2. The governance of digital government strategies

Whilst digital government strategies are fundamentally important to the transformation of policymaking and service delivery, it is necessary to put in place the conditions which will support the development and implementation of such a strategy. This chapter identifies the governance arrangements for co-ordinating the vision, design and implementation for the strategy before discussing the different approaches taken by countries in respect of inclusive and responsive stakeholder engagement in developing the strategy itself. The chapter concludes with an exploration of how countries have put in place the necessary oversight and monitoring, funding mechanisms, and functional leadership to ensure that the implementation of their digital government strategies delivers on their promised ambitions.

Public governance can be thought of as a system of institutions, strategic processes and tools, as well as rules and interactions by which public decisions are made and executed. More concisely, public governance refers to the formal and informal arrangements that support decision-making in public policy and service delivery.

National digital government strategies are developed with the aspirational goal of turning them into tools of governance in the efforts to modernise the public sector. They put forward a vision statement for the digitalisation of government and the future of service delivery and policy making. This shared vision sets common objectives and provides a unique opportunity for aligning political, administrative and technical efforts in favour of the goals stated in the strategy. As such, strategies are indeed an instrumental piece of what makes up the virtuous circle of digital government implementation (see Figure 2.1).

Governance is perhaps the single most critical aspect in ensuring the strategic action of government. Indeed, the digital transformation of the public sector, as that of the economy and society, entails power shifts, new expectations and anxieties associated with change. The relevance of governance frameworks is that they endow governments with the ability to cope with change. Indeed, they allow governments to work out the expectations and views of all relevant stakeholders, build wide ownership of vision for the future, co-ordinate actions in view of attaining specific objectives and, just as importantly, governance frameworks enable the public sector to restructure and repurpose governments' workflows and resources to make the digital transformation possible.

Ultimately, governments strive to have a strategy that both effectively prepares for, and shapes, the future. For this they need a governance structure that effectively channels energies and resources to those ends, enabling governments to deliver services and policies that respond to the needs and expectations of networked societies. These elements can lead to a virtuous circle if they are linked to a robust monitoring system and to feedback loops providing data for the continuous improvement of government operations.

Figure 2.1. The virtuous cycle of the digital transformation

Governance arrangements for coordination of the vision, design and implementation

Chile has become increasingly aware of the governance challenges associated with the effective implementation of digital government strategies. The Agenda Digital 2020 set the objective of strengthening the institutional and governance frameworks for digital government. The Government of Chile worked with the OECD to identify the strengths and weaknesses of its current digital government arrangements, which led to the production of a digital government study focused on the institutional aspects that underpin the digital transformation of government, which was published in 2016 (OECD, 2016[1]).

As the new government has progressively laid out its vision for the role of digital technologies in the modernisation of the public administration, it has shown great awareness about the need for robust governance and institutional arrangements to make that vision a reality. The new government is seeking to strengthen the institutional framework that underpins public sector modernisation and endowed the DGD of MINSEGPRES with a stronger political and legal status as well as additional resources to help materialise this vision.

In the 2016 OECD report mentioned above, Chile and the OECD identified a number of challenges hindering the strategic governance of public sector digitalisation in Chile. The factors undermining consistent progress include:

- Short political cycles which tend to translate into changing government priorities, making some efforts unsustainable.
- Lack of continuity in cross-cutting policies and projects

- Uneven level of technological adoption and maturity across institutions
- Overlaps and duplication of ICT investments and spending

The 2016 OECD report advanced recommendations aimed at strengthening the legal basis and institutional capability of the unit responsible for digital government and state modernisation at MINSEGPRES, which were taken up by the previous Administration. The current Administration is seeking to consolidate them in order to strengthen the mandate, role and capability of the national co-ordinating unit for digital government. The present study has been conceived as a follow up project aimed at looking at how to leverage the national digital government strategy as a tool of government transformation that gears public action, government business processes and decision-making.

The following sub-sections will explore key areas for the development, oversight and implementation of digital government strategies.

The making of digital government strategies: stakeholder engagement as the basis of good governance

Ultimately, the development of a shared vision for digital government requires support from governance arrangements that will coordinate and channel efforts into actions that will enable the vision to come to life. As such, the governance and strategy of digital government are as effective as their ability to coordinate stakeholders, resources and decisions.

Parting from this premise, it is unsurprising to learn that all OECD members serving as a benchmark for this study[1] engage with external stakeholders to involve them in the process of developing the digital government strategy. But this consistency hides a great degree of variability between countries. Some countries have adopted longer and more thorough participatory approaches involving a high number of stakeholders from various levels of government, parts of the administration and/or the broad society. This is particularly true in the case of **Switzerland**, a country with a long tradition of public consultation and strong decentralisation of political and administrative authority. Such a context requires the buy-in and active participation of numerous stakeholders from all administrative levels, clearly signalling the need for a consensus-based approach. **Estonia**, a more centralised country, also reaped the benefits of a thorough and methodical collaborative development, showcasing broad support for public sector digitalisation efforts and outstanding outcomes as a result.

Other cases show a more centralised, top-down approach with shorter consultation periods, often with strict timelines that follow political cycles. In such cases, the entity/authority in charge of digital government has played a greater role in the development of the strategy's content. **Spain** and **Sweden** reported that it would have been beneficial to allocate more time early on to the consultation process to ensure broad ownership of core issues and elements of the strategy. Given pressures associated with **Denmark**'s budget cycle, the latest version of the Danish digital government strategy chose to elaborate a high-level strategy. The Agency for Digitalisation achieved agreements in principle with relevant stakeholders that would be later worked out and further detailed as the strategy was translated into an operational action plan.

In other cases, some of the benchmarked OECD members have found that issues or initiatives that lack sufficient consensus face greater resistance during the implementation phase, in particular when these initiatives imply significant cultural change or

organisational adaptation. These situations tend to require greater efforts on the management side later on to address expectations, anxiety and resistance. Furthermore, insufficient engagement of relevant stakeholders increases the risk of overlooking implementation challenges, in particular when the strategy sets specific and concrete objectives for the administration.

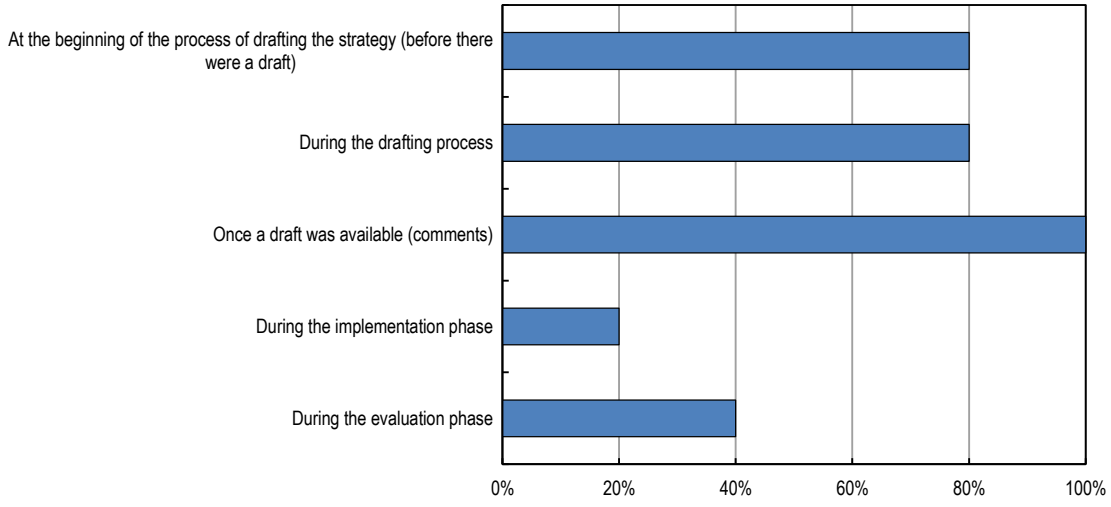
The most thorough practices documented in this review of selected digital government strategies are characterised by structured and participatory approaches, informed through a number of in-person stakeholder engagements, surveys and online consultations on the draft. Participatory development processes tend to be longer, but also entail greater ownership of the strategy and commitment to their implementation, thus facilitating co-ordination between stakeholders down the line. Moreover, greater engagement allows for a richer and more robust analysis of opportunities, trends and risks in the use of technologies in the public sector, allowing the central co-ordinating unit to consider the priorities and technological maturity of individual public institutions and their ability to deliver strategic projects. These exercises also provide the opportunity for linking the national strategy to sectorial strategies, thus reflecting the views of a wider diversity of actors and policy communities.

However, larger consultation exercises may also lead to vague formulations that would need further specification down the road. Hence, participation needs to be balanced with the capacity and power to keep the focus on prioritisation of objectives, results and feasibility of their achievement.

Among the OECD countries assessed as part of this study, all of them opened up consultations once a draft strategy was available, and a great majority started engaging with the ecosystem before the draft was ready. Consultation during the implementation or evaluation stages seems to be rarer (see Figure 2.2).

Figure 2.2. At what point does the consultation take place?

Selected OECD countries

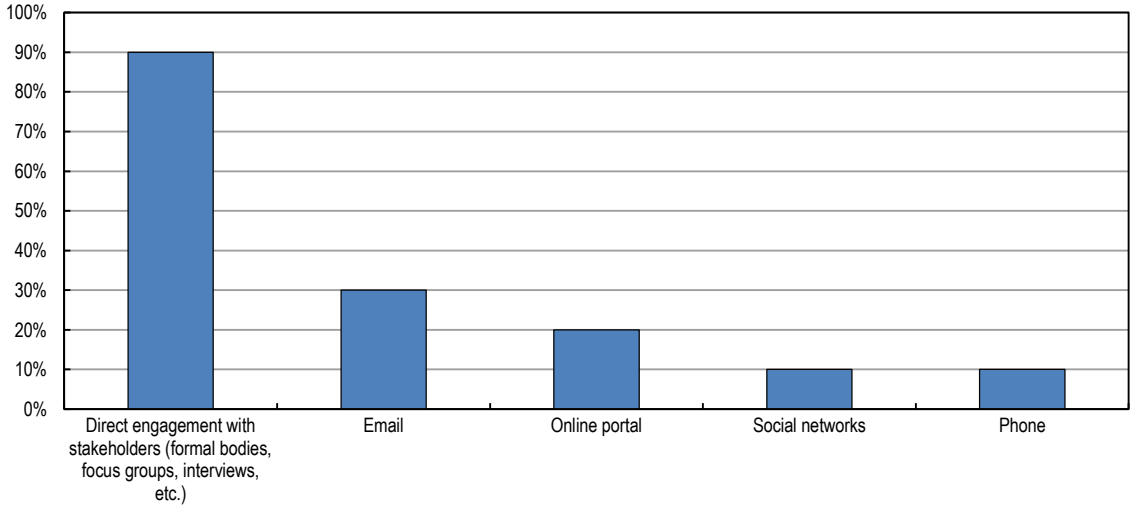


Note: Data from Colombia, Denmark, Estonia, Norway, Mexico, The Netherlands, New Zealand, Spain, Sweden and Switzerland
Source: Survey on Digital Government Strategies (2017); Digital Government Survey of Norway (2017)

Consultation mechanisms also vary greatly between countries, with a marked preference for in-person consultations, either through formal advisory or consultative groups or bodies, workshops, interviews or similar techniques (see Figure 2.3). The preference for in-person engagement could be explained by it being a more favourable framework for building consensus. Indeed, while other forms of data collections lend themselves for the structured collection of very useful information, face-to-face discussions allow for broader considerations, allowing each of the parts to better understand the views of each of the parts, the issues at stake, and make sure that all concerns are covered.

Figure 2.3. Channels used for the consultation process

Selected OECD countries



Note: Data from Colombia, Denmark, Estonia, Norway, Mexico, The Netherlands, New Zealand, Spain, Sweden and Switzerland
Source: Survey on Digital Government Strategies (2017); Digital Government Survey of Norway (2017)

The data collection conducted seems to show that the criteria for selecting priorities and key objectives are very seldom pre-established and, when they are, they tend to keep a certain flexibility. The main reason for it is that the digital government strategy is simultaneously a policy and a political document, resulting from both a policy and a political process. Nevertheless, some factors are often cited as decisive, including expected impact, availability of resources and the timeline and feasibility of the initiatives.

The OECD consulted each of the benchmarked countries on the lessons learned from the strategy development process. Participants highlighted the iterative development process as a working method to facilitate the emergence of ownership and consensus. The **Estonian** case is both paradigmatic and illustrative of this way of working. First, a series of structured discussions and workshops was organised with the participation of public institutions, technical experts, civil servants, private sector, CSOs and academia. These meetings were organised around focused themes, rather than horizontal, excessively broad ones. This design allowed them to get as much substance as possible out of these meetings. Participants where asked about their ideas of what the future government should look like. These scenarios were then consolidated into a single document outlining the vision for a digital Estonian government. Based on the discussions the document identified the actions required to achieve that vision. Once drafted, this consolidated document was shared with

all the stakeholders for them to review and comment. Once the reviews were taken into account, the document was then opened up for consultation.

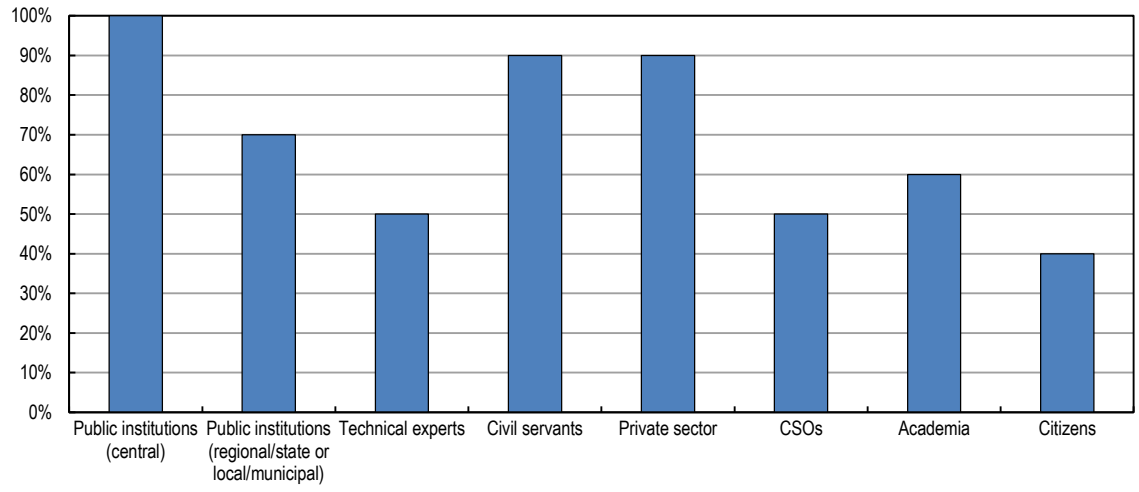
The development of the *Agenda Digital 2020* was comparable to good practices among OECD peers assessed in this review. Leading ministries in the area of national digital development (which include MINSEGPRES, the Ministry of Economy, Development and Tourism and the Ministry of Transport and Telecommunications) established a task force that determined the themes that would be included in the strategy. The Government of Chile called on the Public-Private Council for Digital Development" (composed of public institutions, private sector, civil society organisations, specialists and academics) to organise a series of workshops. These workshops were organised around 8 thematic working groups with the participation of over 100 individuals and representatives from all 15 regions of the country. This joint work resulted in a list of 60 measures that would be incorporated into the digital agenda.

A relative weakness when compared to the benchmarked countries concerns the engagement of subnational governments (reported by 66.7% of the reference countries for the benchmarking). While Chile did work with regions for the development of the strategy, the absence of municipalities in this process should be a cause of concern. Municipalities are key service providers, usually with scarcer technical and financial resources than the central government to push forward a digitalisation agenda. For instance, municipalities are often called upon to ensure the effective enforcement of building requirements and permits as indicated in the Chilean Decree-Law on the General Law of Urbanism and Buildings and its associated regulations (MINVU, 1975[2]). Despite sustained aspirational objectives included in successive national digital government strategies, a recent study found that, on average, only 2.8 municipal services or procedures can be completed online (Alcalá Consultores, 2015[3]). While assessing the technological maturity and online presence of Chilean municipalities, Alcalá, a consultancy firm, found that most local government websites lacked desirable characteristics of a well-designed online platform, such as clarity of information, ease of use and user support. In addition, the report found that municipal platforms presented a scarcity of transactional services and functionalities for participation and engagement.

Despite the obvious interest in fostering digital development more evenly across the territory, and the opportunity for modernising municipal administration, the co-ordination with local governments often proves difficult. Municipalities are numerous and their levels of technological maturity vary significantly, thus increasing transaction costs in the bargaining process. In addition, political challenges often emerge. Representatives from municipalities often advance different political agendas, which can at times be at odds with the central government. This challenge calls for ingenious solutions. The assessed countries often opt for working with national associations or federations of municipal governments, which helps channel the voice, concerns and interests of local governments and administrations, usually providing very valuable inputs in the process of strategy development.

Figure 2.4. Stakeholders involved in the development of the digital government strategy

Selected OECD countries



Note: Data from Colombia, Denmark, Estonia, Norway, Mexico, The Netherlands, New Zealand, Spain, Sweden and Switzerland
Source: Survey on Digital Government Strategies (2017); Digital Government Survey of Norway (2017)

A key concern for Chile seems to be how to ensure sustained digital government efforts. Engaging with all relevant stakeholders can help build agreements and consensus through a deliberative process with the digital ecosystem of the country, which can strengthen the strategy's role as a governance instrument. Chile has repeatedly confronted the question of whether the consensus that underpins their national digital government strategies is robust enough to survive a change of administration. This calls for a successful balance between a long-term engagement on setting up the enabling infrastructure, and the continuous assessment and strategic adjustment based on changing realities. These phases of strategic re-adjustment also benefit from the continuous feedback loops and engagement as a means to ensure ownership and informed decision-making, and ultimately to make the strategic vision thrive.

The above is approach is relevant as the new Piñera Administration has embarked in the development of a new digital transformation strategy that seeks to help the Chilean public administration transition to paperless transactions. This strategy will be submitted for consultation with the new digital transformation coordinators of public institutions and in an open manner for the private sector, academia and civil society to make comments and contributions. The Administration has put forward an ambitious timeframe for the development of this action plan and its implementation. As it does so, it will have to carefully consider the governance mechanism it puts in place (see the next section) as they will become all the more critical to the realisation of the vision for an Administration that has greater capabilities of working transversally and horizontally.

Box 2.1. Creating a common vision for digital government in Switzerland

Switzerland's new "e-Government Strategic Plan 2016-2019" is the result of a long process of collective effort in shaping a vision for a digital public administration for the country.

As early as 2013, the Swiss Confederation started a reflection on what was it that citizens and lower levels of government expected from it. The purpose was to find a way to get the different levels of government to work closer together on behalf of citizens and businesses, despite their distributed responsibilities.

The Swiss Confederation carried out a long and intense consultation and consensus building process between 2013 and 2015. It established an inter-federal committee, with representatives from the confederation, the cantons and the municipalities.

This inter-federal committee fixed the broad strategic objectives for the new strategy:

- Easy, transparent and secure administration
- Economic efficiency
- Innovation
- Sustainability of solutions

Based on a thorough analysis jointly developed by all stakeholders using tools such as surveys workshops and other forms of consultations, the inter-federal committee then helped identified strategic projects and operational objectives linked to these broad strategic objectives before opening the strategic plan for consultation. The committee also helped determine the scope of responsibilities of the different actors, establish a governance structure for the strategic plan –both at the political and administrative level- and look for ways to overcome the legal challenges posed by the federal context.

Source: Information collected through interview with the Executive Direction of e-Government Switzerland.

Making it happen: the governance of digital government strategies in selected OECD countries

The elaboration of a digital government strategy is just the first step. Embedding the digital government strategy into government operations and its rationale, is without doubt the most difficult and transformative step. As mentioned above, the success of this second step relies on the governance frameworks that support it.

Strategy governance most often include two levels of coordination 1) some form of high level strategic governance that provides the general political orientation for the development of digital government; 2) operational co-ordination, usually through CIO co-ordination networks, which aims to work out the implementation details of strategic initiatives, making sure efforts are appropriately aligned.

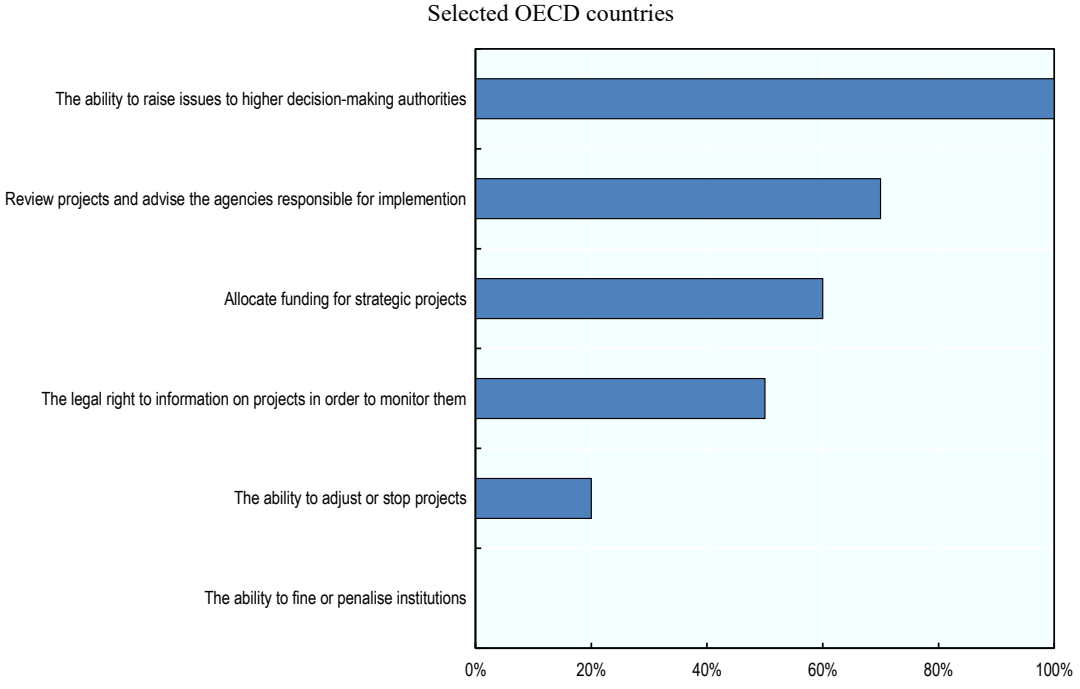
Strategic co-ordination bodies usually meet once or twice a year when integrated with high-level political leadership (i.e. Minister level) and re-examine the priorities set in the strategy. In some cases, such as **Estonia**, it approves yearly action plans to ensure its effective operationalisation and implementation. This is the body responsible for making the strategy a living document, adaptable to changing conditions and information. This strategic co-ordination body or function is often supported by a planning unit or a secretariat, which monitors the implementation of the strategy, providing useful information and forecasts, helping the steering committee plan the work ahead and make evidence-based decisions. It is not uncommon for this function to be performed by the national digital government co-ordinating unit.

Some examples of these strategic co-ordination units include the High-Level Directive Council of the Vice-Ministry of Digital Economy in **Colombia**, the ICT Strategy Committee in **Spain** and the Cabinet Meeting in **Estonia** (informed by the strategy sessions organised by the Government CIO, the Estonian Information System Authority and Government Office).

The operational co-ordination function usually brings together government CIOs and their teams, and is responsible for working out the technical challenges in the implementation of significant digital government initiatives. This operational co-ordination often falls under the responsibility of the national co-ordinating unit (i.e. national or central government CIO).

National co-ordinating units are most often able to allocate funds to strategic projects (60%) or review projects and advice agencies responsible for their implementation (70%). Furthermore, the power to require information on specific projects is also common (50%), and all are generally able to raise concerns to higher level decision-making authorities (100%). More coercive levers, such as the ability to adjust or stop projects, is generally rare in the selected subset of OECD countries (20%).

Figure 2.5. Powers of central co-ordinating unit to ensure the effective implementation of the digital government strategy



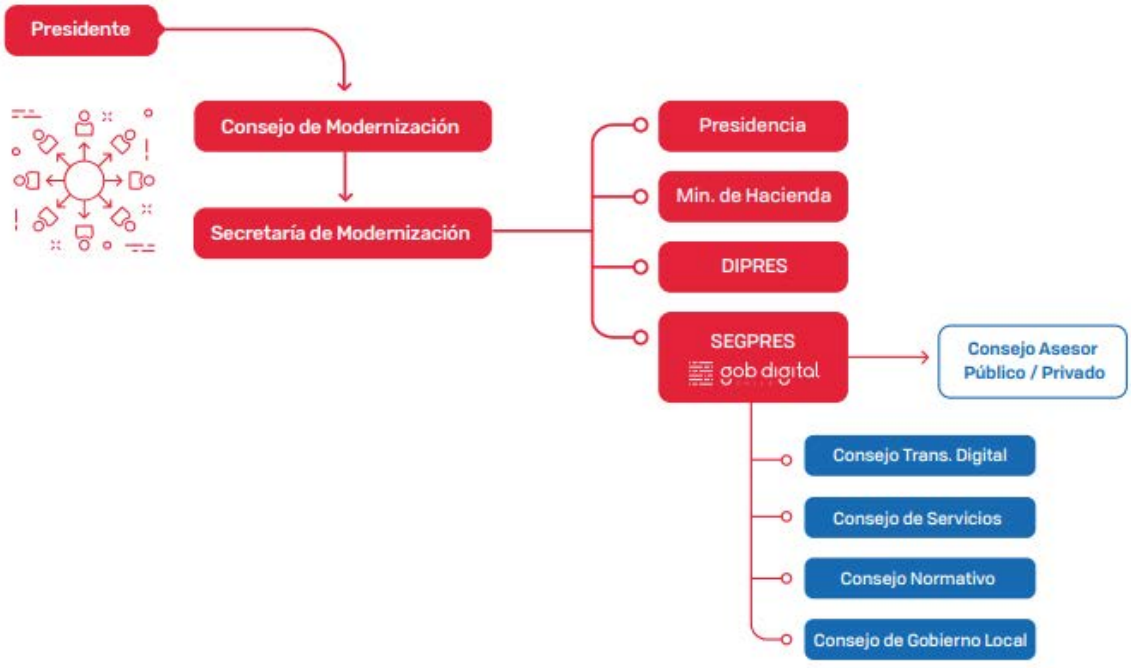
Note: Data from Colombia, Denmark, Estonia, Norway, Mexico, The Netherlands, New Zealand, Spain, Sweden and Switzerland
Source: Survey on Digital Government Strategies (2017); Digital Government Survey of Norway (2017)

The new Piñera Administration has launched a new framework for the high-level governance of public sector modernisation and digital government. President Piñera announced the creation of a Permanent Advisory Council for Modernisation composed of 12 members from the public and private sector. The Council, attached to the MINSEGPRES, has the objective of providing ongoing advice to the President on the

strategic and long-term vision for public sector modernisation. The Council has one President and an Executive Secretary.

In addition, the new Administration has created the Executive Council for the Modernisation of the State, comprising delegates from the President's Office, MINSEGPRES, the Ministry of Finance and the Direction of Budget of Chile (DIPRES). The Council will develop a roadmap for state modernisation to be presented to the President and the Advisory Council. It will also monitor the progress made in the implementation of the Modernisation Programme once adopted. This new arrangement is designed to ensure greater flexibility by helping the Modernisation Programme adjust as the context evolves. Moreover, the Administration established, through Decree No. 42 239 of 27 December 2018, the expectation that the Executive Council ensure the continuity of efforts, preparing modernisation roadmaps in the first 100 days of every new administration.

Figure 2.6. The Governance of State Modernisation in Chile



Source: Draft State Modernization Agenda of Chile.

President Piñera is also seeking to strengthen the implementation of digital government by restructuring and increasing the capabilities of DGD within the MINSEGPRES. The Division will now be organised around four core services:

- ***Consulting and co-ordination:*** hiring over 20 consultants for agile development to support public institutions conducting digital transformation projects and assist with user research, legal issues, early results and the strategic management of ICT procurement.
- ***Leadership and digital governance:*** This function of the DGD will establish the digital transformation agenda of the State in terms of standards, development models, ICT commissioning and project design.

- ***Development of tailored solutions:*** The development team will support other institutions in the development of tailored solutions as well as data integration for interoperability.
- ***Shared platforms:*** This function will facilitate the development and support shared platforms working on a "software as a service" model for public institutions in line with thinking on Government as a Platform.

To fulfil this mandate, the President has asked Congress to substantially increase the budget of the Division.

Available co-ordination mechanisms are consistent with those found in benchmarked countries. However, one area of potential improvement is co-ordination at the technical and operational levels. Similarly to other countries who have achieved co-ordination at these levels through a Council or Network that brings together the CIOs of central government agencies and departments, Chile has brought together public sector CIOs on a couple of occasions. This level of governance helps operationalise the digital government strategy and address bottle necks in the implementation of the digital agenda. These co-ordination bodies often benefit from the work of technical working groups focused on key areas such as interoperability, digital identity, service standards or others. Therefore, Chile might benefit from ensuring the continuity and formalisation of the work carried out at the technical and operational levels on digital government implementation across the administration.

Oversight and monitoring

Oversight and monitoring of the digital government strategies is most often carried out by the central co-ordinating unit (i.e. central/federal government CIO or equivalent function). In a minority of cases, such as the **Netherlands**, monitoring of projects and initiatives is decentralised, charging institutions responsible for specific initiatives with the monitoring of their progress. The common practice includes the identification of specific indicators linked to each of the objectives and projects included in the strategy. These indicators make up the strategy's monitoring system.

The *Agenda Digital 2020* benefitted from a robust automated monitoring system based on the achievement of key predetermined milestones. These allow the government to have accurate estimations of the state of progress for implementation of the strategy. Each institution reported progress on a monthly basis through the online system. This automated system updates in real-time the status of each project on the public website www.agendadigital.gob.cl, which presents the current status of initiatives by axis and by specific objective or project. Furthermore, the monitoring function was also ensured through the regular meetings of the Ministers' Committee for Digital Development, its Executive Secretariat and technical working groups.

The continuity of this good practice under the new Digital Transformation Strategy - currently being developed-, with the oversight and monitoring of the Executive Council for State Modernisation. In addition to tracking progress, frequent meetings of the State Modernisation Team to assess unmet needs, strategic adjustments needed and resource reallocation will provide the Digital Transformation Strategy with the operational agility that will help it meet international best practices. Indeed, research shows that the most successful digital strategies in major companies review and analyse data, reassess their digital portfolios, review business models and reallocate resources much more frequently than less successful firms (Bughin, Catlin and LaBerge, 2019[4]).

As the institutional architecture and strategic actions of state modernisation are redefined, the monitoring system is also bound to be readjusted. The monitoring and evaluation system used in Chile to track the implementation of digital government strategies seems to be poised to put a greater focus on user satisfaction and improving measurements around state efficiency and productivity and broader social and economic development indicators.

The overall monitoring system of the strategy used until present is pretty robust. Two important areas of improvement have been identified that provide opportunities going forward. First, the ability to collect more granular project data could help strengthen strategic planning and implementation of digital government initiatives, helping co-ordinating bodies and functions to identify early on drivers of project failure and success and progressively build intelligence about ICT project performance.

Denmark and **New Zealand** provide very interesting examples in this regard. Their project governance models require approval by a central project governance function for projects above a pre-determined budget threshold. The approval demands the development of a rigorous business case for the project, clearly identifying roles and responsibilities, determining the viability, sustainability and impact of the project in advance, and pointing out clear performance indicators and project milestones. Data is then continuously collected and processed to draw insights. Responsible institutions for such projects are required to report on the advance and benefit/impact realisation up to two years after the completion of the project. **Israel** and its model of *IT Governance as a Service* can also serve as inspiration in as much as it provides a structure for ICT project management and continuous monitoring (see Box 2.2).

Box 2.2. Israel's IT Governance as a Service

As part of its efforts to strengthen ICT governance and oversight, ***Israel*** has developed the application IT Governance as a service (ITGaaS).

ITGaaS is a platform that supports the management and monitoring of ICT projects. It also allows agency CIOs to prepare their annual work plans, IT budget and risk management of IT departments in all ministries.

The platform serves as a service that facilitates the alignment of IT department management with government standards in a range of fields, helps create a catalogue of all government platforms and systems, thus providing Israel with a robust basis of compliance with good practices in IT project governance. It also allows for the continuous monitoring of ICT project implementation.

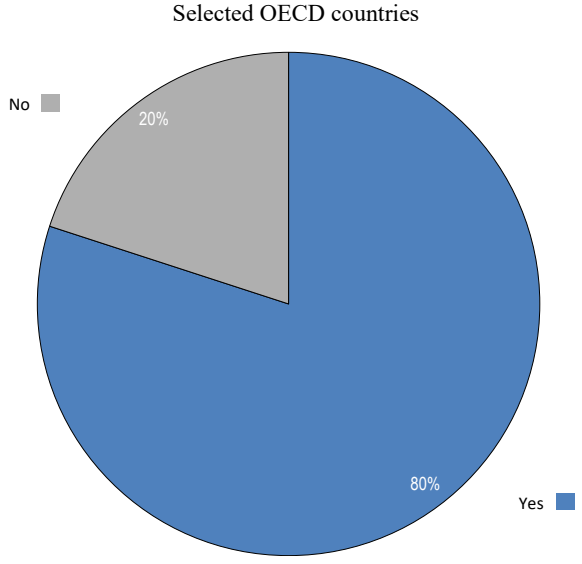
Source: OECD Survey on the use and implementation of the Recommendation of the Council on Digital Government Strategies (2017)

The second area of opportunity concerns precisely the assessment of the impact of the digital government strategy. The best example available today is without a doubt **Colombia**. Colombia put in place and progressively perfected a robust system for assessing the implementation of its digital government strategy in the form of the GeL Index (*Índice Gobierno en Línea*). This index allowed the central co-ordinating unit to assess and rank the implementation of digital government policies by all public institutions, both at the central and subnational levels of government. The publication of the index helped nudge institutions into compliance and providing incentives for strategic alignment and compliance.

Despite having this powerful tool in place, the Government of Colombia decided to work with the OECD in the development and implementation of an indicator framework and a statistical model that would help the government to better understand the impact of its digital government strategy on broader policy objectives. The results of the first implementation were published in October 2017 by the OECD (OECD, 2017[5]). With this additional information, the Colombian Vice-Ministry of Digital Economy is much better equipped to steer digital government efforts and to identify and strategically decide on the most impactful areas of their work.

By making these methodical attempts to develop impact assessments on digital government, Colombia places itself ahead of the curve in terms of monitoring and evaluation in the area of digital government. The benchmarking reveals that most countries use KPIs linked to the individual projects included in the strategy (e.g. outputs indicators) but they rarely have in place performance indicators (e.g. outcome indicators related to the overall objectives of the strategy or of broader national policies), not to mention impact assessments. Colombia's efforts could serve as inspiration for Chile in terms of continuous assessment, evaluation and learning of the strengths and weaknesses of the national digital government ecosystem.

Figure 2.7. Benchmarked countries with a separate central government fund to help finance strategic projects associated with the digital government strategy



Note: Data from Colombia, Denmark, Estonia, Norway, Mexico, The Netherlands, New Zealand, Spain, Sweden and Switzerland
Source: Survey on Digital Government Strategies (2017); Digital Government Survey of Norway (2017)

Funding mechanisms

Funding for activities contained in the digital government strategy are traditionally funded by: a) the institution or institutions responsible for the implementation the project, b) a central earmarked government fund for financing or co-financing strategic projects or promising pilots or prototypes, c) external funding (i.e. international organisations), or d) a mix of the above.

Virtually all benchmarked countries stressed the strategic importance **centralised ICT funds** to co-finance strategic projects and create incentives that foster compliance with existing norms, guidelines and digital government objectives established by the strategy. Indeed, such financing tools and funding models are seen as key levers enabling the successful implementation of the strategy.

Out of the ten countries referenced in this benchmarking study, only **Spain** and **Sweden** currently lack a centralised fund or co-financing mechanism, while the other 80% does have one in place. Spain, however, reports on-going efforts to establish one and Sweden had launched an initiative to set up one along with the adoption of its present strategy, but the motion was not retained.

In this light, it is encouraging that the current Administration is making efforts to provide the *DGD* with additional resources that will allow it to deliver on key strategic projects that can be highly catalytic.

Functional ICT Leadership linking digital government and broader strategy and policy objectives

Leadership plays a critical role in driving change and supporting the emergence of a new administrative culture in the public sector.

> "Leaders steer organisations, set goals, and play a significant role in developing the organisational culture and climate. They impart and embody the values of the organisation on a tacit level" *(OECD, 2017[6])*.

Leaders in this context should be broadly understood. Political authorities, senior managers, project leaders and employee organisers can all play leadership roles in a given time enabling new ways of working to emerge. Public sector leaders are key pieces in the transformation of public sector operations and will become increasingly so in the digital age.

The strengthening of the political leadership of DGD was an important step in empowering digital stewardship in government. Furthermore, including the Head of DGD in the Strategic Committee of the Modernisation Programme and its successor, the Executive Council of State Modernisation, marked a clear move towards putting digital at the core of public sector reform and broader public sector strategies. This has provided for a robust strategic alignment in government reform efforts.

However, Chile – as most countries - faces the important challenge in decentralising and scaling up digital leadership. In supporting the emergence of a new kind of public sector leader that will embody the values and character of a digital culture. This will be a critical factor in achieving a whole-of-government approach and support a cohesive and sustainable overall digital transformation of the public sector. In face of a new technological revolution, and its implications for the production of goods and services, it seems like a sensible time to think about a structured approach to nurture and incentivise the kind of leadership the public sector needs to deliver on citizens' needs.

Public sector leadership is expected to help manage change and can help break down silos in practice by fostering more collaborative forms of working. Both the OECD and the European Commission have highlighted the increasingly relevant role collaborative leadership is expected to play in the emergence of an innovative and increasingly digital public sector (OECD, 2016[1]; OECD, 2017[6]; European Commission, 2013[7]). Indeed, recent reports from both organisations suggest that the future public sector will rely on

greater horizontal collaboration and initiatives, and public managers acting as distributed leaders helping build the abilities, spur the motivation and create the opportunities for greater innovation and to transform the public sector.

Moreover, emerging technologies have been growing disruptive power and capabilities. Failure to understand the strategic implications of these technological changes can translate into poor choices and failed strategies. Political leaders and chief executives have little option but to get a better grasp of how these emerging technologies shape the strategic decisions in front of them (Díaz, Rowshankish and Saleth, 2018[8]). Senior executives in the 21st century can only be effective if they understand how new tools, like artificial intelligence, machine learning algorithms, the Internet of Things (IoT) or blockchain can impact their sectors and organisations. In effect, research findings show that organisations whose leaders dedicate time to learn about digital technologies more frequently have better digital results (Bughin, Catlin and LaBerge, 2019[4]).

Digital is also increasingly likely to raise sensitive political and ethical questions that will demand growing political involvement in digital questions. As such, the future of the deployment of technology in the public sector will see greater participation of political leaders, which is both inevitable and desirable.

Leaders also play a crucial role in the articulation of a clear messaging, helping internal and external stakeholders understand what the administration is trying to achieve. They are also expected to help establish goals citizens can relate to, objectives that are politically sound and can support the government's broader agenda. This is not a minor challenge, since technical issues can be hard to translate into tangible outcomes for the administration or the users. All of these trends suggest that both senior leadership in public organisations and their chief digital officers would benefit from working closer together.

An additional layer of leadership that is often overlooked is the role played by the middle management in that change management process. Middle managers interact day to day with the staff that is on the front lines of the digital transformation. They have a crucial function in ensuring the effective flow of information, translating the vision and needs of the senior management to the staff, and vice versa, the challenges and needs of staff in to the senior management. Furthermore, the middle management also supports day to day motivation of their teams, helping them deliver on expectations (PricewaterhouseCoopers, 2018[9]).

If middle managers feel threatened by the pace of change, their effectiveness can diminish quickly. This management layer could end up thwarting their organisation's innovation capacity by failing to give enthusiasts and change agents with the leeway that they need to experiment and come up with new ways of solving problems. Moreover, if middle managers do not have a solid understanding of how technology can be harnessed to solve business problems, they won't be able to convey the meaning of technology in the context of their organisation (PricewaterhouseCoopers, 2018[9]).

Note

1 Colombia, Denmark, Estonia, Mexico, Netherlands, New Zealand, Norway, Spain, Sweden and Switzerland.

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