

Written evidence submitted by Richard Keirnan and Azim Siddiqi from Pelory Limited

The comment from the NAO “only a small proportion of senior officials in government have first-hand experience of digital business change” has real value in understanding the problem, but the advice given in section 8 “Recommendations: Actions for government” would be nearly impossible to realistically execute:

Suggested action ‘a’

“revise existing training programmes to better equip and train all decision-makers with responsibility for digital transformation programmes”

While on the face of it, this might seem an obvious option, consider the fact that the pace of technology change and the rate of change acceleration combined with the variable educational starting positions of government officials.

The authors of this evidence Richard Keirnan CEO of Pelory and Azim Siddiqi have a strong track record in delivering complex technical solutions to organisations such as Direct Line Insurance and similar sized clients, in order to do this, in the case of Richard Keirnan 30+ years of technical and managerial experience is made available to clients starting with an engineering degree and a continuous build up of knowledge including that of data scientist which facilitates highly accelerated learning, Azim Siddiqi has a similar level of experience, but the important fact it is the top 20% of this knowledge that drives value that leads to success.

The concept of asking a government official whose skills rest on a different footprint to gain enough knowledge to be able to achieve a meaningful intuitive technical decision making insight is wholly unrealistic, short of taking up full time education for more than a year the official concerned is constructively being setup to fail by an unrealistic set of objectives.

Personal motivations Professionalism

Officials may be willing to undertake programs with a youthful naivety in the belief they may well succeed and positively progress in their careers, this is present in industry as well, and is countered by successful technology embracing organisations engaging effective professional council.

A pragmatic solution

Accept officials are never going to learn enough to be effective technology decision makers, we need to accept the pace of change especially in areas involving AI will be ever confounding.

Instead train officials in delivery skills, particularly Agile delivery skills, empower them with the knowledge and finance to engage with professionals in the marketplace who will provide the technical understanding to drive decision.

Professional bias

Traditionally officials have sought council from large consultancies which have proven to be willing to create enormous amounts of documentation, the entire process being counter

productive to the task in hand, the big consultancies are frequently biased in an interest of delivering the solution as well as defining the roadmap.

Critical impartiality of a co-collaborator

For an official to be empowered a close relationship needs to exist, that of co-collaborator, officials trained in delivery should be hiring the expertise in a 'one-to-one' collaboration framework, specialist technical knowledge is made available with the consultant role being designed to 'watch the back' of the official, a personal advisor from industry whose allegiance is to the official not an external consultancy.

Remaining NAO suggested actions 'b to i'

The remaining actions of the NAO 'b to i' (through section 9) share a similar weakness, that the official's technical knowledge can grow and be maintained at a level making the objective viable, essentially the same assumption that was made for action 'a'.

b work with HM Treasury to review existing business case funding and approval processes for digital programmes to: remove the incentives to state with full confidence those things which are still unknown; ensure that uncertainties associated with assumptions are made clear, together with when these uncertainties will be better understood; understand what the final product should look like, and the path to get there; be clear on what risks represent 'unknown unknowns'; and ensure professional independent technical assurance mechanisms are in place, to support those responsible for approving programmes; and
c disseminate and apply lessons learned from the successes and failures of the past and seek to understand why digital strategies have made poor progress.

Response:

The whole concept of "*be clear on what risks represent 'unknown unknowns'*" is cliché driven and completely nonsensical. 'Unknown unknowns' are wholly unmanageable - instructing someone otherwise is setting them up to fail.

This entire recommended action assumes HMRC to be 'The font of all knowledge' regarding unknown risk, HMRC might be accepting risks as acceptable before approving funding, but that is a different topic - we are here to improve the implementation of digital change one funding has been approved, and merely deferring the risk to HMRC makes matters worse.

d carry out proper evaluation and assurance in the early stages of a digital programme to understand its complexity and scope, assess how realistic the chance of success is and reflect this in the programme approach;

Response:

This entire recommended action is based on old 'PRINCE2' style waterfall thinking of the previous century, which believed that digital change could be understood so much so it be defined in documentation before the commencement of delivery, and that risk could be evaluated.

In hindsight it is universally understood that many of the past IT calamities are rooted in this misconception, the idea that an official is able to do this is wholly unrealistic. Derived assurance can only be extracted from experience, which the novelty introduced from the fast changing shape of technology rapidly erodes. Instead a good delivery practitioner should conduct a PoC proof of concept to determine complexity risk.

e ensure senior digital, data and technology colleagues have wider influence on all change programmes with digital components, by providing strategic direction and oversight at key decision points in the process;

Response:

This does make sense as long as the colleagues are relevantly experienced.

f strengthen their intelligent client function for digital change including identifying and developing key requirements before tenders and bid processes commence and taking the lead on supplier engagement;

Response:

This is where government officials are weakest, “key requirements before tenders and bid processes” is where impartial professional assistance is required.

g maximise the chances of effective digital delivery by ensuring that business leaders have sufficient skills, commitment and time to engage in all aspects of governance and decision-making;

Response:

This is a repetition of ‘a’ and assumes officials have the base knowledge and time to become skilled, the problem set is that of lack of knowledge and novelty.

h produce departmental strategies and plans for how to manage the legacy IT estate so that maintenance, support and decommissioning are systematically addressed and required funding is ring fenced; and

Response:

This is part of BAU operations and not a digital delivery concept beyond decommissioning, the critical part missing is that of migration which is highly complex and officials are unlikely to understand without professional assistance.

i ensure that agile principles and approaches are appropriately applied

within the context of significant business programme change, for example by developing interim and target operating models, and having appropriate business and technical architecture in place.

Response:

The ‘Lessons for government digital business change programmes: things to get right at the outset’ **directly contradicts** this and says:

“Recognise that agile methods are not appropriate for all programmes and teams.”

Clearly the NAO do not have a unified understanding of digital delivery.

Agile is an appropriate method of delivery and officials should be trained to expert levels in understanding it.

According to the NAO Report - The Challenges in implementing Digital Change ,

[The government has many major projects and programmes which include some form of digital transformation. The government’s Major Projects Portfolio has 125 projects worth £448 billion, many of which have digital elements.](#)

Yet many of the case studies cited result in a level of value being delivered in relation to the cost. The report goes on to highlight some of the key issues based on analysis of government projects, one of which is the lack of experience of delivering digital change among key decision makers - the subject of the evidence request.

This paper examines the key facets needed for effective project delivery based on experience in the commercial sector. It then examines the impact of shortcomings in leadership on these key facets which result in high cost/low value Digital Change Programs within organisations.

Key facets of Digital Change

In order to successfully delivery digital change within an organisation, there are 4 key pillars:

- Culture
- People
- Technology
- Governance

All four must be given equal importance and function together in order to delivery digital change successfully. Any weakness in one will result in weakness in all, compromising the success and predictability of delivery.

Culture

According to Cary Oven, a partner with Deloitte Risk and Financial Advisory at Deloitte & Touche LLP,

[When organizations undertake digital transformation and focus only on technology at the expense of culture, that can hinder progress in many areas.](#)

Without a mentality of Digital Delivery flowing through an organisation, any technology implementation becomes costly as project team fight against endemic barriers to change. Although leadership within organisations recognises its importance there is often a failure to create top down cultural transformation, often hindered by existing organisation encumbrance including:

Fear to innovate:

According to Deloitte Luxembourg:

[When digital transformation initiatives struggle, the blame often gets assigned to the technology implementation.](#)

As a result, technologists become reluctant to voice ideas, fearing that either they will be ignored or those ideas will result in further failure. Lack of technical knowledge and experience at senior levels often entrenches this cultural problem as senior leaders are unable to evaluate the merits of a technical innovation and instead focus on the failures. Organisations then fail to innovate which in turn results in costly and lengthy implementation decisions that use legacy technologies that are more inefficient than current trends (e.g. favouring on-premise infrastructure over the cloud). It's always safer to do what was there before than suggest something new.

Fear to innovate often materialises as a **failure to automate**. Manual processes that are costly, inefficient and time consuming often perpetuate in an organisation because automation is seen as risky and damaging if the implementation results in failure. Leadership is often more knowledgeable about manual processes and so feels more comfortable with managing them rather than introducing technical solutions to automate. A reluctance to change also increases the cost of change further compounding the problem.

The Recommendation is to employ senior leaders with the knowledge and experience to feel comfortable implementing innovative change driven by technology departments. There should also be a representation at senior level of disruptive technologists that can champion innovation. Risks associated with innovation (some of which are highlighted in the NAO report) should be mitigated by Governance (covered below). Automation should also be considered to be a mission critical priority in the organisation, emphasised in leadership performance benchmarks and mission statements.

Fear of being replaced:

According to the Harvard Business Review:

[When employees perceive that digital transformation could threaten their jobs, they may consciously or unconsciously resist the changes.](#)

This is most damaging if it affects decision making at a senior level. A lack of experience in technology and digital change often results in a suspicion that it is an uncontrollable force that will make employees and leaders alike redundant. As a result, an unconscious barrier is put up to technology adoption and/or success.

The Recommendation here is to employ senior leaders with the knowledge and experience to see technology as an enabler that pushes an organisation forward rather

than a threat. They should then recognise those fears within the wider workforce and subsequently emphasise that the digital transformation process is an opportunity for employees to upgrade their expertise to suit the marketplace of the future. Automation is there to make our lives easier rather than take away employment.

Siloed Thinking Across the Enterprise

According to McKinsey:

[“ When silos characterize the organization, responses to rapidly evolving customer needs are often too narrow, with key signals missed or acted upon too slowly”](#)

Siloed thinking within organisations is a cultural mindset more than it is a structural consequence. A lack of technical knowledge and experience can often result in thought leaders thinking too narrowly about a problem, focusing only on an individual area with a lack of appraisal for overall delivery. For example, security teams will often see security policies as absolutes that must be enforced *in toto* rather than attempt to apply them to projects. This results in delay and cost to delivery.

Siloed thinking is inefficient, costly and fails to quantify cost benefits. It creates tensions across the organisations with unintended consequences such as shadow IT (project teams end up bypassing central governance and building their own infrastructures and solutions).

The recommendation here is to create cross disciplinary leadership teams with strong representation from project delivery alongside core function SMEs. This cross-disciplinary approach can then filter down to other levels of the organisation with silos being broken by cross disciplinary delivery teams. This also creates an ‘all in it together’ mentality with the focus on delivering digital change rather than silos focusing on delivering for their own area. Leadership performance benchmarks also need to be appraised against broader digital delivery benchmarks rather than ones related to a silo.

People

According to the Harvard Business Review:

[Contrary to popular belief, digital transformation is less about technology, and more about people. You can pretty much buy any technology, but your ability to adapt to an even more digital future depends on developing the next generation of skills, closing the gap between talent supply and demand, and future-proofing your own and others’ potential.](#)

Unfortunately, a lack of experience in delivering digital change often results in leadership unable to equip an organisation with the right people and also the mechanisms to empower those people to contribute effectively in digital change. Technologists are often still seen as second class citizens, existing to service rather than drive the business and as cost centres not value creators.

Lack of skills

According to McKinsey:

[The rapid rise of digitisation and remote work has placed new demands on employees who, in many instances, now require different skills to support significant changes to how](#)

[work gets done and to the business priorities their companies are setting...the urgency of addressing skill gaps is clear—and, across industries, more important than ever to do.](#)

The lack of experience of digital change among technical leadership acts as a barrier to the creation of a permanent technology driven workforce within an organisation. Technologists are often treated as less of a priority among new hires resulting in a poor return on digital change as well as a risk that initiatives cannot be maintained, fall into disrepair and cause regression back to no technology driven processes. Organisations also look to contract staff or external providers to bridge the gap without any thought to strategic development of a technology workforce, resulting in significant long term technology costs.

The Recommendation is to make technology transformation of the workforce a benchmark for leadership performance. Although a short term reliance on external staff (contractors, providers) is inevitable during a transition this should be time boxed with organisations dedicating significant budget and effort to developing a technology driven workforce. Part of this should be hiring staff, part of it should be cross skilling existing staff. CEO/COOs should also work with government and educational institutions to ensure that the right skills are available in the broader workforce with less reliance on offshore labour markets.

Lack of representation on boards

According to Deloitte:

[In 2016, more than 85 percent of new board seats were filled by CEOs, COOs, or presidents \(38 percent\); those with financial backgrounds \(25 percent\); or business, division, or other functional leaders \(23 percent\)...Our analysis finds that the number of technology-focused directors—those with meaningful technology experience—on public company boards is low, and that many executive boards are only beginning to add technology expertise. The percentage of public companies that have appointed technology-focused board members has grown over the last six years from 10 percent to 17 percent. However, this figure almost doubles \(32 percent\) for high performers—companies that outperformed the Standard & Poor's 500 Index \(S&P 500\) by 10 percent or more for the past three years.](#)

The evidence above clearly indicates a direct correlation between high performance and technology representation at board level. By having technology representation, key decisions can no longer ignore the value and impact of technology. This level of representation ensures that digital transformation is prioritised, assessed and correctly monitored as a core business function.

The Recommendation is to bring CIOs onto boards to represent technology concerns at the highest level. Boards can also have their own dedicated Technology Advisory committee to ensure that technology and business strategy is aligned and that digital transformation is central to the overall direction. Technology staff should also be developed at promoted to the highest level, with dedicated leadership and networking programs in line with the more traditional core business functions of an organisation.

Technologists should be everywhere

In early 2017, Lloyd Blankfein (Goldman Sachs CEO) famously stated

We are a technology firm. We are a platform.

What he was alluding to was that technology was now ubiquitous in the business and that the relationship between the core trading business and ancillary it services no longer existed. **Technology is the core business.** This is the ultimate aim of Digital Transformation. Technology should no longer seen as a support function. It is central to the strategy, operations and future direction of any organisation. All staff should be empowered to use technology platforms in a self service and entrepreneurial way to achieve high levels of automation. Organisations should also move towards data driven approaches, informing all decisions with easy to use, easy to access central data platforms.

Technology

A recent report by BeTheBusiness and McKinsey shows that:

The current SME technology market has delivered poor adoption and results.

The report highlights a number of factors that are proving to be a barrier to adoption, one of which is:

need for leadership and management skills, and basic digital capabilities as a precursor to adoption of more advanced technologies.

This is aligned with experience in larger enterprises where a lack of knowledge and experience in the area of digital change results in a reluctance to adopt new and emerging technologies. Although there is a gap in the ability of technologists to articulate adoption in terms of business value, business leaders often struggle to understand and appraise the application of technology to business problems. As a consequence technology adoption is often late and technologies are not correctly applied. This result in cost both in terms of opportunity and also waste and reversal. This is in part mitigated but the creation of a strong governance function below.

The recommendation is to train and educate existing leaders in technology and digital alongside bringing in more representation (covered above). There are a number of ways government can assist with adoption. Setting up nationwide, dedicated technology CoEs can provide interim resources to help assist and advise organisations on digital change where there is a gap in expertise. The Government can incentivise technology adoption through part funding and tax incentives. Round tables and government reports need to have adequate representation from experienced technologists. The government can also fund research to create sector wide technology and digitisation strategies.

Governance

A number of areas within the NAO report are related to poor technology governance, including:

Understanding aims, ambition and risk.

Risk by its very nature is unknown, by effectively training government officials in controlling risk during delivery some mitigation can be offered.

Assuring changes to programme scope

Scope risk is frequently associated with a poor understanding of the benefits plan, before undertaking any digital delivery officials need to have a clearly identified benefits plan and from that the scale of the delivery and complexity is derived.

Governance is an important enabler of technical innovation and digitisation as it provides the safety net and second pair of eyes allowing innovators to feel secure to suggest new approaches knowing that the risk around them will be adequately assessed. Governance addresses a number of risks associated with delivering digital change including:

- Project Assurance
- Technology and Quality Assurance.
- Standardisation of practices and technologies.

Lack of experience in Digital change among leaders can result in either inadequate controls or controls that stifle innovation. The inability to strike the right balance between too much and too little is often a direct result of key decision makers not having the skills, experience or data to make an informed choice. This results in many of the problems highlighted in the NAO approach included post value delivery, delay, inefficient digitisation approaches (e.g. shadow IT) and poor choice of methodology to support delivery.

The recommendation is for the creation of Project and Technical CoEs which include an Agile CoE. These are dedicated to assuring decisions associated with digital transformation. These should have champions at a senior leadership level and should feed directly into the Digitisation Approach and strategy. However, it is also essential to have value driven assessments of the CoE recommendations. If leaders do not have the requisite skills and experience in digital transformation, many of the cultural issues highlighted above can be exacerbated by over-governance. That is also why it is key to ensure that the recommendations put forward in the 'People' section above are also followed.

Some of the recommendation of the NAO are flawed by the assumption officials technical capacity can be uplifted so much so they become digital technical delivery professionals, it is recommended that consultants should be engaged that can be integrated within government departments for short periods to empower officials with the knowledge to correctly manage digital delivery.

Summary

The NAO report is a comprehensive and evidenced based analysis of challenges in delivering digital change in government. By looking across other sectors, this paper aims to augment the NAO findings with additional recommendations that can be implemented in government and commercial digitisation strategies. Digital Transformation is clearly key to building a successful post pandemic Britain. By investing in the correct skills, structure and practices, Britain can be a world leader in Digital Transformation, exporting high quality expertise across the globe to aid in meeting the post pandemic challenges of sustainability, levelling and realignment head on.

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