps in cyber resilience.<sup>102</sup>

Attacks can cause extreme disruption to services. For example, in 2023, the British Library experienced a significant cyber-attack involving the illegal removal of 600GB of files including personal data of library users and staff.<sup>144</sup> The attack severely disrupted the Library's services and it is still recovering from this attack in 2025.<sup>145</sup>

The State of Digital Government Review reported that in 2024, government service outages disrupted hospital care, border control and emergency services calls.<sup>12</sup> The review identified that many government systems lack adequate outage management plans.<sup>12</sup>

## Key questions for parliamentary scrutiny

Stakeholders have identified several areas where parliamentary scrutiny of government digital projects could be most effectively focussed.

### Structure and planning



- What is the vision and reason for digital transformation?
- Is there evidence to demonstrate that the programme's ambition can be realistically delivered?
- What does it mean for the end-user and people in the wider community?
- Who is going to be excluded and how can support be provided?
- What is being proposed that is fundamentally different to what has failed in the past?
- How is project progress being measured?
- How is environmental impact being monitored?

### Funding and reform



- How should the level of legacy IT in government be assessed and what is required to address it sufficiently?
- Is there sufficient ongoing resource funding to maintain digital technologies?
- Is there a sufficient funding model to ensure adequate funding is available for the duration of the project?
- How will funding be allocated, prioritised and under what criteria will it be released for multi-year projects?

### Procurement



- What can be done to ensure that local authorities can access digital products and services that meet their needs, offer value-for-money, and are provided by a sufficient range of suppliers?

### Digital skills and leadership



- How can central and local government work together to upskill the digital workforce and attract and retain digital specialists?
- Does the organisation have business leaders with sufficient digital fluency on its most senior decision-making bodies?
- What specific skills do the public sector workforce and citizens require to use digitally transformed services?

### Data sharing and security



- How can data be shared ethically and securely across government services, and between local and central government?
- How can the cyber resilience of government systems be assessed?
- What provisions are in place to ensure digitally transformed services are protected from cyber threats?
- What provisions are in place to ensure digital government services can be trusted by the public, and that their data are being collected and used ethically and securely?



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