



OECD Public Governance Policy Papers No. 3

Digital Government Index:
2019 results

OECD

<https://dx.doi.org/10.1787/4de9f5bb-en>

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Abstract

This paper presents the overall rankings, results and key policy messages of the 2019 OECD Digital Government Index (DGI) and provides a detailed analysis of the results for each of the dimensions of the OECD Digital Government Policy Framework. The DGI measures the maturity level of digital government strategies in OECD member and partner countries based on evidence gathered through the Survey on Digital Government 1.0. Findings show the promising yet modest progress towards robust digital governments, and encourage governments to step up efforts to use digital technologies and data strategically for user-driven public services. The paper highlights how the DGI can support the design, implementation and monitoring of digital government policies and practices, which, in turn, help public sector organisations better respond to citizens' needs.

Acknowledgements

The 2019 OECD Digital Government Index was prepared by the Directorate for Public Governance (GOV), under the leadership of its Director, Elsa Pilichowski.

This paper was produced by GOV's Open and Innovative Government Division (OIG), under the strategic orientation and revisions of Barbara-Chiara Ubaldi, Acting Head of the Open and Innovative Government Division and Head of the Digital Government and Data Unit. It was written by Felipe González-Zapata, Policy Analyst on Digital Government and Data; and Mariane Piccinin Barbieri, Junior Policy Analyst on Digital Government and Data, OECD.

The Digital Government Index project is based on the long-standing work of the OECD on digital government and government data. It has benefitted from the expertise of the OECD Working Party of Senior Digital Government Officials ("E-Leaders"), and in particular from comments by Brazil, Korea, Luxembourg, Portugal and the United Kingdom; and from the Task Force on Digital Government Indicators, including Belgium, Canada, Colombia, Italy, Denmark, Mexico, the Netherlands, Portugal, Spain, the United Kingdom and Uruguay.

The project itself would not have been possible without the contributions of João Ricardo Vasconcelos, Arturo Rivera Pérez and Benjamin Welby, policy analysts; Lucia Chauvet and Cecilia Emilsson, junior policy analysts; and former colleagues Zsuzsanna Lonti, Reginald Dadzie, Alyson Rygh, Charlotte van Ooijen, Samrita Menon, Ricardo Zapata and Tomáš Ptr from the Digital Government and Data Unit (GOV/OIG).

The project benefited from the input of Edwin Lau, Senior Counsellor to the Director for Public Governance; Tatyana Teplova, Head of the Policy Coherence for SDGs Division; Julio Bacio Terracino, Acting Head of the Public Sector Integrity Division; Alessandro Bellantoni, Head of the Open Government Unit; Marco Daglio, Head of the Observatory in Public Sector Innovation; and their respective teams (GOV).

Edwin Lau, Senior Counsellor to the Director for Public Governance; Monica Brezzi, Head of the Governments Indicators and Performance Evaluation Division (GOV/GIP); and Paul Schreyer, Acting Chief Statistician and Acting Director of the Statistics and Data Directorate (SDD), provided insightful and strategic comments to the paper. The authors are also grateful to Andrea Uhrhammer and Amelia Godber (GOV) for editorial assistance.

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Executive Summary

The COVID-19 pandemic has challenged the capacity of governments to use digital technologies and data strategically in order to adapt to change and respond to the crisis with agility. To ensure service continuity and responsiveness to the pandemic during lockdown, public sector organisations had to rely on digital identity systems, shared infrastructure and common services, and on greater access to and sharing of government data. In this context, being able to count on a qualified public sector workforce proved being crucial to facilitate this transition and support the uninterrupted provision of services while managing associated risks. Governments that had invested in sound digital governance, policy levers and skills, were better prepared to leverage digital technologies and data to provide rapid and effective responses to the COVID-19 outbreak.

Similarly, the pandemic has spurred governments to intensify the digitalisation of public sectors to support the design of sustainable recovery policies and initiatives – for instance by developing new ways of engaging with communities to better understand and meet their needs. Strategic decisions taken today to strengthen digital government will not only underpin recovery measures, but will also pave the way for the agility and resilience of the public sector in the future.

Even prior to the COVID 19 outbreak, the digital transformation has been disruptive for policy makers. How governments design policies, operate, and deliver results was being challenged, under the assumption that the digital age was providing the opportunity to better connect public authorities, citizens and businesses, allowing them to interact in new ways. This revolution is unprecedented in terms of speed and scope, and poses governance, technological and cultural challenges to public and private sector organisations.

The early adoption of information and communication technologies (ICTs) – known as *e-government* – focused on increased efficiency and transparency in the public sector through the digitisation of existing processes.

Now, governments are seeking to use data and digital technologies to go further: to foster new forms of governing that are more participatory, innovative and agile. *Digital government* entails the full digitalisation of the public sector which can enable the level of integration needed to deliver better services to citizens and businesses. Digital government can facilitate service transformation and collaboration across public sector organisations to make them more open, user-driven and proactive. Well-established digital governments can help make government more resilient and responsive – qualities that become acutely important in times of emergency, as the COVID-19 pandemic has demonstrated.

This Policy Paper presents the key findings and trends observed based on the evidence collected through the OECD Survey on Digital Government 1.0 across 29 OECD countries and 4 partner countries. The 2019 OECD Digital Government Index is a first effort to translate the OECD Digital Government Policy Framework into a tool supporting concrete policy decisions. It provides a set of evidence and indicators, and constitutes a unique measurement instrument for benchmarking the progress of digital government reforms across OECD Member and key partner countries. It lays the foundation for building a rich and solid base of evidence for identifying trends, best practices, and common challenges.

The OECD developed the 2019 OECD Digital Government Index (DGI) to monitor and support the implementation of the 2014 OECD Recommendation of the Council on Digital Government Strategies. The DGI assesses governments' adoption of strategic approaches in the use of data and digital technologies. Measuring the “digital maturity” of governments can help public authorities develop sound digital government strategies and initiatives. The assessment is based on six dimensions of a fully digital government derived from the Recommendation and which constitute the OECD Digital Government Policy Framework (DGPF):

- digital by design
- government as a platform
- data-driven public sector
- open by default
- user-driven
- proactiveness.

Key policy findings and recommendations

- **Adopt a consistent and comprehensive approach to designing and implementing coherent digital government reforms.** The results of top-performing countries derive from long-standing institutional arrangements and sustainable strategies. The shift from e-government to digital government, at the core of the digital transformation, needs to be sustained across years and political cycles.
- **Build and secure the stability of solid governance arrangements for an effective, coherent and sustainable implementation of digital government strategies.** Ensuring that adequate governance arrangements – including leadership, co-ordination, institutional models and resources – are in place to transform high-level policies into concrete digitally enabled public services. The DGI shows that governments succeeding in digital transformation have invested in sound governance models to steer their digital government reforms. The six top-performing countries have formal co-ordination mechanisms responsible for cross-government ICT projects with institutional representation from across different policy areas. In contrast, four of the six bottom countries lack such mechanisms and representation.
- **Prioritise political support and capacities to develop data-driven public sectors.** Translating data policies into concrete and sustainable actions demands a strategic vision and formal roles and responsibilities to implement it coherently and consistently across the public sector. Dedicated whole-of-government data policies are largely absent, with only 4 countries having a single and dedicated data strategy for the central or federal government. Formal roles in charge of leading the definition and co-ordinating the implementation of public sector data initiatives, such as Chief Data Officers, are not numerous across the OECD.
- **Proactively involve users and stakeholders in digital government reforms.** Engaging users and stakeholders throughout the policy cycle is essential to ensure that the design, implementation, delivery and monitoring of digitally enabled public services are fully aligned with users' needs, expectations and preferences. Such engagement also improves the legitimacy of decisions and actions. Most countries are lacking the necessary level of engagement of users when designing and implementing digital government initiatives. Only 45% of the countries noted the presence of specific mechanisms to engage users in service design; and 27% in service delivery. Additionally, approximately only one third of countries count with formal requirements for line ministries or agencies to use digital tools to crowdsource ideas from stakeholders during policy and service development.

- **Develop policy measures and mechanisms to monitor advances in digital transformation reforms.** They can be powerful policy tools to strengthen the accountability of governments through the transparent and efficient implementation of digital government reforms. Overall, countries appear to be better at adopting strategic approaches than they are at monitoring the implementation of digital government initiatives. The overall average of countries on their performance regarding mechanisms and tools to catalyse system-wide change and assess existing digital government policies is 49% and 47% respectively. Investing in such tools will help countries reduce the gap between expectations and results. Additionally, it will enable to take corrective actions with more agility, while drawing lessons to inform and support better outcomes of digital government initiatives and foster learning organisations.

Key messages

- **The OECD has advanced in measuring countries' progress towards higher levels of digital government maturity.** The methodology and Survey used to measure this transition are based on the 2014 OECD Recommendation of the Council on Digital Government Strategies. They represent an exploratory effort to assess the progress of OECD member and selected non-member countries in six dimensions identified in the OECD Digital Government Policy Framework: *digital by design*, *data-driven public sector*, *government as a platform*, *open by default*, *user-driven* and *proactiveness*.
- **The results of the OECD 2019 Digital Government Index are promising yet modest.** Only a few countries are progressing towards mature digital governments. While most countries have established institutional models that provide the necessary political and operational support to achieve digital government reforms, limited efforts have been made to fully unlock the benefits of digital government and move beyond e-government frameworks. This is evident particularly in the average performance on the *user-driven* and *data-driven public sector* dimensions.
- **The digital transformation and the shift from e-government to digital government must be sustained and resistant to political change.** Korea, the United Kingdom, Colombia, Denmark and Japan all show high performance overall across the six dimensions, having made consistent and comprehensive efforts to implement coherent digital government reforms. Their outstanding results derive from long-term institutional arrangements and sustainable strategies.
- **High-ranking countries excel predominantly in digital by design combined with strong results in the user-driven and data-driven dimensions.** Good performance in *digital by design* favours the establishment of coherent governance and policies as a basis for digital government. These countries present high levels of engagement with citizens, businesses and public servants across policy cycles, favouring the design and delivery of policies and services aligned with their needs and expectations. Low-ranking countries perform on average with similar scores across five of the six dimensions, with *open by default* receiving the highest scores.
- **Solid governance appears to be a key requirement to achieve mature digital government.** Digital government co-ordination units must be embedded in the right institutional models to secure the necessary leadership, co-ordination, resources and legitimacy to transform high-level policies into actionable, concrete and coherent digitally enabled public services.
- **Clear and easily identifiable strategies have paved the way for consistent and coherent policy implementation in top performing countries.** Such strategies function as a policy lever to secure consistent approaches across the public sector. However, for average and lower-performing countries, there is a significant gap between the development of digital government strategies and the implementation of concrete actions to make digital government reform happen.
- **Countries present better scores in the open by default, digital by design and government as a platform dimensions.** This outcome reflects efforts by countries to establish ecosystems for digital government through strategies, shared tools, standards and management mechanisms.

- **Proactive involvement of users and stakeholders in digital government reforms is lagging in most countries.** Digital government efforts risk not being sufficiently transformative if they do not consistently take into the needs, expectations and preferences of users across the design, implementation, delivery and monitoring of digitally enabled public services.
- **Open by default is the top scoring dimension, reflecting the political momentum for open data within digital government reforms.** However, countries perform significantly lower in the development of *data-driven public sectors*. In this context, the development of open data policies may be isolated from broader data strategies, which could result in failure to fully unlock the strategic value of data assets across public sector organisations.
- **Dedicated public sector data policies and leadership roles remain largely absent across digital government initiatives.** The lack of a strategic vision as well as formal roles and responsibilities for coherent design and implementation of a data-driven public sector represent a challenge for moving from policies to concrete, sustainable and impactful actions.
- **Governments should embed open data efforts within broader data-driven public sector reforms.** This is essential to ensure adequate and proactive governance as well as an ethical approach to opening up, sharing and re-using public data, both inside and outside government, to deliver public value and foster citizens' wellbeing.
- **Further efforts are needed to fill the digital skills gap for the success of digital government policies.** While countries have nominated data and digital skills as core components of their strategies, initiatives for comprehensive training and the development of related skills remain limited. The absence of trained and digital savvy civil servants can hamper the correct and coherent implementation of digital government policies.
- **Poor adoption of formal mechanisms, guidelines, levers and platforms imply an absence of means or actions to accomplish objectives set in government strategies.** In line with the provisions of the OECD Recommendation of the Council on Digital Government Strategies, this measurement tool recognises the importance of having a strategy or equivalent policy tool in place to align actors from across the public sector towards common goals.
- **Countries have emphasised strategic approaches and digital government implementation, with less attention to policy levers and monitoring mechanisms for digital reforms.** Countries might be missing opportunities to leverage digital reforms across public sector organisations and could learn from the experiences of impactful and realistic digital government initiatives.

Introduction

In recent decades, the rapid evolution of digital technologies has changed the ways in which governments and people interact and organise at the social and economic level. From the early adoption of computers and basic communication systems to the exponential generation of data, the emergence of artificial intelligence (AI) and the widespread take-up of mobile devices, digital technologies have demonstrated the potential to disrupt the internal operations of public sector organisations and revolutionise the design and delivery of policies and services. The adoption of digital technologies based on a whole-of-government approach has the potential to transform how the public sector manages its core functions and spur collaborations within and across different levels of government.

These changes can improve government performance as well as the efficiency of public service delivery, modifying how citizens consume services and interact with public sector organisations. These new forms of interaction can contribute to building and/or reinforcing public trust and confidence in governments, and are thus crucial to strengthening the citizen-state relationship. From this perspective, the adoption of digital technologies functions as a vital component in re-shaping citizens' experience with public service delivery, and ultimately will have an impact on the legitimacy of our democratic systems.

Earlier, "e-government" efforts to use technology to increase the efficiency and transparency of public sector organisations have been integral to the digitisation of government processes and improving public sector operations. Examples of e-government-oriented approaches include the digitisation of administrative procedures through the deployment of information systems across public sector organisations, and the transition towards paperless administrations and online informative and service delivery channels. However, despite the considerable advantages introduced by e-government, these approaches often inserted technology into cumbersome processes, designed based on existing management practices and analogue logic within the public sector.

With time, the emphasis shifted towards fostering more participatory, innovative and agile forms of governance targeting goals beyond efficiency and productivity. Today, increased integration, coherence and horizontality are central to the transformation brought about by the digital government paradigm, which embraces the idea of full digitalisation of the public sector. The digital government imperative leverages digital data and technologies for more cohesive service transformation, cross-cutting collaboration and data sharing to produce open, user-driven and proactive public sector organisations (OECD, 2020^[1]). In this light, the strategic use of digital tools and data to create digital ecosystems within governments can equip civil servants with the resources and skills required to drive the digital transformation. This paradigm shift sustains a higher level of maturity of digital governments enabling them to better meet citizens' needs, increase well-being and strengthen public satisfaction with government. To facilitate this imperative, the public sector must define common standards (e.g. for public service design and delivery, data access and use), develop shared infrastructures, govern and use data as a strategic asset for public value creation, and establish mechanisms to allow third parties (e.g. the third sector, the GovTech community) to collaborate with governments to innovate around service delivery. Having foundational enablers and policy components in place provides the basis for a coherent and sustainable digital transformation of the public sector that brings value to the people.

The robustness of these foundations can significantly increase the level of a government's agility, resilience and responsiveness in times of crisis. The COVID-19 pandemic has acutely highlighted the importance of sound digital foundations for the continuity and integration of internal government operations and services. The experiences and evidence shared by the OECD Working Party of Senior Digital Government Officials (E-Leaders) and the OECD Expert Group on Open Government Data showed that some countries were able to adapt quickly making use of digital tools and data to meet users' needs. The application of digital tools have secured the continuous delivery of remote services during lockdown periods, helped develop cross-government services for easy access to social and economic benefits, and ensured effective communication on the spread of the pandemic. In contrast, some OECD member and non-member countries which represent a less mature shift towards digital government approaches struggled to deliver coherent and integrated services with consequent reliability or operational issues that may undermine trust and social cohesion in times of crisis.

How can the differences between these countries be understood and explained? What are the critical success factors that unlock the impacts of digital government for wider society? The COVID-19 crisis has demonstrated that **the maturity of digital government strategies and initiatives is a key factor in the capacity of governments to respond to crises with resilience and agility, and to adapt and manage disruption and uncertainty efficiently, while responding to the emerging needs of economies and societies**. Lockdown periods forced public sector organisations to rely on digital identity systems, scalable infrastructure, cloud-based back office systems, and access to and sharing of data, in order to ensure continuity and respond to the multiple consequences of the pandemic. In this context, the presence of a digitally qualified public sector workforce is crucial to facilitating this transition and supporting the uninterrupted provision of services while managing associated health risks. As emergencies in product and service provision unfolded during the COVID-19 outbreak, governments that had invested in sound digital governance, resources, policy levers and talent were better prepared to leverage digital and data in order to provide a rapid and effective response.

The COVID-19 pandemic has underlined the importance of the meaningful application of data and technologies to secure government capacity to respond to people's needs. The OECD has actively promoted the transition towards mature digital government, drawing upon the provisions of the OECD Recommendation of the Council on Digital Government Strategies (OECD, 2014^[21]). The Recommendation, adopted on 15 July 2014, is the first international legal instrument on digital government. It aims to help governments adopt strategic approaches in the use of digital technologies and data, in order to encourage more open, participatory, accountable and innovative government. The Recommendation defines digital government as "the use of digital technologies, as an integrated part of governments' modernisation strategies, to create public value" (OECD, 2014^[21]). Since its adoption, the Recommendation has been applied in numerous digital government reviews to support analysis and frame the formulation of policy to support governments in their onward move from e-government to digital government approaches.

This analytical work has inspired and facilitated learning not only among the reviewed countries but also among worldwide peers and members of the OECD Working Party of Senior Digital Government Officials (E-Leaders). The E-Leaders encouraged the Secretariat to develop a measurement tool as part of the Toolkit linked the OECD Recommendation on Digital Government Strategies, to help decision makers assess their performance in the transition towards greater digital government. Accordingly, with substantive inputs from the E-Leaders Task Force on Indicators, the OECD Secretariat designed and launched the pilot version of the OECD Survey on Digital Government 1.0, with the purpose of measuring and understanding how governments are transitioning from e-government to digital government. The Survey aims to monitor the implementation of the OECD Recommendation of the Council on Digital Government Strategies, and thereby build a solid and rich evidence base for the identification of trends, best practices and common challenges. Evidence used in this report is derived from answers provided by OECD member and selected non-member countries to the Survey.

The Survey enables countries' assessment based on the OECD Digital Government Policy Framework (DGPF) (OECD, 2020^[1]), which is built on the Recommendation and embeds six dimensions that characterise a fully digital government:

- digital by design
- data-driven public sector
- government as a platform
- open by default
- user-driven
- proactiveness.

By measuring the implementation of the Recommendation, the Survey aims to assist governments in assessing their progress towards an advanced stage of digital government maturity. This assessment is complemented by a qualitative analysis conducted to identify policy cycle strengths and challenges across OECD members and other participating countries.

This policy paper has two key objectives. First, it aims to describe the rationale and purpose of the OECD Survey on Digital Government 1.0 and outline the data collection and verification process. Second, it introduces the OECD Digital Government Index composite ranking and scores, and reflects on the performance of countries in the DGPF dimensions. Additionally, the Survey and the resulting Index constitute a pilot effort towards benchmarking digital government strategies and initiatives. The key methodological and conceptual lessons outlined in this policy paper will be further reflected in the design of the OECD Survey on Digital Government 2.0, scheduled to be launched by the end of 2020. This second Survey is expected to provide a full assessment of the six dimensions, including aspects that are not covered by the Digital Government Survey 1.0.

Overview of the Digital Government Index

From e-government to digital government

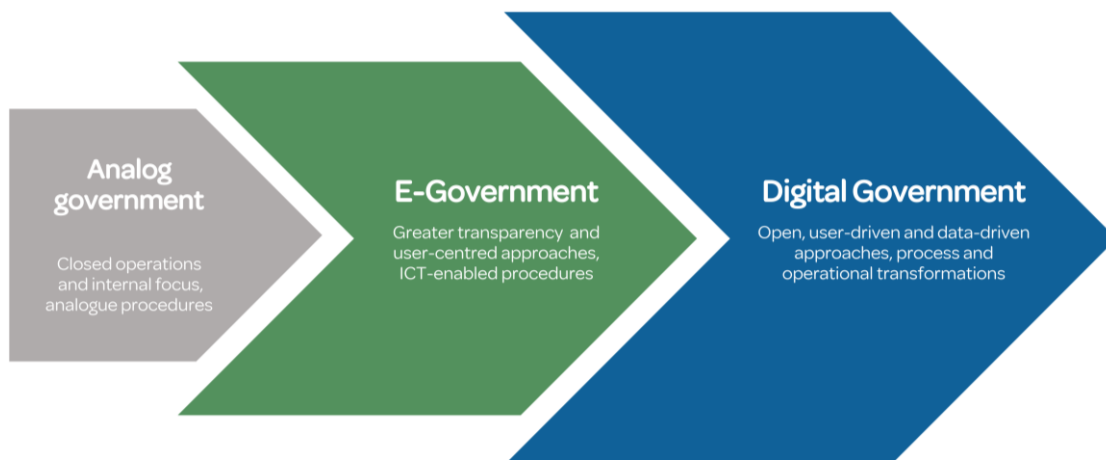
How governments design and deliver services structures their relationship with citizens and businesses. It determines the efficiency of public sector organisations in meeting policy goals as well as the degree of satisfaction that citizens experience. The quality and reliability of public services has a major impact on the integrity and trust of public sector organisations. This calls for governments with the requisite capacity to quickly respond to and even anticipate citizens' needs. In contexts of increased citizen dissatisfaction with traditional public institutions (OECD, 2019^[3]), governments may find in service delivery an opportunity to reengage with and respond to the real needs of the governed. In contrast, poorly designed and implemented services that do not embed citizen demands at their core may undermine the ability of government to determine societal welfare and people's wellbeing (Welby, 2019^[4]).

The adoption of digital technologies and the application of data can transform the internal processes and operations of government and, consequently, how they design and deliver public services. Digital technologies enable greater efficiency, agility and responsiveness in governments, allowing them to react quickly and even anticipate people's needs. Governments have advanced in their capacity to make strategic and effective use of digital technologies. E-government aimed at bringing greater sectoral efficiencies through the adoption of digital technologies, making existing procedures and public services more cost and time-effective. Governments embraced digital technologies with a view to improving public services, but their approach often lacked coherence and sustainability across different sectors and levels, which is vital to creating synergies for integrated, seamless and proactive service delivery.

Digital government represents an evolution from e-government. It aims to help the public sector shift from an efficiency-oriented approach to digital technologies towards more open, collaborative and innovative government (see

Figure 1). Sound digital government policies enable public sector organisations to embrace the strategic use of digital and data to achieve user-driven and proactive public service delivery. Governments worldwide are being challenged to adapt, manage and embrace the paradigm shift brought about by the digital transformation, and can no longer afford to separate efficiency from other societal policy objectives in the governing and managing of digital technologies.

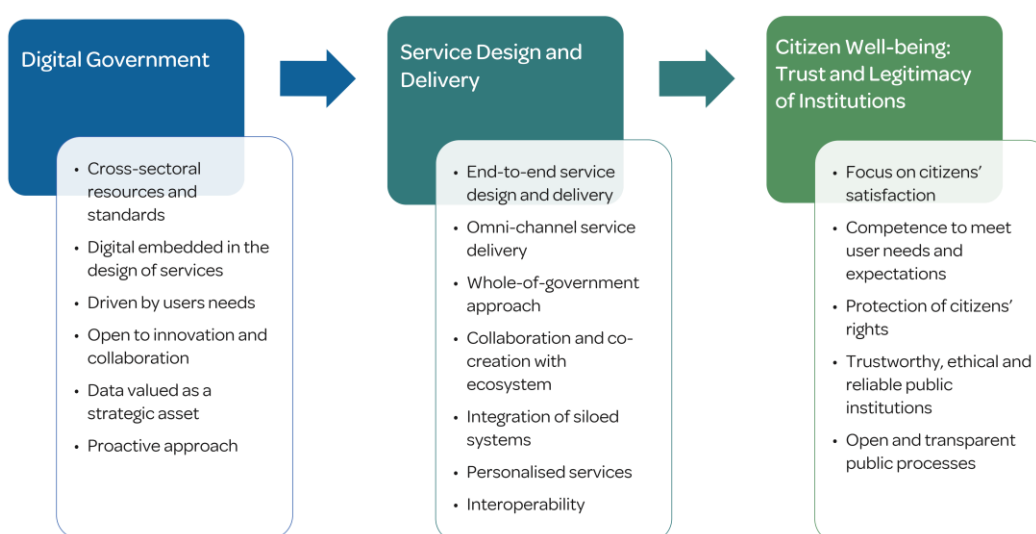
Figure 1. The transition to digital government



Source: Based on the OECD Recommendation of the Council on Digital Government Strategies (OECD, 2014^[2]).

The digital transformation of the economy and societies has changed expectations about governments, leading to pressure for greater openness and the creation of spaces and mechanisms where citizens and business can voice their needs. Failure to adjust to this new reality could bring risks for governments in terms of policy failures and the continued delivery of outdated and irrelevant services against a backdrop of emerging business models. However, the digital revolution also offers opportunities for public sector organisations. Greater digital maturity will allow the public sector to meet rising citizen expectations, remain relevant, and improve policy making and public service design and delivery in the 21st century (OECD, 2020^[5]). The strategic use of digital and data will help public sector organisations transform service design and delivery, which in turn will have a direct influence on citizens’ satisfaction and trust in governments (see Figure 2).

Figure 2. The path towards improved citizen wellbeing



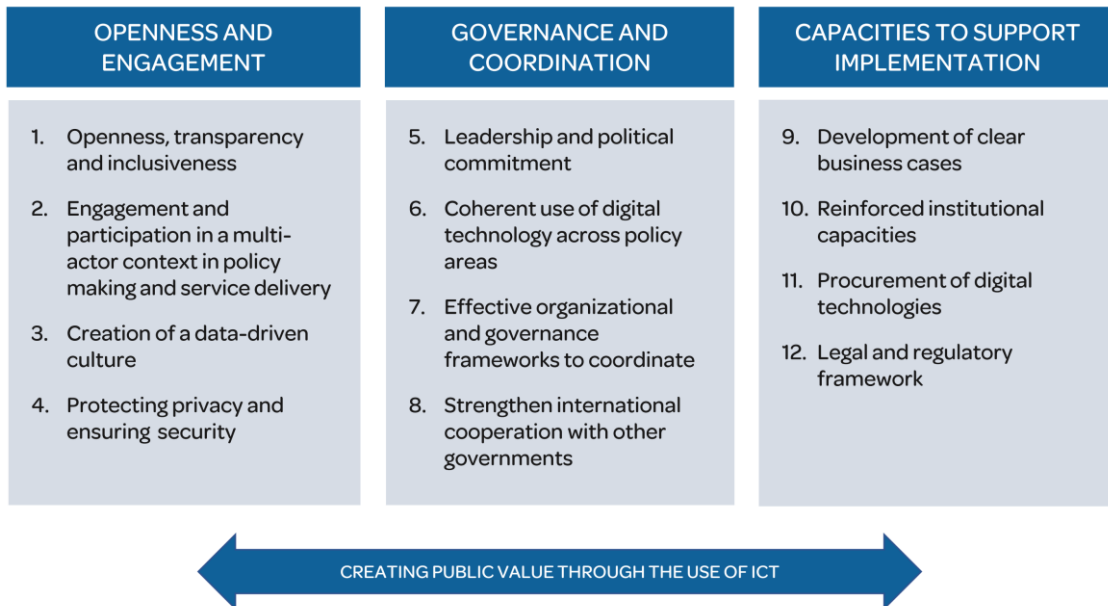
Source: Authors

The OECD Digital Government Policy Framework

The OECD Recommendation of the Council on Digital Government Strategies, as noted earlier, was adopted on 15 July 2014 to help the public sector embrace a strategic approach to the use of technologies, with a view to building more agile, responsive and resilient governments. The principles set out in the Recommendation advocate for a cultural change within the public sector, where technology better supports public sector operations and strategic decisions on digital technologies shape government strategies and policies for public sector reform and modernisation (OECD, 2014^[2]).

The Recommendation provides a series of strategic priorities for governments to move from e-government (the digitisation of processes, operations and services *within individual areas/sectors*) towards digital government (the digitalisation of processes, operations and services *across public sector organisations to foster integration, sharing, coherence and sustainability*).¹ These priorities take the form of 12 key recommendations organised in three pillars: Openness and Engagement, Governance and Coordination, and Capacities to Support Implementation (see Figure 3).

Figure 3. The OECD Recommendation on Digital Government Strategies



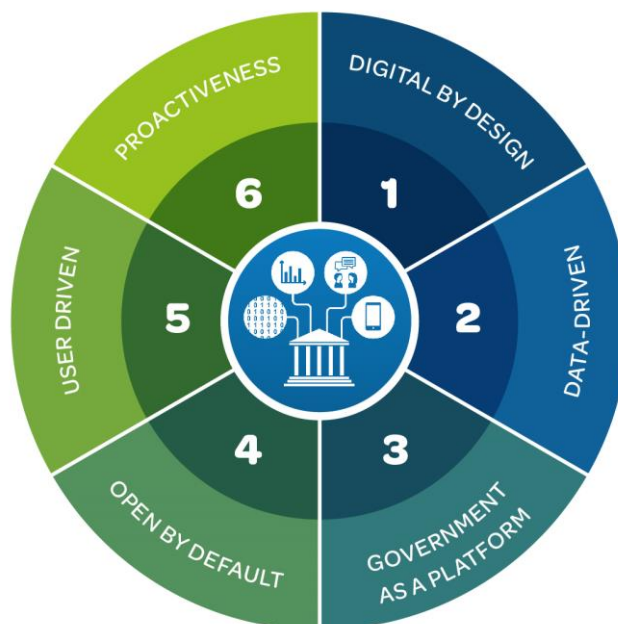
Source: Based on the OECD Recommendation of the Council on Digital Government Strategies (OECD, 2014^[2]).

The Recommendation reflects a set of activities that, taken together, allow governments to deliver on the promise of the digital transformation. Building on the Recommendation, the OECD has developed the Digital Government Policy Framework (DGPF) (OECD, 2020^[1]), which is designed to assist decision makers in the adoption of policy actions to achieve digital government. The DGPF forms the basis of a

¹The OECD has published various publications reflecting on digitisation and digitalisation processes in the public sector. *Digitisation* refers to the introduction of digital technologies in public administration, namely by transforming analogue information and processes into digital. Building upon digitisation, *digitalisation* processes are transformative and require the integration of digital technologies into public sector transformation efforts (OECD, 2016^[19]). The Recommendation promotes and supports countries in their digitalisation efforts, namely in conducting digital transformation processes that break down siloes and provide coherent and cohesive public services to citizens and businesses (OECD, 2014^[2]).

series of indicators that measure digital government maturity across six dimensions (see Figure 4). These six complementary dimensions can be categorised as *foundational* and *transformational* digital government components.

Figure 4. The OECD Digital Government Policy Framework



Source: OECD (2020^[1])

Foundational dimensions

The first set of dimensions provide the basis for the materialisation of digital government. It relates to governance mechanisms, principles and tools that enable effective digital government reforms, and allow teams and policy makers to focus on service design and delivery approaches that meet user needs in an agile, responsive and proactive way.

Digital by design

A government that is *digital by design* establishes clear leadership paired with effective co-ordination and enforcement mechanisms. Digital is considered not as a technical topic, but as a mandatory transformative element to be embedded throughout policy processes (OECD, 2019^[6]). It is recognised that transforming services through the use of digital technologies and data requires an understanding of all associated activities throughout the policy lifecycle – rather than putting analogue processes online and expecting to improve and innovate outcomes. Governments adopting a digital by design approach leverage digital technologies and data to rethink and re-engineer public processes, simplify procedures, and create new channels of communication and engagement with public stakeholders. The aim is to achieve a more efficient, open, sustainable and citizen-driven public sector. By adopting a digital by design approach, governments adopt the value proposition of digitalisation and embed digital technologies into efforts to modernise service delivery from the outset. They also adopt strategic mechanisms to ensure their coherent design, implementation and monitoring, regardless of the channel through which services are accessed.

Box 1. Specific topics covered by the *digital by design* dimension

The pilot version of the Survey assesses the comprehensiveness of National Digital Government Strategies (NDGSs) or similar policy documents and their co-ordination with existing national strategies for a coherent strategic approach to digital transformation across a range of policy areas.

For the *digital by design* dimension, specific questions in the Survey seek to determine the existence of clear organisational models and leadership paired with effective co-ordination, as intrinsic elements to spur digital transformation in the public sector. This includes identifying the public sector organisation responsible for leading and co-ordinating decisions on digital government, as well as their advisory and decision-making responsibilities. The Survey also sought to identify the level of co-ordination and mandate conferred to formal bodies in charge of advising and/or taking decisions on ICT projects.

As part of the *digital by design* approach, the Survey looks at countries' legislation to ascertain whether the *digital by design* principle is embedded as a value proposition in the modernisation of the public sector. It also asks if countries have undertaken assessments on transparency, accountability, inclusiveness and proactive engagement, and have requested feedback from users on legislation, in order to establish whether the implementation of digital government initiatives respects national norms and standards.

The Survey focuses on the use of digital technologies to rethink and re-engineer public processes, and simplify or encapsulate procedures for a more efficient and sustainable public sector. Questions encompass standards and guidelines in place for the design of digital services as well as enabling frameworks (e.g. common interoperability, base registries, shared ICT infrastructure and services, open source software, common data architecture/infrastructure), digital identity systems, centralised service delivery portals and policy instruments to support the use of emerging technologies including in ICT procurement processes.

A government is *digital by design* when channels of communication and engagement with public stakeholders are in place and work to achieve a more open and citizen-driven public sector. To assess the extent of engagement in the design of digital services, the Survey seeks to confirm the existence of government-wide consultations on the effect of digital tools/technologies for improving government services.

Regarding mechanisms to ensure the monitoring of *digital by design* projects, the Survey includes questions on measurement of non-financial benefits of public ICT projects, as well as direct financial benefits and costs produced by ICT projects (ex-ante and ex-post), the transaction costs of delivering public services according to different channels and research on the national economic impact to businesses of the implementation of digital government services.

Data-driven public sector

A public sector is *data-driven* when it generates public value through the reuse of data in planning, delivering and monitoring public policies; when it adopts rules and ethical principles for trustworthy and safe reuse (OECD, 2019^[77]); and when it governs and manages data as a strategic asset for the creation of public value and the agile and responsive provision of public services (OECD, 2019^[81]). Thus, data are used to shape policies and services including their design and ongoing delivery. Data help to decipher the impact of policies and services and detect changes that may be required to facilitate access, sharing and reuse of data across the public sector. Data-driven governments break down policy siloes by promoting the cohesion of data-related policies, including on data protection, open data and AI. They provide the

leadership to move data policies forward and build the necessary stewardship to promote co-ordination and accountability. A *data-driven public sector* embeds cross-sectoral data standards and replicable and scalable data infrastructures and tools that facilitate timely and secure access to and sharing of data.

Box 2. Specific topics covered by the *data-driven public sector* dimension

- To measure the extent to which countries foster a *data-driven public sector*, the pilot version of the Survey assesses the existence of a public sector data policy, as well as organisational models and leadership. The Survey seeks to ascertain the existence of a dedicated organisation in charge of co-ordinating the implementation of a central/federal public sector data policy, as well as the existence of formal requirements to assign dedicated leadership roles for central/federal data policies (e.g. national Chief Data Officers) as well as for central/federal line ministries and agencies.
- The Survey seeks to determine the existence of initiatives to share and analyse data to foster public sector productivity and efficiency, as part of a data-driven culture. To establish the extent to which the public sector is well-equipped to use data for value creation, the Survey assesses the existence of formal requirements and specific initiatives in single data inventory and data sharing across public sector organisations, as well as strategy, policy, guidelines, initiatives and training sessions to develop skills among the public service workforce.
- The Survey also includes specific questions on the adoption of rules and ethical principles when managing data, as a core element of a trustworthy *data-driven public sector*. The questions cover data privacy, the Once Only Principle, and the right of citizens and business to access, consent to and refuse data-sharing with the public sector and third parties.
- The Survey also focused on the ethical use of data and algorithms to assess levels of transparency, the openness of algorithms used for public decision-making and efforts undertaken by the public sector to manage data ethically.
- Having the right mechanisms in place (e.g. a strategy or overarching policy) and initiatives (e.g. infrastructure, trainings) is an increasing priority for governments, not only to preserve sensitive information but also to avoid damaging trust. In this regard, the Survey assesses whether countries have strategies, policies and initiatives for the management of security risks related to government data and information (including external threats and data misuse).

Government as a platform

A government acts as a platform when it provides clear and transparent guidelines, tools, data and software that equip teams to deliver user-driven, consistent, seamless, integrated proactive and cross-sectoral service delivery (OECD, 2020^[9]). The *government as a platform* approach calls for the deployment of a wide range of platforms, standards and services to help teams focus on user needs in public service design and delivery, rather than on technological solutions. The establishment of clear and common sources and tools to access guidelines, software, data and applications, allows public sector organisations to benefit from interoperability, opening up service design and delivery to greater innovation both inside and outside government. The centralisation and availability of resources for the whole-of-government eases access and facilitates understanding and the coherence of digital and data solutions across public agencies. This allows teams to concentrate on understanding users' needs and the ways in which governments can offer joined-up and effective end-to-end service experiences.

Open by default

A government is *open by default* when it makes government data and policy-making processes (including algorithms) available to the public, within the limits of existing legislation and in balance with national and public interest. An *open by default* approach describes the extent to which data, information, systems and processes are open unless there is a compelling reason for them not to be. It helps to build bridges between governmental and non-governmental actors with a view to collecting insights towards a more knowledge-based public sector (OECD, 2019^[10]). This approach includes providing drivers to promote collaboration and innovation (e.g. open government data, open source) and respecting citizens' digital rights (e.g. data protection, security, confidentiality and privacy legislation), as well as opening up and co-designing government processes.

Box 3. Specific topics covered by the *open by default* dimension

- The pilot version of the Survey assesses the use of open government data to increase openness and transparency and to incentivise public value creation. In order to measure the importance of this activity, the Survey includes questions on the existence of strategies or an action plan on open government data and formal requirements obliging government data to be “open by default” which establish conditions for effective access to and reuse of data.
- The Survey also covers the existence of government-wide guidelines on the digital release of government data, policy design and decisions. The publication of such information by the public service workforce endorses transparency and accountability and supports countries in establishing an “open by default” government approach.
- Other aspects are also considered in the pilot version of the Survey, such as the provision of government data under an open license, portals in an open source language and machine readable formats, in order to assess the extent to which governments encourage collaboration and innovation building on government data. delete this line.!!>

Transformational dimensions

Building upon the abovementioned foundational dimensions, the OECD DGPF establishes two further dimensions that transform government operations and service design and delivery. *User-driven* and *proactiveness* represent the efforts of public sector organisations to utilise digital technologies and data in order to focus on people's needs.

User-driven

A government becomes more *user-driven* by according a central role to people's needs and convenience in the shaping of processes, services and policies; and by adopting inclusive mechanisms that enable this to happen (OECD, 2018^[11]). A *user-driven* approach describes government actions that allow citizens and businesses to define and communicate their own needs in terms of services content and access, thereby helping to drive the design of government policies and public services towards a higher level of responsiveness. By virtue of engagement and collaborative mechanisms, policy processes and their outputs are not just informed but shaped by the decisions, preferences and needs of citizens. Governments are *user-driven* when they establish new forms of partnerships (with the private and the third sectors), or crowdsource ideas from within their administration and society at large, as a means to achieve legitimacy and trust through higher responsiveness. This process foregrounds user research, and usability and human-centred design, in order to reflect people needs; and takes place in an open and collaborative manner to ensure that peoples' voices are heard during policy making and service design.

Box 4. Specific topics covered by the *user-driven* dimension

- A *user-driven* government entrusts citizens with a central role in shaping processes, services and policies. The pilot version of the Survey measures advancements towards a *user-driven* approach by ascertaining whether governments account for inclusiveness, accountability and transparency in the development of a strategy or overarching policy. The Survey also investigates whether National Digital Government Strategies (NDGSs) incorporate elements such as the use of digital platforms to shape/design new services and/or policy, the use of data to foresee people's needs and interests, and the use of online platforms to upskill citizens.
- Other methods, initiatives and tools were also incorporated as metrics for the *user-driven* dimension. For instance, the Survey examines initiatives to adapt public services according to analyses of data on citizen needs, preferences and use patterns. It also assesses the extent to which governments use digital technologies as inclusive mechanisms to promote the participation of general and vulnerable population groups in policy-making and service delivery processes.
- Ensuring that digital public services are accessible to all is an intrinsic component of a *user-driven* government. In order to capture the levels of inclusion and accessibility of digital governments, the Survey measures the existence of assessments and action plans to reduce the digital divide and programmes or plans to increase the digital skill levels of general and vulnerable groups.
- An iterative process of evaluating and monitoring digital policies and initiatives is important for governments to verify whether they match users' expectations and needs and to re-adjust actions, if necessary. To this end, the Survey requests guidelines and indicators in order to measure user satisfaction with digital government services. It also evaluates whether governments have any specific policy in place to test and evaluate digital projects and initiatives with the involvement of end users.

Proactiveness

A proactive approach represents the ability of governments and civil servants to anticipate people's needs and respond to them rapidly, avoiding the need for cumbersome data and service delivery processes. A proactive government provides an answer or solution to a need before a request has been made, thus reducing to a minimum the burdens and frictions of interacting with public sector organisations. *Proactiveness* builds upon the five above-mentioned dimensions and aims to offer a seamless and convenient service delivery experience to citizens as governments are equipped to address problems from an end-to-end and anticipatory rather than fractioned and reactive approach.

Box 5. Specific topics covered by the *proactiveness* dimension

- A proactive government has strategies, formal requirements and mechanisms in place to anticipate citizens' needs before a request is made.
- In order to measure the extent to which governments are well-equipped to act proactively, the pilot version of the Survey investigates the presence of formal requirements and initiatives to enforce the Once Only Principle as well as opportunities to engage users in the design of digital government policies and services.
- The pilot version of the Survey also questions the existence of training on the use of digital tools to communicate with the public as a means to proactively engage with users.
- The Survey also measures the availability of communication strategies and initiatives across multiple channels to inform citizens of the outcomes of the central digital strategy and activities.

Survey and methodology

As explained previously, the Survey on Digital Government 1.0 represents a pilot effort to translate the OECD DGPF into a concrete set of indicators to monitor the Recommendation of the Council on Digital Government Strategies, and to benchmark the progress of digital government reforms across OECD member and participant countries. Advances made by governments are measured using a theoretical framework based on the Recommendation which focuses on the six dimensions that characterise a digital government.

An advanced qualitative analysis mapped countries' digital government policies across different stages of the policy cycle. Four **transversal facets** were identified to better assess each dimension and provide comparable ground between them. These transversal facets provide a deeper evaluation of the strengths and challenges of policies across countries.

1. **Strategic approach** – the extent to which governments have set a clear vision, objectives, goals and actions in digital policy areas and how these are reflected in national digital government strategies (NDGSs) or linked documents such as public sector data and open data policies, digital skills development strategies, etc.
2. **Policy levers** – the specific tools used by governments to catalyse system-wide change and which serve to connect country strategies with the implementation of digital government policies.
3. **Implementation** – the capacity of governments to transform policy goals and strategies into effective and concrete initiatives.
4. **Monitoring** – a set of activities to analyse and assess the development, implementation and/or impact of digital government policies.

To ensure the inclusivity of the survey design process, a Workshop on Digital Government Indicators was organised in September 2016, with the purpose of sharing information on existing country practices, and discussing and approving a timeline for the development of a new generation of OECD Digital Government Indicators. In March 2018, a webinar was conducted to validate a pilot version of the Survey, ensuring quality and relevance of the questions, and data collection feasibility for the answers provided by countries.

Between February and May 2018, a Digital Government Indicators Task Force was formed by OECD member countries and key partners² to ensure the accuracy and relevance of the Survey questions and flag possible biases. In September 2019, an OECD Digital Government Indicators session held during the E-Leaders meeting gathered constructive inputs from delegates.

The Survey is composed of 94 questions covering each of the dimensions and transversal facets. In some cases, a number of questions include sub-questions. Survey respondents comprised high-level digital government officials of 29 OECD member countries³ and 4 non-member countries. The Survey considered evidence until August 2018⁴ from the central/federal level of government encompassing all central/federal ministries and agencies.

The overall data collection, cleaning and publication timeline is shown in Figure 5. The data cleaning process consisted of a series of steps designed to ensure the highest standards in data quality and accuracy prior to the launch of the Survey and after the data were collected. A glossary of terms was sent to delegates with the 94 questions of the Survey. Data cleaning rounds checked for internal and external consistency in responses, comparing prior and later responses and verifying that supporting evidence was provided before final validation. Further methodological and statistical work has been published in a separate OECD publication (OECD, 2020^[12]).

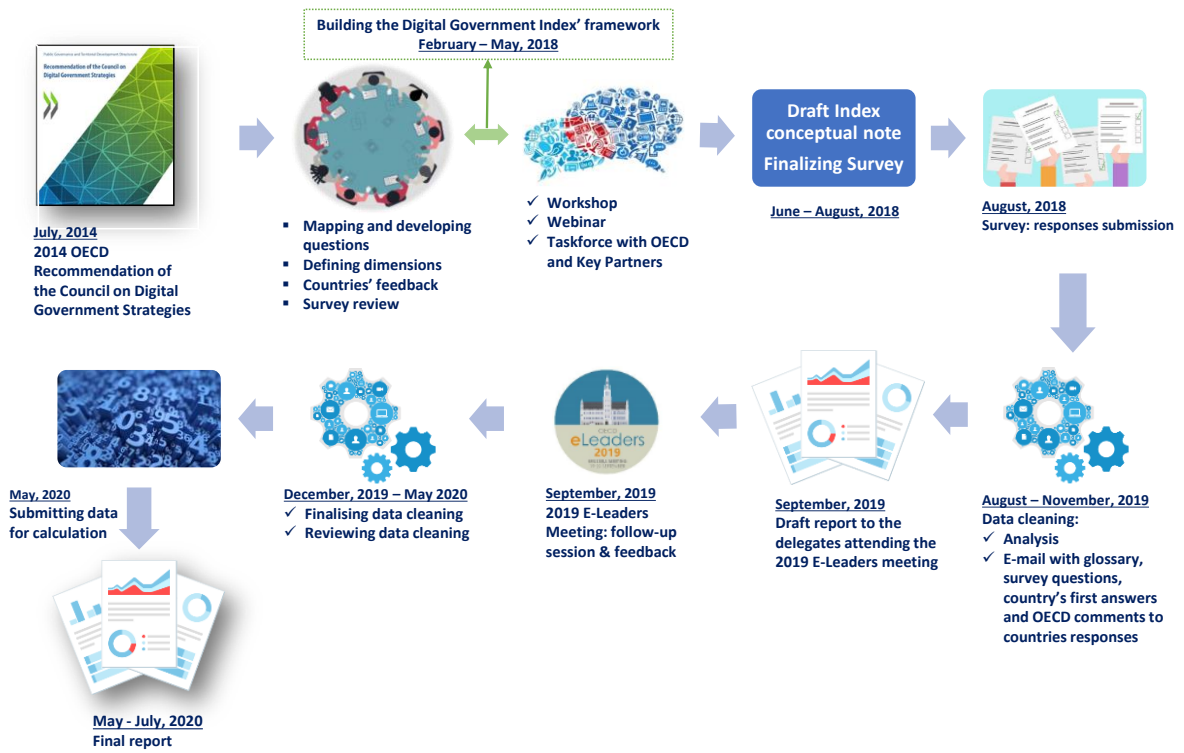
Before finalising the process, an additional review of the evidence was conducted to ensure consistency of results. This final exercise started a process to better understand and re-design the questions for the next edition. For further details about upcoming steps to design and improve the next edition of the Survey, please see the “Future Work” section.

² The Digital Government Indicators Taskforce was formed in 2018 and includes OECD member countries and key partners, namely Belgium, Canada, Colombia, Italy, Denmark, Mexico, the Netherlands, Portugal, Spain, the United Kingdom and Uruguay.

³ For the purposes of the OECD average, Colombia was included in the calculation since the country officially became a member of the OECD prior to the publication of the results on 28 April 2020.

⁴ The *open by default* dimension includes 7 questions gathered from the 2018 Open Government Data Survey (4th Edition) for 29 countries also participating in the DGI. For the three Latin American countries, data were gathered from the Government at a Glance Survey 2019. Data for Iceland were gathered from the Digital Government Survey 1.0.

Figure 5. Timeline for the Survey on Digital Government 1.0



Source: OECD

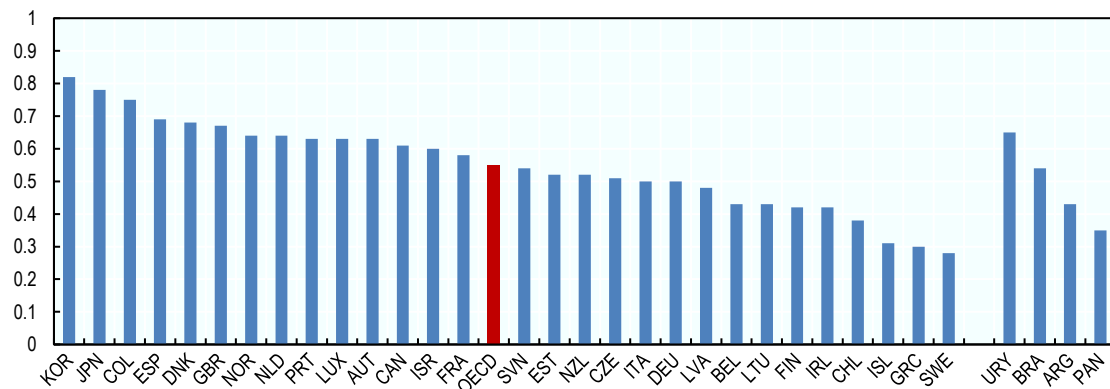
Results

Dimension 1: Digital by design

Digital by design consists of rooting digital transformation in governments and rethinking the relationship between technology, governments and human interactions. This dimension considers the extent to which a government exploits the full potential of digital technologies from the outset when formulating policies and designing services – regardless of the channel used. This pilot version of the Survey evaluates the *digital by design* dimension by focusing on the targets, objectives, implementation and assessment of the National Digital Government Strategy (NDGS), as well as cross-governmental co-ordination from an organisational perspective for effective leadership of digital government policies. This dimension aims to identify the existence of institutions to ensure overall co-ordination of the strategy and to improve decision-making and maintain checks and balances across institutions. Co-ordination mechanisms between the digital government strategy and other national strategies are also covered to ensure coherence of digital technologies across policy areas and levels of government.

This dimension also considers the existence of overarching policies aimed at developing digital skills among the public service workforce, with a view to assessing the level of institutional capacities to manage projects and monitor their implementation. The Survey also examines broader frameworks deployed as a means to achieve digital transformation within governments. It enquires about the existence of policy instruments, concrete initiatives and frameworks, and shared infrastructures (e.g. digital identity and interoperability) as well as the use of emerging technologies in the public sector.

Overall results for the *digital by design* dimension are presented in Figure 6. *Digital by design* is, on average, the second highest dimension in terms of country performance (both OECD member and partner countries). This suggests a relative level of maturity in terms of integrating digital components into existing processes to promote better service delivery and long-lasting transformation as part of broader reforms. The *digital by design* and *user-driven* dimensions also present the highest level of correlation when compared to other pairs of dimensions, highlighting the importance of including users in the design of policies and public services. It also underlines the need to focus on user needs and citizen's expectations in order to achieve sustainable and meaningful transformation.

Figure 6. Results of the *digital by design* dimension

Note: Data are not available for Australia, Hungary, Mexico, Poland, Slovakia, Switzerland, Turkey and the United States.

Source: OECD Survey on Digital Government 1.0.

Specific country results for *digital by design* show that Korea leads in this dimension, followed by Japan, Colombia and Spain. These countries have developed sound strategies and established leadership and co-ordination structures empowered with strong decision-making responsibilities to embed digital processes in public operations and service design and delivery in a cohesive manner. These countries have also emphasised the development of standards and guidelines, and prioritised efforts to promote coherent and well-equipped digital development across public sector organisations. In contrast, low-performing countries present less mature ecosystems for embedding digital by design, lacking the right governance and policy levers to secure coherent implementation and the use of shared digital technologies. Overall, countries scored more evenly in this dimension which could function as a proxy for broader maturity in most of the assessed topics.

A starting point in this dimension is the presence of governance settings for digital government reforms (OECD, forthcoming^[13]). While all countries have a dedicated entity (e.g. agency, division or unit) with the authority and mandate to lead and co-ordinate digital government, a considerable gap exists between the advisory⁵ and decision-making⁶ responsibilities assessed by the Survey. In many instances, the decision-making responsibilities of authorities in regard to digital government are still limited, notably when compared with assigned advisory responsibilities. This risks hampering the establishment of a sustainable, comprehensive and whole-of-government digital culture, and could impact progress towards digital

⁵ The advisory responsibilities listed in the Survey on Digital Government 1.0 are: 1) co-ordinating the development of the national digital government strategy; 2) developing the national digital government strategy; 3) monitoring the implementation of the national digital government strategy; 4) supporting the development and implementation of institutional digital government strategies (e.g. agencies and ministries); 5) developing technical guidelines for the development of ICT architecture across the central government (e.g. interoperability); 6) ensuring horizontal co-ordination of public sector organisations involved in the implementation of the national digital government strategy; and 7) co-ordinating with local governments for the development of ICT projects aligned to the objectives of the central digital government strategy.

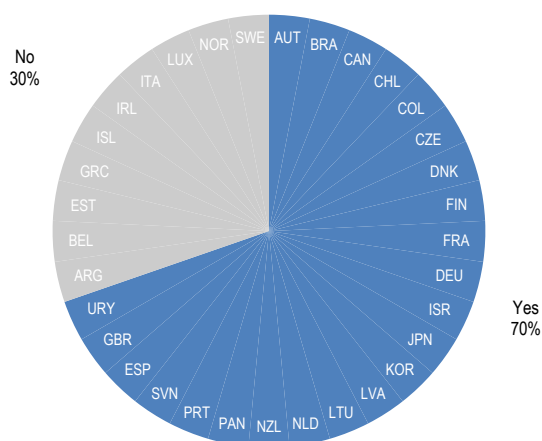
⁶ Decision-making responsibilities listed in the Survey on Digital Government 1.0 are: 1) prioritising ICT projects investment across the government; 2) *ex ante* revisions and evaluation of ICT projects across the central government; 3) approval of ICT projects across the government; 4) mandating external reviews (e.g. performance assessments) of ICT projects across the government; and 5) provision of financial support for the development and implementation of ICT projects.

transformation in the public sector. Evidence shows that only 48% of countries prioritise investments and approval of ICT projects across governments (decision-making responsibility), while 79% of leading units or agencies in countries are empowered to conduct *ex ante* revisions and evaluations of ICT projects across central/federal governments (advisory responsibility). This limited level of empowerment may reduce the capacity of these authorities to enforce common standards and services, likely constraining the cohesion of public sector organisations. In contrast, most countries have respective public sector organisations that co-ordinate the development of a National Digital Government Strategy (NDGS) or similar policy document (decision-making responsibility), with 32 out of 33 (97%) of countries having a dedicated strategy or comparable document for these purposes.

Countries are progressing towards comprehensive and inclusive governance systems for digital government. However, there are still challenges in terms of clarity and comprehensiveness of decision-making mandates to foster a cohesive and whole-of-government approach for digital processes across public sector organisations.

A similar limited level of empowerment is observed in co-ordination bodies for government ICT projects. While 70% of countries confirm the existence of formal co-ordination instances for government ICT projects, such as a Council of CIOs or related bodies at central or federal levels of government (Figure 7), these act as consulting rather than decision-making mechanisms for digital government policies. Most of these countries report the use of soft policy levers, including the development of guidelines for standardised ICT infrastructure and the implementation of strategies (81%), rather than hard policy levers like mandating external reviews and providing financial support for digital projects (Figure 8).

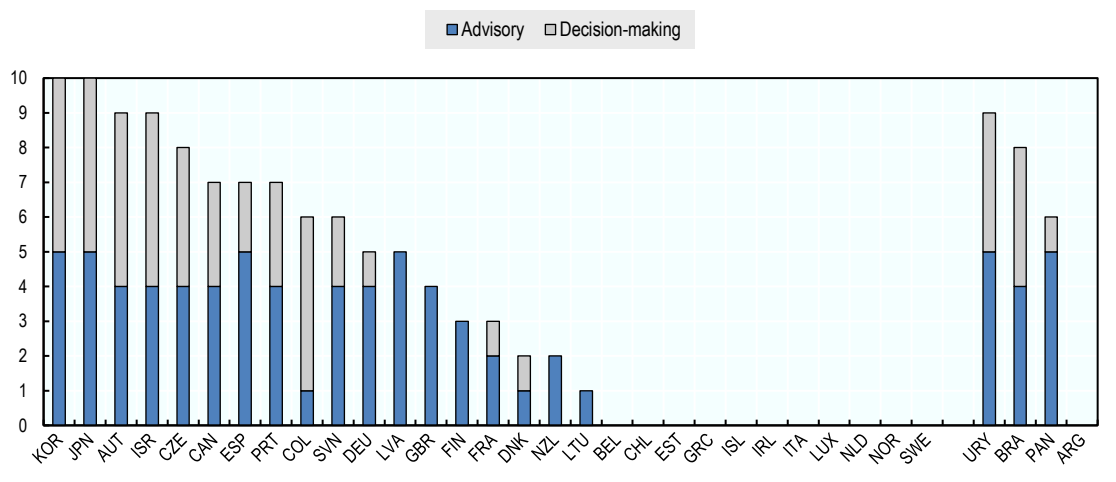
Figure 7. Formal co-ordination body or mechanism responsible for government ICT projects



Note: Data are not available for Australia, Hungary, Mexico, Poland, Slovakia, Switzerland, Turkey and the United States.

Source: OECD Survey on Digital Government 1.0.

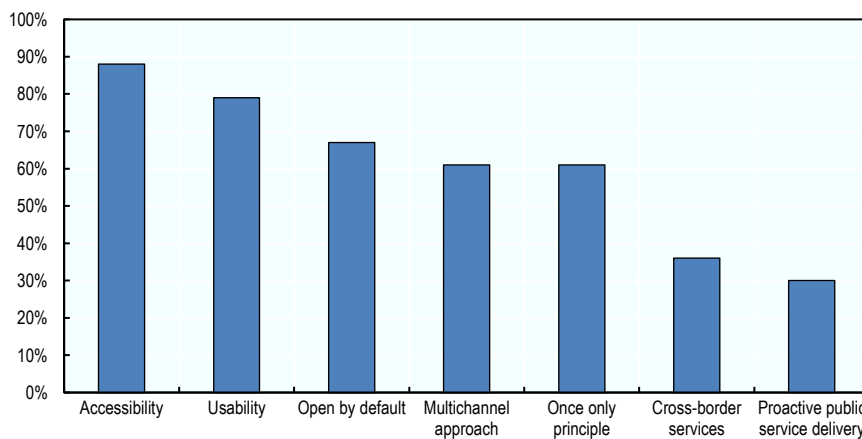
Figure 8. Advisory and decision-making responsibilities of digital government co-ordination bodies



Note: Data are not available for Australia, Hungary, Mexico, Poland, Slovakia, Switzerland, Turkey and the United States.
 Source: OECD Survey on Digital Government 1.0.

Another element crucial to embedding digital across public sector organisations is the availability of cross-governmental standards and guidelines for digital government. Evidence shows that countries have mostly focused on establishing standardised approaches around user centricity rather than user-driven public services. The prevailing approach is thus to interpret users’ needs rather than providing users with the space and opportunity to engage directly with the public sector. As Figure 9 shows, 88% of the participant countries have standards in place for accessibility, 79% for usability, 67% for open by default, 61% for multichannel service delivery approaches, 61% for the Once Only Principle⁷, 36% for cross-border services and 30% for proactive public service delivery.

Figure 9. Standards or guidelines developed and adopted for the design of digital services

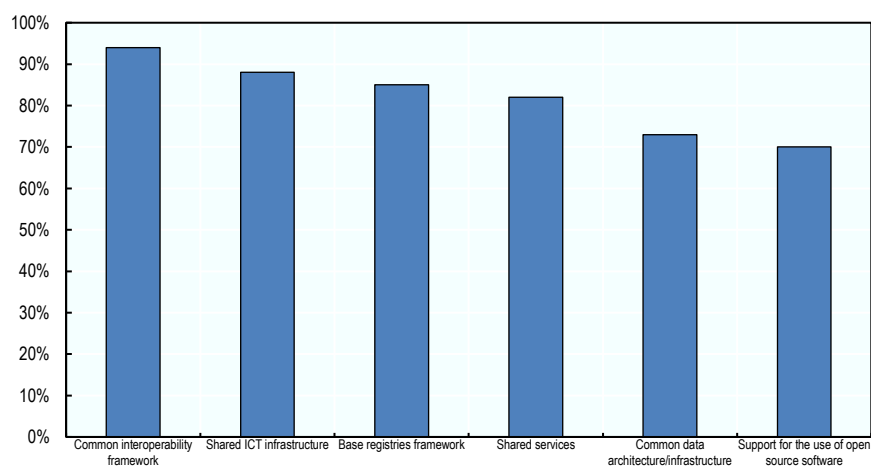


Source: OECD Survey on Digital Government 1.0.

⁷ The *Once-Only Principle* refers to the right of citizens and business to provide data to public sector organisations only once, calling to the public sector to establish the governance, standards and infrastructure to share and re-use data respecting data protection and other relevant regulation.

With regard to the implementation and adoption of common frameworks for digital governments, countries are moving towards shared systems to enable digital services. Figure 10 shows progress on common interoperability frameworks (94%), shared services (82%) and infrastructure (88%).

Figure 10. Availability of common frameworks in place for digital government



Source: OECD Survey on Digital Government 1.0.

Digital by design public sectors require enabling systems and digital identity mechanisms. Results suggest that despite broad implementation of digital identity systems, such investments will not produce repercussions in the day-to-day life of users unless availability, uptake and usefulness of digital identity solutions is reflected across the service panorama. A large number of countries confirmed the existence of a mechanism for online identification, with 85% of countries possessing single identity systems and 15% making provision for individuals to create and manage different digital identities for services. In 64% of countries, the system in place is equivalent to physical national IDs, with more rudimentary authentication available for 21%. However, although digital identity is in place in a large proportion of countries, only 58% of the countries have half of the services accessible through these systems.

Digital talent is fundamental for enabling the digital transformation of governments. Evidence shows that most countries are strategising and investing to strengthen the capacities of the public sector workforce for the effective use of digital processes and data. Most countries have dedicated strategies or policies for the development of these competencies among civil servants (79%). However, only 50% have specific mechanisms in place for lifelong training in digital technologies, such as the acquisition of data use and management skills (69%), programmes to increase the number of digital-savvy civil servants (46%) or partnerships with higher educational institutions (46%). Along with the promotion of skills strategies, 58% of countries have embedded digital skills as core components in their national public sector skills frameworks, indicating that most countries treat this skillset as separate to generic skills considered as requirements in the public sector.

In terms of emerging technologies, countries still display limited progression regarding the creation of an environment for the use and implementation of these technologies through a whole-of-government approach. With regard to increasing the adoption of artificial intelligence (AI) and blockchain technologies, only 58% and 33% of countries, respectively, have established one or more policy levers such as guidelines, legal and regulatory instruments, funding and digital skills initiatives.

Dimension 2: Data-driven public sector

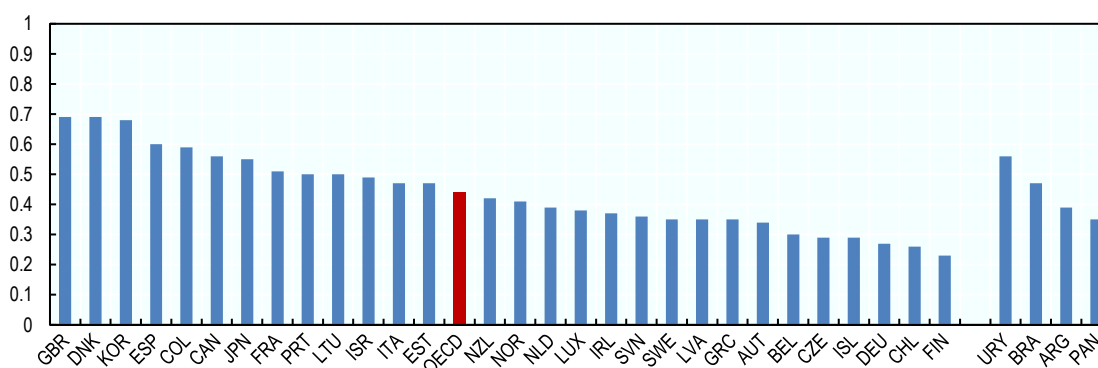
A *data-driven public sector* recognises data as a strategic asset in policies and services design and delivery. It implies the development of sound data governance structures (including data strategies, institutional arrangements, rules) and related delivery mechanisms (data infrastructures, standards) to capitalise on the value of data to anticipate and respond to the needs of users, deliver better services and policies, and promote data integration, access, sharing and use across the public sector (OECD, 2019^[8]; OECD, 2019^[7]). A *data-driven public sector* also favours the use of innovative and alternative sources of data in the evaluation and monitoring of policies and services over time. This approach supports continuous improvement in response to feedback and usage data, thereby enabling public sector organisations to prioritise and meet users' needs. This pilot version of the Survey assesses the extent to which governance, management and use of data informs and approaches the design, delivery and monitoring of public policies and services in countries. It examines the availability of public sector data policies and/or strategies, institutional roles, responsibility and accountability for data management, coherent implementation, formal requirements for data sharing and management within public sector organisations, guidelines and standards for sound data management.

Over the last decade, awareness has increased of the important role of data in making governments more transparent, accountable and open to stakeholder participation. Countries have opened up data for reuse both within the public administration and outside, placing data at the heart of the transformation agenda. Accordingly, *open by default* ranks highest among the six dimensions in the Index. However, the results for the *data-driven* dimension indicate that governments do not yet perceive data as a foundation for improved policy making, service delivery and ongoing performance management. The limited presence of policy levers, including the absence of formal requirements for single data inventories, data sharing between public institutions and leading roles (e.g. Chief Data Officers) is reflected in the low ranking of *data-driven public sector* as well as the lack of critical tools and mechanisms to use data as a strategic asset and generate public value.

Compared to the higher scores for the *digital by design* and *government as a platform* dimensions, the results suggest that governments are not yet making strategic use of data or exploiting its potential as a foundation for digital government (Figure 11). The results also highlight the need for governments to shift their focus away from the external publication of data (e.g. interactive dashboards) towards the creation of a skilled public sector that relies on data as a core component to effectively design and deliver its activities.

The United Kingdom, Denmark and Korea perform particularly well in this dimension, reflecting their positive performance in the overall ranking. These countries have adopted a holistic approach to leveraging data as a strategic asset through dedicated overarching data strategies and leadership settings that enable ethical and effective access, and sharing and use of data across public sector organisations. Spain, Colombia, Canada and France also show positive progress towards a data-driven public sector albeit with less emphasis on strategic mechanisms adopted for this purpose. In contrast, low-performing countries such as Germany, Chile and Sweden need to adopt a holistic strategic approach towards access to and sharing of data, with particular emphasis on leveraging data-sharing infrastructure, standards and practices that enable public sector organisations to make effective and strategic use of data.

Figure 11. Results of the *data-driven public sector* dimension

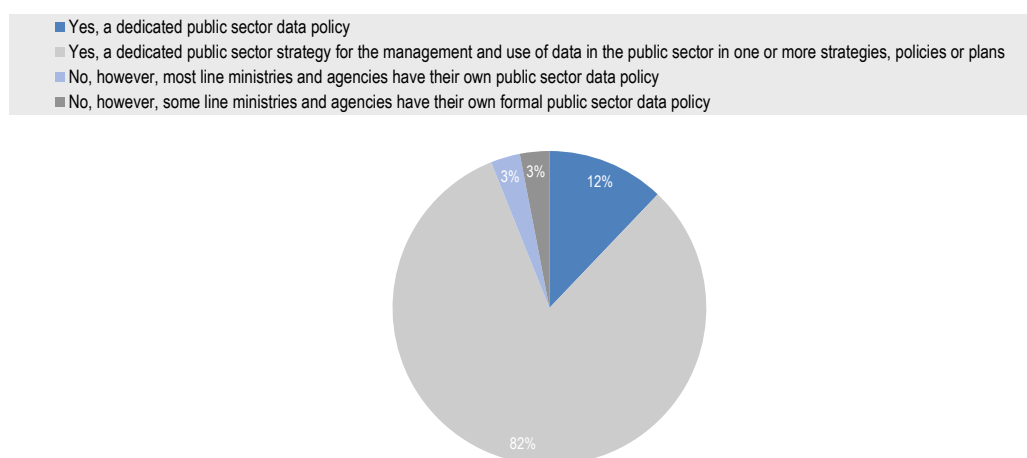


Note: Data are not available for Australia, Hungary, Mexico, Poland, Slovakia, Switzerland, Turkey and the United States.

Source: OECD Survey on Digital Government 1.0.

One fundamental element assessed by the Survey is the existence of a dedicated public sector data policy or similar policy document. Such a policy document would represent a comprehensive policy effort to join up government towards common strategic goals such as greater data integration and digital cohesion. The document would enable data stewardship and leadership in the public sector, coherent action, policy coordination and steering, common data standards, and the development of scalable infrastructures for data sharing and access (OECD, 2019^[81]). In a *data-driven public sector*, integrated approaches towards governing, accessing and sharing data help avoid not only data but policy-making and service delivery siloes (OECD, 2019^[81]). However, progress towards a comprehensive and dedicated approach that addresses data as a strategic asset seems to be lacking. As Figure 12 shows, only 12% of respondents confirmed the existence of a *single* dedicated data policy (or strategy) for the central or federal government, while a large majority (82%) embeds data as part of broader related policies (e.g. digital government or open data). Although the inclusion of data in other related policies is not a problem *per se*, the result is often insufficient clarity of guidance on strategic goals and expected actions, and a lack of recognition of its relevance as a priority policy field.

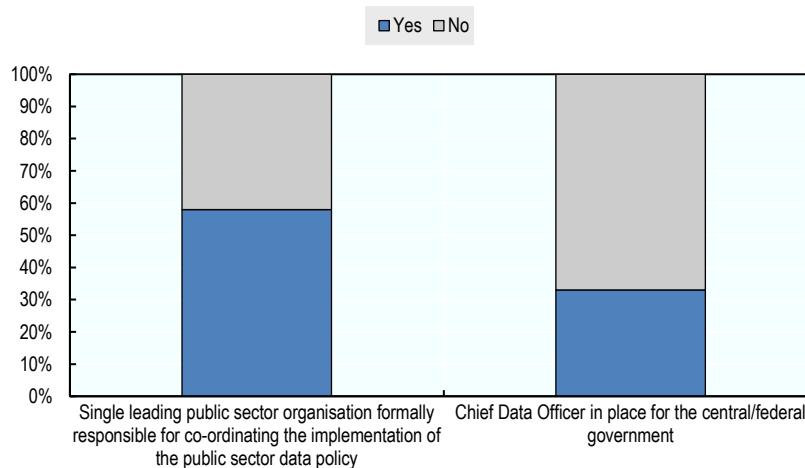
Figure 12. Availability of a single public sector data policy at the central/federal government



Source: OECD Survey on Digital Government 1.0.

The evidence also suggests limited progress towards comprehensive and effective governance for data-driven public sectors. As Figure 13 shows, 58% of countries confirmed the existence of a public sector organisation (e.g. unit or agency) responsible for leading or co-ordinating the implementation of data policies (e.g. digital government or national statistics offices), while only one-third of countries have established dedicated roles for this purpose (e.g. national Chief Data Officers) and 24% have explicit formal requirements for their recruitment. Similarly, the appointment of formal data leadership roles remains largely absent at the institutional level, with only 30% of countries having formal requirements for such a role in all or a selected group of public sector organisations. Along with central/federal governance, institutional governance is crucial to enabling sectoral accountability, co-ordination and delivery.

Figure 13. Presence of formal responsibilities and roles for single public sector data policies



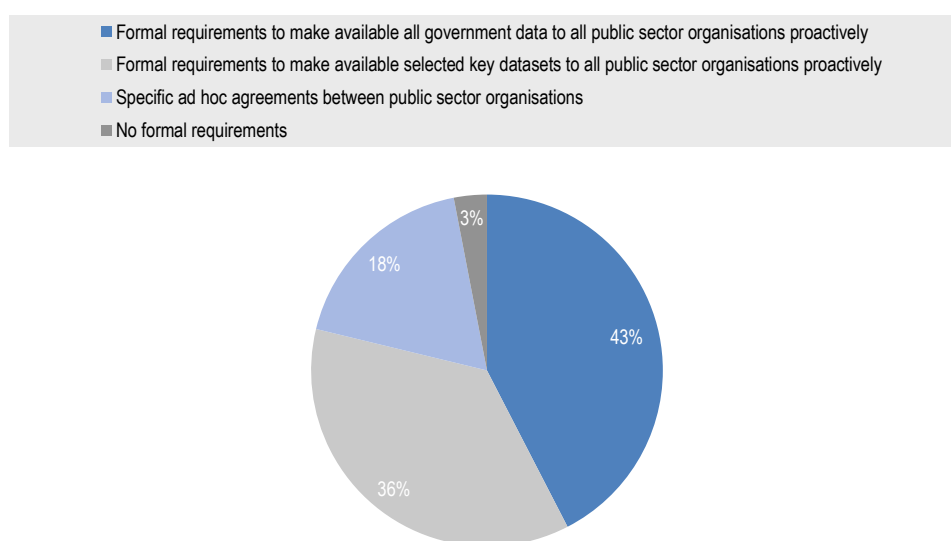
Source: OECD Survey on Digital Government 1.0.

Many countries are still lacking a strategic approach towards the development of data-driven public sectors. Dedicated public sector data policies, or strategies and leadership (e.g. Chief Data Officers) remain largely absent across countries. The lack of a strategic vision, as well as formal roles and responsibilities for coherent design and implementation of data-driven public sector projects, represents a challenge to moving from policies to concrete, sustainable and impactful actions.

A *data-driven public sector* should consider which data to make available and the choice of mechanisms to allow data to be accessed, shared and re-used. These choices are key to maximising and disseminating the benefits of data from one particular public institution to the whole public administration. The existence of standards, interoperability, registers, catalogues and cloud-based solutions will help encourage data flows within government, allowing for a whole-of-government approach to designing and delivering policies and services and fostering proactiveness in the public sector (e.g. by enabling implementation of the Once Only Principle).

The results show that only 24% of countries have established the formal requirements for a single data inventory for the central/federal government, while only 37% of the countries have implemented it in practice (i.e. covering 100% of data for the whole administration). Concerning data sharing between public agencies, 79% of countries have formal requirements in place to share all (36%) or selected (43%) public datasets; and 18% continue to establish *ad hoc* agreements for data sharing between public agencies (Figure 14). These results suggest that the majority of countries still towards need to establish mechanisms to enable cross-governmental flows of data that can boost public sector intelligence.

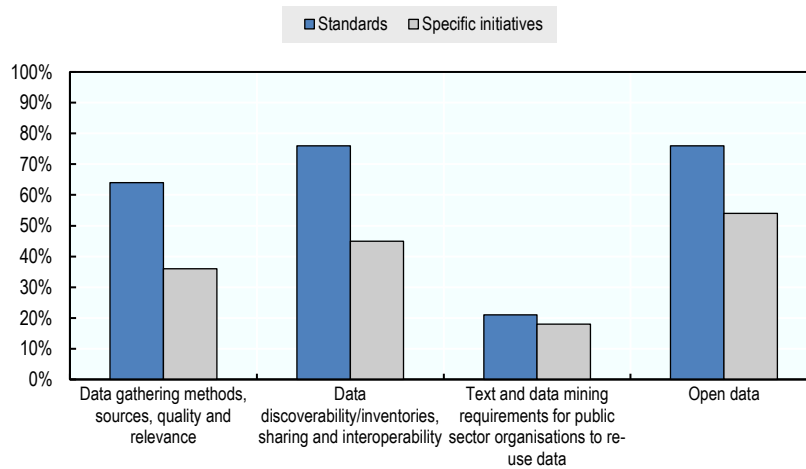
Figure 14. Explicit formal requirements for public sector organisations to share the data they produce with other public sector organisations



Source: OECD Survey on Digital Government 1.0.

One interesting insight is the overall gap between general guidelines and specific initiatives to set standards for sound data management (Figure 15). In the case of standards for data gathering and collection, 64% of countries have a standard defined for these purposes, while only 36% have initiatives in place for proper implementation. Likewise, 76% of countries have established data sharing and interoperability standards, but only 45% have implemented specific initiatives for these purposes.

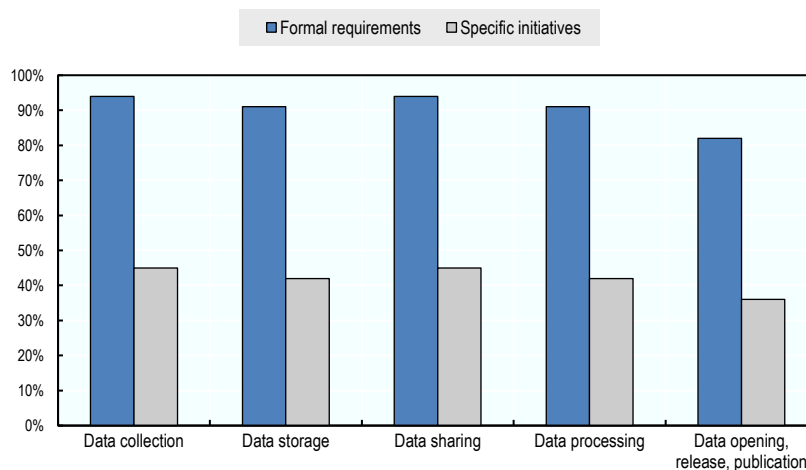
Figure 15. Standards specified in the public sector data policy and initiatives in place for data management



Source: OECD Survey on Digital Government 1.0.

The Survey also considered privacy and transparency as critical aspects of legitimacy and public trust that governments should consider to ensure a trustworthy *data-driven public sector*. Similarly to standards for data management, Figure 16 shows that most countries have formal requirements in place to protect the privacy of citizens in data collection, sharing, processing and publication (all above 82%), while specific initiatives for these purposes lag behind (36% of countries). However, having laws and regulations that formally ensure privacy and data protection, as well as access to information, is not enough to guarantee the effectiveness of these rights. Mechanisms such as independent bodies to monitor and supervise the compliance of data protection laws and privacy impact assessment tools are examples of initiatives that may ensure privacy protection in practice.

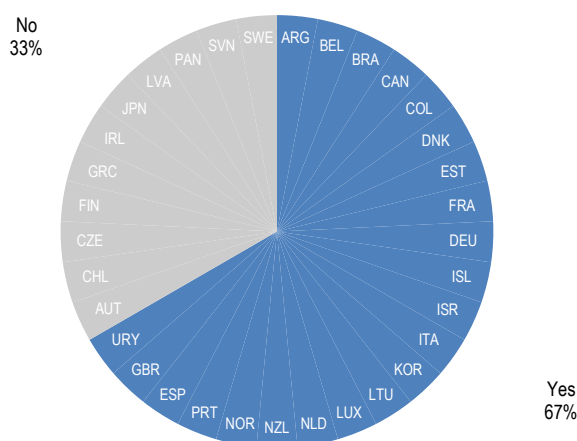
Figure 16. Formal requirements and specific initiatives adopted by the central/federal government to protect the privacy of citizens



Source: OECD Survey on Digital Government 1.0.

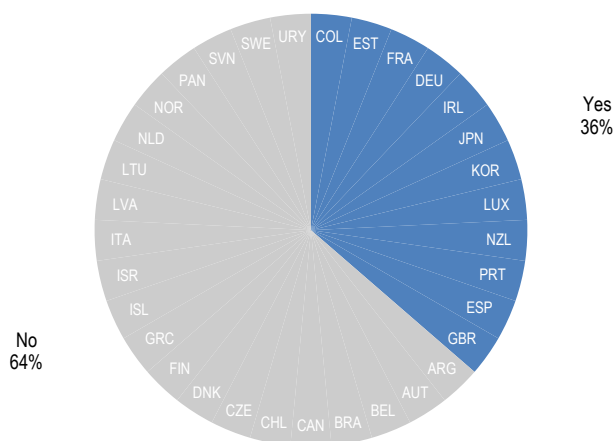
Availability, quality and relevance of data are not sufficient to ensure fairness and inclusiveness of policies and decisions, or to reinforce their legitimacy and public trust. Consistent alignment and adherence to shared ethical values and principles for the management and use of data are essential to 1) increase openness and transparency; 2) incentivise public engagement and ensure trust in policy making, public value creation, service design and delivery; and 3) balance the needs to provide timely and trustworthy data. In the case of data ethics, 67% of countries report having formal requirements in place for this purpose, while only 36% have dedicated initiatives to apply ethical principles to data-related initiatives (Figure 17 and Figure 18).

Figure 17. Formal requirements for ethical management and use of data across the public sector



Note: Data are not available for Australia, Hungary, Mexico, Poland, Slovakia, Switzerland, Turkey and the United States.
 Source: OECD Survey on Digital Government 1.0.

Figure 18. Initiatives for ethical management and use of data across the public sector



Note: Data are not available for Australia, Hungary, Mexico, Poland, Slovakia, Switzerland, Turkey and the United States.
 Source: OECD Survey on Digital Government 1.0.

The results are even lower in terms of the transparency and accountability of algorithms for public decision making. Only 18% of countries have formal requirements and barely 24% have implemented initiatives.

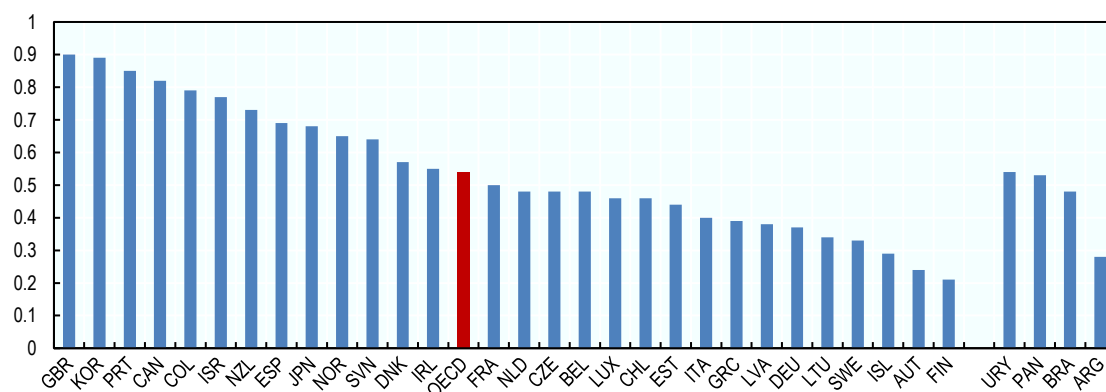
This evidence suggests that countries are struggling to adopt agile integrity and ethics mechanisms that can adjust to technological and societal changes. Building on the Recommendation of the Council on Digital Government Strategies, the adoption of an ethical data framework would serve as a suitable instrument to ensure the ethical use of data across the public sector. This is the case of the OECD Good Practices Principles on Data Ethics in the Public Sector, ongoing work which aims to develop shared principles and common understanding for the ethical use of data by public sector officials (OECD, forthcoming^[14]).

Dimension 3: Government as a platform

The *government as a platform* dimension draws upon the provision of foundational elements for an ecosystem that backs and equips public servants to design policies and deliver services coherently, with a view to optimising value creation, as well as responsiveness and convenience of results. The part of the ecosystem measured in the pilot version of the Survey consists of tools and platforms for collaborative discussion and designing standardised business case models and methodologies for project management. It also incorporates the digital tools necessary for governments to leverage existing resources, promote coherence, optimise public IT expenditures and sustain implementation of digital government solutions across public agencies. This helps government teams concentrate on identifying citizens' needs and designing ways to offer a joined-up and effective end-to-end service experience. A whole-of-government approach to digital transformation, complemented by co-ordination and standardisation across multiple levels of public sector organisations, is crucial to attaining high performance under this dimension.

The overall results presented in Figure 19 highlight the means by which governments use technologies and data to harness the knowledge of people and facilitate collaboration to jointly address digital government policy challenges and deliver high-quality services. The results show that *government as a platform* ranks closest to the average of the dimension scores combined. Taking into account the substantial difference between the top and bottom performers, this might suggest that this dimension demands a level of maturity from governments in order to achieve satisfactory performance. *Government as a platform* ranks below *digital by design* and is followed by *user-driven* dimension average. These two dimensions present the highest correlation with *government as a platform*, underlining the importance of high performance in these dimensions for the maturity of *government as a platform*. Accordingly, ICT and data architectures, as well as stakeholder engagement, can be understood as key enablers for the creation of conditions that foster maturity in the *user-driven* and *digital by design* dimensions, and vice-versa.

Figure 19. Results of the *government as a platform* dimension



Note: Data are not available for Australia, Hungary, Mexico, Poland, Slovakia, Switzerland, Turkey and the United States.

Source: OECD Survey on Digital Government 1.0.

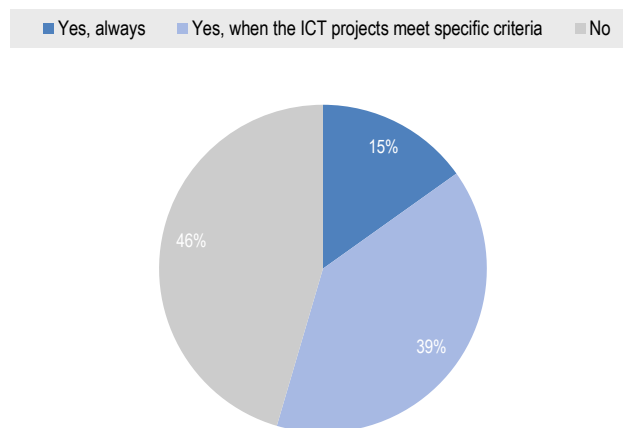
The results show that the United Kingdom leads this dimension followed by Korea, Portugal, Canada and Colombia. Other countries with a positive performance are Israel, New Zealand, Spain, Japan, and Norway. The top performers have developed standardised policy levers across public sector organisations, such as business cases, ICT procurement and project management. These equip teams to leverage the value proposition and implementation of digital and data projects in a coherent and cohesive manner

across the whole public sector. Most of the countries that performed well in this dimension are also in the upper cluster for the *digital by design* and *user-driven* dimensions. This might suggest that achieving a good performance in the *government as a platform* dimension is not a siloed phenomenon. It requires an all-inclusive governance model that is strategic and responsive to growing maturity in the use of ICT and emerging technologies, data and information infrastructure across the public sector. The use of key enablers and a framework that permits stakeholder collaboration, in connection with other dimensions assessed in the Index, lays the groundwork for progress in digital government and/or towards higher levels of digital government maturity.

Governments across OECD member and partner countries increasingly report the need for policy levers – including the pre-evaluation of ICT expenses, business cases and project management models – to ensure a coherent and sustainable digital transformation across the public sector. With public expenditure on ICT goods and services assuming an increasing role in public procurement, with the rapid penetration of digital technologies in all sectors of government, these policy tools can help governments better plan, manage and monitor ICT investments.

As outlined in the OECD Recommendation of the Council on Digital Government Strategies, governments should develop business cases to articulate the value proposition and cohesiveness of digital projects across the public sector. However, while business cases methodologies exist and are considered a best practice for many countries, they are not used regularly or consistently. As Figure 20 shows, only just over half of governments have standardised models/methods to develop and present business cases for *ex ante* measurement of benefits and costs of digital government projects. Of this proportion, 39% require projects to meet specific criteria (e.g. budget threshold), while models/methods are compulsory for all ICT projects in only 15% of governments. Making the adoption of business case methodology a required policy lever in the early stages of project management would help countries achieve coherence and value proposition of ICT investments, enabling smart and cost-effective investment decisions for public value in line with strategic objectives.

Figure 20. Availability of standardised models/methods to develop business cases

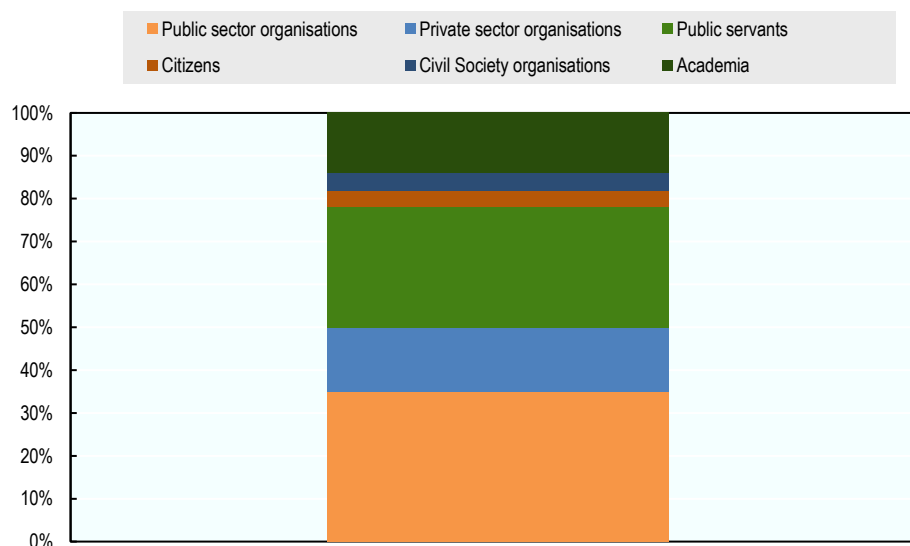


Source: OECD Survey on Digital Government 1.0.

Engaging stakeholders in the process of designing business cases is essential in order to promote joint ownership, distribution of benefits and a better understanding of users' needs. Figure 21 provides information on the distribution of different groups of stakeholders considered by the Survey in the process

of defining business case models. The results showed that 39% of countries involved more than three key stakeholders in the definition of business cases.

Figure 21. Distribution of stakeholders involved in the definition of business cases



Source: OECD Survey on Digital Government 1.0.

Although most of these countries (78%) have a methodology in place to monitor or report the costs and benefits of business cases, only 11% with a standardised model stated that their business cases must highlight social and financial gains (for both public sector and users). Having such requirements in place reduces time and standardises monitoring according to recognised good practices, helping to determine whether the anticipated social and financial benefits were realised.

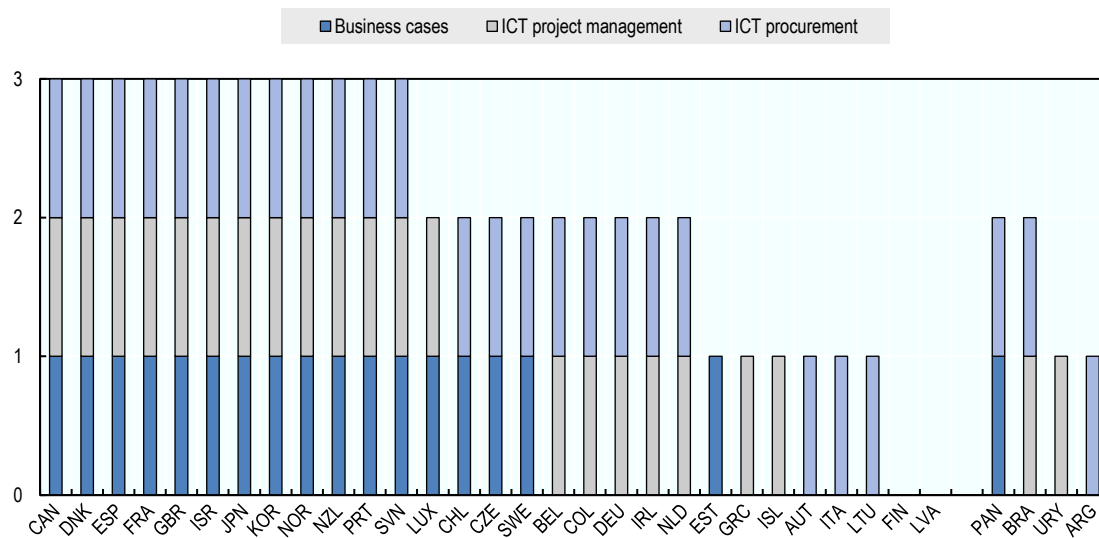
Another fundamental aspect for coherent planning and implementation of digital governments is clear and cohesive ICT procurement mechanisms. Strategic and dynamic planning of the procurement of digital goods and services facilitates strategic decision making, efficiency, effectiveness and sustainability of investments, and avoid gaps and overlaps, as highlighted in the 2015 OECD Council Recommendation on Public Procurement (OECD, 2015_[15]). However, the Survey results show that there is still room for countries to improve strategic, uniform and standardised approaches to ICT procurement.

Having strategic planning methods and formal guidelines in place helps governments to overcome “agency thinking” approaches that usually anchor silo-driven decisions, while often failing to prioritise interoperability or common standards for improved integration and sharing across different sectors and levels of government. Although 67% of countries reported the existence of formal guidelines for ICT procurement, only 12% report have a dedicated ICT procurement strategy for the public sector at the central/federal level. Instead, the majority of countries (64%) integrate strategic planning of ICT procurement into a government-wide procurement strategy. Together with strategies and formal approaches, countries could improve implementation of ICT procurement by centralising agreements in a searchable database. Such an instrument would improve transparency and accountability, support optimisation and coherency and promote synergies around the commissioning of ICT resources. Evidence indicates that 67% of countries have available searchable databases in place.

By comparing results on existing models in ICT procurement, business cases and ICT project management, it is possible to observe a pattern in policy levers. Similar to previous cases, 67% of countries have adopted a standardised model for ICT project management but only half of these countries have

made them mandatory – 27% of them are obligatory for all ICT projects and the other half are required only when projects meet specific criteria (e.g. budget threshold). This suggests room for improvement in leveraging models to guide governments in using these management tools. In the case of ICT projects, countries may benefit in particular from the agility and coherence that common management models provide, as well as from improved performance and levels of comparability across the administration, as noted in the OECD Recommendation of the Council on Digital Government Strategies (Recommendation 10).

Figure 22. Use of standardised policy levers at the central/federal government level

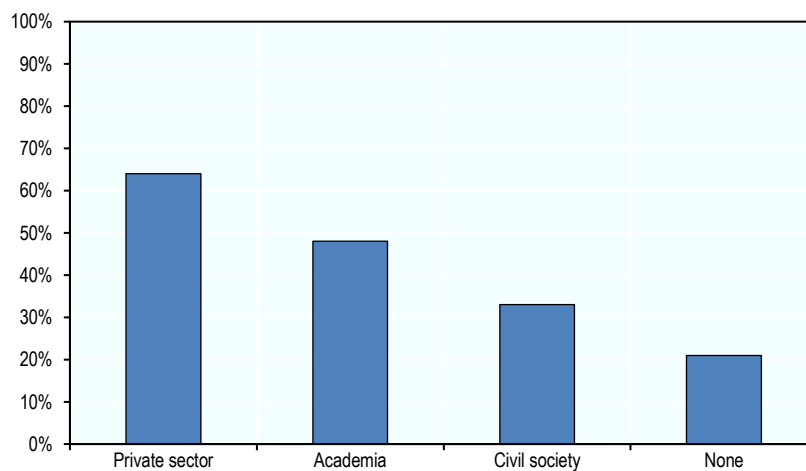


Note: Data are not available for Australia, Hungary, Mexico, Poland, Slovakia, Switzerland, Turkey and the United States.
Source: OECD Survey on Digital Government 1.0.

When assessing performance trends under the *government as a platform* dimension, it is notable that most low-performing countries lack monitoring of policies and services. This might suggest that lack of assessment and learning mechanisms for the development, implementation and impact of policies hampers the identification of potential gaps and user needs, and compromises the prioritisation of areas for future improvements. For instance, only 27% of countries are actively assessing barriers to co-designing services between government and business.

Another observation is that even though all low-performing countries can cite a strategy that sets policy goals, pillars and actions, poor adoption of formal mechanisms, guidelines and platforms suggests a lack of means or action to accomplish these objectives. For example, while governments report the presence of engagement mechanisms as part of the design process of NDGSs, only half foresee the participation of at least two different groups of actors – the private sector, academia and/or civil society – in formal technical advisory or consultation bodies for ICT projects (Figure 23). Such mechanisms represent a valuable means to involve and align relevant stakeholders in the development and implementation of standards for digital government projects.

Figure 23. External stakeholders involved in the development of the NDGS



Source: OECD Survey on Digital Government 1.0.

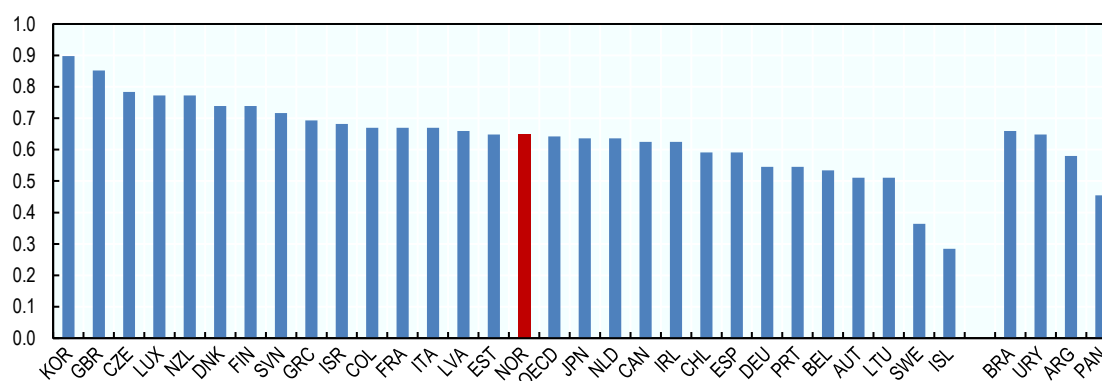
Dimension 4: Open by default

The concept of *open by default* measures openness in a broad sense, well beyond the release of government data in open formats. It includes efforts intended to foster the use of technologies and data to communicate and engage in policy making and service design with different actors, with a view to the creation of a collective and knowledge-based public sector (OECD, 2020^[16]). The measurement of this dimension is therefore not meant to replace or replicate the assessment of the OECD *OURData Index*. Instead, the pilot version of the Survey evaluates the extent to which a government embeds openness as a core principle when using digital technologies to open up its processes – including policy making, service design and algorithms – and its data.

The *open by default* dimension evaluates the existence of an open government data policy, strategy or action plan, as well as open data portals, including the existence of *open by default* formal requirements. In addition, the dimension explores the existence of additional policy levers relevant to fostering openness, such as guidelines on the digital release of government policies and decisions. It evaluates the extent to which openness is implemented by assessing the availability and use of open source in the development of public service delivery portals. It also weighs advancements in opening up algorithms to secure full openness in the use of emerging technologies – such as Artificial Intelligence – as part of policy-making processes. Finally, the *open by default* dimension ascertains whether research has been undertaken to monitor the impact of open data on economic, social and public sector performance levels.

Open by default scores highest when compared against the averages of other dimensions. This could be the result of the higher longevity of open data-related policies compared to other efforts meant to foster higher digital maturity, as reflected in the other dimensions of the DGPF. Even early adopters of open data efforts built on existing cultures of access to information aimed to make administrations more accessible and sought to develop a culture of openness and transparency in the public sector (Ubaldi, 2013^[17]). Even though countries have excelled at the strategic and implementation levels, there is significant room for improvement where policy levers and, particularly, monitoring are concerned. These results highlight the growing relevance of open government in recent years, exemplified by the adoption of strategies on open government data and implementation, and the existence of requirements and guidelines for the digital release of government data, free of charge and under an open license. The results also confirm an urgent need to strengthen monitoring and measurement mechanisms to safeguard sustainability and allow for the improvement of existing open government policies and frameworks.

Figure 24 shows the country results for the *open by default* dimension. In comparison to *digital by design* and *government as a platform*, efforts to promote *open by default* have seen faster growth over the last decade. Some countries have developed strong *open by default* capabilities, regardless of their lower scores in other dimensions. This trend is exemplified by the Czech Republic, Slovenia and Greece. Nevertheless, significant differences are apparent in terms of maturity. Some countries have achieved outstanding development with the majority scoring similarly around 0.6, while the bottom countries lag behind, as the cases of Sweden and Iceland. This gap can be explained by the low scores these countries obtained in the *strategic approach* and *monitoring* transversal facets, where there is significant room for improvement.

Figure 24. Results of the *open by default* dimension

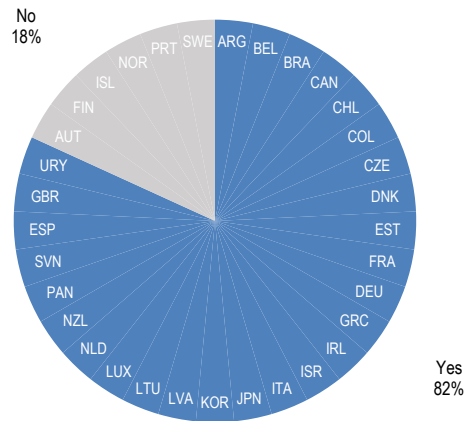
Note: Data are not available for Australia, Hungary, Mexico, Poland, Slovakia, Switzerland, Turkey and the United States.

Source: OECD Survey on Digital Government 1.0.

Korea, the United Kingdom and Denmark maintain their strong performance, as in previous dimensions. These countries have embedded openness by default into existing legislation and developed comprehensive strategies and initiatives to make public data, processes and services open to the community. Czech Republic, Slovenia and Greece also perform especially compared to their performance in other dimensions. The largest difference for *open by default* is found between the 25th and 75th percentiles, indicating a significant gap between the top performers and the laggards. This improvement could be linked to the adoption of policy levers such as formal guidelines on the digital release of government data, policy design and decisions; and formal free and open data provision and implementation measures such as the creation of an open data portal and guaranteed general access to data in open formats. Monitoring mechanisms for the social and economic impact of open government data, as well as impact on public sector performance, remain largely absent in the bottom performing countries.

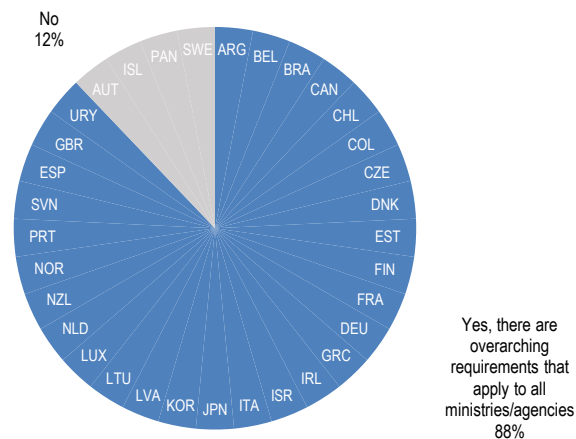
The majority of countries shows positive advances in the release of government data. This level has been achieved mainly through the general adoption of a medium-term strategy/action plan on open government data (82%, see Figure 25), with all countries having a central portal for open government data. The high *implementation* levels in overall are represented by the high number of countries with formal requirements for *open by default* existing in these countries (88%), as suggested by Figure 26. However, the figures drop considerably when referring to centralised service delivery platforms for government services: 59% of countries report that their platforms were developed in an open source language, while only 48% list services in open data formats, both of which are relevant enablers for the reuse and coproduction of components.

Figure 25. Countries with a medium-term strategy or action plan on open government data



Note: Data are not available for Australia, Hungary, Mexico, Poland, Slovakia, Switzerland, Turkey and the United States.
 Source: OECD Survey on Digital Government 1.0.

Figure 26. Countries with *open by default* formal requirements for government data



Note: Data are not available for Australia, Hungary, Mexico, Poland, Slovakia, Switzerland, Turkey and the United States.
 Source: OECD Survey on Digital Government 1.0.

Monitoring is under-developed, mostly due to a lack of subsidised research on the economic and social impacts of open government data. Thinking ahead, governments will need to demonstrate how opening up data creates positive impacts, for example by expanding the use of business cases for open data reforms. This kind of feedback will be a key ingredient in updating and improving open data policies, portals and data reuse to increase impact and value creation.

Open by default is the highest scoring dimension among measured countries, underscoring the relevance and momentum of openness in domestic digital government policies or related ones, including open data. This contrast strongly with lower results in the *data-driven public sector* dimension, questioning the extent to which data are truly

perceived and treated as strategic assets in the design, delivery and improvement of policies and services – and highlighting the space for governments to become more data-driven in a more holistic manner.

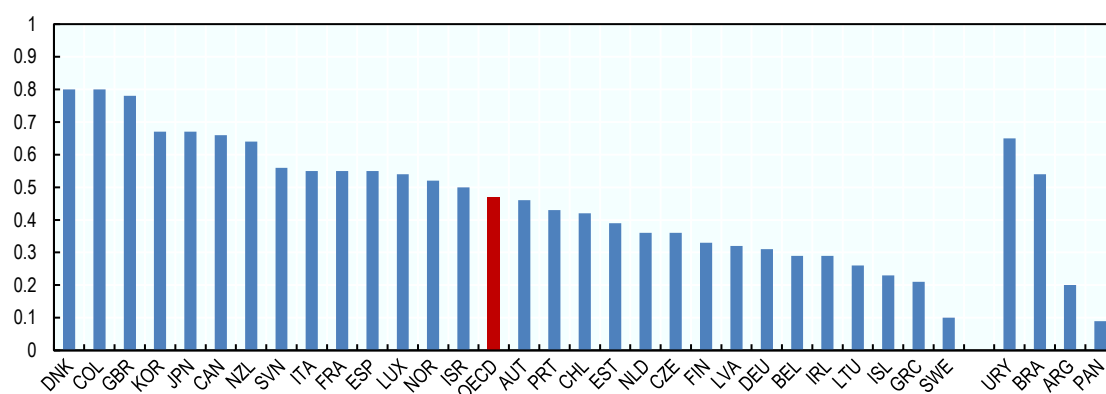
Dimension 5: User-driven

The evolution from e-government to digital government brings a change from a *user-centric* to a *user-driven* approach. *User-centric* approaches try to interpret the needs of users; *user-driven* approaches create space for users to express their needs, which are then placed at the core of policies and service design. This dimension recognises citizens' needs and expectations as pivotal to the transition to a digital government driven by end users. The underlying aim is to foster collaborative administrations that engage with service users to hear their preferences, work effectively to address these needs, and thus strengthen confidence in government and the responsiveness of its actions. This approach entails openness and engagement, developing policies and services that place citizen and business needs at the core, rather than relying on existing assumptions. This dimension measures the extent to which users are at the centre of country approaches to digital government.

The questions in this pilot measurement exercise range from foresight and the promotion of user engagement in policy making to end-user evaluations of public services. The Survey assesses whether governments foresee and prioritise inclusiveness and engagement with multiple actors from different population groups, for instance in the design of the NDGS, public sector data policy [see OECD (2019^[8])], and methods or models such as business cases. It also measures whether countries gather feedback and take into consideration user satisfaction on services. The participation of citizens and other stakeholders from the outset to the final stages of design and delivery processes is crucial to this dimension, and the level of user satisfaction with digital government services contributes to a forward-looking and sustainable approach to digital government.

The results for the *user-driven* dimension show significant variance between the top and bottom performing countries (Figure 27). The overall score falls close to the average of all the dimension scores combined. Denmark, Colombia and United Kingdom lead in terms of the adoption of a *user-driven* approach to digital government, followed by Korea, Japan and Canada. Analysing the trends, top performing countries share similar best practices for coherent engagement of key stakeholders in designing and developing policies and services, and maintaining multiple channels, digital mechanisms and mandatory guidelines for this purpose across different levels of government. These countries maintain indicators on user satisfaction, which allow them to better understand and assess the pertinence of existing policies and services and make improvements, if needed. They also actively involve users in testing and evaluating agile design and implementation of services, through dedicated indicators on user satisfaction with government services. In contrast, low performing countries have only limited or no institutional mechanisms, guidelines and tools to effectively capture and embed user needs in policies and services.

Figure 27. Results of the *user-driven dimension*

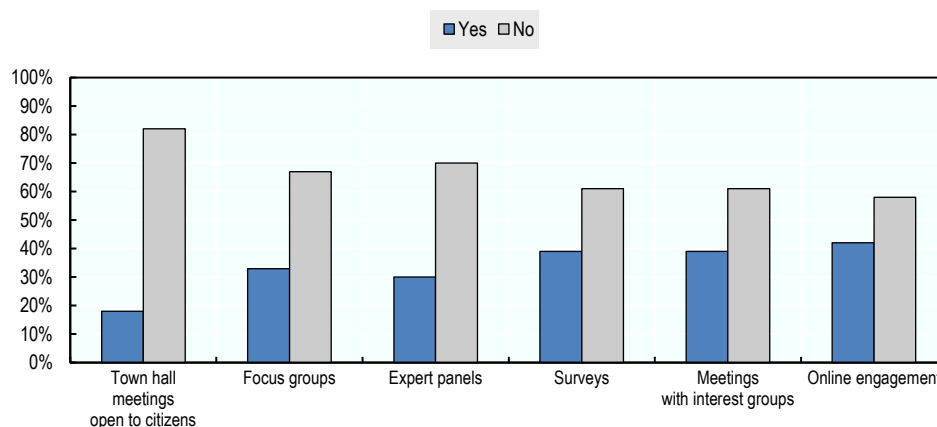


Note: Data are not available for Australia, Hungary, Mexico, Poland, Slovakia, Switzerland, Turkey and the United States.
Source: OECD Survey on Digital Government 1.0.

Engagement in the formulation of strategies and overarching policies leaves room for improvement. For instance, engagement of the public and relevant stakeholders in the NDGS and data policy is slightly above average. Overall, 64% of countries have involved relevant public sector organisations, ministries and civil society organisations in the formulation of their NDGS, and 61% have involved four or more stakeholder groups when designing their public sector data policy. The latter may include citizens or civil society organisations, academia, researchers, private sector representatives, back office or frontline civil servants, policy analysts, data scientists and senior management from public sector organisations. Improving stakeholder engagement from the outset is crucial to creating shared ownership of policy and legitimising the outcomes of digital transformation in the public sector.

Levels of engagement when new services or initiatives are designed follow a similar pattern. For instance, only one-third (33%) of the participant countries foresee four or more types of engagement in their NDGS when new services are developed. Figure 28 provides additional information on the distribution of countries in each type of engagement assessed by the Survey.

Figure 28. Types of engagement in the NDGS to involve users in the design of new services

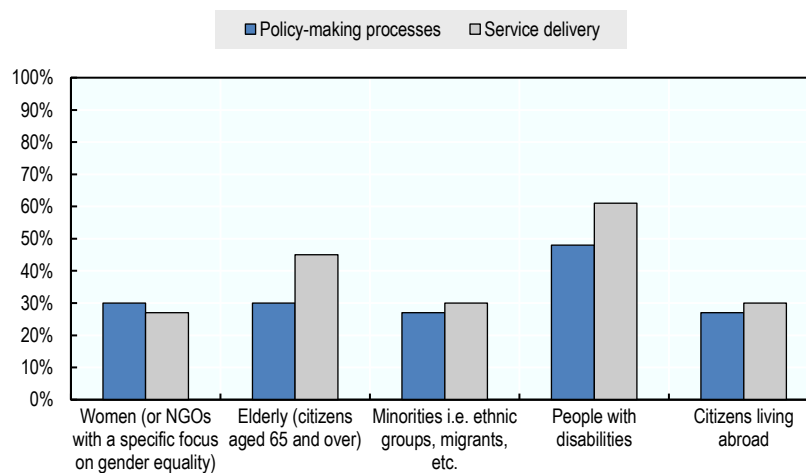


Source: OECD Survey on Digital Government 1.0.

The results were similar for formal requirements for central/federal line ministries or agencies to use digital government tools to crowdsource ideas from stakeholders during policy (30%) and service (36%) development. Low levels suggest that countries could better seize the opportunities offered by digital technologies to make the public sector more open, promote integrity and engage more actively with digital government stakeholders to co-design and co-create policies and services. Harnessing digital technologies and making better use of data both within and outside the public sector would help them develop more citizen-driven policies and services based on efficient collaborative approaches.

Inclusiveness and accessibility are two other elements that strengthen the importance of engaging diverse population groups in the process of designing services. A large proportion of countries consider accessibility of digital services for all (85%) and participation in the design processes (73%) as an important part of their NDGS. However, in practice, levels of engagement remain low when digital technologies are used to promote inclusion and participation by vulnerable population groups in policy making and service delivery processes – at 30% and 36%, respectively, for at least three or more different groups (Figure 29). Increasing the effective involvement of these groups is crucial to ensuring comprehensive policies and services as well as equitable outcomes that address the needs of as broad a group of citizens as possible.

Figure 29. Use of digital technologies to ensure the inclusion and participation of vulnerable population groups



Source: OECD Survey on Digital Government 1.0.

Another aspect to consider in promoting inclusion and strengthening service coverage is whether countries have taken steps to address existing digital divides and avoid the emergence of new forms of “digital exclusion”. The Survey evaluates whether governments have assessed the extent of the digital divide and have undertaken actions to increase the digital skills of citizens, whether by targeting all segments or focusing on vulnerable groups of the population. The Survey shows several initiatives in place: 73% of participant countries consider at least four different population groups when assessing digital divides (e.g. by age, gender, service users, education and income levels, location and physical disabilities); 88% have launched specific initiatives to increase digital skills focusing on vulnerable segments of the population. The levels of initiatives remain high for partner countries as well, demonstrating their commitment to tackling digital divides.

The Survey results showed low levels of testing and evaluation with the involvement of stakeholders during the design process for policies and services. External providers and stakeholders are involved in testing service delivery modes in 49% of countries through institutional mechanisms. Countries can benefit from

adopting an agile approach to interactions between governments and the public, establishing an ongoing research culture for policy making, service delivery and operations that aim to understand citizen needs (OECD, 2020^[9]). However, 61% of participant countries have a dedicated policy in place to test and evaluate digital projects and initiatives with the involvement of end users, but only 30% have associated mechanisms in place for implementation.

Users must have the opportunity to become active actors in designing and developing digital government policies and services. Governments must enable them not only to communicate their expectations, but also to provide feedback on how efficiently and responsively the services are addressing their needs. Governments are not fully benefiting from the use of digital tools to gather users' views during the development of services, with only 64% proactively requesting feedback from users on their experience with digital services as a pillar of the NDGS. Likewise, 49% of the countries have guidelines in place for measuring user satisfaction with digital services, 12% of these countries have made these guidelines available and mandatory across levels of government, and 36% of those that made them mandatory did so only at the central/federal level and not at the local/regional level. Only 51% countries are assessing user satisfaction by developing indicators.

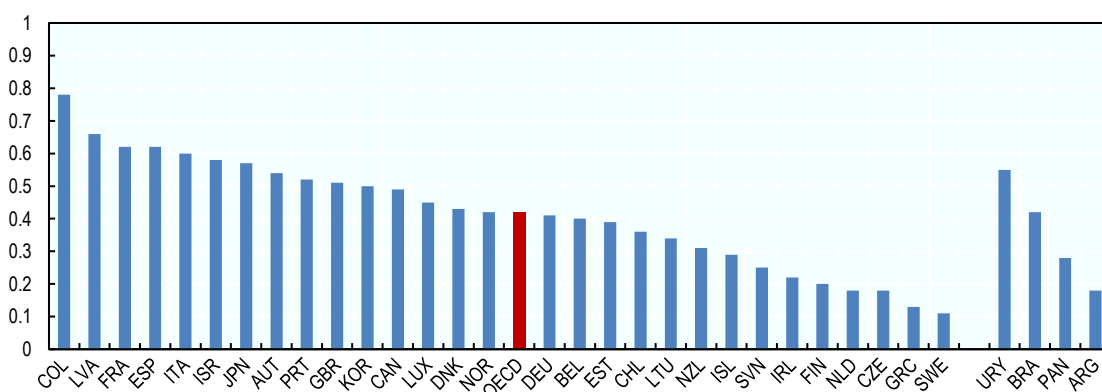
Dimension 6: Proactiveness

Proactiveness measures the extent to which a government delivers data and services to the public without waiting for formal requests. It implies a capacity to anticipate societal and economic developments as well as users' needs, by capturing real-time information and applying them to the re-design of services. The dimension encompasses requested provisions for delivery of services to users, proactive requests for feedback from users and enabling citizens to access real-time information on service delivery (e.g. through smartphones apps and dashboards).

Questions pertaining to this dimension in this pilot version of the Survey aim to assess established requirements for public engagement in service design and delivery using digital tools at each stage of the policy process. This includes formal requirements and written guidelines to ensure public engagement in online and government consultations, and training for public servants in the use of digital tools to engage with the public. These elements are also relevant to the *user-driven* dimension, and highlight the capacity of governments to be more proactive. Knowledge of users' needs and preferences, and having the ability to anticipate them, enables governments to introduce solutions early. *Proactiveness* also encompasses government-wide communication strategies to provide experts, stakeholders and users with a comprehensive overview of available digital services, such as dashboards and listed databases, and notify them of policy and service outcomes. *Proactiveness* also encourages ease of access in digital service design through enforcement of the Once Only Principle.

Significant differences exist between well-performing countries and those lacking in some respects (Figure 30). The high scores among top performers are linked to formal requirements to enforce the Once Only Principle in service delivery, mechanisms (e.g. dashboards) that provide a comprehensive overview of ongoing digital government initiatives, and the existence of a central available list compiling all transactional public services. These aspects facilitate access to data and information about ongoing projects or existing services. Countries with the most room to improve their *proactiveness* are Sweden, Greece, Netherlands, Argentina and Czech Republic. This could be achieved through greater use of mechanisms to engage experts outside of government in different stages of the policy cycle, the use of digital tools to support public engagement in service design and delivery, training for public servants on the use of digital tools to engage with the public, and the preparation of a communication strategy to inform citizens about the outcomes of digital strategies and initiatives.

Figure 30. Results of the *proactiveness* dimension



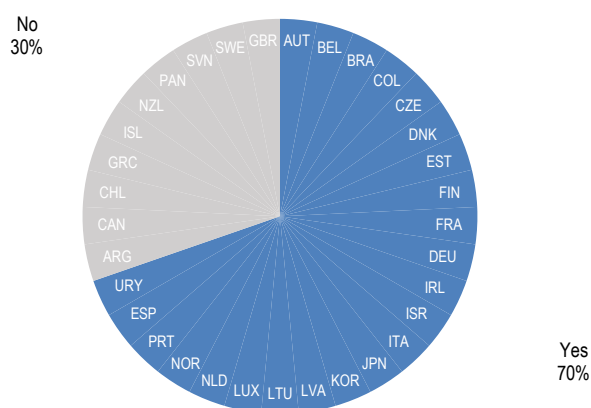
Note: Data are not available for Australia, Hungary, Mexico, Poland, Slovakia, Switzerland, Turkey, and the United States.

Source: OECD Survey on Digital Government 1.0.

The overall score for *proactiveness* is among the lowest for all six dimensions. Contributory factors may include low involvement of external experts in the policy cycle and low availability of dedicated training for public servants on the use of digital tools for public engagement. These elements – which are also crucial for more mature *user-driven* and *open by default* government – help elucidate how flaws in the implementation of *proactiveness* might influence its overall performance. Additionally, this dimension relies more on the others to reach higher levels of maturity. The low overall score might therefore be explained by the varying levels of maturity in countries and the resulting scores across other foundational dimensions.

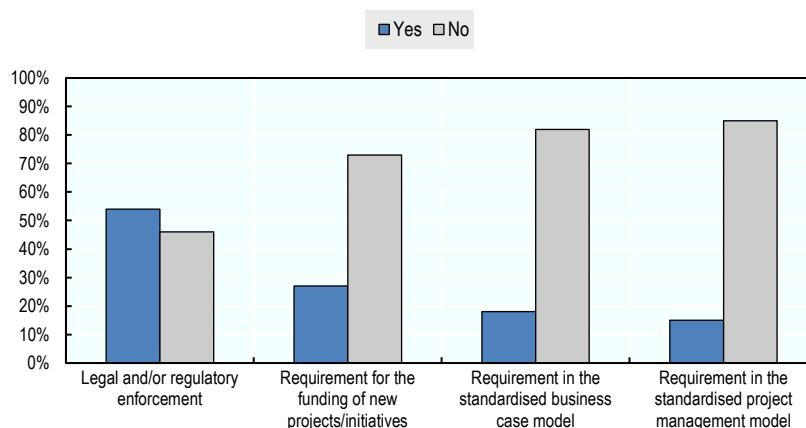
Most countries have emphasised policy levers and monitoring mechanisms for this dimension. Examples include adopting formal requirements, developing guidelines and funding mechanisms for digital engagement programmes and services, and using ease of access to monitor such initiatives. As an example, 70% of countries enforce the Once Only Principle in service delivery through formal requirements (Figure 31), mostly through legal and/or regulatory enforcement (Figure 32).

Figure 31. Formal requirements to enforce the Once Only Principle in service delivery



Note: Data are not available for Australia, Hungary, Mexico, Poland, Slovakia, Switzerland, Turkey, and the United States.
 Source: OECD Survey on Digital Government 1.0.

Figure 32. Types of formal requirements for Once Only Principle in service delivery

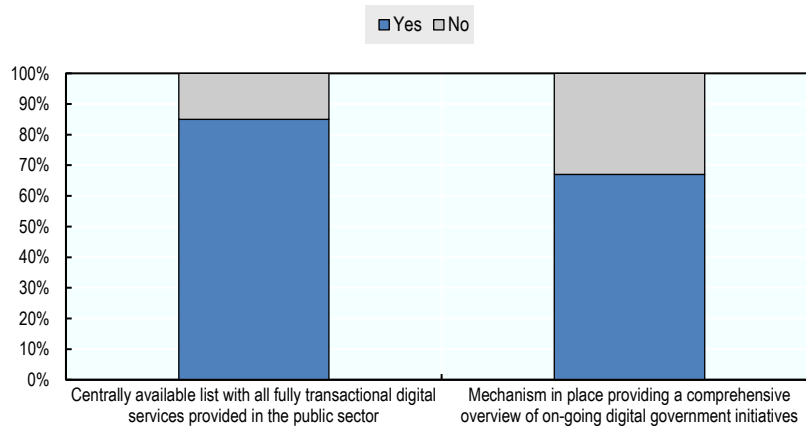


Source: OECD Survey on Digital Government 1.0.

With regard to mechanisms to foster the proactive participation of key stakeholders, most countries affirmed the existence of requirements to engage with experts outside the public sector during the design of digital government policies, in particular to identify priorities (54%) and draft policy documents (45%). However, only a small number of countries require experts to be engaged for the implementation of these policies and subsequent monitoring (39% in both cases), or for evaluation processes (36%).

In relation to proactive public engagement in the development of public services, almost half of the countries noted the presence of specific mechanisms for service design, although the proportion of countries was lower for service delivery (27%). In terms of engagement with citizens through digital means, on average, 64% of countries offer dedicated training to civil servants in social media, website design, data analytics, data mining or open government data. Only 38% of this group of countries stated that they had a communication strategy in place to inform citizens about the outcomes of digital government strategies or initiatives. Most countries also affirmed the existence of a list of fully transactional digital public services available online (85%), while two-thirds have mechanisms in place to provide a comprehensive overview of ongoing digital government initiatives (Figure 33), which can inform citizens and help public sector organisations identify synergies and opportunities for improved service design and delivery.

Figure 33. Information available on the availability and development of digital services

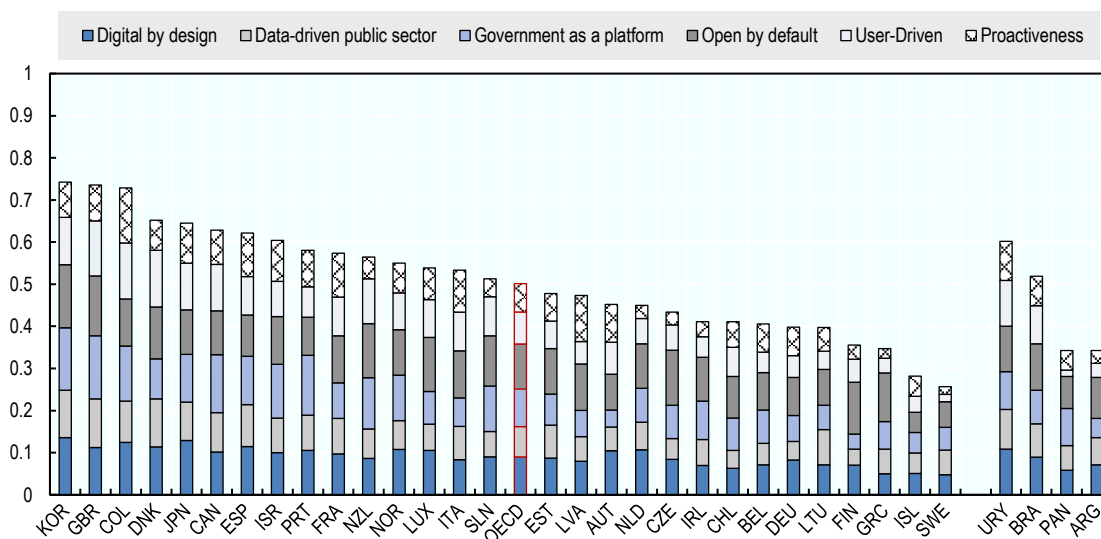


Source: OECD Survey on Digital Government 1.0.

Overall results DGI 2019

As indicated earlier in this paper, the purpose of the OECD Digital Government Index (DGI) is to measure the digital transformation of the public sector, understood as the transition from e-government to digital government. To this end, Figure 34 and Table 1 display the composite score results by country for the OECD Survey on Digital Government 1.0, taking into consideration the average for each of the six above-mentioned dimensions. They provide an overall understanding of how countries are currently placed in terms of each of the dimensions: *digital by design*, *data-driven public sector*, *government as a platform*, *open by default*, *user-driven* and *proactiveness*.

Figure 34. The OECD Digital Government Index Composite Results



Note: Data are not available for Australia, Hungary, Mexico, Poland, Slovakia, Switzerland, Turkey and the United States of America.
 Source: OECD Survey on Digital Government 1.0.

Table 1. Detailed results: Countries scores and rankings

	Digital by design		Data-driven public sector		Government as platform		Open by default		User-driven		Proactiveness		Composite score	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
Korea	0.82	1	0.68	3	0.89	2	0.90	1	0.67	4	0.5	12	0.742	1
United Kingdom	0.67	6	0.69	1	0.9	1	0.85	2	0.78	3	0.51	11	0.736	2
Colombia	0.75	3	0.59	5	0.79	5	0.67	11	0.8	2	0.78	1	0.729	3
Denmark	0.68	5	0.69	2	0.57	12	0.74	6	0.8	1	0.43	15	0.652	4
Japan	0.78	2	0.55	8	0.68	9	0.64	19	0.67	5	0.57	7	0.645	5
Canada	0.61	13	0.56	7	0.82	4	0.63	21	0.66	6	0.49	13	0.629	6
Spain	0.69	4	0.6	4	0.69	8	0.59	23	0.55	12	0.62	4	0.621	7
Israel	0.6	14	0.49	12	0.77	6	0.68	10	0.5	16	0.58	6	0.604	8
Portugal	0.63	10	0.5	10	0.85	3	0.55	26	0.43	18	0.52	10	0.580	10
France	0.58	15	0.51	9	0.5	16	0.67	11	0.55	11	0.62	3	0.573	11
New Zealand	0.52	19	0.42	16	0.73	7	0.77	4	0.64	8	0.31	23	0.564	12
Norway	0.64	8	0.41	17	0.65	10	0.65	16	0.52	15	0.42	16	0.550	13
Luxembourg	0.63	11	0.38	20	0.46	21	0.77	4	0.54	14	0.45	14	0.538	14
Italy	0.5	21	0.47	13	0.4	24	0.67	11	0.55	10	0.6	5	0.534	15
Slovenia	0.54	16	0.36	22	0.64	11	0.72	8	0.56	9	0.25	26	0.513	17
OECD	0.55		0.44		0.54		0.64		0.47		0.42		0.501	
Estonia	0.52	18	0.47	15	0.44	23	0.65	16	0.39	20	0.39	20	0.478	18
Latvia	0.48	23	0.35	24	0.38	26	0.66	14	0.32	24	0.66	2	0.474	19
Austria	0.63	12	0.34	27	0.24	32	0.51	29	0.46	17	0.54	9	0.452	20
Netherlands	0.64	9	0.39	18	0.48	17	0.64	19	0.36	21	0.18	29	0.450	21
Czech Republic	0.51	20	0.29	29	0.48	19	0.78	3	0.36	22	0.18	29	0.434	22
Ireland	0.42	28	0.37	21	0.55	13	0.63	21	0.29	27	0.22	27	0.411	23
Chile	0.38	29	0.26	32	0.46	22	0.59	23	0.42	19	0.36	21	0.411	24
Belgium	0.43	24	0.3	28	0.48	20	0.53	28	0.29	26	0.4	19	0.406	25
Germany	0.5	22	0.27	31	0.37	27	0.55	26	0.31	25	0.41	18	0.398	26
Lithuania	0.43	25	0.5	11	0.34	28	0.51	29	0.26	28	0.34	22	0.397	27
Finland	0.42	27	0.23	33	0.21	33	0.74	6	0.33	23	0.2	28	0.356	28
Greece	0.3	32	0.35	26	0.39	25	0.69	9	0.21	30	0.13	32	0.347	29
Iceland	0.31	31	0.29	30	0.29	30	0.28	33	0.23	29	0.29	24	0.282	32
Sweden	0.28	33	0.35	23	0.33	29	0.36	32	0.1	32	0.11	33	0.257	33
Uruguay	0.65	7	0.56	6	0.54	14	0.6	6	0.65	7	0.55	8	0.602	9
Brazil	0.54	17	0.47	14	0.48	18	0.61	14	0.54	13	0.42	17	0.519	16
Panama	0.35	30	0.35	25	0.53	15	0.45	31	0.09	33	0.28	25	0.343	30
Argentina	0.43	26	0.39	19	0.28	31	0.58	25	0.2	31	0.18	31	0.342	31

Note: Data are not available for Australia, Hungary, Mexico, Poland, Slovakia, Switzerland, Turkey and the United States.

Source: OECD Survey on Digital Government 1.0.

Based on the average results by each dimension, *open by default*, *digital by design* and *government as a platform* excel as leading dimensions. These results reflect the predominance of countries focusing on the foundations for digital government, enhancing the principles, governance, resources, tools and skills that enable digitally enabled openness and transformation. In particular, *open by default* stands out as the leading dimension in terms of results, exemplifying the relevance awarded by countries to embedding openness and open data as core components of efforts to reform their public sectors, and the complexity of the transition towards mature digital governments compared to the open data transformation. Countries with outstanding results (i.e. Korea, the United Kingdom, Denmark, Japan and Canada) have worked to build long-term foundations and strategies as a basis for digital transformation.

In terms of correlation between dimensions, the strongest relationships are observed between the *user-driven* dimension and the *digital by default* and *data-driven public sector* dimensions (0.84 and 0.75, respectively). This relationship reflects the foundational and strategic role played by digital processes and data for public sector organisations in meeting the needs of end users.

In order to leverage digital processes and data to better address user's needs, governments must take concrete actions to understand and react quickly to those needs. To attain the level of maturity of digital government necessary to achieve this end, countries should focus their efforts on *proactiveness* and *data-driven public sector*, the dimensions with the lowest scores. Outstanding countries in these two dimensions show high levels of engagement with users across the digital government policy cycle, which may bring higher levels of legitimacy, confidence and adoption of public services if policy design embeds users' expectations and needs.

Most countries have been able to surpass the composite score threshold of 0.5, which represents a positive yet ongoing transition towards mature digital governments. Three clusters are identified above and below the OECD average. The countries scoring at the top of the ranking (above the 0.7 composite score threshold) are Korea, the United Kingdom and Colombia. The solid performance of these countries shows the extent to which digital government policies are embedded at the core of broader policies with overarching reform efforts consolidated across several administrations.

Open by default stands out as the leading dimension, exemplifying recent efforts to embed openness and open data in public sector modernisation initiatives. As governments slowly transition towards digital government, they present better results in establishing foundations for the digital transformation through *digital by design* and *government as a platform*. However, opportunities to achieve mature digital government are linked to two transformational dimensions: *proactiveness* and *user-driven*.

Along with Korea, the United Kingdom and Colombia, the highest-ranking countries are Denmark, Japan and Canada. All these countries excel predominantly due to their high scores in *government as a platform* dimension, combined with outstanding results in the *user-driven*, *digital by design* and *open by default* dimensions. In contrast, Sweden, Iceland, Argentina and Panama show overall limited results across all dimensions.

High-performing countries also feature within the top percentile for each of the dimensions, indicating that excelling in digital government requires a combination of all six rather than an emphasis on one or two strong dimensions. These countries truly demonstrate a whole-of-government approach that goes beyond digitising public services to incorporating each of the six dimensions in overarching efforts.

Analysis of transversal facets

Along with the six dimensions of the OECD Digital Government Policy Framework, this policy paper also considered four transversal facets in order to understand the specific strengths and challenges across participant countries. These transversal facets guide the assessment in its effort to determine whether governments are balancing their long-term vision, governance arrangements, policy instruments, implementation and monitoring mechanisms in ways that enable digital government to occur.

Each transversal facet helps to analyse the level of maturity of institutionalised means to achieve digital government and advance in maturity levels for each of the dimensions. The first edition of the Digital Government Index does not aim to calculate country rankings per transversal facet, but rather seeks to explore the qualitative relevance of this complementary instrument to the OECD Digital Government Policy Framework. By grouping questions and calculating average scores for each transversal facet, slightly better results have been attained for *strategic approach* and *implementation* (both with 0.53) compared to *policy levers* (0.49) and *monitoring* (0.47).

Transversal facet 1: Strategic approach

The digital transformation requires, as a first step, a strategic approach that sets practical goals and associated actions for relevant actors, with a focus on the use of digital technologies to enable an inclusive and engaging process for all stakeholders. This transversal facet encompasses the government's vision, objectives, goals, actors and activities in digital policy areas, over a broad period. It includes key aspects of a truly forward-looking approach and vision for digital government, which link step-by-step actions and foresight regarding user needs and citizen expectations to concrete public sector action and the eventual achievement of goals. The adoption of a strategic approach brings policy cohesion and coherence, fostering the development of an integrated and whole-of-government digital transformation.

Countries continue to adopt different approaches in relation to digital government strategies. Qualitative analysis of these strategies highlight diverse ways to embed digital processes as part of a *strategic approach* in the public sector. Some opt for autonomous digital government strategies while others embed digital processes as part of broader strategies (e.g. the digital economy or the modernisation of public sector strategies). There is no "one-size-fits-all" model as benefits and costs can be found in both alternatives, and the adoption of one or another model will depend on contextual and institutional factors.

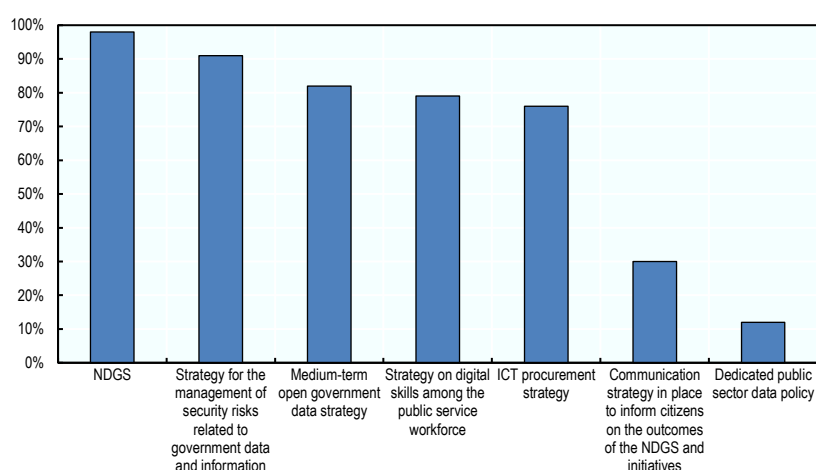
For instance, 97% of countries have an NDGS and 82% have a medium-term strategy/action plan on open government data. This suggests a level of maturity in most countries relative to other transversal facets, implying that strategic approaches are a fundamental building block for digital transformation. However, the significant difference between top performers and laggards for this facet, especially between the 75th and 25th percentiles, suggests that even though the vast majority of countries rely upon a formal action plan, the policy approach to set steps and actions might vary significantly among countries.

Concerning the dimensions assessed here, the extent of a *strategic approach* in the *proactiveness* dimension tends to be very low in most countries examined and almost non-existent in those at the bottom. This suggests that in terms of delivery before request, most countries have been unable to anticipate a concrete plan or strategy. The questions measuring this transversal facet with respect to *proactiveness*

assess whether country NDGSs proactively engage external experts at different stages of the policy cycle and whether planning for public engagement is adequate, including guidelines and formal requirements.

A fundamental element in this facet is the availability of cross-governmental strategies (e.g. on digital government, data, open data, skills and ICT procurement, among others). The results show that 97% of countries have an NDGS (Figure 35), a component central to aligning policy objectives, priorities and lines of action across government, embodying a policy vision and a political programme. Overall, 79% affirmed the existence of a strategy to develop digital skills among the public service workforce, 82% have a medium-term open government data strategy or action plan in place, and 94% of countries have a public sector data policy. Within this group, only 12% have a dedicated public sector data policy, while 88% address the *data-driven public sector* dimension through related policies such as open government data and digital government. These results suggest significant efforts to deploy open government data through a well-developed strategic approach, while putting aside other areas related to government data. Concerning security risks related to government data and information, 51% of countries have a strategy or policy in place as part of their NDGS, 39% have a standalone strategy and 6% have no strategy.

Figure 35. Cross-governmental strategies

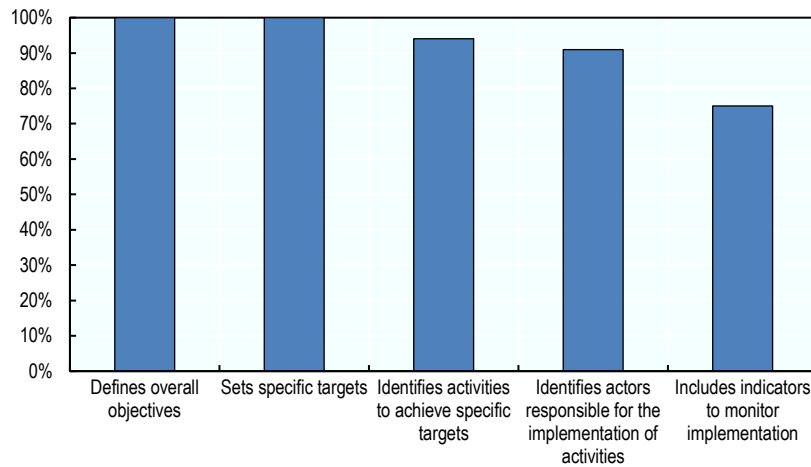


Source: OECD Survey on Digital Government 1.0.

At a strategic level, the relevance and sustainability of digital policies rely mostly on links between digital government strategies and broader reform agendas. When asked about such co-ordination, 70% of countries stated that some level of co-ordination existed between the NDGS and other strategies; 61% have shared projects and goals with cross-cutting elements between different strategies; and 30% have formal mechanisms in place to co-ordinate with other strategies. Government capacity to establish bridges between digital government strategies and other government agendas is indicative of their understanding of the overall process for digital transformation and aligns with the OECD Recommendation on Digital Government Strategies. Embedding digital government strategies in other policy areas promotes co-ordination and synergies, and encourages the inclusion of relevant stakeholders as well as a sense of ownership of policy reform outcomes.

Analysis of the responses suggests that strategies vary in terms of comprehensiveness and detail among countries, reflecting different levels of maturity. The Survey did not measure in detail the maturity level of strategies; however, elements of some questions corroborate this finding: while all countries with a NDGS have strategies that define overall objectives and set specific targets, and 91% identify actors responsible for implementation, only 75% include indicators to monitor implementation (Figure 36).

Figure 36. NDGS comprehensiveness



Source: OECD Survey on Digital Government 1.0.

Among countries who confirmed the existence of a standardised model to develop and present business cases within central government, 78% actively involved public sector organisations and 67% involved public servants when designing the methodology. Such involvement of outside stakeholders remains much lower than expected: only 39% of countries involved private organisations, 33% involved academia, and just 11% involved civil society organisations and citizens. Countries seeking to obtain a more comprehensive overview of the costs and benefits of business cases would benefit from establishing inclusive processes.

The numbers show that engagement of actors in business cases, aside from those directly concerned, namely public and private organisations, remains a challenge. Acquiring the views of the broader ecosystem of stakeholders is an inclusive mechanism that increases their shared ownership and collective responsibility to promote the digital transformation across different sectors and levels of government. The involvement of stakeholders outside government will become increasingly relevant as more actors demand a say in the value proposition embedded in the business case methodology.

Transversal facet 2: Policy levers

Digital government *policy levers* are tools used by governments as means to foster actions to achieve system-wide digital transformation. By actively promoting the adoption of key enablers such as interoperability, digital identity, shared service and data infrastructures through different *policy levers*, governments are reinforcing the implementation capacity of their policies. In other words, policy levers create an indispensable link between a strategic approach to digital government and the implementation of policies and service delivery. They also facilitate the efficiency, effectiveness and co-ordination of investments in digital technologies, reducing differences and overlaps that may arise from agency-driven methods. The Survey assesses the use of four main types of policy lever: guidelines and standards, formal requirements and legal mechanisms within public sector organisations, enabling frameworks and, finally, established formal bodies and mechanisms.

Guidelines serve as official advice meted out proactively to implementing actors; they answer the question of “how” governments can make policies and services implementable and deliverable. Guidelines also facilitate the co-ordination and consistent development of cross-government projects, ensuring their alignment with strategies or overarching policies, and their sustainability over the medium and long term.

Compared to other *policy levers* assessed in the Survey, the adoption of guidelines is lagging behind. Increasing the overall adoption levels of guidelines would ensure a coherent, standardised approach to the execution of projects and timely implementation. Countries that excel in the use of guidelines as policy levers in the aforementioned areas are the United Kingdom, Colombia and Uruguay. Despite their overall performance, Italy, Estonia, Luxembourg and Norway also perform well regarding guideline adoption.

Accessibility of digital government services (88%) and digital release of government data (85%) are the only areas for which guidelines are largely adopted. Guidelines are poorly adopted in areas such as data management (42%), policy design (33%) and policy decisions (24%). In this regard, improving the adoption of guidelines for these topics is important to make government data as valuable as possible for their access and reuse, as well as for accountability of policy designed and decisions taken at the central or federal levels of government.

Guidelines and standards are also important tools to leverage openness and engagement for the development of policies and services that place citizen and business needs at the core of approaches to digital government. Average levels of adoption of guidelines for the design of digital services (61%), end user engagement in the initial stages of service design (51%) and the measurement of user satisfaction (48%) indicate that about half of these countries are missing opportunities to strengthen citizen confidence in government and the reliability of its actions.

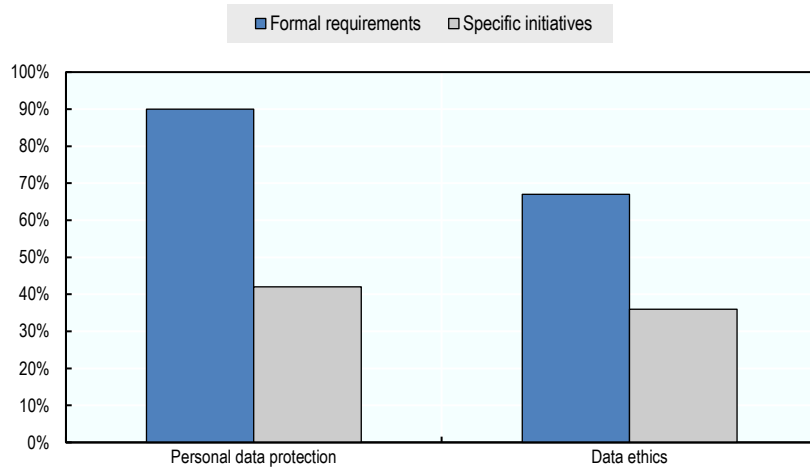
Policy levers also encompass standards and guidelines for the mandatory use of business cases, standardised ICT project management models, and the adoption of protocols or standards for commissioning ICTs. This transversal facet measures determines whether project management guidelines are aligned with ICT standards such as government data sharing, privacy and data protection, cloud strategies, ICT procurement, interoperability and cybersecurity. Of all assessed countries, 61% reported positively in this regard. As reported in the *digital by design* dimension, the results show that 54% of countries adopted a standardised model or method for business cases, and 67% for a project management model for ICT projects and ICT procurement.

For the three cases outlined above, the level of adoption of standards is average. As the success of financial management tools relies on the presence of *policy levers*, countries will need to invest in the design of sound guidelines, requirements and standardised process to reinforce management, ensure buy in and distribute the realised benefits of public investments for ICT projects. For further details and evidence on the use of financial management tools, please refer to Dimension 2: *government as a platform*.

Another policy lever measured extensively is the use of formal requirements. This policy lever embodies a strong mandate for action on the basis of written guidance provided in an official government document such as a law, directive, regulation, set of guidelines, action plan or executive order. Compared to guidelines and standards, formal requirements are adopted more widely, depending on the level of government centralisation or maturity in specific policy areas.

Overall, countries excelled in formal requirements on data protection, with almost 90% reporting the presence of such formal requirements. This highlights the maturity of the surveyed countries in securing citizens' privacy. Formal requirements are also present in data sharing and ethics. However, when compared to initiatives in these same areas, the results show a significant gap, as shown in Figure 37.

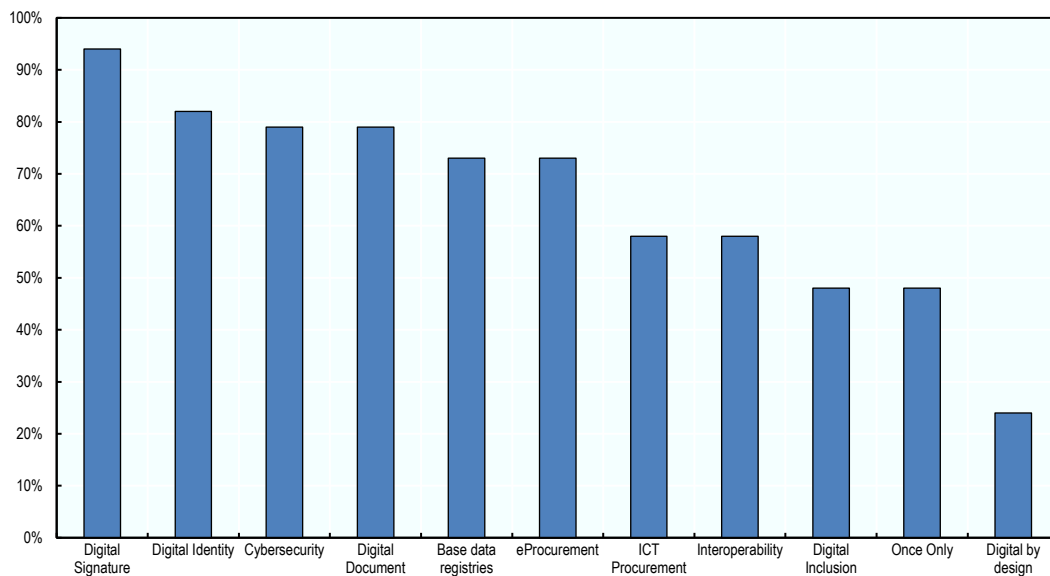
Figure 37. Formal requirements and specific initiatives on personal data protection and data ethics



Source: OECD Survey on Digital Government 1.0.

Additionally, policy levers such as legal and regulatory frameworks and funding mechanisms support the move from analogue or electronic processes to full digital transformation of underlying processes and services, in ways that help governments achieve national policy goals and better service provision for their citizens. To measure these aspects, the Survey covers the existence of laws at the central or federal level on topics such as those shown in Figure 38.

Figure 38. Laws across digital government domains



Source: OECD Survey on Digital Government 1.0.

Lastly, this transversal facet also comprises the formal governing bodies and mechanisms established to take responsibility and lead in specific areas of digital government. It identifies whether countries have a central body at the highest level of government, and the type of co-ordination mechanism that exists across

government, such as local and regional bodies for IT projects. It targets soft policy levers (or advisory responsibilities) and hard policy levers (or main decision-making responsibilities) of the main governing and co-ordination bodies of digital government. The results showed that the vast majority of countries have a public sector organisation in charge of leading and co-ordinating decisions on digital government (100%) and a formal co-ordination body for government ICT projects (70%), with different complexity levels, reflected in a range of advisory and decision-making responsibilities. For further details, please consult the *digital by design* dimension.

Transversal facet 3: Implementation

Implementation as a transversal facet refers to the capacity to effectively transform policy goals into systematic and co-ordinated actions. The Survey addresses this transversal facet by assessing specific initiatives implemented to actualise policy objectives, and making periodic assessments of existing digital government services in order to evaluate and improve implementation. This applies to implementation measures for digital identity, interoperability, cloud strategies, e-procurement, ICT projects, standardised business models and the use of emerging technologies. It also evaluates how policy levers such as formal requirements are implemented through practical initiatives.

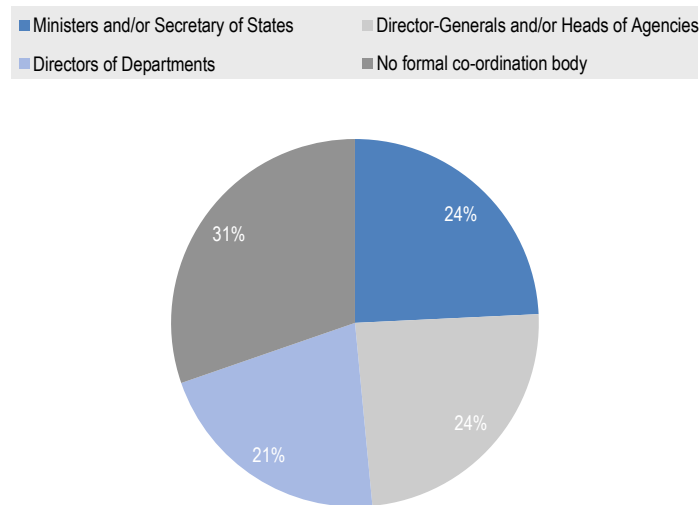
The development of common services such as digital identities and integrated service delivery portals foster integration and coherence in service delivery, as well as better interaction with public and, sometimes, private services. The Survey results show that while 85% of countries have a single digital identity at the central level, 75% allow for full identification with the same validity as a national ID, and 71% provide citizens with a single identity solution that can be used to access digital and non-digital public services at federal and/or regional levels. The Survey results showed that up to 88% of countries have a one-stop shop portal, in most cases, with no need for re-identification.

The Survey also assesses the existence of training to develop capabilities needed for the public sector's digital transformation. Public sector talent and capabilities are crucial for the success of teams that design and deliver services, allowing them to better meet the needs of citizens. For example, 64% of participant countries offer training – whether optional or mandatory – for public servants on the use of digital tools to promote public engagement. Another example is the existence of training sessions to develop a range of skills on the use of data to enhance policy making and service delivery. In this regard, the overall results show that countries lack training related to the use of data.

For instance, only 39% of participant countries train the public service workforce to conduct quantitative data crunching. Results are similar for training on pooling and cross-linking data across public sector organisations, data analytics for user-driven policy making and service delivery, engagement of non-institutional actors and ethical use of data. Training the public service workforce to have a basic understanding of opening up data seems to be a priority when compared to training in other domains: more than 70% of countries have training sessions in place to develop such skills. Finally, 64% of governments offer optional rather than mandatory training sessions on the use of tools for engaging with the public, such as social media, data analytics, data mining and open government data, among others.

The OECD Recommendation of the Council on Digital Government Strategies advocates for high-level articulation and leadership to ensure broad co-ordination and oversight of digital government strategies. Seeking to measure implementation levels and co-ordination, the Survey assesses the level of institutional representatives present in formal co-ordination bodies that are responsible for government ICT projects. The results indicate that 31% of countries lack a co-ordination mechanism for ICT projects. Where such formal bodies exist, there is room for improvement in terms of representation, as ministers or secretaries of state attend meetings in only one-third of countries (Figure 39).

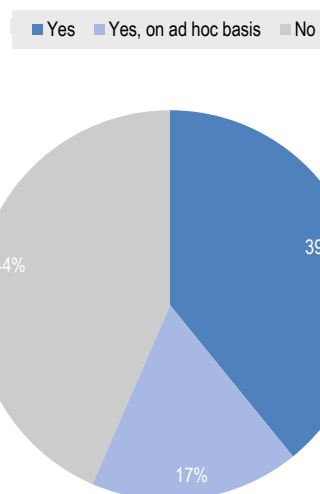
Figure 39. Institutional representation in formal co-ordination bodies responsible for ICT projects



Source: OECD Survey on Digital Government 1.0

The existence of stable policy co-ordination mechanisms enables better monitoring, providing decision makers with a broader overview of projects and initiatives across different sectors and levels of government. Inclusive processes, in particular with local governments, can increase the appropriateness and impact of digital government initiatives given the fundamental role of local governments in service delivery. Together with the engagement of representatives from local governments, these mechanisms allow for better assessment of investments and the development of accountability mechanisms fundamental to strengthening citizens' trust in governments. However, the results show low levels of engagement with local levels: 44% of countries with a mechanism in place responsible for government ICT projects do not include local government (Figure 40).

Figure 40. Co-ordination body or mechanism including the participation of local governments



Source: OECD Survey on Digital Government 1.0.

Having a searchable repository to store ICT contracts and available information in open source formats functions as a valuable resource for the implementation of projects, allowing for the identification of synergies and overlaps in ICT development across public sector organisations. The Survey results show that countries are lagging behind in this area. Only 67% of countries have a searchable repository for ICT contracts, less than half of which are available in open data formats. The majority of countries confirmed the existence of a repository for tendering and contract granting information, but less than 30% have a searchable repository with information on budget allocation, expenditure, implementation and monitoring.

Data security is vital to ensuring the smooth provision of services while avoiding risks of data leakage and safeguarding citizens' trust. In this regard, 94% of countries have initiatives in place to manage security risks related to government data and information.

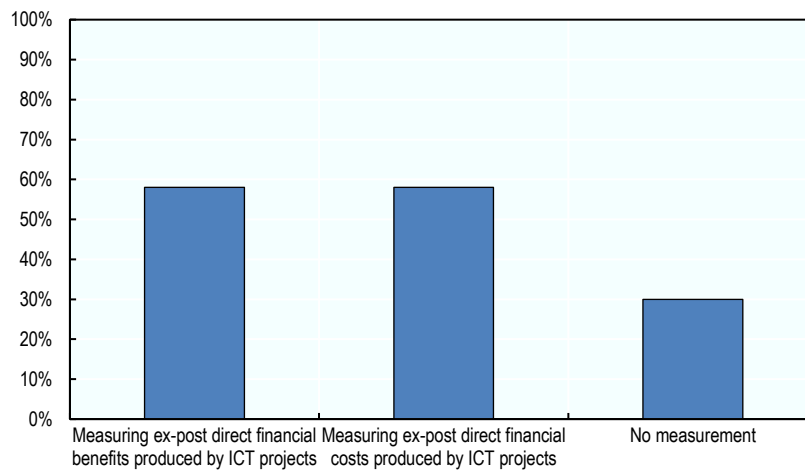
Transversal facet 4: Monitoring

The monitoring facet comprises a range of activities describing, analysing and tracking the development, implementation and/or impact of digital government policies; identifying potential gaps in the process and outlining areas for future improvements. This pilot edition of the Survey considered the following aspects of monitoring: assessment of co-designing services and the digital divide, user satisfaction of services, and the impact of open data and legislation. It also considered the existence of benefits and cost assessments for ICT projects and indicators to monitor the progress of NDGS implementation.

In general terms, assessing the impact of policies and initiatives, along with their main barriers and costs, is still a challenge. In line with Recommendation 10 of the OECD Recommendation of the Council on Digital Government Strategies, this is a key topic that governments should pursue, as comprehensive monitoring serves as a tool for improvement, focalisation and redirection of efforts. For instance, only half of the countries have indicators to measure user satisfaction with digital government services. The results also show that only 16% of the countries have carried out assessments to measure the impact of open government data on public sector performance. Nevertheless, these results underline the challenges that exist in measuring the impact of open government data – a matter that will be key to the growth of open data-related services in the public sector.

Where countries are doing well (76%) is in estimating *ex ante* the direct financial costs and benefits of ICT projects and measuring the non-financial benefits of public ICT projects, as presented in Figure 41. Pre-evaluation of ICT expenses and business cases promotes a culture of cost-benefit evaluation and serves as a critical policy instrument to help leadership ensure proper co-ordination and coherent decisions across sectors and levels of government. It also helps to monitor and follow closely how digital governments and ICT-related priorities are being targeted by public sector organisations. Numbers drop when comparing the measurement of financial benefits and costs of ICT projects in the *ex post* phase (Figure 41).

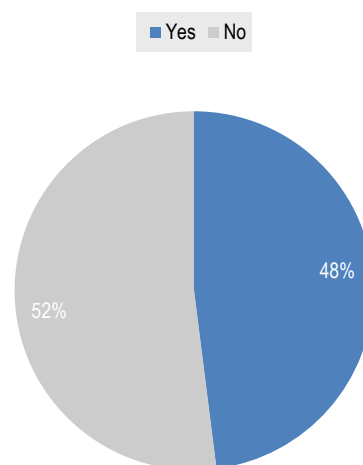
Figure 41. *Ex-post* measurement of direct financial benefits and costs produced by ICT projects



Source: OECD Survey on Digital Government 1.0.

Average levels of monitoring benefits and costs of ICT projects are also highlighted by a limited number of countries who confirmed the use of a methodology to report on business cases (48%), such as the benefits and/or costs of ICT projects (Figure 42).

Figure 42. Methodology in place to monitor and report on business cases



Source: OECD Survey on Digital Government 1.0.

The rapid penetration of digital technologies in all sectors of government – streamlining internal operations and improving service delivery – along with the results shown above and Pillar 3 of the OECD of the OECD Recommendation on Digital Government Strategies, call for further improvements in measuring the impact of ICT projects, notably *ex post*, where monitoring remains a challenge for slightly more than half of the countries. Within agile and dynamic central monitoring platforms, project management standards can contribute to improved performance and comparability across administrations.

Assuming that a wide stream of management information related to project implementation is collected, transparency and accountability platforms can be put in place to promote better knowledge exchange and peer-learning processes across the public sector, alongside increased openness with citizens to build trust. However, the results show that there is still room to improve the transparency of ongoing digital projects. Only 67% of participant countries have a mechanism in place, such as ICT project dashboards, to provide a comprehensive overview of digital government initiatives currently being implemented.

Future work

This paper presented results and trends observed through analysis of the pilot version of the OECD Survey on Digital Government 1.0. Both the Survey and the Digital Government Index represent an initial exercise conducted by the OECD to measure how governments are embracing the strategic use of digital technologies and data for improved functioning of institutions and services design and delivery.

As an exploratory exercise, key lessons were drawn from the design of the pilot survey, as well as the data collection and cleaning processes. Feedback on the Survey and related questions were gathered across the whole process and will be considered for the next edition. Further feedback exercises will be conducted to enhance the clarity of the Survey and the appropriateness and comprehensiveness of the embedded questions, the scoring system and the allocation of questions to each dimension. Additional work will be conducted to strengthen the transversal facet model in order to conduct quantitative analysis on the existing four facets. Other aspects expected to be improved include the comprehensiveness of the topics covered, the suitability of the survey tool, the swiftness of the data cleaning process and interactions with participant countries. Ultimately the Digital Government Index should become the main policy tool of reference to sustain governments in the implementation of the OECD Recommendation on Digital Government Strategies and, hence, in the shift from e-government to digital government.

As part of the process of designing and improving the next edition of the Survey, the following actions are planned for the coming months:

- Feedback sessions and workshops will help understand participant countries' experience in answering the pilot Survey and their interactions with the OECD Secretariat concerning the design of the Survey and the data cleaning process.
- The Digital Government Taskforce will be reactivated to fine-tune Survey 1.0, towards the finalisation of Survey 2.0, with the active involvement of OECD member and participant countries at different stages of the process.
- The Survey will be pre-tested with participant countries to nurture further improvements for Survey 2.0;
- A Survey 2.0 webinar session will present, provide guidance on and clarify potential questions participant countries may have regarding completion of the Survey. In order to ensure clarity for countries and simplify the experience of filling the survey for the next edition, the OECD Secretariat will also provide a comprehensive set of guidelines containing examples and a glossary document.

The launch of the OECD Survey on Digital Government 2.0 is expected during the second semester of 2020.

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