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Public Audit and Post-legislative Scrutiny Committee Comataidh Sgrùdadh Poblach agus Iar-reachdail

Key audit themes: Managing public sector ICT projects



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Public Audit and Post-legislative Scrutiny Committee

Remit: To consider and report on the following (and any additional matter added under Rule 6.1.5A)—

- (a) any accounts laid before the Parliament;
- (b) any report laid before or made to the Parliament by the Auditor General for Scotland; and
- (c) any other document laid before the Parliament, or referred to it by the Parliamentary Bureau or by the Auditor General for Scotland, concerning financial control, accounting and auditing in relation to public expenditure.
- (d) post-legislative scrutiny.



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Membership changes

1. Membership changes of the Public Audit and Post-legislative Scrutiny Committee during the reporting period are:
 - Neil Bibby MSP from 3 December 2020
 - Willie Coffey MSP until 3 December 2020
 - Liam Kerr MSP until 20 August 2020
 - Gail Ross MSP from 3 December 2020
 - Anas Sarwar MSP from 3 December 2020
 - Graham Simpson MSP from 20 August 2020

Introduction

2. The role of the Public Audit and Post-legislative Scrutiny Committee is to examine whether public funds are spent wisely and to hold to account those who are charged with spending taxpayers' money. The Committee undertakes this work primarily through its scrutiny of reports prepared by the Auditor General for Scotland, who is responsible for scrutinising the expenditure and performance of directorates of the Scottish Government and most other public spending bodies (with the exception of local authorities).
3. The Committee has a strong interest in ensuring that its scrutiny activity leads to change and improvement and regularly looks for evidence that previous audit recommendations have been implemented and that lessons are being learned. Concerns that the same issues were reoccurring in the audit reports that it considered prompted the Committee to publish, in September 2019, a report on Key audit themes.¹ The report provided an overview of the key themes the Committee continued to see in its audit scrutiny and called on the Scottish Government to lead a debate on the challenges that the Committee had identified, and which were often at the root cause of many issues highlighted in audit reports, with a view to identifying long-term, cross-sector solutions.

Digital transformation

4. Digital technology and transformation are fundamental to public sector reform and how organisations operate. The Scottish Government currently has listed almost 430 active digital projects with around 340 of these projects having a total estimated whole life costs of almost £1.5 billion.²
5. Since the beginning of the session, the Committee has considered a series of audit reports concerning failings in public sector Information and Communication Technology (ICT) projects.ⁱ The reasons for such failings have been multiple but have included poor planning; underestimates of the complexity, timescale and cost of the project; and weaknesses in leadership, governance arrangements and support provided by the Scottish Government. Audit reports from the Auditor General have commented on issues with the Scottish Police Authority's (SPA) management of its i6 programme, the ICT programme management difficulties linked to the Scottish Government's Common Agricultural Policy (CAP) Futures Programme and the management of the digital transformation programme at the Scottish Social Services Council (SSSC). More recently, the Committee has taken evidence on audits reporting on digital programmes at the Scottish Public Pensions Agency (SPPA) and at Disclosure Scotland. Such audit reports continue a pattern of many years, noting the need for improved oversight and management of ICT projects. As a consequence, in May 2017, Audit Scotland published its report, Principles for a digital future: Lessons learned from public sector ICT projects (the Principles for a digital future report), which identified five core principles that it recommended should govern public sector IT projects.³
6. For the same reasons, the management of ICT projects became one of the key audit themes on which the Committee reported in September 2019. The report highlighted poor planning; weaknesses in Government oversight and difficulties in recruiting and retaining the right skills. The Committee held a focus group session with IT contractors in November 2020 to examine the issues that the report identified and to hear their views on initiatives and actions that could be taken to bring about improvement.⁴ A number of these proposals were then raised in an evidence session with the Scottish Government.⁵
7. The Committee is aware that some of the projects considered in the audit reports that it has scrutinised during this session, and the concerns that they have raised, pre-date the publication of Audit Scotland's principles. The Committee is also aware that the ICT projects that come to its attention are only a proportion of all the ICT projects undertaken by the public sector, many of which have been successfully delivered. The Committee further acknowledges that the Scottish Government has acted to seek to address a number of the causes behind the failed projects.
8. Nonetheless, the costs of such projects are often substantial. In addition, the impact of the COVID-19 pandemic has seen an increased requirement for digital technology and digital transformation to respond to a wide range of challenges in the public sector; to enable children and young people to continue to receive an

ⁱ A list of audit reports considered by the Committee during session 5 can be found in the Annexe

education remotely; to allow public sector staff to provide essential services working from home; to support healthcare provision without physical interactions wherever possible and to share vital information about the pandemic. This new and unexpected reliance on digital technology reinforces the need to ensure that public sector ICT projects are successfully delivered.

9. Therefore, the Committee considers that it is important to set out the full range of concerns that have been identified in its scrutiny of ICT projects this session. The Committee underlines that, moving forward, there will need to be strong and clear evidence that the action being taken by the Scottish Government to provide oversight and assurance of these programmes is delivering the required results and that Audit Scotland's principles are embedded in the Scottish Government's initiatives and approach to public sector ICT projects.
10. This report considers the impact of failed public sector ICT projects; examines key themes arising from the Committee's scrutiny; identifies the action being taken by the Scottish Government and highlights areas where further action is required.

Key conclusions and recommendations

11. **The Committee is clear that public money cannot continue to be wasted through failed ICT projects.**
12. **Since the start of this session, the Committee has considered a series of audit reports raising multiple concerns about the management of public sector ICT projects. This continues a pattern over years. The amount of funds invested has been significant and the impact on public service delivery and reform unacceptable.**
13. **Evidence has consistently highlighted basic errors in the planning and execution of these ICT projects. Oversight and challenge by the Scottish Government has been fractured and inconsistent, with examples of three different departments being involved.**
14. **There is a lack of evidence that lessons are being learned, shared, acted on and built into training programmes and guidance.**
15. **The Committee notes the digital assurance framework that the Scottish Government has put in place for major ICT projects but has yet to see clear evidence of its success.**
16. **The response to the COVID-19 pandemic has seen an increased requirement for digital technology and transformation to respond to a wide range of challenges in the public sector. This new and unexpected reliance on digital technology underlines the need to ensure that public sector ICT projects do not fail.**
17. **The Committee recommends that the Scottish Government appoints a senior individual, with an effective reporting structure in place, to enable them to assume overall responsibility and oversight of all public sector ICT projects. The postholder should have the authority to make systemic improvements to the overall assurance framework for all ICT projects and crucially to be held to account when things go wrong.**

Impact of failed ICT public sector projects

18. The audit reports considered by the Committee clearly demonstrate the financial and wider impacts of failed ICT projects.

Financial impacts

19. The Common Agricultural Policies Futures programme: An update report (the CAP Futures report) on the CAP Futures programme stated that the Scottish Government expected to deliver the system within a £178 million budget, which was 74 per cent higher than the original business case.⁶ Implementation difficulties also had a direct financial cost on NHS 24's Future Programme. The 2015/16 audit of NHS 24: Update on management of an IT contract report (the 2016 NHS 24 report) indicated that a "failure to launch successfully and additional double running costs have meant that NHS 24 now estimates that the total projected cost of the programme will be £131.2 million, 73 per cent above the £75.8 million included in the original business case."⁷ The total final cost of Disclosure Scotland's new PASS (Protecting and Safeguarding Scotland) case management system (the PASS system) was estimated as £78.5 million, £34 million higher than the cost estimated in the final business case.⁸ The Scottish Public Pensions Agency: Update on management of the PS Pensions project report (the SPPA report) on the SPPA's management of its PS Pensions project concluded that, in addition to spending £6.3 million on a project that had been not delivered, it also spent a further £2.4 million on extending existing contracts. Additionally, the SPPA required additional revenue budget estimated at £9.8 million over 2019/20 to 2022/23.⁹

Impact on delivery of public services and users

20. The impact of failed ICT projects extends beyond implications for the public purse. In many cases, the projects in question relate to the delivery of key public services.
21. The main aims of the CAP Futures programme were to "minimise financial penalties for non-compliance with EC regulations, enhancing the customer experience and making the processes more efficient". However, the audit report commented on how farmers had been adversely affected by the programme delays, and highlighted cash flow problems that had a knock-on effect for the wider rural community.⁶ Similarly, the objective of NHS 24's Future Programme was to "improve patient experience by modernising NHS 24's core telephone and online technology".⁷ However, when the new system was relaunched on 3 November 2015, the 2016 NHS 24 report states that NHS 24 experienced a "dramatic deterioration" in call handling times as staff struggled to use the system, potentially impacting on patient experience and patient safety.⁷
22. Disclosure Scotland's PASS system was intended to support it in carrying out checks on the criminal history for employers and managing the Protection of Vulnerable Groups scheme which protects children and vulnerable adults. The delay in delivering the new system meant Disclosure Scotland had to extend its

existing contract with BT.⁸ In her evidence to the Committee, the then Auditor General stated that “BT then made it clear that it could not and would not extend again. Had there not been a system in place, it is not clear how these very important disclosures would have been handled”.¹⁰ The SPPA report stated that “the failure of the project means that the SPPA has not been able to progress its strategic, business and workforce plans as originally intended”.⁹

Key issues arising from audit reports and evidence

23. The reasons cited for the failure of ICT projects have been multiple, with the cause rarely being limited to just one factor. Some of the key issues identified through the Committee's scrutiny of audit reports are discussed below.

Poor planning

- ” History shows us that most problems that occur have their origins in the set-up of the project.³
- ” We have accepted that we did not know the requirements to build the system. We were required to come up with a cost for building it, although we did not know how long it would take or how to build it.¹¹
24. The Auditor General's reports have identified poor planning as one of the key areas where ICT projects by public sector bodies are most likely to fail. Issues at the initial planning stage have been raised in connection with projects undertaken by the SSSC, the SPPA, Disclosure Scotland, NHS 24 and the SPA.

Identifying what is required

25. IT contractors told the Committee that, in their view, public sector organisations do not always have a clear idea of what they want to achieve or what the project needs to deliver and that, on occasion, the level of detailed planning in connection with larger ICT projects is insufficient.⁴ The views of the IT contractors resonate with concerns raised in audit reports. The 2017/18 audit of Scottish Social Services Council (the SSSC report) indicated that the SSSC's digital transformation strategy “was not clear about the intended benefits, beyond an update to Microsoft Office, new IT infrastructure, and a new case management system”.¹² The then Auditor General told the Committee that “what went wrong in the project was what has gone wrong in many others: people did not get the building blocks right at the beginning”. She noted that “unless people are clear on what they are trying to achieve, have a clear scope and budget for the programme and have identified, assessed and managed the risks, things are likely to go wrong further downstream”.¹³
26. Similar planning issues arose in connection with the SPA's i6 programme. Audit Scotland noted that the programme was “complex and highly ambitious”.¹⁴ Nonetheless, the supplier and Police Scotland originally believed that most of the i6 programme could be based on an existing system that the supplier had delivered elsewhere. The i6: a review report (the i6 report) indicates that this proved “incorrect” and that during development it became apparent that the supplier “would need to develop significantly more than had been originally anticipated.”¹⁴ The Auditor General's CAP Futures report stated that “The original business case did not fully recognise the size and scale of the task or articulate the level of uncertainty”.⁶

Absent or flawed business case preparation

27. A business case provides an organisation's justification for undertaking a project. It evaluates the benefit, cost and risk of alternative options and provides a rationale for the preferred approach. Audit reports have highlighted examples of absent or flawed business cases. The SPPA report found no evidence of a clear business case setting out why the SPPA needed an integrated system, nor evidence that it had fully considered other options. The audit report went on to add that while a paper considered by the senior management team set out the advantages and disadvantages of each option, it did not include any analysis of costs and benefits or any financial information.⁹ Similarly, the SSSC report on the its new system commented that the SSSC "did not set out a clear business case at the start of the project, and no further detailed scope of project plan was developed".¹² In evidence to the Committee the SSSC's Chief Executive accepted that "...there should have been a better business case at the beginning".¹²
28. IT contractors indicated there were examples of public bodies setting budgets and deadlines that were unrealistic and, in some cases, setting them without knowing what the project would actually be required to deliver. The SPPA report on the PS Pensions project stated that the SPPA "set an unrealistic 18-month timescale while SPPA was going through significant change".⁹ A revised and more realistic timetable was also required for Disclosure Scotland's PASS system. Similarly, NHS 24's Future Programme was described in the 2014/15 audit of NHS 24: Update on management of an IT contract (the 2015 NHS 24 report) report as being "further undermined by unrealistic timescales".¹⁵
29. The Auditor General's CAP Futures report concluded that the Scottish Government had "significantly underestimated how much it would cost to deliver the required IT system", leading to costs increasing by £79 million from the original business case.⁶ The 2018/19 audit of Disclosure Scotland (the Disclosure Scotland report) documented how cost estimates had significantly changed over the lifespan of the project. While the original outline business case estimated a cost of £77.2 million, this was subsequently revised down to £34 million. A full business case estimated the cost of the new system to be £44.1 million, while the final total cost of the PASS system was estimated to be £78.5 million.⁸

Optimism bias

30. A critical element in estimating costs is that of optimism bias, which is about building appropriate contingency into plans, timescales and costs to compensate for in-built but often unrealistic optimism.³ Audit Scotland has noted that the "political environment" of the public sector, "adds another dimension that needs to be considered"³, given that legislative and ministerial commitments can reduce flexibility in timeframes. In its report on the SPA's i6 programme, Audit Scotland commented that "The political context contributed to misplaced optimism throughout the i6 programme."¹⁴
31. Optimism bias was cited as a critical reason for the underestimation of costs for

Disclosure Scotland's PASS system. The audit report noted that the full business case adopted the lowest level of optimism bias allowed for this type of programme and for many areas the optimism bias was included only for one year. The report commented that Disclosure Scotland had "not been able to evidence how it determined the optimism bias used in the full business case."⁸

Procurement /tendering process

32. Audit reports have underlined that entering a procurement process with less than complete knowledge of what the public body is trying to achieve could lead it to being tied to a system or service that can't deliver what it needs. As far back as the 2015 NHS 24 report, the then Auditor General identified "flawed procurement and contract preparation" as a weakness in a critical area of the project.¹⁵ In evidence to the Committee on the PS Pensions project, the SPPA's Chief Executive indicated that the agency "did not have a clear strategic direction", so was procuring "without any real clarity".¹⁶
33. IT contractors were also critical of the procurement process suggesting that some tenders were "failing to keep pace with modern procurement processes". Contractors pointed to out-of-date information being used which was not fit for purpose and text apparently being cut and paste from previous bids. They also suggested that a public sector focus on price over quality leads to a "race to the bottom" scenario where the contractor with the lowest priced bid wins the contract.⁴
34. IT contractors considered that both the tender bid process and the terms and conditions (Ts&Cs) need to be reviewed to ensure that they keep pace with the changes in how ICT projects require to be delivered. In particular, they pointed to the rigidity of certain Ts&Cs which made it difficult to undertake agile delivery of a project. They also suggested that some Ts&Cs were irrelevant to the project and appeared to "cut some smaller organisations out of the process". Finally, IT contractors told the Committee that, in some cases, public sector involvement was counterproductive by dictating "how" something should be delivered rather than focusing on "what" needed to be delivered.⁴
35. In its 2019 report, Enabling digital government, Audit Scotland recommended steps that the Scottish Government should take to ensure that procurement and delivery plans are realistic and understood. It further recommended that the Scottish Government should ensure that there was enough flexibility built into recruitment and procurement processes to cope with the fast-paced nature of digital transformation.¹⁷
36. In his evidence to the Committee, the Scottish Government's Director of Scottish Procurement advised that the Scottish Government had set up a working group to look at the current set of ICT Ts&Cs and to take on board feedback that had been received on the procurement exercises undertaken to date.¹⁸ The working group is expected to complete its work by summer 2021.¹⁹

Having the right skills in place

37. A critical factor highlighted in successive audit reports has been around the extent and level of skills within the organisation to enable it to manage the ICT project. The Audit Scotland Principles for a digital future report, commented that public sector organisations undertaking an ICT project “rarely have the right skills and experience already within the organisation.”³ The report emphasised that such skills are not limited to technical digital skills, but include skills needed for programme and project management and leadership; negotiating and managing contracts; capturing user experience and business analysis.
38. Audit Scotland commented in oral evidence that “If an organisation has not done something before, it is easy for it not to know what it does not have. An organisation can assume that it has the skills and experience but, halfway down the line, it might realise that it does not have what it needs”.²⁰ The CAP Futures report provides an example of this, pointing to the Scottish Government’s failure to “recognise that the programme would require senior programme and commercial management skills early on”. The report went on to add that the Scottish Government “did not complete a thorough enough skills assessment to support the original business case”.⁶
39. The issue of not having the right skills and experience within organisations was illustrated by Audit Scotland’s report on Superfast broadband and the role of Community Broadband Scotland (CBS), an organisation set up to provide support to rural communities not covered by BT and the commercial provider contracts. A subsequent review of CBS stated that staff “lacked the required procurement and technical skills” and instead relied on consultants. The report noted that “All parties underestimated the complexities involved”.²¹ Similarly, in his evidence to the Committee, the former Chief Executive of the SPA, commented that, in his view,²² “the i6 project did not have enough ICT experience”.
40. Similar concerns arose in relation to the PS Pensions project. The Auditor General observed that, as an “abnormally low” bid, the SPPA was required to investigate whether Capita’s bid was valid. The SPPA queried elements of the bid with Capita and discussed Capita’s responses with the Scottish Government Legal Department (SGLD), which advised that more in-depth questions should be asked to fully assess the bid. However, SPPA subsequently informed SGLD that it did not have the skills to further probe the tender. The SPPA report indicates that “SPPA took no further action and accepted the bid and reassurances from Capita over its ability to deliver”.⁹ Evidence from IT contractors confirmed that this kind of scenario was not unique. They commented that public sector staff can often be intimidated by ICT, with business managers not feeling confident enough to ask questions and “dig into the detail”.⁴
41. IT contractors suggested that a skills’ capability gap exercise should be undertaken by the public sector body at the outset of a project. Where a capability gap is identified, then plans should be adapted to build such capacity into the project. They considered that, not only would this improve the successful delivery of the project, but would also help public sector organisation develop their own capability and, over time, reduce their reliance on contractors.⁴ Audit Scotland’s reports on managing such projects also highlight the importance of addressing skills gaps and

shortages.²³,³

42. The Scottish Government's Digital Director agreed, in his evidence to the Committee, that it was critical to have skilled multidisciplinary teams involved in projects and that these skills should include a clear understanding of business logic, business needs, user knowledge and needs and the technical knowledge to deliver the project effectively.²⁴
43. Difficulties in recruiting individuals with appropriate digital skills have also been cited as a key challenge in audit reports on the implementation of the social security programme, which have noted that "the pace of delivery" has put "significant pressure on programme and agency staff". The 2019 Social security: Implementing the devolved powers report (the Social security report) indicated that the programme has relied more heavily on temporary and contractor staff than planned because of difficulties in recruiting people with the skills and experience it needs.²⁵
44. Audit Scotland's Enabling digital government report has described the shortage of digital skills as a "barrier to progress" and noted that the Scottish Government "still finds it difficult to compete with the private sector on salaries in order to be able to bring in the appropriate skills", particularly in Edinburgh and Glasgow, "where there are strong financial services organisations looking for similar skills."¹⁷
45. The report also states that the Scottish Government recognises that its "recruitment processes may not fit with the competitive and fast changing digital skills market".¹⁷ IT contractors similarly commented on the timescales for public sector recruitment processes in comparison to that of private sector bodies, citing it as a recruitment barrier. They emphasised that public sector recruitment can often take 2-3 months in comparison with two weeks in the private sector, meaning that the best skilled individuals may already be hired elsewhere.⁴
46. The Scottish Government has acknowledged the difficulties experienced by the public sector in recruiting and retaining staff with the required ICT skills.²⁶ Two initiatives that the Scottish Government has introduced to attempt to address these difficulties are the establishment of the Digital Academy and the adoption of a new Digital, Data and Technology (DDaT) profession. The Scottish Government has advised that the Digital Academy offers a range of training focused on upskilling Scottish public servants, including training on core and working level courses focused on agile project management, service design, data and public entrepreneurship along with coaching activities to support the planning and delivery of digital transformation programmes. As of December 2020, nearly 2500 civil servants from almost 100 organisations had received training.¹⁹
47. Scottish Government staff are "eligible to join the new DDaT profession and are encouraged to do so as a method of improving skills and to benefit from being part of a professional community." DDaT has created a standard framework of job descriptions and competencies at various levels across Scottish Government organisations and UK Government departments.²⁷

Positive developments

48. There are some signs of positive developments in the planning of ICT projects. The 2019 Social security report on the management of the social security programme noted that: “The programme has delivered the digital infrastructure it had identified as necessary to deliver the wave one benefits to date” and that the approach being taken follows the principles of Scotland’s digital strategy. The report further comments that “The programme has worked well to embed the Agile approach to development and to establish cloud-based systems, which is a new way of working for the Scottish Government”.²⁵

Project governance

- ” A project never fails on the first day, it takes a long time to get to this point.”⁴
- ” The lack of clarity and certainty in 2018 came from the fact that five people were wearing a number of different hats at various points...The strategic governance was not as clear, because we were focused just on what we needed to do to get off the BT contract. There was not enough clarity about what hats we were wearing at any particular time because we were on so many different groups.”²⁸
49. Confusion and a lack of clarity on the roles and responsibilities of governance bodies have been cited as issues when reflecting on failed ICT projects. The SPPA report on the PS Pensions project stated, for example, that the SPPA’s governance and project assurance arrangements did not support effective scrutiny of the project and that at the key early stages of the project, the board members were not provided with enough information to support its implementation and then take it through the delivery phase, despite this being requested by members of the project board.⁹
50. Similar issues arose in relation to the management of the PASS system at Disclosure Scotland. The then Auditor General noted that there had been a “lack of detailed financial reporting to any of the programme governance groups.”⁸ The auditor further indicated that the role of each governance group had not been specified adequately to ensure that there was clarity on who was accountable and who was exercising scrutiny and assurance and that that confusion hampered effective scrutiny.²⁹ In his evidence to the Committee the Director for Children and Families, Scottish Government told the Committee that “on reflection, the governance should have had more attention.”³⁰
51. A specific and concerning consequence of a lack of clarity in governance arrangements was that there was no evidence that the increase in budget, which followed the preparation of the full business case, was formally approved by any of Disclosure Scotland’s governance groups.
52. A lack of clarity over the role of the chief executive/accountable officer in connection with such projects has been cited as a reason for weaknesses in effective challenge and oversight of the project. In her evidence to the Committee on the SPPA’s PS Pensions project, the then Auditor General commented that:

- ” We have seen something similar in other cases, where the chief exec has been very involved in the hands-on detail of a programme, making it much harder to spot and react when problems start to emerge. ³¹
53. Similarly, during an evidence session on the management of the SSSC’s new digital transformation strategy, the Auditor General noted that: “The accountable officer is accountable for the operation of any organisation. In this case, the accountable officer was also the person who chaired the programme board”. ³² The Disclosure Scotland report on the management of the PASS system also commented on “ambiguity” about the respective roles of the Transformation Programme Board and the leadership team. ⁸

Reacting when things go wrong

54. Reports from the Auditor General have emphasised the importance of an “active and well thought-through governance framework”. The Principles for a digital future report explains that:
- ” Governance should be active, that is, play a continuing and key role throughout the project. But it should also be dynamic, flexing to meet changing needs of the project and adapting to changing risk profiles. Governance boards also need to find the right balance between supporting the project team, but also scrutinising and constructively challenging management and significant decisions. ³
55. Audit reports have highlighted, on occasion, an apparent reluctance on behalf of those responsible for ICT projects to halt the project when things go wrong. The SPPA report on the PS Pensions project stated that the SPPA first identified problems with the project in May 2016. However, deadlines for the project kept being extended and it wasn’t until the Office of the Chief Information Officer (OCIO) had undertaken its third review of the project in January 2018, that it recommended that the project should be stopped. ⁹
56. Political pressures may also be a feature. The i6 report commented that because both Police Scotland and Accenture were determined to deliver the programme, this “may have led to optimism bias and a reluctance to pause or halt the project at an earlier stage.” ¹⁴
57. IT contractors confirmed that the failure of a project was more likely to be due to the accumulation of small errors rather than a significant issue that could have been identified at the outset of the project. They suggested that, in some cases, public sector bodies failed to react because changing course and direction was seen as a “bad thing” or due to a concern that such events triggered “additional oversight and additional work”. IT contractors suggested that “it needs to be promoted that flagging up concerns is a good thing and staff should be encouraged to report when work is not on track”. ⁴ This is something which a skilled programme manager would be able to recognise and instil in staff.
58. It was also suggested by IT contractors that while a public body might meet regularly to discuss risks and issues, this did not always translate to those risks and issues being addressed.
59. In its Enabling digital government report, Audit Scotland emphasised that the

Scottish Government's role in making sure that central government bodies invest money appropriately and deliver value for money, included "implementing robust assurance processes for digital and ICT projects, so that projects that do not meet the needs of users or deliver value for money can be stopped".¹⁷

60. In his subsequent evidence to the Committee, the Scottish Government's Director of Procurement and Property appeared to accept that there was sometimes misplaced optimism that things would turn out well. He said that "Historically on such projects, we have typically thought that the situation will get better...there is a leadership and cultural element involved in ensuring we properly assess what the current state is and do not just expect things to get better". The Director confirmed this was an area that would be addressed directly with training and contract management modules that have been developed for Senior Responsible Owners.
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Relationship between IT contractor and public body

61. Audit Scotland reports have commented in the past that "public sector organisations do not have a good track record of supplier and contract management".³ Communication issues between the public body and IT contractor during a project have been cited as a critical factor in some audit reports. In her 2016 NHS 24 report, the then Auditor General noted "weaknesses in partner engagement at planning and testing stages, resulting in incorrect assumptions about how the new system would integrate with the out-of-hours service in individual NHS boards".⁷ The CAP Futures report described an ineffective working relationship between the programme team and the internal IT delivery team, with a "lack of trust" between the two teams. The report commented that "There is no common understanding of the reasons for the lack of quality and slower-than-anticipated progress, with the two sides blaming each other".⁶
62. The i6 report concluded that there was no single reason why the programme had failed, but noted that, despite an 18-month competitive dialogue, there was a fundamental disagreement between Police Scotland and Accenture about the interpretation of the contract and the scope of the programme. The report noted that this "damaged relationships and trust between the two organisations from a very early stage".¹⁴
63. IT contractors emphasised the importance of establishing strong relationships early on in the process. They felt that, sometimes, there can be atmosphere of distrust because organisations view IT contractors as being solely focused on money and that this distrust can be a barrier to collaboration, particularly in connection with large transformation projects.
64. A case studyⁱⁱ cited in the Enabling digital government report described how an ongoing relationship formed between the project team in the National Records of Scotland and staff from the Digital Services Team within the Scottish Government's Digital Directorate through staff secondments, helped support how the system was designed and structured. IT contractors highlighted the social security programme as an example of a strong working relationship where close collaboration existed

between the parties involved in the project.¹⁷

Effective leadership

65. The impact of inconsistent leadership has also been highlighted as a factor contributing to issues in delivering ICT projects. For example, the SSSC report on its digital transformation strategy indicated that several contractors had been employed to oversee the project and that in “the last 12 months” the IT contractor employed as digital lead had changed three times, meaning that “there has been no continuity in managing and implementing the project.”¹²
66. Similarly, the SPPA report indicated that changes in the Chief Executive and Senior Responsible Officer had a major impact on the management of the project. In particular, the report noted that the lack of continuity made it more difficult for SPPA to adequately scrutinise and challenge Capita at key stages of the project and affected decision making. In evidence to the Committee, Audit Scotland pointed to the volume of changes in the project leadership both in terms of the accountable officer/chief executive position and that of the senior responsible officer who was leading the project. It indicated that that volume was “much more than we typically see over the life of a project”, and that this was “a key contributory factor in the project’s lack of success.”³⁴
67. IT contractors also pointed to difficulties in the use of temporary IT specialists to manage IT contracts. They indicated that, while such specialists would clearly have strong IT skills, they were unlikely to fully understand the business of the organisation. Also, due to their temporary status, such contractors were likely to have less accountability for the project’s success. IT contractors told the Committee that it was critical that the person managing the project on behalf of the organisation understood its business and what the organisation needed the IT system to deliver. However, they suggested that such individuals were often not released to work with the contractors on an ICT project. This was in contrast to their experience of working with private sector organisations, who will put their “best and brightest” people on a project.⁴

Scottish Government action to improve leadership

68. The Scottish Government has highlighted action it has taken to seek to address concerns about effective leadership of public ICT projects. In 2018, the First Minister’s Digital Fellowship programme was launched “with the aim of attracting high calibre secondees into government from the private sector”. The Fellowship is described as a “secondment initiative that allows the Scottish Government and its agencies access to external commercial and technology expertise, promoting shared learning between the Scottish Government and industry partners.” To date, the Scottish Government has advised that it has “partnered with a number of leading firms in the technology sector to appoint four fellows each of whom have undertaken a critical senior role, leading major digital transformation projects within the Scottish Government and its agencies”.¹⁹

The role of the Scottish Government

Sponsorship and Fraser Figure responsibility

69. Audit reports have also highlighted variable and, at times, inadequate support and oversight being provided by the Scottish Government. For example, the Committee was perplexed that no further action was taken by the Scottish Government following the SPPA's indication that it did not have the skills to further probe the tender from Capita. A subsequent review by the OCIO at the request of SPPA's Chief Executive found that the procurement had been conducted "in a robust and professional manner, consistent with due process."⁹ The Auditor General's report subsequently commented that—

” We have not seen evidence to support this conclusion. In our judgement, SPPA did not have enough assurances over Capita's ability to deliver the project before it awarded it the contract.”⁹

70. Similarly, the revised outline business case for the PASS system approved by the Scottish Government was £43.1 million less than that estimated in the original business case. As noted above, the full business case subsequently adopted the lowest level of optimism bias allowed for the type of programme. In her subsequent evidence to the Committee, the former chief executive of Disclosure Scotland acknowledged that there were lessons to be learned about the level of optimism bias that had been set, indicating that “We, and the Scottish Government more widely, were wrong about that”.³⁵

71. While exploring the Scottish Government's level of oversight of the SSSC's digital transformation strategy, the Committee sought information on how often the most senior Scottish Government officials responsible for the project visited the organisation. The Committee heard that while the official responsible for the sponsor team met with the SSSC on a quarterly basis, the Director of Children and Families visited once and the Director of Digital not at all. During his evidence to the Committee on the SSSC report, Paul Johnston, Director-General Education, Communities and Justice accepted that “the Scottish Government's sponsor team could also have had stronger engagement with the digital work, as it progressed.”³⁶

Central framework of oversight and assurance

72. In its Principles for a digital future report, Audit Scotland indicates that, in response to public sector ICT project failures, some governments have introduced a central framework of strategic oversight and assurance. The report notes that strategic oversight of this kind “helps to identify and prioritise the risks and challenges that the project needs to deal with to succeed. It can also provide senior leadership across the organisation with an additional level of confidence at key points that the project is ready to proceed to the next stage”.³

73. The Scottish Government has now put in place a digital assurance framework to help address the risks historically faced by public sector ICT projects. This included

a strengthening of the Major Project reviews process and the introduction of the Digital First Service Standard in 2017.¹⁷ The Digital First Service Standard is a set of 22 criteria that all digital services developed by central government organisations and the Scottish Government must meet. Digital First Assessors, co-ordinated by the Digital Assurance Office (DAO)ⁱⁱⁱ, work with those responsible for launching a new digital public service or redesigning an existing service to ensure it meets the minimum standard required when delivering a public service.

74. Once this exercise has been undertaken, however, different arrangements are in place for ongoing monitoring of the project, which depend on whether the project is defined as a “major” ICT project.

Major ICT projects

75. “Major” ICT projects are defined as those with a whole life cost of £5 million or more, or which carry significant risk.^{iv} For these projects, the DAO is also responsible for monitoring the application of success principles (Planning, Governance, Users, Leadership, Strategic Oversight) as part of “a Stop/Go assurance gates process”. If there is a lack of sufficient evidence of these, then a project is not allowed to progress to the next stage until appropriate remediation has taken place. In her Enabling digital government report, the then Auditor General commented that the majority of reviews had been at the initial stages of projects and described the Stop/Go assurance gates as “an effective process which is identifying issues and ensuring action is taken to resolve them before the project can continue”.¹⁷
76. Audit Scotland has also emphasised, however, that in order for the framework to work effectively, it needs to be properly resourced. In January 2020, Audit Scotland told the Committee that there was “limited resource” and that the Scottish Government needs “better processes to prioritise skills and capacity so that it can fulfil its scrutiny and challenge role and undertake the assurance process across all the digital programmes that are in place.”³⁷

Lower cost projects

77. There are currently 293 ICT projects, which are not classed as “major” ICT projects, but for which the total estimated whole life costs is £459.2 million.² The Committee has expressed concern in the past that smaller projects might not get the oversight and attention that they require. For example, in her evidence to the Committee on the SSSC report, the then Auditor General noted that the new framework had tended to be applied to the larger bodies and IT programmes. She said—

iii Formerly the Office of the Chief Information Officer

iv Defined in the Scottish Public Finance Manual

- ” The problems that we are aware of at the moment tend to be in smaller bodies that do not have the skills and that underestimate the investment that is required to succeed.
38

78. During its evidence session with the Scottish Government on 3 December 2020, the Director of Internal Audit and Assurance advised:

- ” For non-major projects, we are more reliant on other forms of assurance or risk management to ensure that issues are being picked up and tracked. Again, that is about ensuring that there is good education about the tools and guidance that are available. It also relates to sponsorship arrangements and the other discussions that the Scottish Government will have with organisations that are taking forward projects that are small in the grand scheme of things, but which are important to the organisation involved.³⁹

79. The Scottish Government further advised that no individual has overall responsibility as non-major ICT projects are delivered by “numerous public bodies”. As such, responsibility lies with the relevant Accountable Officer, “with the projects operating within the relevant corporate governance frameworks”.¹⁹

80. The risks associated with this approach are highlighted by the SSSC's digital transformation strategy which involved support from a number of different Scottish Government directorates. In his evidence to the Committee, Paul Johnston advised that:

- ” I am afraid that we cannot get away from the fact that there are three different elements of Scottish Government involvement; there are specialist skills. The digital transformation team was most closely involved. I heard in this morning's evidence that that team was involved throughout in providing specialist support and advice to the SSSC. Colin Cook has just described the role that the office of the chief information officer played, which was a more limited role given the overall cost of the project. Then, separately, I have responsibility for the sponsorship team, and I accept that, given all that we have now learned from the report, the sponsorship team could have been more proactive and searching in its relationship with the SSSC.⁴⁰

Learning lessons

81. As noted above, a key focus of the Committee's key audit themes work is on improvement and the need to ensure that the same errors are not repeated by other public sector bodies undertaking similar projects. The Committee has continued to raise in its oral evidence sessions the importance of integrating lessons learned processes in the management of ICT projects, both where the project has been successfully delivered, and in cases where it has not.
82. A first step in that process is an acceptance by the public body, and where relevant by the Scottish Government, that things have not gone to plan and that mistakes have been made. While accountable officers and the Scottish Government have acknowledged in evidence to the Committee that lessons have needed to be learned in connection with particular projects, there have several occasions when this has not been the case.

83. For example, as noted above, in her report on the SPPA's PS Pensions project, the Auditor General observed clear weaknesses in the procurement processes, particularly in relation to the SPPA's challenge of Capita's responses. In her subsequent evidence to the Committee, however, the Permanent Secretary told the Committee:

” The SPPA tested the tender rigorously....At no time were we asked for any further support by the SPPA on probing the tender, because the SPPA was so fundamentally and characteristically, I think given the (then) chief executive's experience – thorough in its testing. I am not aware of any aspect of the tender, or the probing of the tender, that would have made a difference to Capita fulfilling the project. ⁴¹

84. During the Committee's scrutiny of the SSSC report, the chief executive and former chief executive wrote to the Committee challenging the accuracy of certain aspects of the evidence provided by the Auditor General. ⁴² In her subsequent evidence to the Committee, the then Auditor General told the Committee that “there was no factual inaccuracy; instead there is a difference of views on the significance of the issues. To refer to a difference of opinion in that context probably betrays a misunderstanding of the role of audit”. ⁴³

85. IT contractors told the Committee that, in their experience, while lessons learned were documented, they were not always applied moving forward, meaning that it was like “going around in circles”. One explanation given was that there was a “fundamental issue with the culture” whereby it was unlikely that a new project manager would read lessons learned from an earlier project and admit that they would have made the same mistakes, describing this as a “lack of humility”. ⁴

86. IT contractors also commented that, in some instances, where a project had not been delivered on time, the public body reacted by putting in more constraints in the procurement process, rather than examining why the project had been delayed. It was felt that this approach “breeds bad behaviour”. The IT contractors emphasised that it was crucial that lessons learned are fed into the next planning cycle. ⁴

87. Similarly, Audit Scotland's Principles for a digital future report comments that “Learning from previous projects should be a key part of the planning for every new project.” It noted the having a central framework of strategic oversight and assurance can create the conditions in which “people share lessons and experiences both across an organisation and with other public sector bodies.” ³

88. In the Enabling digital government report, one of the key messages indicated that the Scottish Government's new digital assurance framework was helping individual projects address the risks historically faced by public sector ICT projects. However, it also noted that the Scottish Government did not have enough staff “to share common lessons learned”. ¹⁷ During an evidence session on the Disclosure Scotland report, Audit Scotland stated that—

” Although assurance reviews were being undertaken on individual programmes, there was nothing that brought out common lessons and built those into training programmes for future leaders and people who work on such programmes. We considered that to be a significant risk. ⁴⁴

89. In written evidence to the Committee, the Scottish Government's Director of Internal Audit and Assurance advised that "lessons learned remains a key objective for the Digital Assurance Office and there is much more for us to do to proactively support lessons learned".¹⁹

Conclusions and recommendations

Planning

90. Audit reports have demonstrated the importance of good planning and the issues that can arise when this is not done well. Part of that process must involve an honest and realistic assessment of the skills required to undertake the project, including programme and project management and leadership and technical and digital skills.

91. **Scottish Government guidance to public sector bodies undertaking ICT projects must emphasise the importance of good planning. That means the body investing time to establish what is required and the best method for achieving this and drawing on the support and tools that are now available to assist with the management of such projects, including Audit Scotland's "Principles for a digital future". It is essential that that process also includes estimating a realistic timescale and budget for the project and assessing and managing risks.**

92. **The Committee recommends that the Scottish Government incorporates a requirement for a skills' capability exercise to be undertaken at the outset of all public sector ICT projects. Where a capability gap is identified, plans should be adapted to build such capacity into the project.**

93. **Public sector bodies should ensure that the person responsible for leading the management of an ICT project on behalf of the public body has a thorough knowledge of the business and experience of its needs. Scottish Government guidance and tools should reflect this requirement.**

Procurement process

94. Evidence to the Committee suggests that public sector ICT procurement processes are failing to keep pace with modern procurement processes. The Committee notes that the Scottish Government has established a working group to review the current set of ICT terms and conditions.

95. **The Committee recommends that the Scottish Government review its ICT procurement processes to ensure that they are fit for purpose. IT contractors with experience of public sector IT projects should be involved in that review. The Scottish Government must ensure that there is enough flexibility built into its procurement processes and the terms and conditions to cope with the fast-paced nature of digital transformation.**

Working relationships

96. Evidence received by the Committee underlined the benefits of strong working relationships between the public body and the IT contractor. The Committee notes examples of initiatives, such as the use of staff secondments, to support these relationships.

97. **The Committee recommends that good practice on establishing strong working relationships between the IT contractor and public body be shared and incorporated into Scottish Government guidance on managing ICT projects. Lessons must also be learned and shared from projects where these relationships have not worked well, examining why this was the case.**

Skills shortages

98. The Committee recognises that the shortage of digital skills remains a key barrier to the progress of many public sector digital transformation projects in Scotland. The Committee welcomes the action being taken by the Scottish Government to seek to address the challenges of the recruitment and retention of staff with high quality IT skills, such as the Digital Academy.

99. **The Committee recommends that the Scottish Government develops clear, measurable outcomes for its ICT skills and training initiatives. This should go beyond simply numbers attending and include a method for tracking how the skills and training acquired have then been applied successfully to actual ICT projects.**

100. **The Scottish Government must take steps to ensure that there is enough flexibility built into its recruitment processes for digital staff so that it can compete with the private sector.**

Leadership

101. Effective and consistent leadership is essential to the successful delivery of ICT projects. Audit reports have shown the difficulties that can arise where the role of the chief executive is unclear and where there are multiple changes in the project lead.

102. **The Committee recommends that the leadership of the project, and the role of the chief executive, is a key aspect that is considered and discussed with the public body as part of the Digital First Service Standard Assessment. Scottish Government guidance should underline the importance of consistent leadership.**

103. **Given the importance of consistent leadership, the Scottish Government should also consider the appropriateness of changes to the leadership of an organisation (where this is within the Scottish Government's control), including secondments, where the organisation is undertaking a significant digital transformation programme.**
104. **While the Committee welcomes the objectives of the First Minister's Digital Fellowship programme, it is disappointed that, to date, only four people have been appointed. The Committee recommends that the Scottish Government develop the Digital Fellowship programme further in order to maximise the benefits for public sector ICT projects.**

Governance

105. Audit reports have highlighted weaknesses in governance arrangements for ICT projects and examples of poor financial reporting and a weak challenge function. The reports have further highlighted an apparent reluctance on the part of some public sector bodies to act appropriately and timeously when things are going wrong.

106. **Scottish Government guidance must emphasise the importance and responsibility of staff involved in IT projects raising issues of concern, and of those in leadership positions taking appropriate and timely action. Leaders should also actively encourage staff to raise issues of concern.**

Government oversight and assurance

107. The Committee notes the assurance process that the Scottish Government has put in place. However, it has yet to see clear evidence of its success. The Committee is concerned that the Scottish Government may not have the capacity to fully undertake its scrutiny and challenge role and provide assurance to the active projects that are recorded with the Digital Assurance Office.
108. The Committee remains concerned that smaller scale ICT projects are not receiving the same level of support and oversight from the Scottish Government.
109. **The Committee considers it essential that the Scottish Government keep the new governance and monitoring arrangements under review to ensure they provide robust oversight and challenge of progress. The Scottish Government must ensure that the framework is properly resourced.**
110. **The Committee recommends that the Auditor General consider assessing the effectiveness of the oversight and assurance processes that are**

currently in place for non-major ICT projects.

111. **The Committee recommends that the Scottish Government appoints a senior individual, with an effective reporting structure in place, to enable them to assume overall responsibility and oversight of all public sector IT projects. The postholder should have the authority to make systemic improvements to the overall assurance framework for all ICT projects and crucially to be held to account when things go wrong.**

Learning lessons

112. The Committee continues to be concerned at the lack of evidence to demonstrate that lessons are being learned and shared by public sector bodies undertaking ICT projects.

113. **The Scottish Government must take steps to ensure that lessons learned and good practice in relation to ICT projects are not only documented, but shared, acted on and built into training programmes for future leaders and staff who work on such programmes. Lessons learned processes should fully involve the relevant IT contractor.**

Annex

[i6: a review](#)

[The 2015/16 audit of NHS 24: Update on management of an IT contract](#)

[Superfast broadband for Scotland: a progress update](#)

[Common Agricultural Policy Futures Programme](#)

[Principles for a digital future: Lessons learned from public sector ICT projects](#)

[The 2017/18 audit of Scottish Social Services Council](#)

[Scottish Public Pensions Agency: Update on management of PS project](#)

[The 2018/19 audit of Disclosure Scotland](#)

[Social security: Implementing the devolved powers](#)

[Enabling digital government](#)

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