

### 3. Strategic areas for digital government development

*This concluding chapter discusses six specific strategic areas, and certain trends and themes that can be found in the digital government strategies of the selected countries.*

*The chapter starts by considering the need to start with user needs before discussing the role of data as a strategic asset and building out the necessary capabilities for delivery amongst public servants. The external contribution made by private sector suppliers to the delivery capabilities of governments is then discussed in the context of transforming procurement practices to adopt an ICT commissioning approach.*

*The chapter identifies that the digital inclusion needs of citizens are an important strategic factor in the success of digital government strategies before finally exploring the relationship between government digital strategies and public sector innovation strategies for improving public service delivery.*

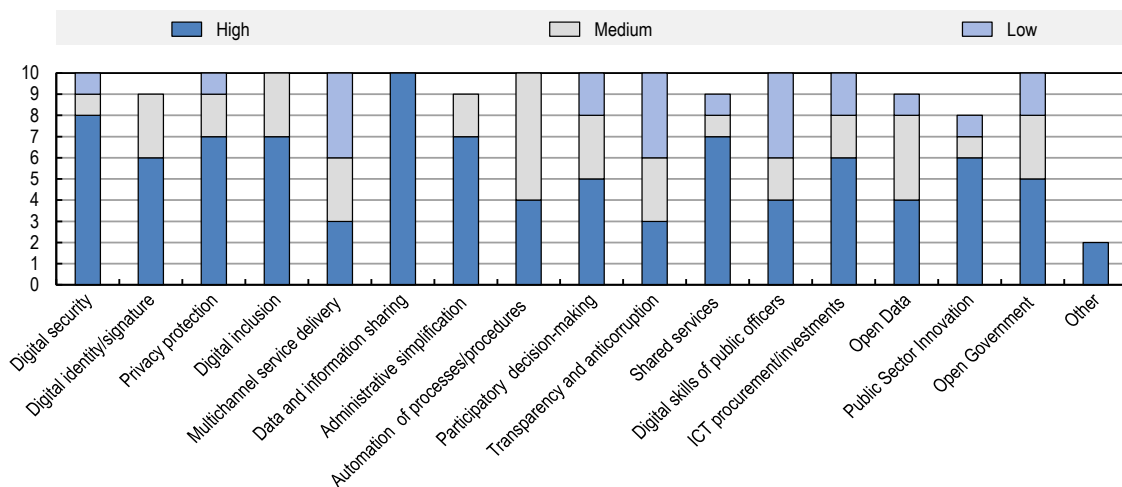
The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

In addition to the process of strategy development and its functional role as a governance tool, this study will take a deeper dive into specific strategic areas, and certain trends and themes included in the digital government strategies of the selected countries.

Benchmarked countries signal data sharing across the public sector as the single most relevant theme of digital government strategies, closely followed by related topics such as data security, digital identity and privacy protection, administrative simplification, and shared services (i.e. infrastructure, platforms, software and data), see Figure 3.1. Digital inclusion, ICT procurement and investment, and public sector innovation are also an issue that remains high in the agenda of the OECD countries selected for this benchmark.

**Figure 3.1. Priority of the following topics**

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)

## Start with user needs

Digital government strategies have the distinctive ability to set the public administrations' goals and priorities when it comes to digitalising government. One of the critical characteristics of digital government is to put the focus on user needs. This change of focus is critical as they encourage and empower digital teams across the public sector not to simply digitalise paper-based procedures, but to focus on process re-engineering.

Countries like Australia<sup>1</sup>, Canada<sup>2</sup>, Mexico<sup>3</sup>, New Zealand<sup>4</sup>, the United Kingdom<sup>5</sup>, and the United States<sup>6</sup> have developed overarching design principles, digital government standards, guides and other requirements that provide digital teams with a framework to support the service transformation. These tools have been powerful tools to boost the digital transformation. These tools provide digital teams with a principle-based approach to service design, focusing on user needs first, and empowering them to leave behind obsolete rules that make little sense in the digital age (Bracken and Greenway, 2018; Bracken *et al.*, 2018). Moreover, these tools have helped embed user-driven approaches and the need for user research in national administration, which haven't been traditionally been commercially incentivised to understand the user experience and respond to their needs.

The progressive adoption of these service design principles and standards gave rise to the internationally recognised *Principles for Digital Development*<sup>7</sup> and the OECD's very own *General Digital Service Design Principles*, an unpublished document developed by the Thematic Group on Digital Service Delivery of the *OECD Working Party of Senior Digital Government Officials*.

In Chile, DGD has developed two important guides to support public servants in their digital delivery: a guide to designing web interfaces and a guide for designing digital services.<sup>8</sup> Meanwhile, the Laboratorio de Gobierno (Government Lab) has developed a tool that helps public servants to innovate in the public sector.<sup>9</sup> This tool lays out how to adopt user-focused approaches in service and process design. It is hard to overstate the relevance of the work of the Laboratorio de Gobierno, DGD and the Modernisation Programme in sensitising public sector organisations to the importance of the user's experience and their impact on delivering services in ways that are simpler and more effective and that as such increase adoption.

Despite those important steps, Chile has yet to adopt a service standard in the same way other peers have. The experience shows that these standards provide the public sector with a robust framework to decide whether something is good enough to go on the portal or not, thus serving as quality control, in particular when combined with governance frameworks that accelerate adoption (see Box 3.1 describing the role of Mexico's single window in ensuring compliance with digital service standards).

### **Box 3.1. *gob.mx*: Transforming service delivery and digital engagement in Mexico**

*gob.mx* has been at the core of the digital government strategy in Mexico. Developed and tested in the course of 2013 and 2014, the platform has since become the government's single window and an essential shared infrastructure for government transformation. It allows users to easily access services and public information as well as take part in digital participation exercises.

The platform has also facilitated interoperability and data sharing within the public sector, ensured consistency in design and made government more accessible for citizens and businesses. By mandating that all public institutions participate in the platform, the Government of Mexico gave the Co-ordination of the National Digital Strategy and the Ministry of Public Administration greater ability to ensure that digital services comply with the technical standards and requirements. These standards and requirements, along with a series of guides, templates and re-usable components have been made available for all public institutions to re-use, helping accelerate the transformation of services.

The three main components of *gob.mx* are:

- **gob.mx/tramites**: Gives citizens and business quick, easy access to 4 000 federal public services.
- **gob.mx/gobierno**: Consolidates in one place all previous 5 000 government websites.
- **gob.mx/participa**: Interactive platform providing citizens with a channel to make proposals, report acts of corruption and participate in the development of new services and policies.

Source: gob.mx (2018) ¿Qué es gob.mx? <https://www.gob.mx/que-es-gobmx-extendido> (accessed on Oct 26, 2018); OECD (2015) Digital Government Toolkit: Good Practices – National One Stop Portal gob.mx,

<http://www.oecd.org/gov/mexico-one-stop-portal.pdf> (accessed on Oct 26, 2018); Co-ordination of the National Digital Strategy (2018) National Digital Strategy – Project files (internal, unpublished document).

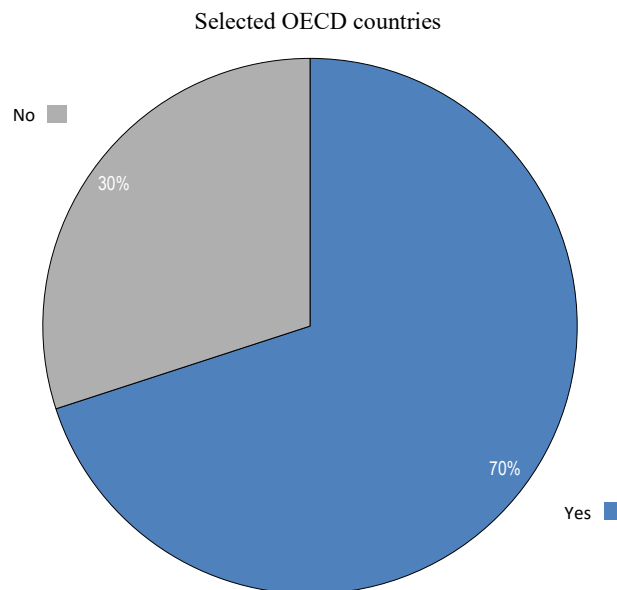
## Data as a strategic asset: towards a data-driven public sector

The recording and processing of information and data to inform decision-making have always been among the core functions of government and its bureaucracy. The capability of capturing and processing data efficiently has historically been the basis for public sector intelligence and good governance. This is how governments' basic registries emerged.

Today's digital technologies have drastically increased our ability to capture, store, share and process data to support more robust decision-making. Tools like sensors and technologies of the Internet of Things, paired with big data analytics, machine learning algorithms and artificial intelligence are today able to draw insights from massive amounts of data by identifying underlying patterns in the data. It is thus unsurprising that the benchmarked digital government strategies accord such relevance to data management and sharing, as it can be appreciated in the graph above. This interest has also been the driving and motivating force in the OECD's decision to launch its data-driven public sector project and develop its forthcoming working paper on this topic (van Ooijen, Ubaldi and Welby, 2019<sup>[1]</sup>)

Indeed, as many as 70% of benchmarked countries report that data-driven decision-making is high priority for the country (see Figure 3.2). This proves that there is growing recognition of the strategic value of data, and the importance of reviewing its value chain to enhance public sector's ability to perform, deliver on citizens' expectation and prepare for the future through better forecasting.

**Figure 3.2. Is data-driven decision-making a high priority for your country?**



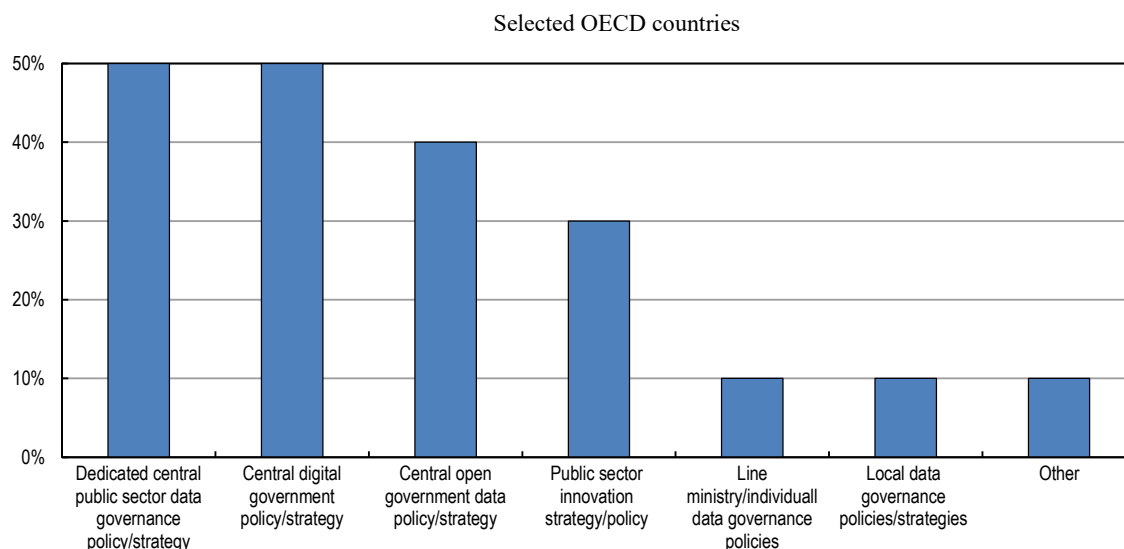
*Note:* Data from Colombia, Denmark, Estonia, Norway, Mexico, The Netherlands, New Zealand, Spain, Sweden and Switzerland

*Source:* Survey on Digital Government Strategies (2017); Digital Government Survey of Norway (2017)

Chile has not lagged behind the group, having expressed strong interest for enhancing interoperability and the digital integration of the public sector. With such efforts, the Government of Chile aims to facilitate data sharing and the delivery of more coherent and integrated services of the public administration, thus driving public sector performance. In addition, Chile has recently launched an initiative on the digitalisation of the civil registry which could have a massive impact on data sharing and data governance in the Chilean public sector and a revamped digital identity for users (OECD, Forthcoming<sup>[2]</sup>).

This recognition is not limited to the management of public sector data internally. Governments increasingly seek to reap the benefits of alternative sources of data, such as internet-based big data (van Ooijen, Ubaldi and Welby, 2019<sup>[1]</sup>). Furthermore, efforts to maximise the impact and value created through government data has led governments to progressively consider and adopt open data policies to support data-driven, open innovation. But the value extracted from this strategic resource cannot come at the expense of data security and privacy. The wide diversity of issues associated with the data lifecycle and data-based value creation have usually evolved progressively. They are generally not addressed and developed in a single strategy or policy, but most often different aspects of data governance and implementation are covered by more than one policy or strategy (see Figure 3.3).

**Figure 3.3. Policies and strategies covering the governance and use of data in the public sector**



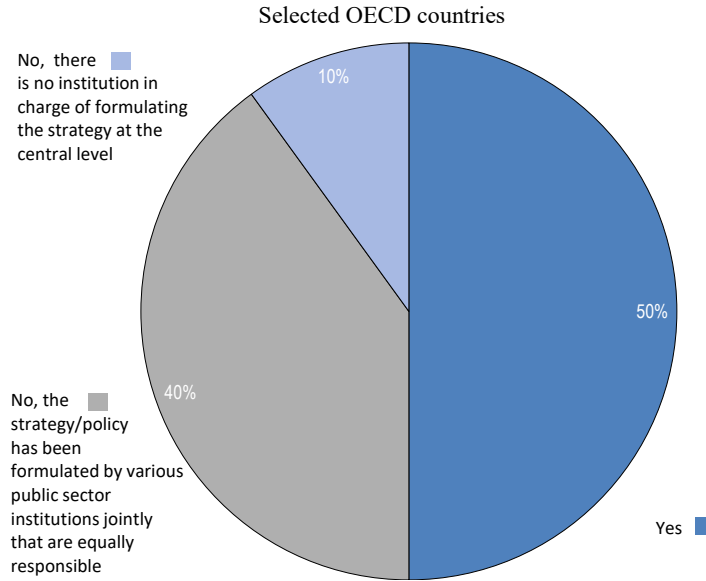
*Note:* Data from Colombia, Denmark, Estonia, Norway, Mexico, The Netherlands, New Zealand, Spain, Sweden and Switzerland

*Source:* Survey on Digital Government Strategies (2017); Digital Government Survey of Norway (2017)

Efforts to enhance the management of the data value chain across the public sector has progressively led OECD governments to identify an authority or authorities responsible for developing and implementing the government's strategic approach to data governance. These units are also usually responsible for helping the public sector identify its existing data and information gaps, develop strategies to collect the missing pieces of information, and enhance its processing and analytical capabilities to use data to draw insights, design policies, improve service delivery and build a more performing public sector.

A robust 50% of the OECD countries assessed in this study had a single authority leading the co-ordination and implementation of the national public sector data strategies and policies. Another 40% of them had more distributed responsibilities (see Figure 3.4 below). Similarly, the 2017 OECD Open Government Data Survey 3.0 reveals 11 out of 31 OECD member countries have established a Chief Data Officer for the central/federal government, up from only 7 or 24.24% in the 2014 version of this survey (see Figure 3.5 further below).

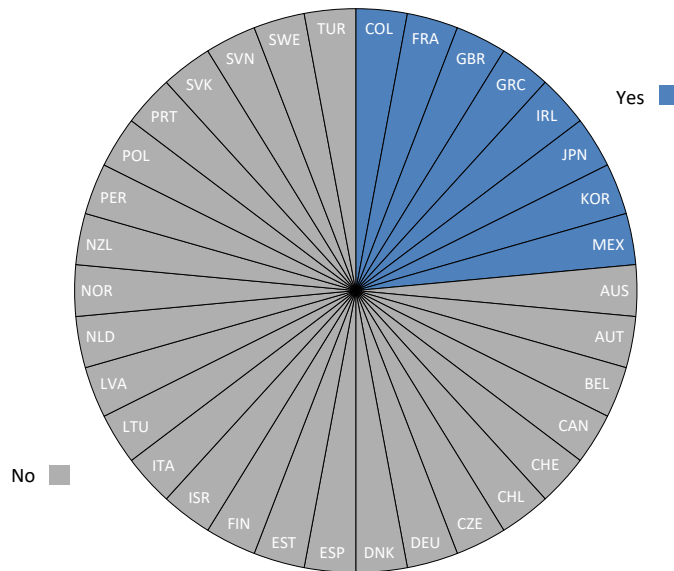
**Figure 3.4. Does your government have a leading institution responsible for overseeing and co-ordinating public sector data strategies/policies?**



*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)

**Figure 3.5. OECD countries with a central/federal Chief Data Officer**



*Note:* Data not available for Hungary, Iceland, Luxembourg and the United States. Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

*Source:* OECD Survey on Open Government Data 3.0. (2017): Section 2, Question 14. Countries providing a response to the question: Does the central/federal government have a Chief Data officer (CDO)? (Based on information provided by 31 OECD countries and 3 country partners: Colombia, Lithuania and Peru).

These efforts to support the strategic use of data should not be seen as excessively sophisticated aspirations for the public sector. On the contrary, they often translate into very concrete simplification of people's interaction with the public administration, even if they have limited digital skills. Indeed, the simplification of procedures thanks to greater data sharing is a critical mechanism helping governments deliver the benefits of the digital transformation of the public sector to unskilled users. This can be achieved through user research, helping public institutions better understand the different types of user that try to access a service and understand their journey and experience. This exercise usually leads to the simplification of procedures and the integration of information systems and data, making services more accessible by ensuring users will no longer have to complete excessively long and complicated forms. Chile seems to show growing awareness about this issue as it designs a new government data strategy.

### ***Towards a new public sector data strategy in Chile***

As part of its new state modernisation efforts, Chile has been working on a formal public sector data strategy with a strong focus on advancing interoperability and data-sharing in the public sector and preparing the administration for the advent of increasingly sophisticated data-processing capabilities, such as artificial intelligence.

Chile's push to move to a paperless administration that makes the *once only principle* effective relies on a number of key digital government infrastructure projects. These initiatives have benefitted from a level of continuity across administrations. As these projects come to maturity, they have the potential of becoming a mission-driven effort that can help drive a significant transformation of public sector operations. These initiatives are critical as they enable the timely access to relevant data by decision-makers and include:

- ***Electronic document management system:*** that facilitates the electronic sharing and storage of documents in the Chilean public administration.
- ***Interoperability framework and platform:*** That will foster data sharing within the administration;
- ***Digital signature for public institutions:*** that can certify the validity, source and date of official electronic documents;
- ***Digital identity:*** to facilitate the secure sharing of personal data across agencies and provide citizens with a reliable mechanism for proving their identity. It is hard to overstate the relevance of this project. According to the Inter-American Development Bank, over a third of government transactions in Chile concern identity and the civil registry (IDB, 2018<sub>[3]</sub>).
- ***The elaboration of standards and data governance for the public sector:*** This effort seeks to foster a standardised use of data, semantics, meta-data, among other components helping structure public sector data in a way that can be easily exploited through modern data processing techniques.
- ***Digitalisation of base registries:*** as a strategic effort to enhance the flow of data in the public sector and progressively simplify and integrate service delivery.

It is important to underline, however, that along with unlocking the power of administrative data, the digital revolution allows the public sector to capitalise on new data production, collection and processing capabilities to support decision-making. The quantity of data and information produced by the ubiquity of digital devices, which increasingly interact with the physical world (i.e. sensors, the Internet of Things) is only growing. More powerful computing and increasingly sophisticated statistical models and algorithms (i.e. machine learning algorithms, artificial intelligence) can lead to better public performance and more robust decision-making.

The decision to make data a critical part of public sector modernisation shows that Chile is aware of the strategic value of data. The question now is how to nurture a data-driven culture in the public sector that is ingrained in public sector operations, strategic priorities and policy objectives.

One first challenge for public administrations is to look beyond the hype and engage with the difficult task of building a technical understanding of the opportunities and limitations of new data processing technologies. Today more than ever public sector organisations need a clear-eyed assessment that grasps that data is not about buzz, but about making better decisions, and deploys data capabilities consequently (Díaz, Rowshankish and Saleth, 2018<sup>[4]</sup>). Indeed, data science skills are scarce and in high demand, making them expensive. To achieve maximum impact, the public sector must allocate its limited resources strategically.

Effective use of data starts by specifying the problem that needs to be solved. The business, policy or strategic questions, not the hype, should drive the data efforts made by the Chilean public sector.

The Government of Chile has started to experiment with data-driven insights supported by Google Analytics in key portals for service delivery: ChileAtiende and Gob.cl. Chile has also made progress in terms of integrating key data sources for service delivery, such as Customer Relationship Management (CRM) of ChileAtiende, institutional service delivery registries and the national services registry. However, examples of successful use of advanced analytics in policy and decision-making have yet to emerge. Data governance in the Chilean public sector would benefit from encouraging and expanding the implementation of data-driven techniques in highly strategic ways through frameworks, incentives, guidance and capacity building. It would also benefit from data-driven missions to improve public sector performance in key strategic areas as to ensure high returns on investment. For instance, predictive maintenance of infrastructure and equipment could lead to substantial savings of resources and lives (Bender, Henke and Lamarre, 2018<sup>[5]</sup>).

While frameworks and systems are critical, culture ultimately relies on people. Technological disruption is not new, but what makes the digital age unique is its pace, scope and reach. As previously mentioned, senior decision-makers are uniquely exposed to strategic failure due to a rapidly changing technological environment. To mitigate this risk, senior leaders will require more direct and frequent lines of communications between chief data and digital officers in the organisation. This will also empower these digital and data officers by giving them the opportunity to bring technology and data to bear as valuable sources of evidence to inform strategic decisions and to support policy implementation and service delivery. As top-level decision-makers progressively see how technology and data make them more effective executives, this relationship is bound to increasingly create a digital and data-driven culture.



Ultimately, embedding a data-driven culture into the fabric of the state so that it can survive a change in administration, chief data officers and data scientists must be able to work effectively with business units and operations teams in their organisations. By making the latter improve their own delivery, thus enhancing the performance of these units, chief data officers and their teams will gain growing support and interest from the different parts of the organisation. The interest from business units in different sectors of the administration should be nurtured. Growing demand from across the administration will ultimately feed and drive the cultural transformation.

As data drives the digital revolution, Chile is doing well to maintain the focus on having the right data policy framework that covers all key aspects of data governance in order to maximise the potential of national data value chains. If it succeeds, Chile will be ready to reap the benefits and manage the risks of data-driven transformation and harness the power machine learning and AI applications in the public sector.

**Australia** has led by example in this regard. Acknowledging the strategic importance of data, Australia developed a comprehensive approach towards the development of a data-driven public sector (see Box 3.2). However, it is important to highlight that such initiatives are still fairly recent and have not yet been adopted by a majority OECD members and often not as comprehensively.

### Box 3.2. Public Sector Data Management in Australia

In 2015, the Australian Public Service (APS) launched the Public Sector Data Management Project after a commissioned study made public the same year. The report highlighted the strategic value of data and how its sound management and use can lead to better public services and policies as well as greater public sector performance. It also underlined that the private sector's reuse of public data can support economic growth enabling companies to seize new business opportunities offered by the digital and data-driven economy.

The roadmap of the Public Sector Data Management Project comprised an initial phase of 6 months aimed building confidence and momentum and included the following activities based on the report's recommendations:

1. Secretary and Prime Minister & Cabinet (PM&C) signal data is a priority for the government
2. Commission several high value projects
3. Build external partnerships
4. Publish readily available non-sensitive datasets
5. Build data and analytics capability
6. PM&C coordinates projects and progresses in APS data policies and governance

In parallel, ongoing activities would be developed over a timeframe of 18 months to systematise the use and release of public sector data. These activities included:

1. Implement a data policy framework that includes:
  - A public policy statement
  - A simple governance model for data policy

- A requirement for evidence-based policy
2. Build and maintain public trust
  3. Establish an integrated model for sharing integrated data
  4. Create and publish a searchable, whole-of-government data catalogue
  5. Develop a Commonwealth Government high-value dataset framework
  6. Publish data management standards
  7. Establish a consistent and transparent approach to user charging
  8. Create a legislative environment that supports data use while maintaining privacy building on a possible Productivity Commission enquiry
  9. Promote innovation in the public administration

*Source:* Department of the Prime Minister and Cabinet (2016) Public Sector Data Management : Implementation Report, [https://www.pmc.gov.au/sites/default/files/publications/Implementation-Public-Sector-Data-Management-Report\\_0.pdf](https://www.pmc.gov.au/sites/default/files/publications/Implementation-Public-Sector-Data-Management-Report_0.pdf)

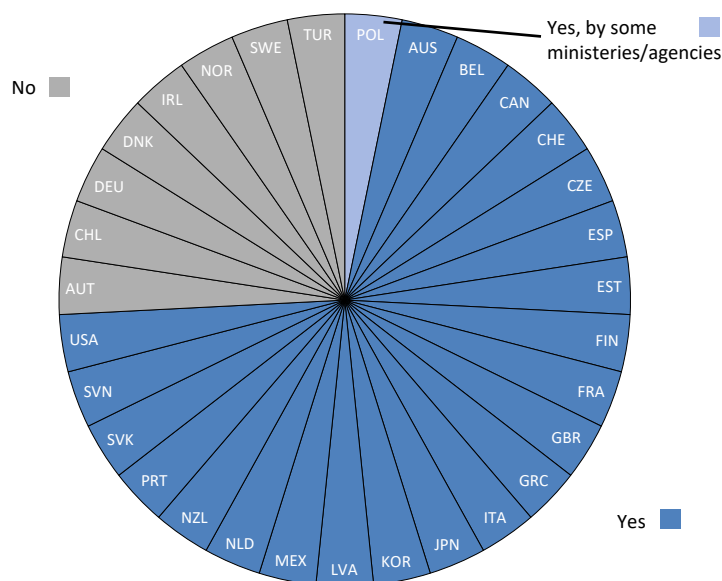
### ***Unleashing the power of open government data***

The strategic use of government data is not limited to changing internal procedures. The OECD has highlighted that open government data can be the support driving the co-creation of public value. A growing amount of evidence shows that opening up government data can lead to the collaborative creation of economic, social and public governance value (Ubaldi, 2013<sup>[6]</sup>).

A recent OECD survey has shown that a wide majority of OECD countries have adopted an “open by default” approach to the disclosure of government data in machine-readable formats. This means that government data is systematically opened unless issues of privacy, security or other legitimate concerns apply (see Figure 3.6). Chile has yet to reflect this trend as it seeks to enable digital and data-driven innovation in the country.

**Figure 3.6. Adherents with “open by default” requirements for government data**

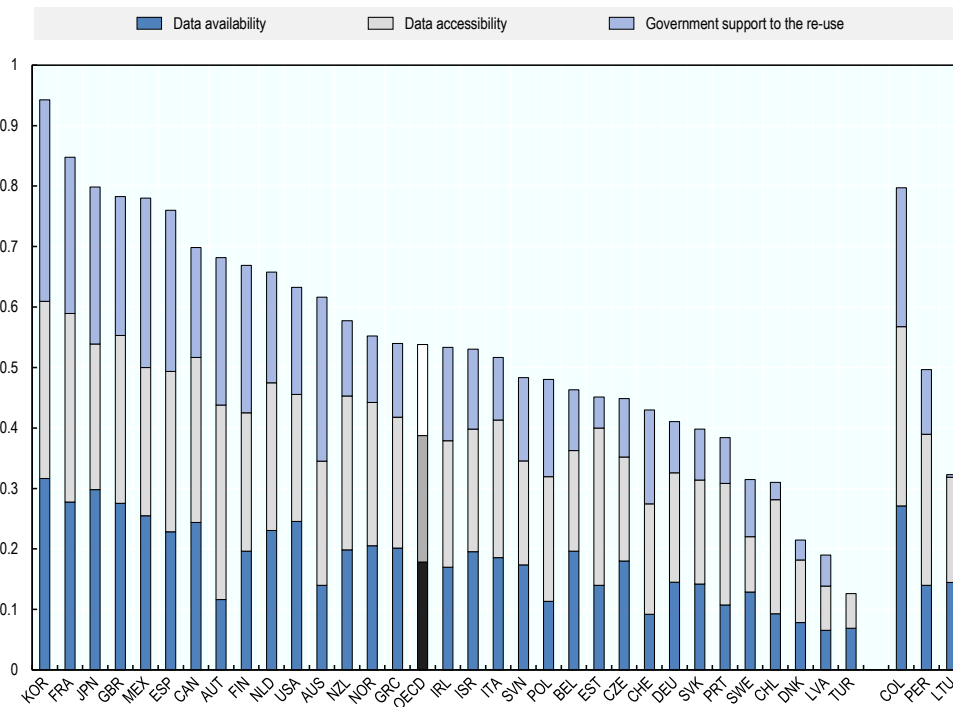
Adherents having adopted requirements whereby government data should be “open by default” unless a legitimate justification is provided



Source: OECD Survey on Open Government Data 3.0. (2017)

It is however important to point out that open government data ecosystems rely on much more than just data availability and accessibility. Open government data policies bring more value when they recognise the importance of using tools and resources to foster and nurture an ecosystem of data-driven innovation around open government data. Mexico, for instance, has two staff at each of 270 federal government institutions dedicated to implementing the national open government data policy, liaising with all relevant governance institutions as well as with external stakeholders to prioritise the disclosure of valuable datasets.

Indeed, the OECD’s Open, Useful and Re-usable Data Index, a composite index to monitor OECD members’ efforts to improve data availability, accessibility and re-use, shows that Chile lags behind other peers in open government data implementation. The government of Chile might benefit from efforts to strengthen all three dimensions, with a particular emphasis on data availability and efforts to foster data re-use.

**Figure 3.7. 2017 OECD OURdata Index**

*Note:* Data not available for Hungary, Iceland and Luxembourg. Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

*Source:* OECD (2017b), *Government at a Glance 2017*, OECD Publishing, Paris, [https://doi.org/10.1787/gov\\_glance-2017-en](https://doi.org/10.1787/gov_glance-2017-en) with data from country responses to the OECD Survey on Open Government Data 3.0 (2017).

Ultimately, the rise of data as a strategic resource calls for governments to go beyond single valuable initiatives and develop comprehensive data policy frameworks that enable and foster the emergence of a data-driven culture in the public sector that supports public value creation. Governments would benefit from governance frameworks for the data value chain that promotes the use, sharing and reuse of government data within the public sector and the disclosure of government data in reusable formats to empower external stakeholders to create value (Ubaldi, 2013<sup>[6]</sup>).

The launching of renewed efforts on Open Government Data by the Government of Chile provides an opportunity to ensure that robust frameworks are put in place, important between open government data and broader data governance and management are identified. It would also provide the public sector an opportunity to prioritise data efforts and investments in terms of data capacity (skills, infrastructure, standards) and identification of high-value datasets through improved collaboration with the entire open data ecosystem.

### Building capabilities for delivery

As highlighted several times in the course of this report, digital transformation is mostly about making government work differently. Human capital is the fundamental lynchpin of this change. The critical task governments face today is the need to build new capabilities and a culture that supports delivery.

Digitalisation is shaping the future of work, requiring new skills in every sector and industry (Chui, Manyika and Miremadi, 2015<sup>[7]</sup>; Manyika and al, 2017<sup>[8]</sup>). Government does not escape this fact. In most cases, decades of outsourcing ICT project delivery and maintenance weakened the public sectors' digital capabilities. The digital revolution is only starting and is likely to accelerate. In face of this reality, Chile must put in place structured efforts to reskill, upskill and acquire new talent in order to realise its digital vision.

As this report was being drafted, the Government of Chile was preparing to launch its new Digital Academy, an e-learning platform providing civil servants with online courses on strategic areas for the digital transformation of government, such as service design, data science, cybersecurity, technological trends among other. While this is an important part of upskilling civil servants, these activities, on their own, will likely not have the scope or scale needed to respond to the challenge of the digital age.

It is important for the Government of Chile to clearly differentiate between the skills that it may need to acquire externally, and the capabilities it can build internally with existing staff. ICT project managers can be retrained to identify digital opportunities and use agile or DevOps methodologies instead of waterfall project management relatively easy. However, highly specialised areas, such as data science, machine learning, artificial intelligence or even human-centred design require very specific skillsets, backgrounds and experience that can be difficult to transfer (Bughin, 2018<sup>[9]</sup>). Furthermore, skills in these areas are scarce and in high demand, introducing significant challenges to ensuring this foundational contributor to a successful digital transformation programme. Skills in public sector innovation could also help strengthen Chile's digital efforts by promoting positive reform. Skills from OPSI's Core Skills for Public Sector Innovation<sup>10</sup> consist of:

- **Iteration:** incrementally and experimentally developing policies, products and services
- **Data literacy:** ensuring decisions are data-driven and that data isn't an after thought
- **User centricity:** public services should be focussed on solving and servicing user needs
- **Curiosity:** seeking out and trying new ideas or ways of working
- **Storytelling:** explaining change in a way that builds support
- **Insurgency:** challenging the status quo and working with unusual partners

The OECD recently published an assessment of innovation skills in the Chilean public sector which found that current recruitment guidelines and competency frameworks for civil service development insufficiently valued or reflected the growing relevance of collaboration and working horizontally (OECD, 2017<sup>[10]</sup>). The review also found insufficient awareness of the importance of these skills, not only for achieving internal co-ordination and whole-of-government approaches, but also for effective service delivery. The experience in OECD countries underlines the importance of empathy and engagement skills with external stakeholders to enable a user-driven culture and public administration. These collaborative skills help senior managers and civil servants better grasp user needs, even if it means challenging common assumptions, by focusing on outcomes and the co-design of solutions and policies with end-users. Moreover, with the growing role of data, data science and machine learning capabilities are becoming critical areas of expertise for drawing insights on public policy and service design and delivery.

As political decision-makers put greater emphasis on the delivery of digital, integrated, data- and user-driven services, the skill gap described above increases the likelihood of

project failures and disappointment. In its 2017 report on Skill for a High Performing Civil Service (2017<sub>[11]</sub>), the OECD identified working collaboratively as an issue of critical strategic importance and the public sector skills development strategy should reflect that (see Box 3.3).

### Box 3.3. Attracting new talent in government

After the 2011 Healthcare.gov debacle, it became evident that the federal government had to drastically change how it procured and managed IT projects. While public sector wages weren't as competitive in the public sector, the US federal government was able to develop a strategy to attract digital talent from the vibrant tech industry building on tech entrepreneurs' and specialists' interest in having a social impact at a scale that only the federal government could offer.

Indeed, the Obama Administration succeeded in creating a series of programmes that called upon highly skilled software engineers to perform missions of six months to two years to tackle specific problems. These missions were framed as civic duties that would ultimately enhance government performance and its ability to use technology to deliver better services, even if such efforts would be hard to sustain in the long term unless they transformed the practices of career civil servants (Mergel, 2017; OECD, 2018a)

*Source:* Mergel, I. (2017), Digital Service Teams: Challenges and Recommendations for Government, IBM Center for the Business of Government, Washington, DC, <http://dx.doi.org/10.13140/RG.2.2.27227.57121>; OECD (2018), *Digital Government Review of Morocco: Laying the Foundations for the Digital Transformation of the Public Sector in Morocco*, OECD Digital Government Studies, OECD Publishing, Paris, <https://doi.org/10.1787/9789264298729-en>.

Chile might benefit from considering setting up a digital and data skills development strategy for the public sector to upskill, reskill and quickly attracting the critical talent that it lacks in areas of strategic importance.

To attract new talent, however, the public sector's recruitment frameworks would need to be fit-for-purpose and public sector missions could be leveraged to attract highly talented, impact-driven individuals.

Indeed, recruitment frameworks in the public administration should focus on testing relevant abilities. As Bracken et al. point out, a data scientist or software developer should not be assessed based on their ability write eloquent essays, nor on his or her CV or interview alone (Bracken and al, 2018<sub>[12]</sub>; Bracken and Greenway, 2018<sub>[13]</sub>). A data scientist should be asked to perform relevant tasks, such as data mining, processing massive amounts of data or setting up data collection techniques for a given service (Bracken and Greenway, 2018<sub>[13]</sub>; Bracken and al, 2018<sub>[12]</sub>). Evaluation panels should equally be composed by group of technical experts that can provides robust technical appraisal of the skill and knowledge of candidates.

## Transforming ICT commissioning to transform the public sector

Digital government development is the result of the development and progressive deployment of new technology systems in the public sector. As such, few areas or levers are as impactful in transforming government operations as the commissioning of ICT goods and services.

Growing citizen expectations, ever expanding technological options, multiple stakeholders and sizeable project budgets are making digitalisation projects more complex with more sophisticated workflows. The World Bank has found that as many as 87% of large public sector ICT projects failed or partially failed (World Bank, 2016<sub>[14]</sub>). As such, there is a growing sense of awareness of the need to better tackle the challenges associated with public sector ICT investments and of understanding numerous variables that impact the effective realisation of benefits in digitalisation projects.

New technological options do not only bring about new opportunities, they also open up new questions. For instance, through the aggregation of demand, economies of scale and the power of networks, *Cloud computing*<sup>11</sup> helps businesses and public institutions access infrastructure, platforms, software and other services at a fraction of the cost. However, successful adoption of cloud computing can only take place with careful consideration of data governance and ownership arrangements, exit clauses and ease of supplier change.

Furthermore, these new decision-making elements have made cost-benefit analysis much less straightforward. Shorter lifecycles in technology may often imply shorter timeframes for benefit realisation, thus affecting cost-benefit calculations. In addition to financial criteria, new cost-benefit analysis must incorporate considerations such as security, privacy and data sovereignty as well as the benefits of data sharing and collaborative work in order to accommodate a use of technology that effectively supports delivery. Most importantly, cost-benefit analysis should not only focus on financial benefits for the public sector, but appropriately weight the benefits for end-users, such as cost and time savings or improved accessibility (Government Digital Service, 2018<sub>[15]</sub>).

Digital technologies have also enabled the public sector to explore new investment and resource sharing arrangements that were out of the realm of the possible prior to this new technological revolution. The commissioning of ICT reveals itself as a powerful policy lever for driving coherence, interoperability, resource sharing and overall co-ordination of digital government implementation. The digital transformation increasingly calls for a comprehensive and holistic approach to public sector commissioning of ICTs to foster openness, user-driven approaches, efficiency and digital integration of the public sector.

ICT investments can be a driver of the strategic transformation of public sector workflows and business operations. The following subsections will assess different dimensions of ICT commissioning can contribute to a policy mix that enables Chile to that translate the high level strategic objectives of digital government into concrete operational changes in how the procurement of technology is done in the public sector.

### ***Strategies for ICT procurement***

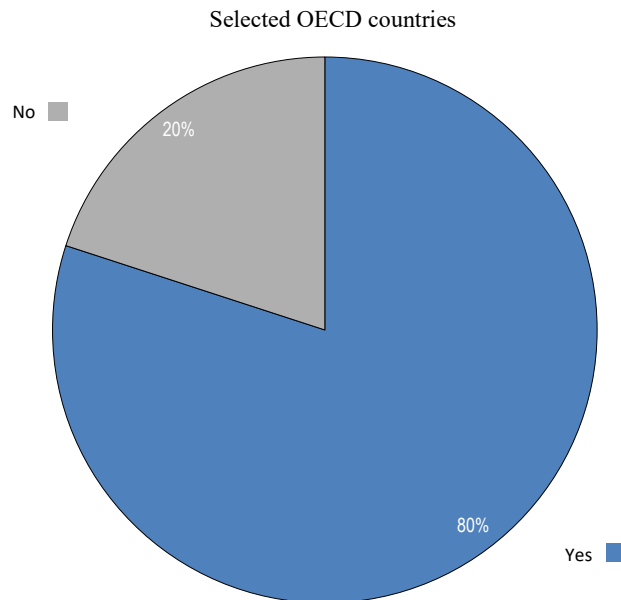
Only half (50%) of OECD member countries have in place a strategy covering ICT procurement specifically. Among the countries selected for this benchmarking, however, that share goes up to 80%. Chile has been progressively formulating its approach for the commissioning of ICT in the public sector. The country's public procurement authority, ChileCompra, in collaboration with the DGD of MINSEGPRES has issued a directive that provides guidance for public institutions to effectively manage issues such as the formulation of technical requirements, the risk of vendor lock-in, threats of information security, risks related to the continuity of public services, as well as threats against free competition (ChileCompra, 2015<sub>[16]</sub>).

In addition, ChileCompra has developed a digital marketplace with framework agreements, which aims to simplify the process of ICT acquisition. Currently, to these agreements allow

the Chilean Administration to procure hardware and software, data centres and related services.

Moreover, the DGD will play a growing role in the transformation of ICT procurement. Through its consulting activities, the development of tailored solutions and the development and operations of shared ICT services, DGD will be increasingly able to influence public sector ICT commissioning and acquisitions.

**Figure 3.8. Does your country have a strategy or policy specifically covering ICT procurement?**



*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)

Some of the current challenges faced by Chilean public authorities in the implementation of ICT projects in the public sector include the scarcity of the skills required to manage ICT projects for agile delivery, insufficient guidelines on the procurement of ICTs and insufficient user engagement and research in the formulation of ICT projects and structuring of provider contracts (OECD, 2017<sub>[17]</sub>). The legal and regulatory framework for public procurement and weak inter-institutional co-ordination are also perceived to be outstanding obstacles for effective ICT project implementation (OECD, 2017<sub>[17]</sub>). Finally, another important challenge that ICT project managers must overcome is the persistent view of the government technology sector as a support function, and not a core strategic element of organisational delivery, thus underestimating its impact and role in government transformation. Insufficient awareness about the potential of technology ultimately leads to insufficient resources and slow change in norms and practices.

### ***Structure contracts that respond to user needs***

A user-driven administration must ensure that government effort and investment starts from an understanding of user needs. If the administration does not understand users' needs, there's a good chance that it will not deliver the right things. Historically, procurement-led approaches have failed to develop a deep understanding of what users need and therefore



how digital, data and technology products or services can best be deployed and, as a consequence, do not deliver strategic, efficient or effective results. Procurement-led initiatives can also lead to a closed shop of a relatively small number of generally larger suppliers with long-term contracts meaning smaller suppliers are locked out of doing business with the public sector, possibly for several years (OECD, 2017<sub>[18]</sub>).

To be meaningful, the transformation of ICT commissioning and technology deployment will be driven by users and based on a thorough understanding of the problems to be solved. This requires the adoption of a wide variety of user research methods, including quantitative, qualitative, online and offline methods that can subsequently inform the choice and/or development of the solution.

Chile has carried out important work in terms of modernising ICT project governance and management. It has developed a new ICT project governance mechanism that substantially improves the project and budget approval process. The *Sistema para la Evaluación Técnica de Proyectos TIC* (ICT Project Technical Evaluation System), the new ICT project governance framework, makes the ICT project development, iteration and approval more efficient. Most significantly, it enhances the government's ability to gather and structure project data, supporting the development of an ICT Project Bank. This is of great relevance, as the ICT project data will help the government identify the drivers of project failure or success, on progressively improve ICT project management.

Despite these efforts, there is still need for increasingly embed user needs into project formulation, management and delivery. User-driven approaches to procurement necessitate a fundamental shift in the public sector ICT status quo. ICT procurement has traditionally been more focused on the administrative needs of a public institution, hoping to anticipate users' preferences. New forms of technology deployment however demand of institutions that they design procurement processes and contracts to meet users' needs and preferences (OECD, 2017<sub>[18]</sub>).

One of the main challenges in public sector ICT acquisition is that it has too often been dealt with as any other goods and services. ICT projects have often required all functions and characteristics to be determined in advance and described upfront. The project is then planned for in subsequent steps or stages. In this style of project management, known as "waterfall development", one step must be completed before moving to the next stage, not allowing for back-and-forth or experimentation that helps refine delivery to solve the client's problem and meet their expectations. This is particularly challenging in technology and software development, as no matter how thorough the description of desired functionalities, it is virtually impossible to determine in advance all of the elements that will come into play as the software is being developed (Mergel, 2017<sub>[19]</sub>).

"Agile development", on the contrary, focuses on the final outcome and not the process, and works on prototyping, testing and iteration to deliver results. By introducing flexibility into the process, agile development gives the developer the room required to meet the user's expectation.

Agile development and iterative processes have long been used in the private sector, but adoption in the public sector has been slower, often attributed to the rigidity of public procurement legal frameworks. However, transforming government through ICT procurement is not only a legal challenge, but a cultural one (Mergel, 2017<sub>[19]</sub>).

### Box 3.4. OECD ICT Procurement Reform Playbook

Since 2016, the Thematic Group on ICT Procurement Reform of the OECD's Working Party of Senior Digital Government Officials has been developing a playbook that will help governments address the most pressing challenges of ICT commissioning today. Drawing on the experiences of Australia, Canada, Chile, New Zealand and the United Kingdom. The playbook encourages governments to adjust procurement frameworks in ways that foster competition, open opportunities for small, innovative providers and adopt solutions that meet users' needs. The plays identified include:

1. Set the context: don't constrain procurements by specifying **how** the problem should be solved, describe the **problem** to be solved.
2. Start with users' needs: Embed user-centred, design-led and data-driven approaches in procurement.
3. Design procurements and contracts that meet users' needs: Start by understanding user needs (user research), start talking to buyer and supplier communities as soon as you're able to describe users and their needs. Iterate procurement and contract design as frequently as possible.
4. Be agile, iterative and incremental: Focus on outcomes, not process; Take a minimum viable project approach using pilots and proof of concepts; ensure project governance is agile; establish dialogue with suppliers where they can provide feedback about the process.
5. Work as a multidisciplinary team: Bring together procurement and commercial capability along with user-centred design and agile delivery capability from the offset.
6. Make things open: use an open marketplace model and adopt open standard, open source and open approaches to maximise synergies and foster efficiency, competition and innovation.
7. Build trusting and collaborative relationships internally and externally.
8. Share what you have with others and reuse what others have: Use contractual provisions that enable and encourage agencies to share and re-use code on common platforms. Encourage the sharing of good practices.
9. Move away from specifying to regulating: Do not focus on specifying ICT performance but on defining outcomes and regulating of markets to unleash competition and innovation. Move to as a service consumption from ownership, to operating expense rather than capital.
10. Public procurement for public good: Increase awareness of the public value of procurement; automate certain procurement processes; consider using procurement to create demand for products or services that help advance innovation; do business with companies that reflect government values and priorities; embed requirements in deliverables or expected social outcomes.
11. Operate: While a focus on business outcomes is good, unless that focus is carried forward into the real work between the vendors/suppliers and the contracting agency/department, expected outcomes will not be achieved.

Source: OECD (2018) A Playbook for ICT Procurement Reform, *Forthcoming*.

The experience shows, however, that most countries have been able to find ways of working in agile ways within existing procurement rules or with slight adjustments to the existing framework (OECD, 2017<sup>[18]</sup>). The **United States**, for instance, has taken important steps in modernising contracts and procurement regulations to enable new ways of working and deploying technology in support of strategic objectives. For instance, **18F**, an innovative digital transformation team at the **U.S. General Services Administration**, has developed templates for agile blanket purchase agreements (BPAs). These new contracts and service agreement templates are compatible with agile software development approaches. BPAs are a form of performance and challenge-based procurement that requires participating firms to prepare a prototype in an open GitHub<sup>12</sup> repository open for everybody to see. This approach allows the contractor to appreciate what competing firms are actually able to deliver. The BPAs can foresee agile development sprints and iterations, allowing both the contractor and the service provider to progressively define software requirements and functionalities as the projects advances.

As in most OECD countries, these new approaches have not yet been embedded in the Chilean public administration and present an outstanding opportunity in transforming government activities to make it more consistent with its digital government strategy.

### Box 3.5. U.S. Digital Service Playbook

Government ICT projects often fail. The Federal Government of the United States, through the U.S. Digital Service, has put in place a set of 13 plays known for digital service development as the Digital Service Playbook aimed at supporting public sector digital teams. The high level criteria are listed below and more detailed information can be found using the link in the source.

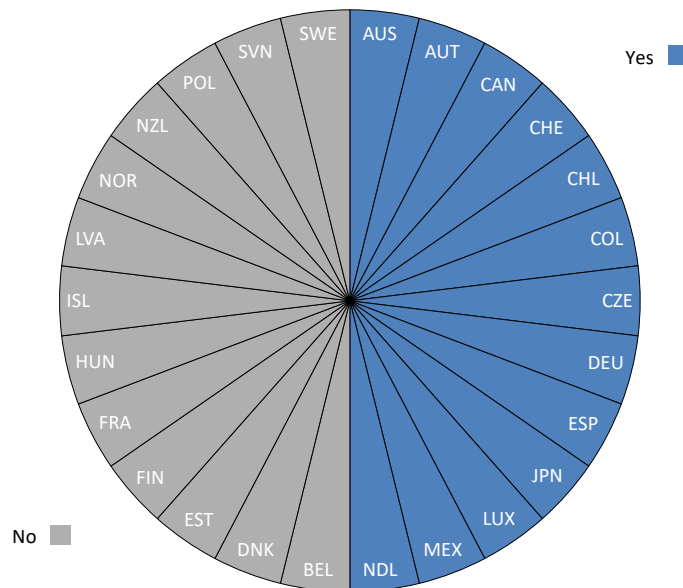
1. Understand what people need
2. Address the whole experience, from start to finish
3. Make it simple and intuitive
4. Build the service using agile and iterative practices
5. Structure budgets and contracts to support delivery
6. Assign one leader and keep that person accountable
7. Bring in experienced teams
8. Choose a modern technology stack
9. Deploy in a flexible hosting environment
10. Automate testing and deployments
11. Manage security and privacy through reusable processes
12. Use data to drive decisions
13. Default to open

Source: <https://playbook.cio.gov/>

### *Procuring technology based on existing assets*

The OECD Recommendation of the Council on Digital Government Strategies calls on governments to procure digital technologies based on an assessment of existing assets (OECD, 2014<sub>[20]</sub>). However, OECD member states generally lack a sufficiently comprehensive view of their digital, ICT and data assets and their respective lifecycle. According to the OECD Digital Government Performance Survey (OECD, 2014<sub>[21]</sub>), only 50% of member and partner countries that responded to the survey have a central, searchable repository to store all ICT contracts and 18.5% has a database of previous ICT supplier performance to inform procurement decisions.

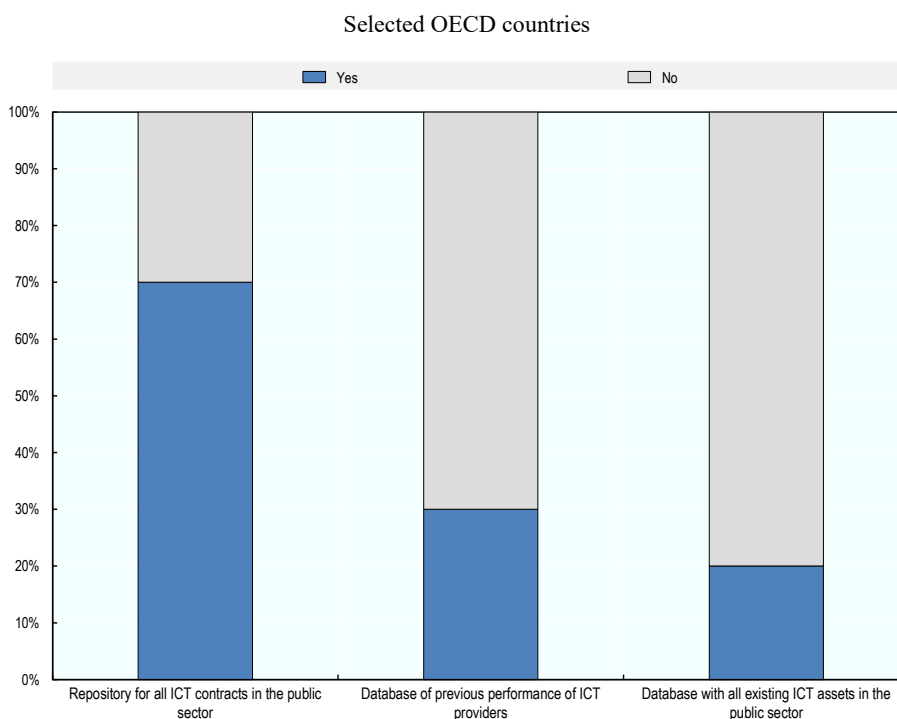
**Figure 3.9. Does your country have a central, searchable repository to store ICT contract in government?**



Source: OECD Survey on Digital Government Performance (OECD, 2014<sub>[21]</sub>)

The scarce visibility of government assets and procurement activities prevents OECD members from developing a more robust and detailed strategic approach to ICT procurement.

The selected countries for this benchmarking performs slightly better than the OECD average. A total 66.7% of them have a searchable repository for ICT contracts, 33.33% tracks previous ICT provider performance and 22.22% report having a database with all ICT assets in the public sector. By comparison, Chile has in place a repository of ICT contracts that is searchable by all citizens. However, Chile is also in the group of OECD members that lack a database of ICT assets in the public sector or of previous supplier performance available to public institutions, preventing it from making data-driven analysis that supports strategic decision in ICT procurement.

**Figure 3.10. Tools available to support procurement based on existing assets**

*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)

### ***Developing a successful approach to the adoption of shared platforms***

The reorganisation of DGD into four core services includes a focus on a function to facilitate the development and support of shared platforms following the Government as a Platform model. It is important that the need for additional capacity has been recognised and such an initiative could prove incredibly powerful in supporting delivery across the Chilean government to avoid duplication of effort.

The success of these efforts will be seen in the level of adoption they achieve. One approach to ensuring this is to seek a mandate and enforce adoption. This has the advantage of removing any discussion about whether or not a shared resource could, or should, be used and helps maximise forecasted benefits. However, the simplicity of a mandate does not remove the need for shared platforms and enablers to reflect the same focus of responding to needs as any public facing activities. Therefore, alongside the technical capabilities to deliver high quality platforms, Chile would benefit from considering the role of engagement and account management for their ‘customers’ elsewhere in government. Such roles will complement product level user research by helping DGD understand any barriers to adoption.

Chile should consider approached these shared platforms with a product mind-set that starts from the premise of meeting needs well. If enablers and platforms are to be successful then they need to make things as easy as possible to start using in order that less effort is required to implement a solution or persuade a team to adopt. Critical to this success is allowing delivery teams to be able to make use of a shared resource as quickly and easily as possible.

To support this it would be beneficial for DGD to showcase what is available as a shared resource, their attendant benefits and the level of support available to aid their implementation and adoption. This ‘catalogue’ not only demonstrates what a team can begin to use but helps to standardise the way in which the product’s value proposition is described and how technical documentation is surfaced to colleagues across government as well as building confidence in this ‘Government as a Platform’ approach.

### ***Openness as a source of transformation for ICT commissioning***

The digital transformation of the public sector aims to bring a radical change in how government operates and how policies and services are designed, by shifting the centre of gravity from the government to the citizen (and/or service users). This change will enable the user to drive decisions about the content, goals, supply and ecosystem of public services as well as the policies, processes, business models and infrastructure that underpin them (OECD, Forthcoming<sup>[22]</sup>). The transformation aims to re-engineer the government machinery around citizens’ demands and aspirations, thus making it more inclusive.

As such, digital government policy-making has turned to openness as a way to enhance government performance, deliver on citizen expectations, and secure trust. This search has led a number of OECD countries to adopt new tools to ensure services better reflect users’ needs and preferences. Among them open standards<sup>13</sup> play a significant role, particularly in the transformation of ICT procurement. Open standards are developed in a fair, transparent and collaborative way, with a broad consensus from specialists and industry, enabling the public sector to move away from captures by software suppliers (i.e. vendor lock-in) while gaining market support, enabling greater competition and containing costs. In addition, open standards support software flexibility and continuous evolution based on changing user needs (Mergel, 2017<sup>[19]</sup>).

The use of open source software and collaborative coding has also come to support greater performance of digital government. Indeed, open and collaborative coding endows public administrations with the ability to leverage the developer community in the continuous improvement of its solutions, thus proving to be a powerful tool to increase procurement’s efficiency. Most importantly it provides a space for collaboration by creating the opportunity to reuse solutions, to collectively improve by learning from each other, and to share solutions, knowledge and wisdom. For instance, 18F in the **United States**, has established the practice of developing in open source and in the open using GitHub as a way to collaborate with the external software developer community and to facilitate the reuse of its solutions by other parts of the American public administration, either at the Federal or State level.

Furthermore, the adoption of open standards and open source software has made international co-operation between governments on ICT development and deployment possible. **Chile** has been leading the way in this regard. The platform SIMPLE (*Sistema de Implementación de Procesos Ligeramente Estadarizados* – System of Implementation of Lightly Standardised Processes) developed by Chile’s MINSEGPRES proved to be quite the international success. The open source system allows institutions to map a procedure and to digitalise it. This award-winning solution has helped build the capabilities of public institutions at both the central and local level. Its simplicity and usefulness led other countries in the region, such as Paraguay and Uruguay, to adopt it as well.

This approach is in tune with international trends. For instance, **Australia** re-used the code of the **United Kingdom’s** digital marketplace, which is an open source solution. Today, both countries are benefitting from a sophisticated digital marketplace that exponentially

simplifies the procurement process for the administration and makes it more efficient. The UK's marketplace is designed to host multiple procurement frameworks that give government buyers access to better pricing and more suppliers of cloud based services, skills and delivery (see Box 3.6).

The restructuring of Chile's DGD, its new mandate and increased capability provides a great opportunity to revitalise the country's public software (*Software Público*) initiative. The public software initiative sought to develop open source applications that could be re-used and tailored by different parts of the Chilean public sector, however its adoption and the number of solutions available remain relatively limited. The use of open standards and open source solutions by the DGD, making solutions publicly available through the [softwarepublico.gob.cl](http://softwarepublico.gob.cl) website can help Chile accelerate and strengthen the quality of public sector digitalisation relatively quickly. This initiative has clear synergies with the growing use of GitHub and GitLab by the DGD as means of collaborative development.

It seems that a key area of opportunity is to provide support to the digitalisation of municipalities which often lack resources and technical capabilities to invest important resources on digitalisation. Municipalities are an important component of the digital ecosystem of citizens and businesses, and because of their responsibility for similar services can benefit from sharing and reusing existing solutions made available through open source or shared ICT services.

### Box 3.6. The United Kingdom's Digital Marketplace

The **United Kingdom** has been developing ways of reframing its existing approaches to contracting and supplier relationships, in particular in access to cloud-based services and the skills and capabilities required for digital transformation.

Two units within the Cabinet Office, the Government Digital Service and the Crown Commercial Service have worked together to redesign procurement frameworks (G-Cloud and Digital Outcomes and Specialists) to simplify the process by which suppliers need to apply, and improve the quality of resource available to government buyers. These interactions are handled through the government's Digital Marketplace.

The Digital Marketplace provides government buyers with access to framework agreements with suppliers from which public sector organisations can buy without running a tender or competitive procurement process.

For the G-Cloud framework the services include the following:

**Infrastructure as a service (IaaS)** – provisioning of fundamental computing services (processing, storage etc.) for the user to run arbitrary software

**Platform as a service (PaaS)** – provisioning of platform services to enable a user to deploy user-built or acquired applications

**Software as a service (SaaS)** – provisioning of the provider's application as a cloud service

**SCS – Specialist Cloud Services** – typically consultancy in the cloud domain

The Digital Marketplace frameworks are refreshed every 6 months to ensure public institutions have access to the latest innovations available whether from large, established suppliers or new, SMEs entering the market for the first time.

Furthermore, the Digital Marketplace also allows public institutions to access suppliers who can help them design, build and deliver digital products using an agile approach through the Digital Outcomes and Specialists (DOS) dynamic framework. To be part of the DOS supplier list, suppliers must provide either outcomes based services (covering user experience and design, performance analysis and data, security, service delivery, service development, support and operations, testing and auditing or user research) or provide individual capabilities in one of those areas.

The Digital Marketplace has seen sustained growth in transactions and enjoys wide participation of small and medium businesses, which make up the majority of suppliers in the marketplace.

*Source:* <https://www.gov.uk/government/collections/digital-marketplace-buyers-and-suppliers-information>

Finally, another crucial aspect in which openness is being used to reform public procurement and commissioning is the use of open contracting data. Chile is already moving towards such an approach by implementing the Open Contracting Data Standard which is a standard that supports the opening of data related to public procurement (its process, delivery and evaluation). In this way, the public sector is making possible the internal or external reuse of this data to identify patterns and drivers of success in project development. In the right ecosystem, open contracting data can help drive public procurement performance by helping stakeholders identify and act upon patterns and inefficiencies.

### Box 3.7. Contracting 5 (C5)

#### Using technology to make public procurement and contracting more transparent

The Governments of Colombia, France, Mexico, the United Kingdom, and Ukraine created the ‘Contracting 5 (C5) Initiative, therefore committing to ensure country-level learning on the implementation of open contracting data as well as international knowledge-sharing to support other countries in the implementation of open contracting, open data and open source tools. The C5 countries held an inaugural meeting and issued the C5 Declaration at the Open Government Partnership Summit held in Paris in December 2016. Through the ‘C5’, these countries have committed to:

- **Implement the OCDS** to the fullest extent possible to create a timely, accessible public record for government, business and citizens on how public money is spent across the entire cycle of public contracting from planning to tender to award to implementation of contracts.
- **Foster innovation** through supporting an ecosystem of open source, re-usable and shareable tools to improve communication, analysis, data quality and automation of public contracting information.
- **Contribute to the further development and use of the OCDS** through case studies and analysis of user needs, encouraging extensions and joined up data including with corporate registries, joining and encouraging its user community and contributing to its further adoption.



- Document the **lessons learned**, and *measure* the real-world benefits for government, business, and citizens from the adoption and implementation of open contracting for sharing, learning, and improvement.
- **Focus collectively on key user needs and building capacities for opening up, manage and share public contracting information** - such as improving value for money, creating a fair and level playing field for businesses, tracking and improving service delivery and upholding public integrity and deterring fraud and corruption - to shape, share and adopt a common methodology for building capacities and measuring impacts from our interventions to refine and share such methodologies globally.
- Consider, refine and adopt best practices to **engage business and civic organisations** at appropriate points along the entire chain of procurement and to share our approaches, strategies and lessons from C5 countries' efforts to make public contracting more engaging and responsive.
- **Engage other countries** in order to adhere to C5's objectives, including through the International Open Data Charter, Open Government Partnership, the OECD, the G20, multilateral development banks, and other relevant international or sector specific initiatives such as the Construction Sector Transparency Initiative, the Extractive Industry Transparency Initiative and encourage those countries to embrace and implement open contracting principles.
- **Engage international development partners and institutions** in furthering these objectives nationally and internationally including in priority sectors such as infrastructure and healthcare.

### ***Developing a robust business case for ICT projects***

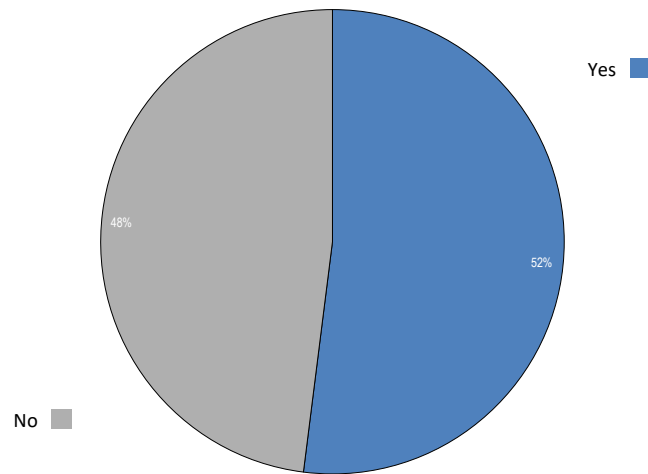
According to principle 9 of the *OECD Recommendation of the Council on Digital Government Strategies* (OECD, 2014<sup>[20]</sup>) the development and common use of a clear business case methodology across the administration is a crucial element of tackling ICT project failures. ICT business cases solidify government decision-making when it comes to carrying out a project and lay out key variables for its effective management (OECD, 2018<sup>[23]</sup>). Indeed, ICT business cases are the basis of ICT investments as they formulate projects and their rationale, they also ensure the strategic alignment of the initiative, and provide a detailed assessment of their risks and benefits. They clarify the linkages between the investment proposed and the governments' broader strategic objectives. As such, business cases are built upon an understanding of a problem, of organisational strategic and operational objectives, and a theory of change to which the project contributes.

By laying out the expected costs and benefits of a given project, business cases can also strengthen accountability for failed ICT projects. For instance, in **Denmark**, agencies responsible for the implementation of large ICT projects must report biannually on progress made. For large ICT projects, these reports continue to take place up to two years after the implementation was completed to follow up on the achieved benefits. These progress reports, including key performance indicators, are public and made available on line. ICT projects that incur mild delays require that the Secretary General of the public agency report directly to the National Council for IT Projects, explaining the reasons for not meeting the original objectives. In cases of important delays, ministers or heads of agencies are called upon to report to the National Council.

As the Danish example suggests, by establishing the key objectives and the expected benefits of a project, the business case becomes a governance instrument. It allows the public administration to monitor benefit realisation, to identify the key drivers of failure and success or to adopt corrective measures in the course of the implementation of the project. As mentioned above, the business case can become an invaluable source of data for the public sector as it progressively improves its ICT project performance in line with the overall objective of achieving the digital transformation.

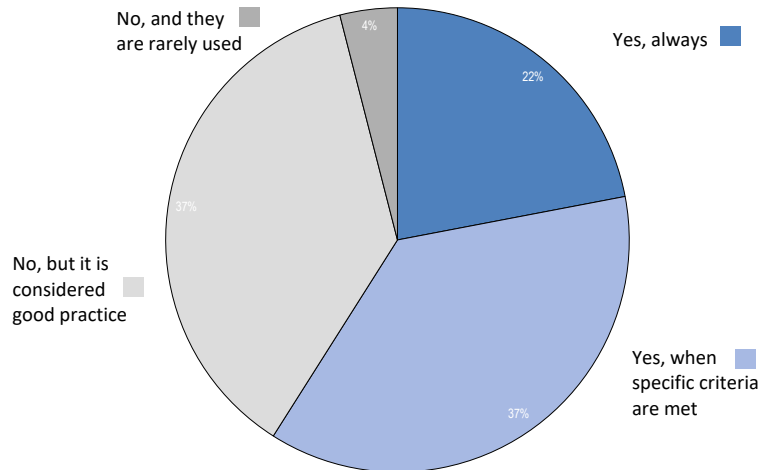
The OECD Digital Government Performance Survey (OECD, 2014<sub>[21]</sub>) shows that adoption of business cases or similar value proposition assessments for ICT projects is not yet generalised. The survey indicates that 52% of OECD members had standardised business case models for ICT projects. In addition, 57% of respondents had mandatory business cases to support decisions on the development of ICT projects.

**Figure 3.11. Is there a standardised business case model for ICT projects?**



Source: OECD Survey on Digital Government Performance (OECD, 2014<sub>[21]</sub>)

**Figure 3.12. Is the use of that business case model mandatory?**



Source: OECD Survey on Digital Government Performance (OECD, 2014<sub>[21]</sub>)

While Chile has yet to develop a full business case methodology for ICT projects, it has made important improvements in enhancing the assessment of the value proposition of large ICT projects. The abovementioned ICT Project Technical Evaluation System established a process for ICT projects to be approved based on an assessment of total public value and a more complete consideration of its costs (total cost of ownership is considered for the latter). The methodology is applied to all ministries to ensure more robust project planning and structuring to improve investment decisions. In 2019, 554 projects were assessed for a total amount of USD 216 million. This initiative was led by the Ministry of Finance in collaboration with MINSEGPRES.

Specifically, this methodology will grant the budget authority in the Ministry of Finance with the power to approve (with or without observations), reject or request an iteration of the project. The assessment criteria will include:

- The clear identification of the project
- A clear solution to the problem or an opportunity being seized
- The consideration of alternative solutions
- Is it the best technological solution available?
- The thorough analysis and detail of the budget
- Relation between the budget and the expected benefits
- The clear identification of the expected benefits

These criteria provide a robust basis for ICT investment decision-making and can be expected to improve the project formulation process. A number of variables, however, may risk not being adequately considered if they are not explicitly included in this list:

- *Identification of stakeholders and impacts across the administration:* It might be beneficial to identify in advance all the stakeholders concerned and/or impacted by the project and try to determine how they may be impacted by the solutions.
- *Alignment of the project:* with the strategic and normative frameworks of the public sector (i.e. priorities expressed in digital government and modernisation strategies, digital government regulations and standards)
- *Commissioning strategy:* description of the method chosen, allocation of risk between the parties and its rationale and benefits compared to other approaches.
- *Product iteration:* when applicable (i.e. software development or similar project), enough room for testing and iteration of the solution should be secured. Improvements based on user feedback and testing should be required.
- *Risk assessment and management:* Governance and organisational risks, technological risks, implementation risks and risk management strategy.

However, it is important that any business case methodology is enforced and allows for use alongside agile development practices in responding to the iterative evolution of a project such that the document does not become a bureaucratic hurdle and remains a dynamic and useful management tool throughout the process (OECD, 2018 <sup>[19]</sup>).

### Box 3.8. New Zealand's Better Business Cases (BBC)

Better Business Cases (BBC) is a systematic way to prepare business cases for programmes or projects that will provide information required to invest with confidence. In recent years, the Treasury has put significant effort into growing the capability of the New Zealand public sector to develop strong and effective business cases for investment projects and programmes. This has included developing and delivering a BBC training, certification and review programme that is now considered global best practice.

Use of the BBC guidance is required for all New Zealand State sector agencies seeking Cabinet decisions on capital proposals. The New Zealand's Government's expectations were set out in Cabinet Circular CO (15) 5. The New Zealand version of the guidance is based on the UK version, with the consent of the International BBC Steering Committee.

Cabinet Circular CO (15) 5 and the Guidance for Monitoring Major Projects set out:

- how significant projects are to be identified through the government project portfolio and risk profile assessment processes, and
- how significant projects are monitored by the Treasury and other agencies.

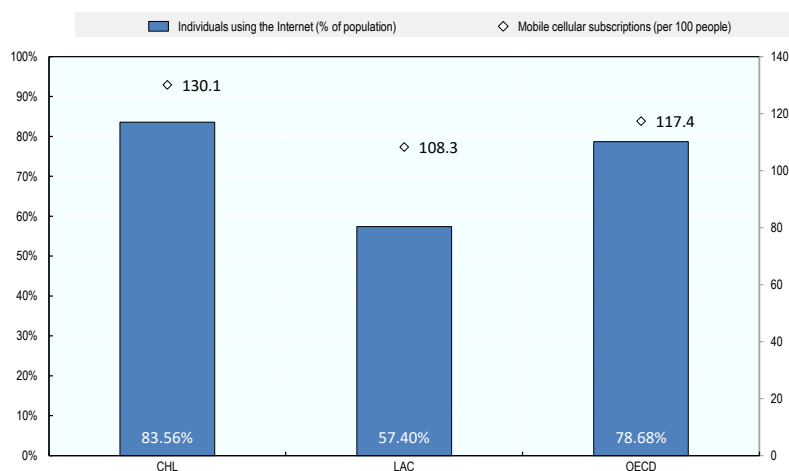
The Treasury may identify projects as significant through analysis of other data sources, such as four-year plans, long-term investment plans, the capital budget process, or via the GETS (Government Electronic Tenders) system. Projects that are identified as significant and requiring monitoring will typically meet any one or more of the following conditions:

- are assessed as high risk using the Risk Profile Assessment (RPA) tool – this is the primary means of identifying projects that require monitoring. There may also be special circumstances where it is agreed that a project with a medium risk profile will be subject to major projects monitoring
- have estimated whole-of-life-costs (WOLC) of \$25 million or more, or
- are nominated for monitoring by the responsible Minister.

Source: OECD (2015) Digital Government Toolkit, <http://www.oecd.org/gov/new-zealand-business-case.pdf>

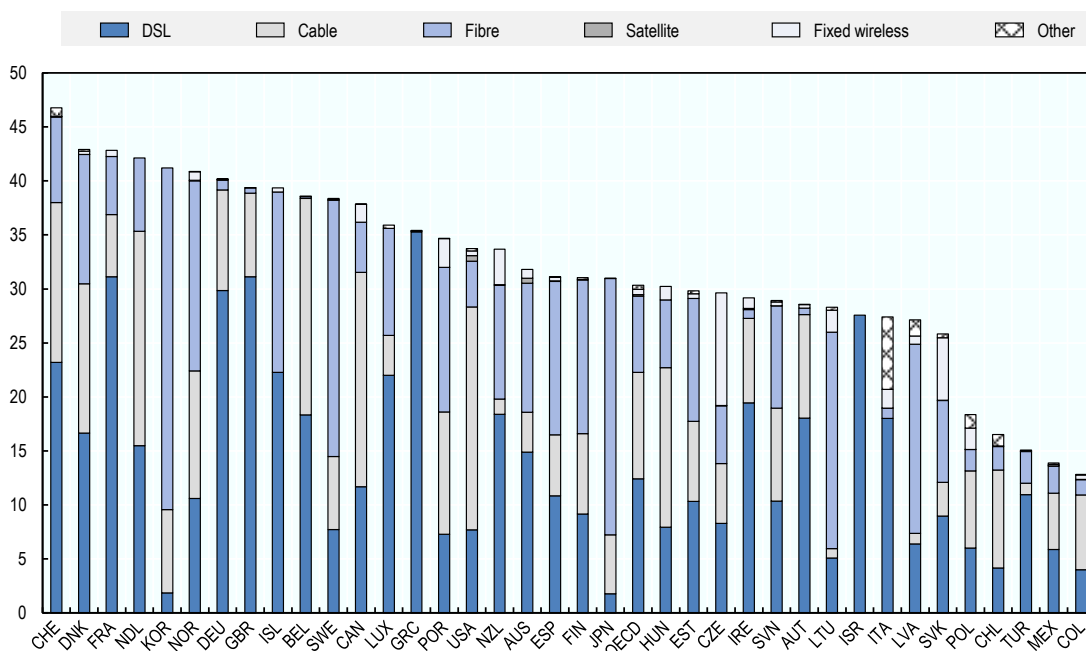
## Digital inclusion

Connectivity and access to information and communications technology in Chile performs satisfactorily in comparative terms. It stands above the LAC and OECD averages in terms of share of the population using the internet and mobile subscriptions per 100 people. Given the diverse and complex geographic reality of the country this represents an outstanding feat and provides a robust basis for the development of digital government. However, what this data seems to suggest is that there is a gap in terms of the population that has access to the internet and the number of individuals who choose to transact with the public sector digitally. Chile's National Survey of Socioeconomic Characterisation (*Encuesta de Caracterización Socioeconómica Nacional – CASEN*) finds that 30.8% of the population used the internet to complete a government procedure over the last year (MIDESO, 2017<sub>[24]</sub>). This suggests that more can be done to ensure there are returns on the digitalisation investments and efforts made by the Chilean public administration.

**Figure 3.13. Proportion of internet users and mobile subscriptions, 2016**

Source: World Bank (2016) World Development Indicators, <https://datacatalog.worldbank.org/dataset/world-development-indicators>

Notwithstanding the levels of connectivity achieved, the Government of Chile has made an important push to continue to expand and modernise digital infrastructure, laying the foundations for the digital transformation of the economy and society. This is sensible, especially in consideration of the fact that Chile currently lags behind peer countries in terms of broadband penetration (see Figure 3.14), which hinders the country's ability to effectively use and deploy sophisticated digital services.

**Figure 3.14. OECD fixed broadband subscriptions per 100 inhabitants, by technology, December 2017**

Notes: Canada: Fixed wireless includes Satellite.

France: Cable includes VDSL2 THD.

Germany: Cable includes HFC lines; Fibre includes fibre lines provided by cable operators; Fixed wireless includes BWA subscribers; Other includes leased lines.

Israel: Temporary OECD estimates.

Italy: Terrestrial fixed wireless data includes WiMax lines; Other includes vDSL services.

Switzerland and United States: Data for December 2017 are estimates.

Information on data for Israel: <http://oe.cd/israel-disclaimer>

Source: OECD, Broadband Portal, [www.oecd.org/sti/broadband/oecdbroadbandportal.htm](http://www.oecd.org/sti/broadband/oecdbroadbandportal.htm)

Another crucial part of digital inclusion is the development of digital skills. As it has been mentioned before in this report, the pace of technological change can be expected to accelerate. Ensuring the Chilean population has access to the required skills is fundamental to ensure the country is prepared for the transformations ahead. The *Digital Agenda 2020* put an important focus on the upcoming generation, taking measures to improve digital capabilities of teachers and students in schools. However, changes in the economy are bound to rapidly change the skills in demand in the labour market. As such, the country might benefit from a comprehensive plan to promote continuous upskilling and reskilling of workers to help them develop the digital skills they need in a rapidly changing economy.

Another important point in Chile's digital government agenda is encouraging use and adoption of digital government services. Despite the Government's efforts to digitalise public services, usage remains relatively low in the country. The Government of Chile is looking for ways of ensuring more inclusive digital service delivery for example, through the provision of self-service kiosks at *ChileAtiende* locations where people can access 15 procedures with the support of an agent. In the 2018 pilot phase, 220 000 transactions were carried out in 39 locations with the plan being to reach 105 in 2019.

The first thing on the to-do list is to make the usage of government services easy. The digital transformation of government must consider the accessibility of the service for populations with special needs. In addition to this, digital service transformation has three essential elements that will help determine its success (Deloitte, 2017<sup>[25]</sup>):

- **End-to-end user experience** benefits from a standardised, seamless and easy to understand experience.
- **Government-wide identity management** facilitates the user's interactions with government by bringing down complexity and, if responsibly implemented, facilitating data management. This also allows governments to have an integrated view of the user, enabling public authorities to deliver more tailored services.
- **Government-wide data management** would bring things a long way in simplifying procedures and improving public service performance.

The elements listed above would considerably improve the appeal of dealing with the public administration digitally, rather than losing time and money to complete a procedure through alternative channels.

Users can also be nudged to use digital channels. For instance, a thoughtfully designed communications campaign highlighting the time and money savings of digital services over in-person transactions can help drive use. An additional way of incentivising use is to provide promotional offers where services are marginally cheaper through digital channels. Temporary deductions in the cost of services would not only help drive the use of digital channels, but allow the user to get familiar with digital transactions and the digital government environment, making it more likely for the user to use the same channel next time around.

## Digital strategy and public sector innovation for improved public service delivery: what relations between the two agendas?

Public sector innovation is to a large extent an emerging sector. Most OECD countries do not have a national public sector innovation strategy. Even within the selected countries for the benchmark, only 40% have in place a national public sector innovation strategy or policy. Public sector innovation, to this day, works mostly through *ad-hoc* structures and initiatives.

As such, situations between benchmarked countries vary greatly. **Colombia**, for instance, has a Centre for Digital Public Innovation that is attached to the Ministry of Information and Communication Technology, governing body for digital government in the country. The Centre works however with a high degree of autonomy. It serves as a catalyser, nurturing the ecosystem of digital public innovation in the country (not limited to public institutions) through the organisation of innovation related events and workshops, as well as the sharing of good practices.

Collaboration between the Colombian Direction of Digital Government and the Centre for Digital Public Innovation has taken three shapes so far:

1. Collaboration with the elaboration of the Online Government Manual (*Manual de Gobierno en Línea*)
2. Collaboration in the hosting of events and capacity-building workshops
3. Participation of the Centre for Digital Public Innovation at consultative bodies

In **Denmark**, a Ministry of Public Sector Innovation was created within the Ministry of Finance, and it is responsible for the Centre of Public Sector Innovation, the Danish Digitisation Agency (Government CIO), the Agency for Government IT Services (Shared ICT Services) and the Agency for Government Administration (government efficiency in payrolls, finance and accounting), all of the autonomous dependencies of the Ministry. The Danish Centre of Public Sector innovation was established in 2014 and plays the role of developing and sharing knowledge about the public sector innovation process, creating partnerships with external stakeholders and creating and managing networks of public innovators within and outside of the public sector. It has developed useful methods to spread and assess innovation in the public sector.

The Danish Agency for Digitisation, on the other hand, has the responsibility for developing and implementing digital government across the public sector, including some very disruptive policies such as digital by default approaches in government administration. Co-ordination between digital government and public sector innovation occurs through the umbrella of the Ministry for Public Sector Innovation and a clear, very distinctive mandates

**Mexico** has an innovation agency in place (PRODEINN) overseen by the Ministry of Economy. This agency focuses however on innovation in the productive or private sector as a means to achieve greater wealth generation in the country. Innovation within the public sector falls within the National Digital Strategy, under the section “Innovative and Modern Government” which has been implemented by the Digital Government Unit within the Ministry of Public Administration. Switzerland reports a similar case, where they do not have a separate public sector innovation strategy, but that a chapter on innovation can be found within their strategy and activities.

In the case of **Sweden**, a national innovation strategy exists with a chapter on public sector innovation. These efforts are led by VINNOVA, the Swedish Innovation Agency. As part

of its mandate, VINNOVA finances innovation initiatives and works to further create bridges between innovation actors from the private, public and civic sectors. VINNOVA mainly funds private actors, and they can fund public sector initiatives but not their priority.

Chile does not differ very much from the case of Sweden. The *Laboratorio de Gobierno* was created as a government innovation unit that explores and tests new solutions for outstanding policy problems and as an institution responsible for fostering innovation in the public sector. These solutions may at times entail digital initiatives or areas that fall under the competence of the DGD. However, most of the scope of digital government cross-institutional services and policy-making falls clearly under the responsibility of DGD. In addition, MINSEGPRES – home of DGD - sits at the Directive Council of the *Laboratorio de Gobierno* which helps ensure a coherent and collaborative approach.

The DGD and the *Laboratorio de Gobierno* have a history of successful collaborative work, for instance in the case of improving the user experience of ChileAtiende. What these successful collaborations have in common, is the determination to develop a common approach and strategy for diagnosing and addressing the problem. These units can build on those experience to develop common interventions together.

The OECD has published a Declaration on Public Sector Innovation (see Box 3.9). The Declaration could help guide and provide high-level vision around collaboration for digital innovation.

### Box 3.9. Declaration on Public Sector Innovation

The OECD Declaration on Public Sector Innovation (OECD, 2019<sup>[26]</sup>) is a framework and set of principles that governments can use to inform their country's own planning and strategising to foster innovation better.

If governments choose to sign on to the Declaration, they are free to use it in ways that make sense for their context. In general, a Declaration can help a government to:

- Signal the importance of innovation and encourages governments to see innovation as a possible, viable option to policy challenges.
- Create a language around ways to approach common innovation challenges.
- Provide a framework to configure different types of innovation initiatives.
- Recognise that there are different kinds of innovation, suited to different kinds of goals or outcomes, and set out how multi-faceted innovation could be managed.

The contents of the Declaration provide principles around how to:

- Embrace and enhance innovation within the public sector
- Encourage and equip all public servants to innovate
- Cultivate new partnerships and involve different voices
- Support exploration, iteration and testing
- Diffuse lessons and share practices

Source: OECD Declaration on Public Sector Innovation (OECD, 2019<sup>[26]</sup>)

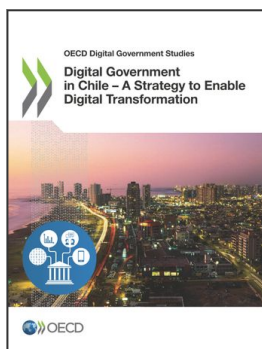


## Notes

- 1 <https://www.dta.gov.au/standard>
- 2 <https://www.canada.ca/en/government/publicservice/modernizing/government-canada-digital-standards.html>
- 3 Mexican digital service design principles (<https://www.gob.mx/serviciosdigitales/articulos/principios-generales-de-diseno-de-servicios-digitales>), digital service standard and re-usable tools (<https://www.gob.mx/estandar>), guides (<https://www.gob.mx/wikiguias>)
- 4 <https://www.digital.govt.nz/standards-and-guidance/digital-service-design-standard/>
- 5 <https://www.gov.uk/service-manual/service-standard/>
- 6 <https://playbook.cio.gov/>
- 7 <https://digitalprinciples.org/>
- 8 Guide for designing web interfaces: [https://digital.gob.cl/doc/Guia\\_de\\_diseno\\_de\\_interfaces\\_web.pdf](https://digital.gob.cl/doc/Guia_de_diseno_de_interfaces_web.pdf) and Guide for designing digital services: [https://digital.gob.cl/doc/Manual\\_de\\_servicios\\_digitales.pdf](https://digital.gob.cl/doc/Manual_de_servicios_digitales.pdf)
- 9 [https://www.lab.gob.cl/uploads/filer\\_public/bb/fa/bbfa1819-ade4-4dad-9692-a7f305139b7d/bitacora\\_herramientas\\_para\\_la\\_innovacion\\_publica.pdf](https://www.lab.gob.cl/uploads/filer_public/bb/fa/bbfa1819-ade4-4dad-9692-a7f305139b7d/bitacora_herramientas_para_la_innovacion_publica.pdf)
- 10 <https://oecd-opsi.org/projects/innovation-skills/>
- 11 Cloud computing refers to internet-based remote computing providing users with on-demand access to infrastructure (data centres/storage), services and applications. The economies of scale achieved through the cloud allow organisations to avoid costly infrastructure development and focus on core business operations while access storage and services at a cost tailored to their workload and needs.
- 12 A collaborative development platform.
- 13 Refers to standards relying on consensus, selected transparently using clear criteria.

## References

- Bender, M., N. Henke and E. Lamarre (2018), “The cornerstones of large-scale technology transformation”, *McKinsey Quarterly* October 2018.
- Bracken, M. and E. al (2018), *Digital Transformation at Scale: Why the Strategy is Delivery*, London Publishing Partnership.
- Bracken, M. and A. Greenway (2018), *How to Achieve and Sustain Government Digital Transformation*, Inter-American Development Bank.
- Deloitte (2017), *Delivering the digital state : What if state services worked like Amazon?*, Deloitte Center for Government Insights.
- Government Digital Service (2018), *Service Manual: Measuring the benefits of your service*, <https://www.gov.uk/service-manual/measuring-success/measuring-service-benefits> (accessed on 8 November 2018).
- Mergel, I. (2017), *Digital Service Teams: Challenges and Recommendations for Government*, IBM Center for the Business of Government.
- OECD (2019), *Declaration on Public Sector Innovation*, [OECD/LEGAL/0450](https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0450), OECD, Paris, <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0450>.
- OECD (2017), *Innovation Skills in the Public Sector: Building Capabilities in Chile*, OECD Public Governance Reviews, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264273283-en>.
- OECD (2017), *Skills for a High Performing Civil Service*, OECD Public Governance Reviews, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264280724-en>.
- OECD (2014), *Survey on Digital Government Performance*, OECD.
- Ubaldi, B. (2013), “Open Government Data: Towards Empirical Analysis of Open Government Data Initiatives”, *OECD Working Papers on Public Governance*, Vol. No. 22.
- World Bank (2016), *World Development Report 2016: Digital Dividends*, World Bank Group.



**From:**  
**Digital Government in Chile – A Strategy to Enable Digital Transformation**

**Access the complete publication at:**

<https://doi.org/10.1787/f77157e4-en>

**Please cite this chapter as:**

OECD (2019), “Strategic areas for digital government development”, in *Digital Government in Chile – A Strategy to Enable Digital Transformation*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/8e785dce-en>

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to [rights@oecd.org](mailto:rights@oecd.org). Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at [info@copyright.com](mailto:info@copyright.com) or the Centre français d'exploitation du droit de copie (CFC) at [contact@cfcopies.com](mailto:contact@cfcopies.com).