



OECD Digital Government Studies

Digital Government in Peru

WORKING CLOSELY WITH CITIZENS



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Foreword

The speed, breadth and scope of digital disruption is challenging governments to adapt, manage and embrace a new wave of transformation. If governments lag behind the pace of change, they face the risk of policy failures and of running outdated services that could become irrelevant as new business models challenge them. By becoming digital organisations, public sector institutions will be better equipped to meet changing citizens' expectations, considerably improving policy-making and public service delivery in the 21st century.

Digital Government in Peru discusses and assesses the evolution, achievements and challenges of digital government policy in Peru. Based on the OECD Recommendation on Digital Government Strategies, it provides a detailed analysis of Peru's digital government context and policies, along with recommendations for future action.

Since the early 2000s, Peru has been gradually laying the foundations for e-government and, subsequently, for the transition to digital government. These continuous investments to modernise the state using digital technologies have borne fruit, showing improvements in international indices such as the 2018 E-Government Development Index, despite a challenging context. However, as digital government matures, it requires greater alignment across policy areas, and more robust co-ordination mechanisms to ensure the coherent implementation of digital government across sectors and levels of government.

The report also looks at public service transformation and the use of data to modernise service delivery and policy-making. It stresses the need to strengthen governance, accelerate the digital transformation of public services, and improve data skills in the Peruvian public sector. This will enable Peru's continuing progress towards more mature digital government.

This study was prepared as part of the OECD-Peru Country Programme. It was completed in collaboration with the Secretariat of Digital Government (SEGDI), part of the Presidency of the Council of Ministers of Peru. It builds on assessments of Peru's open government data policies in the 2014 OECD report Open Government in Latin America and using the 2014 OECD Open, Useful and Re-usable Data (OURdata) Index. The OECD Public Governance Review of Peru (2016) also included an initial assessment of, and policy recommendations for, digital government in Peru.

The study draws on the strengths of OECD policy communities in the area of digital government, including the OECD Working Party of Senior Digital Government Officials (E-Leaders) and the OECD Public Governance Committee.

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Table of Contents

<i>Foreword</i>	3
<i>Acknowledgements</i>	5
<i>Executive Summary</i>	9
<i>Assessments and Recommendations</i>	11
<i>1. Tracing the path towards a digital government in Peru</i>	25
1.1. Political, social and economic context of digitalisation	30
References	35
<i>2. Governance of digital government</i>	37
2.1. Institutional governance and leadership	38
2.2. Co-ordination for whole-of-government transformation	41
2.3. Enabling digital stewardship in the public sector: The Digital Government Leaders in Peru	45
2.4. Policy and legal framework	47
2.5. Budget.....	53
References	53
<i>3. Digital Service Transformation in Peru</i>	55
3.1. Procedures in Peru and Latin America.....	58
3.2. Enabling the digital transformation	62
3.3. Digital Service Transformation.....	62
3.4. GOB.PE	65
3.5. Building digital capability in the Peruvian public sector.....	66
References	69
Notes	70
<i>4. Paving the way for a data-driven public sector</i>	71
4.1. Laying the foundation for a data-driven public sector	72
4.2. Data governance in the Peruvian public sector	73
4.3. The way forward: data-driven public sector, beyond the hype.....	75
4.4. OGD: Government (Data) as a platform for collaboration	76

References	80
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Tables

Table 2.1. Evolution of responsibilities from ONGEI to SEGDI.....	40
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Figures

Figure 0.1. 2017 OECD OURdata Index.....	21
Figure 1.1. OECD Recommendation on Digital Government Strategies, 2014.....	27
Figure 1.2. Peru's poverty rate 2004-2016 (%).....	31
Figure 1.3. Individuals using the internet (% of the population).....	32
Figure 1.4. Internet usage ages 6 and older.....	32
Figure 1.5. Timeline of e-government and digital government in Peru	33
Figure 1.6. E-Government Development Index 2018	34
Figure 2.1. Location of the central/federal government Chief Information Officer in OECD Countries	38
Figure 2.2. Budget of the unit or structure leading/co-ordinating digital government as a share of total public expenditure, 2014	41
Figure 2.3. New Governance for Digital Government in Peru.....	43
Figure 2.4. Transforming service delivery in Korea through life events approaches.....	45
Figure 2.5. Peru's New Digital Government Law.....	50
Figure 2.6. National Policy for the Modernisation of Public Management 2013-2021	51
Figure 3.1. Government trust in Latin America	56
Figure 3.2. Digital transformation of the public sector	57
Figure 3.3. The six dimensions of digital government.....	58
Figure 3.4. Hours needed to finish a procedure in Latin America	59
Figure 3.5. Percentage of procedures completed in a single interaction	60
Figure 3.6. Difficulty of government procedures by country.....	61
Figure 4.1. Data governance in the public sector	74
Figure 4.2. 2014 OURdata Index	77
Figure 4.3. 2017 OECD OURdata Index.....	79

Boxes

Box 0.1. Proposals for action	14
Box 0.2. Proposals for action	17
Box 0.3. Proposals for action	21
Box 1.1. PGR of Peru: Recommendations on digital government.....	28
Box 2.1. Transforming service delivery in Korea through life events approaches	44
Box 2.2. Digital Government Leaders.....	47
Box 2.3. Peru's Digital Agenda.....	48
Box 2.4. Peru's New Digital Government Law.....	50
Box 3.1. United Kingdom's Digital Service Standard	64
Box 3.2. GOB.MX : Transforming service delivery and digital engagement in Mexico.....	66
Box 3.3. Attracting new talent in government.....	67

Executive Summary

The speed, breadth and scope of the disruption brought about by digital transformation is rapidly changing economies and societies. It is also challenging governments across the world to adapt, manage and embrace this wave of transformation. If governments lag behind the pace of change, they face the risk of policy failures and of running outdated services that could become irrelevant as they face challenges from new business models. The digital revolution brings risks for public organisations, but also opportunities. By becoming digital organisations, public sector institutions will be better equipped to meet changing citizens' expectations, stay relevant and considerably improve policy-making and public service delivery in the 21st century.

Peru has worked hard to lay the foundations of government transformation. Significant progress has been made to improve interoperability within and across the public sector, for instance. The country has taken decisive steps to overhaul digital service delivery and better serve a rapidly changing society. Under the leadership of the recently created Secretariat of Digital Government (Secretaría de Gobierno Digital – SEGDI), these efforts have accelerated, as the government has put in place a more robust governance framework for digital government.

In 2016, the OECD Public Governance Review of Peru, developed under the umbrella of the aforementioned country programme, provided an initial assessment of digital government policies in the country. Digital Government in Peru takes that analysis one step further, examining digital government policies and implementation in the country. This report suggests policy recommendations based on OECD standards and good practices that could help Peru establish itself as a regional leader in digital government.

As the pace of technological change accelerates, digital government will become an even more crucial policy area as governments strive to serve citizens and businesses better. To successfully transition towards higher levels of maturity of digital government, it will be crucial for the Government of Peru to set up robust governance frameworks for digital government. This will allow the government to roll out effective service transformation programmes and to manage strategically the entire data value chain.

Key policy recommendations

Governance of digital government

- Develop and adopt a detailed and broadly shared national digital government strategy or action plan. In line with the new strategy, review the National Informatics System to make it a platform for collaboration.
- Building on the creation of Digital Government Leaders and on the new governance framework established in the Digital Government Law, establish a co-ordination body bringing together key Secretaries to support digital government implementation, with the Secretary of Digital Government as the President and SEGDI as the Secretariat.

- Consider embedding the guiding principles established in the Digital Government Law in all guidelines and standards for the use of technology across the public sector to ensure their effective and consistent implementation.
- Consider establishing a competitive, earmarked fund to finance strategic digital government projects.
- Consider creating a national centre for digital security risks and incident response in collaboration with the private sector and external stakeholders.

Institutional talent and capabilities for the digital transformation

- Develop a competency framework for the Digital Government Leaders programme including leadership, collaboration, innovation and data management skills. Review talent acquisition frameworks to ensure digital talent is tested for relevant technical skills.
- Complement the guiding principles established in the Digital Government Law with a set of digital-by-design principles, digital standards, guidelines and toolkits to focus digitalisation efforts across the administration on user needs and ensure adequate digital security measures are embedded in all digitalisation efforts.
- Following the mandate of the Digital Government Law, partner with SERVIR to establish a digital academy to help build the digital capabilities of civil servants. It would be critical for the academy to develop programmes that would allow senior executives to gain a better understanding of the strategic implications of the digital transformation for their organisations.
- Review technology acquisition frameworks to ensure ICT commissioning is structured around user needs, enabling agile and iterative approaches, instead of waterfall project management models.

Data-driven public sector

- Build on the data governance framework established in the Digital Government Law and consider establishing a Government Chief Data Officer (GCDO) or equivalent position responsible for developing a government data strategy and building the public sector ability to extract value from its data (including open government data, advanced analytics, algorithms and artificial intelligence).
- Map, govern and manage data assets in the public sector, identifying strategic opportunities in data use or reuse to assess and improve government performance and use forecasting to mitigate risks and seize opportunities.
- Sensitise senior leadership across agencies to the strategic importance of open government data and data-driven approaches.
- Nurture demand for digital and data-driven initiatives by helping senior executives as well as business and programme units improve their delivery and performance
- Develop a problem-driven approach to data investments. Data science skills are scarce and in high demand. Make sure efforts respond to concrete policy or business problems likely to yield high returns on investment.
- Focus on improving data availability through the open government data portal and provide greater support for data reuse and impact.

Assessments and Recommendations

The speed, breadth and scope of technological progress are upending traditional organisational arrangements. The way individuals relate, work and access to services has dramatically changed over the past twenty years. The firms that are better able to use technology and data strategically have become the most productive and valuable in the world. In the face of rising digital economies and societies, governments are being pushed to reinvent themselves and become digital governments.

Under the umbrella of the OECD-Peru Country Programme, an enhanced collaboration scheme, the OECD Secretariat has been working closely with the Government of Peru to help the country adjust to these changes. The OECD Public Governance Review of Peru (PGR) (OECD, 2016) covered six key policy areas, including digital government. The OECD advanced in the PGR an initial assessment on digital government policies in Peru. This Digital Government Review of Peru builds upon that initial effort, evaluating Peru's progress on digital government over the past two years. The Digital Government Review provides more detailed recommendations in the area of governance of digital government, digital service transformation and data-driven public sector.

The wave of reforms of the 1990's and 2000's helped Peru lay the foundations for e-government, reducing poverty, improving connectivity, increasing the share of individuals connected to the internet and setting a framework for public service modernisation and digitisation.

Despite these efforts and Peru's steady progress, Peru has not advanced as fast when compared to other countries in Latin America and the Caribbean. This report seeks to provide actionable recommendations that help Peru leapfrog forward, bridge the gap with its peers and implement OECD standards and best practices.

Governance of digital government

Institutional governance and leadership

The Government of Peru has taken important steps to strengthen the governance and institutional framework for digital government. In 2017, the Peruvian Government created the Secretariat of Digital Government (Secretaría de Gobierno Digital – SEGDI) within the Presidency of the Council of Ministers (PCM) to replace the National Office of e-Government and Informatics (Oficina Nacional de Gobierno Electrónico e Informática – ONGEI), in line with the recommendations advanced in the OECD Public Governance Review of Peru.

The creation of the SEGDI has brought the digital government authority closer to the Centre of Government (CoG), providing it with the visibility and political support needed to help drive the coherent implementation of digital government across sectors. The decision to create SEGDI at the heart of the CoG is relevant and in line with common practices in OECD countries. Most OECD members place the authority responsible for digital government in a co-ordinating ministry or agency as the activities relevant to digital

government policy is cross-cutting in nature. Indeed, digital government is much more about government than about digital. It seeks to transform the way government works, how it develops and deliver services and policies.

Co-ordination for whole-of-government transformation

Peru has also made efforts to improve government-wide co-ordination on digital government. The creation of the High-Level Committee for a Digital, Innovative and Competitive Peru, focusing exclusively on considering strategic issues related to the development of digital government, innovation and the digital economy helps strengthen the governance of the digital transformation of the public sector in the country (PCM, 2018).

However, there still seems to be room for improvement regarding the operational co-ordination of digital government. That said, the enactment of the Supreme Decree No. 033-2018-PCM represents a major institutional evolution helping drive coherent government transformation. The aforementioned Supreme Decree establishes the Digital Government Leader in all government agencies. This new position provides an opportunity to enhance the collaborative and co-ordinated implementation of digital government policy as the Digital Government Leader is called upon to work with the National Digital Government Leader (the Secretary of Digital Government) on digital government implementation.

There seems to be room for a co-ordination mechanism which includes the agency CIOs or digital transformation leaders of all government institutions. Different from the High-Level Committee, whose *raison d'être* is to improve the government's ability to steer and make strategic calls on digital affairs, this new co-ordination body would focus on ensuring inter-institutional co-ordination for effective operational, government-wide digital government implementation.

The new co-ordination body would bring together Digital Government Leaders to deliberate on operational decisions relevant on digital government. Such a body would also benefit from technical working groups to support the work of Digital Government Leaders to find joint solutions to technical problems. These co-ordination spaces could bring the government a long way into coherent implementation of digital government in Peru. This becomes all the more important in the absence of a government-wide co-ordinating vision embodied in a national digital government strategy, plan or similar policy document.

Enabling Digital Stewardship in the Public Sector: The Digital Government Leaders in Peru

Furthermore, the digital transformation of government also demands a shift on how technology is perceived and used in public organisations, which calls for “E-Leaders” that can foster new ways of working and help re-engineer government. Traditionally, the ICT Department in the Peruvian public administration has been seen as a support function, not a strategic one. To change the paradigm in the use of technologies in the public sector, government institutions will increasingly need digital transformation officers who can think about technology as a strategic tool to achieve policy objectives, greater organisational performance and improve programme delivery.

This usually means that organisations require digital thought leaders to work closer with senior management and political leadership in setting organisational strategy and helping them identify and seize digital opportunities. The creation of the position of Digital Government Leaders across institutions of the Peruvian public administration represents a major development for digital government in the country.

These new Digital Government Leaders could become the drivers of change, helping public organisations achieve new levels of technological maturity. They are not only called to work closer with the National Digital Government Leader (the Secretary of Digital Government), but to work closer with senior executives from their respective organisations to help them leverage technology to fulfil their mission. While working together with the National Digital Government Leader is of critical importance for government-wide co-ordination, the ability to work with agency leaders effectively is just as important. Working with senior executives effectively would be mutually beneficial, empowering digital leaders to drive organisational change and enabling executives to deliver on their ambitions.

Policy and legal framework

The second Digital Agenda 2.0 aimed to foster the development of the knowledge and information society and create an environment conducive to the digital development of the country (CODESI, 2011). The Digital Agenda 2.0 was intended to provide strategic guidance for the period 2011-2015 and has not been replaced to this date. However, its normative underpinnings and regulatory framework are still in force, but its vision and strategic approach do call for a renewal for the Digital Agenda to effectively play its role as a governance tool that enables the digital transformation.

The new Digital Government Law has thus come to fill an important gap (President of Peru, 2018). While not a replacement for a national digital government strategy, the Digital Government Law lays out the governance frameworks needed to push digital government forward. Notably, it establishes the institutional infrastructure for digital identity, digital services, data and interoperability, and digital security.

The National Policy for E-government 2013-2017, adopted through Supreme Decree No. 081-2013-PCM, established 5 objectives for e-Government: (i) strengthen e-government in the public administration, (ii) bring the state closer to citizens through ICT, (iii) secure the integrity, confidentiality, and availability of public information, (iv) promote digital inclusion of citizens, and (v) promote the information society in Peru. These objectives were accompanied by seven strategic guidelines: Transparency, e-inclusion, e-participation, e-services, technology and innovation, information security and infrastructure. Unfortunately, the policy was not followed by a plan with detailed actions, baselines, and indicators to make it effective; however, it has served as a reference document for all e-government efforts in the past few years.

The National Policy for the Modernisation of Public Management 2013-2021 developed by the Public Management Secretariat (SGP) provides a thorough analysis of the challenges of the public sector in Peru which is summarised in 5 pillars and 3 cross-cutting axes (SGP, 2013). E-government is considered one of the cross-cutting axes for the modernisation of the public sector in the country. This is consistent with the OECD on Digital Government Strategies of “integrating the digital government strategy in overall public administration reforms”. This National Policy, the only strategic policy document covering digital government that is still valid, developed a Plan that put forward specific actions, baselines, and indicators for every guideline in every pillar and axis for the years 2013 to 2016.

Developed in 2013, these guidelines do not cover recent developments on the shift from e-government to digital government (OECD, 2014), such as the adoption of user- and data-driven approaches, the adoption of agile and iterative methodologies or proactive approaches in government service delivery. The time seems to be ripe for a new policy

document to ensure that there is an up-to-date government vision for seizing digital opportunities to improve government performance.

Once the new digital government strategy is adopted, it will call for a revision of the National Informatics System, to align it with the roles, processes, methods and technologies needed to achieve the digital transformation. The new version of the National Informatics System will be called to become a platform for collaboration with the private, academia and civil society sectors helping drive the digitalisation of society and the economy.

Budget

The PGR of Peru clearly states that “budgetary and policy decisions are not closely linked together, creating inconsistencies between the policy and legal intent of the central coordination body and the actual financial allocations for project development” (OECD, 2016). It will be impossible for Peru to strengthen digital government if the budget required for funding the policy comes short of government digitalisation ambitions and expectations.

Digital government has often been overlooked by government institutions, and consequently, not appropriately funded. The digital transformation can only take place if digital government authorities and units have the resources to deliver on their mission. Two parallel efforts could help improve this situation.

First, clear messaging from the top of the executive signalling that digital government is a policy priority. In this sense, the Supreme Decree No. 118-2018-PCM declaring digital government an area of national interest is a welcome development. This could be further reinforced by the creation of a central, earmarked funds to finance strategic digital government projects. These central, competitive funds have proven effective in shaping incentives in other countries.

Second, by focusing on helping programme and business units of public organisations deliver on their own objectives, digital government teams can nurture demand and secure additional funding for digitalisation projects.

Box 0.1. Proposals for action

1. Develop and adopt a detailed and broadly accepted digital government strategy or action plan. The updated strategic framework might benefit from integrating the latest trends on digital government research and project implementation. Ensure that its design is inclusive and incorporates the views of all relevant stakeholders.
2. Secure the position of the SEGDI within PCM, ensuring that SEGDI has the ability to match policy with means. The SEGDI inherited the personnel and culture of the ONGEI, which requires investments in attracting and developing internal talent and nurturing a digital culture within the Secretariat. Moreover, SEGDI must be endowed with the resources needed to fulfil its role.
3. In line with the new digital government strategy and/or action plan, review the National Informatics System, to align it with the roles, processes, methods and technologies needed to achieve the digital transformation. The new version of the National Informatics System will be called to become a platform for collaboration with the private, academia and civil society sectors helping drive the digitalisation of society and the economy.

4. Build on the governance framework laid out in the Digital Government Law to establish a co-ordination body for digital government implementation with the Secretary of Digital Government as the President and SEGDI as the Secretariat. This co-ordination body would bring together the Digital Government Leaders from all public agencies to co-ordinate on digital government implementation issues and benefit from the work of working groups on themes of interest or of value for effective operationalisation of the digital government strategy.
5. Consider embedding the guiding principles established in the Digital Government Law in all guidelines and standards for the use of technology in the public sector to ensure their effective and consistent implementation.
6. Develop a competency framework for Digital Government Leaders including leadership and collaborative skills, including management, digital, data and innovation, and story-telling. Indeed, Digital Government Leaders will be expected to influence decision-making by senior executives in their agencies and to motivate their teams to deliver results. Moreover, Digital Government Leaders should be thought leaders, helping their organisations understand the potential benefits and challenges of new technologies as well as their strategic opportunities for the organisations they serve.
7. Ensure consistent messaging from the top of the executives highlighting the strategic relevance of digital government. This should be part of an organised strategic communications campaign targeting citizens, businesses and senior decision-makers across the government.
8. Consider establishing a competitive, earmarked fund to finance strategic digital government initiatives across the public sector. This could help finance high impact projects, or innovative and risky initiatives put forward by government institutions. The fund could give SEGDI additional leverage to structure incentives and shape digitalisation initiatives.
9. Focus digitalisation efforts on creating value for business and programme units of public sector institutions. This can help drive demand for digitalisation efforts and help digital teams secure funding for their work.

Digital Service transformation in Peru

Procedures in Peru and Latin America

Administrative simplification, agility and digitalisation have become issues of increasing concern and focus for the Peruvian public sector and with good reason. Completing a procedure in Peru requires 8.6 hours on average (Latinobarometro, 2017). Only Bolivia, with an average of 11.3 hours, performs worse than Peru in Latin America by this indicator. Furthermore, only 29% of Peruvians finish their transactions in a single visit. As many as 41% of procedures require three or more interactions and only 17% of the procedures are considered easy, meaning that they can be completed in one visit and in less than 2 hours (Roseth, et al., 2018). By all these measures, Peru performs poorly in comparative terms.

Of the 4,535 procedures managed by the Peruvian Central Government, only 15.1% can be started online and a mere 4% can be completed digitally. This represents a lost opportunity for Peru's competitiveness and productivity, as research shows that digital transactions take 74% less time than a face-to-face transactions in the region and barely 2.35% to 5% of the

total cost of face-to-face transactions. Furthermore, these low levels of digitalisation provide significant opportunities for corruption (Roseth, et al., 2018).

Digital Service Transformation

OECD members have developed design principles, digital service standards, guidelines and toolkits as levers helping boost the digital transformation. These tools provide digital teams with a principle-based approach to service design, empowering them to leave behind obsolete rules that make little sense in the new context. They also provide clear definition about what good performing services are, shifting incentives to bring a greater focus on user-driven services (Bracken & al, 2018; Bracken & Greenway, How to Achieve and Sustain Government Digital Transformation, 2018). These principles, once embedded into government processes, can do a lot to advance a digital culture in the public sector.

Peru is today ideally placed to develop similar tools of governance. The introduction of the new State Portal with the Supreme Decree 033-2018-PCM (PCM, 2018) strengthened the position of SEGDI to enforce the implementation of standards, thus magnifying the power of these standards (see previous chapter). Indeed, the Decree mandates that all public institutions migrate their digital presence to this new platform following the standards determined by the SEGDI, who manages the platform. This provides a great opportunity for SEGDI to push for redesigning services from scratch instead of replicating analogue procedures online.

It is also timely as the use of service design principles and digital service standards are reaching new stages of maturity, which would allow Peru to leapfrog its way forward. The United Kingdom, a trend-setter in this domain, is already signalling where the next evolution of digital government may be heading. The UK Government Digital Service has announced that it is working on a revised framework that will aim to achieve more joined up approaches to service transformation, rather than focusing on improving the experience of individual services (Gill, 2018).

GOB.PE

The new state platform, GOB.PE, is perhaps the most impactful and relevant digital government initiative developed in Peru in years. It dramatically changes the political economy of digitalisation, giving SEGDI with the policy levers to drive service re-engineering and digitalisation at the same time.

After two years of development and testing, the portal was officially launched in 2018 with Supreme Decree 033-2018-PCM (PCM, Decreto Supremo 033-2018-PCM, 2018), which mandated the migration of all services to the platform and gave SEGDI absolute authority in setting guidelines and standards for the migration. This initiative not only improves citizens access to services, but does so in a way that could save significant resources for the public sector in the form of economies of scale and data sharing.

Building digital capability in the public sector

The digital revolution is reshaping the present and future of work (Chui, 2015; Manyika, 2017). New skills are required in virtually every industry and government is not an exception. If anything, governments have been left more vulnerable due to decades of outsourcing digital competence. The technical skills required to support the digital transformation of government are scarce and in high demand. To face this reality, the Government of Peru urgently needs to prioritise strategies to upskill, reskill and attract new talent to the public sector if it expects to deliver on its digital ambitions, as other OECD countries have done.

Another critical component of the public sector's digital capability are the technology acquisition frameworks that support digitalisation efforts. The digitalisation of government also entails changing how the public sector develops and acquires technology to support more agile and collaborative approaches. ICT commissioning is changing to arrangements where the public administration procures technology based on user needs and existing assets.

As part of their transformation process, governments are moving away from waterfall project management where all elements and requirements are defined in advance, and to a contracting model that acknowledges that not all functionalities and specifics of a platform can or will be defined in advance, but that they will be revealed through testing and progressive iterations. New contracting approaches and frameworks are needed for the public sector to be able to seize the opportunities of agile methodologies.

Another important initiative that has the potential to quickly advance and scale the digitalisation of public services and to spread digital capabilities across sectors and levels of government is the Public Software (Software Público). This is particularly valuable as it enables low capacity organisations with similar activities, such as municipalities, to leapfrog forward by adopting these off-the-shelf open source solutions. It also allows the public sector to start building a community of developers that continuously improve public software.

As adoption of digital systems and solutions advances, it is important to ensure that adequate tools to protect privacy and secure systems are in place. This calls for the development of digital security guidelines. Moreover, the need for a national centre on digital security risk mitigation and incident response, in line with OECD best practices, becomes more urgent.

Box 0.2. Proposals for action

1. Complement the guiding principles established in the Digital Government Law with a set of digital design principles, digital standards, guidelines and toolkits aimed at focusing digitalisation efforts across the administration on user needs and ensuring digital security of new solutions. These tools should provide digital teams with a principle-based approach for structuring, managing and implementing digitalisation initiatives to deliver high quality services. These tools could help define what high quality digital services are and what are the requirements for a service to be migrated to the new GOB.PE platform. These design principles and digital standards might also benefit from an effort to foster more joined up approaches to service transformation. Furthermore, these standards and guidelines will establish adequate procedures for testing and continuously improving digital security of government systems.
2. Consider establishing a national centre for digital risk mitigation and incident response. In line with OECD best practices, and as highlighted in the OECD Recommendation on Digital Security Risk Management for Economic and Social Prosperity (OECD, 2015), seek collaboration with the private sector and other relevant stakeholders.
3. Following the mandate of the Digital Government Law, partner with SERVIR, the civil service authority, to identify the current and future digital skills needed in the public sector to support the digital transformation. Map the digital skills that

currently exist in the public sector and carry out a gap analysis that will then feed into a talent acquisition and development strategy.

4. Based on the abovementioned gap analysis, identify the skills that can be developed in-house by retraining staff, and those that will need to be acquired from outside of the public sector. For instance, new project management approaches, such as agile methodologies or DevOps, can be taught to public sector project managers. However, other skillsets – such as data science, or human-centred design- require very specific training and experience, making them hard to transfer (Bughin, 2018). Use this analysis to develop a talent acquisition and development strategy
5. Review talent acquisition frameworks to make sure they are fit for purpose. This means that digital talent is tested for relevant technical skills, instead of eloquence, and that reviewing panels have adequate capability to appraise the candidates' technical prowess. Furthermore, the hiring process should be as straightforward as possible, providing a seamless experience and providing successful candidates with an offer within a reasonable amount of time.
6. Following the mandate of the Digital Government Law, partner with SERVIR to establish a digital academy that helps build the digital capabilities of the public sector. The digital academy could develop programs to build the digital skills of civil servants, for instance on agile methodologies, service design, data skills, among other. Moreover, it would be critical for the academy to develop programs that allow senior executives to gain a better understanding of the strategic implications of the digital transformation for their organisations.
7. Review technology acquisition frameworks to ensure that ICT commissioning is structured around user needs. To achieve this, ICT commissioning could look for ways of enabling agile and iterative approaches, instead of waterfall project management models.
8. Double down on the development of the Public Software initiative. Ensure that all public software is open source and uses open standards. Make efforts to continue to expand the library of public software, engage with users for feedback and nurture a community of developers to build a dynamic public software ecosystem that helps the government bring down costs and public sector organisations to improve their digital capabilities.

Paving the way for a data-driven public sector

The digital revolution has faced the world with dramatic technological change. While change is not new, the speed, depth and breadth of the digital transformation is quickly reshaping economies, societies and governments around the world (Schwab, 2017). As digital devices become ubiquitous and are progressively embedded into our lives and the physical world, the ability to produce, store, share and process data has skyrocketed fuelling a new generation of data processing technologies, such as advanced analytics, machine learning algorithms and artificial intelligence. These trends are rapidly setting society up for a new industrial revolution that will impact the private and public sector alike. To ensure its institutions remain competitive at a global scale, the Government of Peru must start making its transition towards a data-driven public sector.

Laying the foundation for a data-driven public sector

Over the past two years, the Government of Peru has made remarkable efforts to simplify administrative procedures and deliver digital services that are convenient and easy to use. To achieve this goal, an important share of this push has focused on ensuring that data is timely available where needed.

The Legislative Decree No. 1246 of 2016 mandated that public institutions connect to the State Interoperability Platform and prohibited that citizens and businesses for documents they can obtain through the platform with their consent (PCM, 2016). In addition, the Legislative Decree 1310 of 2016 mandated that all document management systems were connected to the interoperability platform by 31st December 2018 (PCM, 2016). These reforms to the legal and regulatory framework are part of a broader push to promote digital integration and data sharing to power service transformation across the public sector.

Data governance in the Peruvian Public Sector

The exponential growth in the generation of data globally and data-driven enterprises and government policies and services have made evident -even if we are barely scratching the surface- the potential of data to dramatically improve organisational performance, value generation and societal well-being. However, data leaks and thefts, privacy violations, identity fraud and vulnerable systems and infrastructure highlight the risks and challenges of this new era of technological development. Seizing the opportunities of the digital transformation and data-driven government, while managing the risks, demands new governance arrangements that respond to the new reality of government.

In this regard, Peru's Digital Government Law brings some clarity to the public sector's data governance in terms of processes, legal and regulatory frameworks, and other governance elements (President of Peru, 2018).

To adjust to changing realities and to structure the government's strategic use of data, some OECD countries have chosen to establish a Government Chief Data Officer (OECD, 2018). This new role is tasked with improving the whole government data value chain, structuring co-ordination mechanisms, developing or helping develop rules, regulations, guidelines and processes for data management. GDOs are also tasked with developing, managing and updating data infrastructure as well as data architecture standards and solutions in the public sector. GCDOs also monitor the implementation of government policies and technical guidelines supporting data governance (OECD, 2018). In addition, the GCDO is often tasked with mapping data assets in the public sector, identifying strategic opportunities in data use or reuse to improve government performance, risk mitigation strategies and progressively building government data capabilities in the use of analytics, algorithms and/or artificial intelligence.

The GCDO is proving vital in several OECD countries, generating a lot of value by helping governments prepare for the data revolution. Peru has not yet a GCDO or equivalent function.

The way forward: data-driven public sector, beyond the hype

By facilitating data flows in the public sector, the Government of Peru is creating an environment where simple, user-driven services are possible. This is however merely a first step in the journey towards smart, data-driven and proactive government. To achieve that, the public sector must build its data capabilities across sectors and levels of government, targeting in particular performance, service delivery and forecasting capabilities (OECD, 2016).

Furthermore, it is important for the Peruvian Government to sensitize senior leadership about the strategic relevance of open government data and data-driven decision-making. This is a necessary step in enabling public organisations to make sophisticated strategic decisions about emerging data-processing techniques and technologies. Insufficient awareness by senior executive is unlikely to lead to intended outcomes and could result in poor strategic choices that leave Peruvian public institutions ill prepared for the technological changes society is going through and could ultimately have sizeable effects on the economic competitiveness of the country.

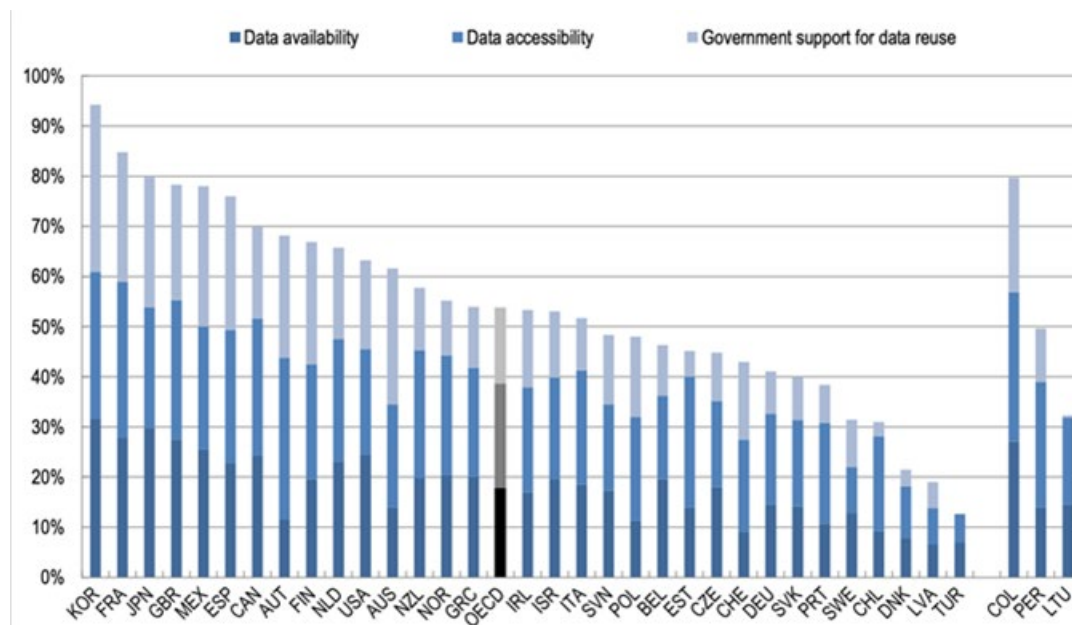
The aim is to develop sharp view that understands that the power of data is about more than just a buzz, but about making sound decisions. Data science skills are scarce and in high demand, making them expensive. The public sector, in turn, has limited resources that should be used consciously, with a clear understanding of trade-offs and opportunity costs.

The experience reveals that, in order to yield results, data efforts should start with a clearly defined business or policy problem that is going to be tackled. It is the problems and strategic questions at hand, not the hype, that must drive data efforts and investments (Díaz, Rowshankish, & Saleh, 2018). Solving organisational problems and helping programme and business units deliver on their missions will add value and nurture organisational-wide demand for data-driven approaches, which will help significantly advance a culture of data in the public sector.

OGD: Government (data) as a platform for collaboration

The 2017 OECD OURdata Index shows that Peru's performance on open government data has improved. In particular, it has made progress particularly in terms of efficient data accessibility. However, at the time of data collection in 2017, the efforts of Peru still had to translate its efforts into measurable improvements in terms of higher data availability and, just as crucially, greater support for data reuse and impact. Peru's performance was particularly low on the third pillar, suggesting that in addition to enhancing data availability, a greater focus on data promotion and partnerships, data literacy in government and monitoring OGD impact would yield the greatest returns on investment.

Figure 0.1. 2017 OECD OURdata Index



Note: Data not available for Hungary, Iceland and Luxembourg. Information on data for Israel:

<http://dx.doi.org/10.1787/888932315602..>

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

This is of great relevance as the evidence shows that a strong focus on data publication with insufficient efforts to foster reuse can lead to the data graveyards – open data catalogues that are neither used nor relevant for users. Opening up data takes time and resources, both of which are precious to public institutions. It is unclear how much human, financial and technical resources Peruvian institutions can realistically allocate to the task of opening up government data. For this reason, the public sector should develop a strategic data release approach that delivers the greater returns.

Box 0.3. Proposals for action

1. Build on the data governance framework laid out in the Digital Government Law and consider establishing a Government Chief Data Officer (GCDO) or equivalent position focused on developing a government data strategy and building the public sector ability to extract value from its data. The GCDO could also help the public sector prepare for a data-rich future by nurturing a data-driven culture in the public sector. The ultimate objective of the GCDO is to progressively build the government's data capabilities to use and seize the opportunities of open government data, advanced analytics, algorithms and artificial intelligence.
2. Map data assets in the public sector, identifying strategic opportunities in data use or reuse to improve government performance and risk mitigation strategies.
3. Sensitise senior leadership across agencies to the strategic importance of open government data and data-driven approaches. Develop a consistent

communications strategy that clearly identifies digital government and data-driven public sector as a major strategic priority of the government.

4. Ensure that senior executives work closer with agency Digital Transformation Leaders, chief technology officers and data scientists as they design new strategies, policies, services and reform programmes. This will enable executives to seize the opportunities of the digital age and a data-rich environment.
5. Develop a problem-driven approach to data investments. Data science skills are scarce and in high demand. Make sure efforts are guided by concrete policy or business problems that are likely to yield high returns on investment.
6. Data initiatives should nurture demand by helping senior executives as well as business and programme units improve their delivery and performance. Deploying data efforts in ways that support the work of other parts of the organisation will help data teams build legitimacy and demand for their work. It might be of interest to focus on quick wins that deliver important improvements with modest efforts, such as the predictive maintenance of infrastructure and equipment, which could translate into important savings of resources and lives (Bender, Henke, & Lamarre, 2018). These results should then be communicated strategically as to further advance the data-driven agenda.
7. Focus on advancing data availability through the open government data portal and double down on providing greater support for data reuse and impact. In addition to increasing data availability, a greater focus on data promotion and partnerships, data literacy in government and monitoring of OGD impact could yield the greatest returns on investment.
8. Develop a strategic, demand-driven and proactive approach in prioritising government data release. This is critical as opening data takes time and resources. Engage with data producers and consumers to determine the specific datasets and data categories that would deliver the greater value after publication.

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1. Tracing the path towards a digital government in Peru

This chapter provides a general overview of Peru's digital government efforts and contextualises the collaboration of the OECD and the Government of Peru. More specifically, it advances the OECD's analytical framework for digital government strategies and provides a long-term view on the partnership of the OECD and Peru in driving enabling policies for the successful use of digital technologies to deliver better government. In addition, this chapter also provides a broad picture of Peru's socio-economic context and the levels of connectivity and ICT penetration, helping the reader better grasp the environment in which digital government policies are being adopted. Finally, the chapter closes by presenting a timeline of most important milestones in the evolution of digital government in the country.

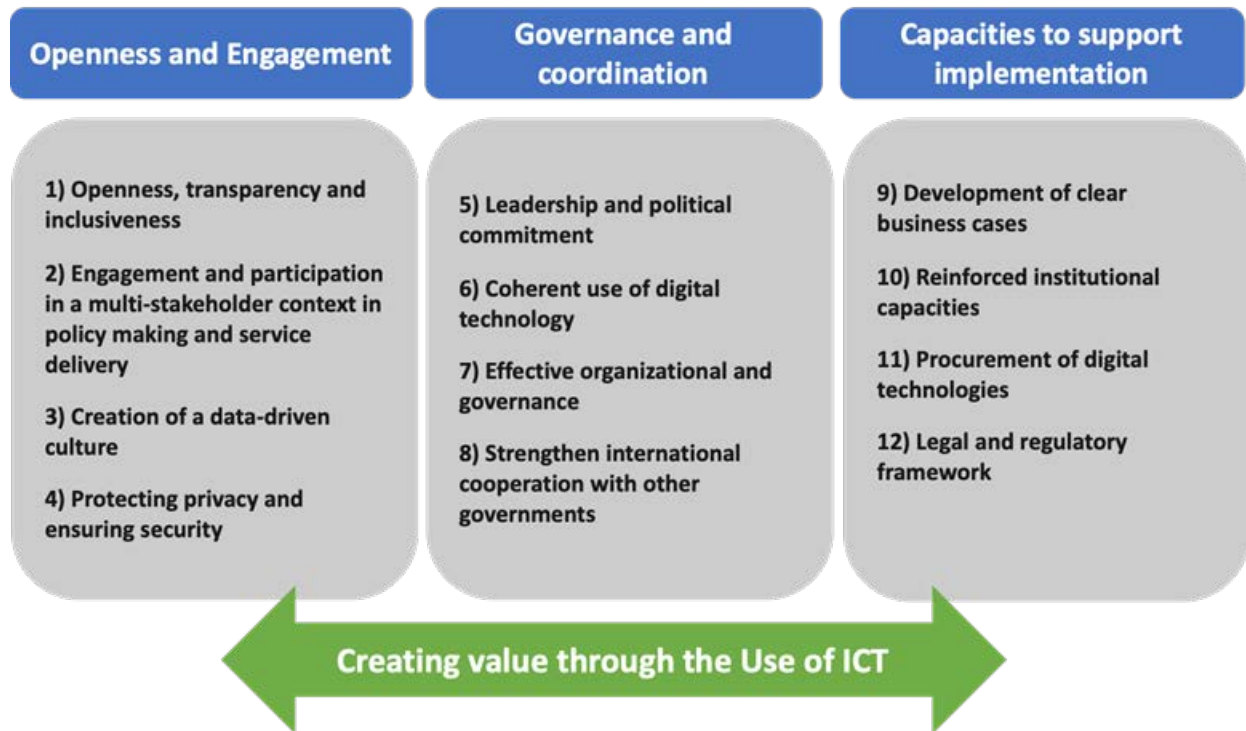
The OECD has been working closely with Latin American countries for over two decades to help improve public policy design and implementation across the region (OECD, 2019). Ever closer relationships are evident in recent trends in memberships, partnerships and working groups. Three Latin American countries are OECD members: Chile, Colombia and Mexico. Argentina and Costa Rica are undergoing an accession process. Brazil is considered a strategic partner of the OECD and the Dominican Republic, Panama, Paraguay and Uruguay are members of the OECD Development Centre. The OECD has also established structured fora to facilitate peer learning and exchange with the region, such as the OECD Latin America and the Caribbean Regional Programme.

In the case of Peru, the OECD is completing a two-year Country Programme, an OECD enhanced collaboration scheme, built around five key areas of work: economic growth, public governance, anti-corruption and transparency, human capital and productivity, and environment. The Country Programme for Peru comprises policy reviews, implementation and capacity building projects, participation in OECD Committees and technical sub-committees and working parties, as well as adherence to selected OECD legal instruments.

Under that umbrella, the OECD performed a Public Governance Review of Peru (PGR) (OECD, 2016) to assess and provide advice to the Government of Peru in six key policy areas: centre of government, strategic planning, decentralisation, civil service, digital and open government. In the framework of the PGR, the OECD advanced an initial assessment on digital government policies in Peru. This *Digital Government Review of Peru* builds upon that initial effort, evaluating Peru's progress on digital government over the past two years. The Digital Government Review provides more detailed recommendations, and goes deeper into the weeds of their implementation. This document aims to assist the Government of Peru, the Digital Government Secretariat (*Secretaría de Gobierno Digital* - SEGDI) in particular, to improve its digital government policies, programs, and projects, and draw strategies and roadmaps for their successful implementation.

The OECD Recommendation on Digital Government Strategies (OECD, 2014) serves as analytical framework for the *Digital Government Scan of Peru*. The twelve recommendations advanced in the OECD Recommendation are grouped in three pillars: (i) openness and engagement, (ii) governance and coordination, and (iii) capacities to support efficient and effective implementation.

Figure 1.1. OECD Recommendation on Digital Government Strategies, 2014



Source: Based on OECD (2014), "Recommendation of the Council on Digital Government Strategies", OECD, <https://www.oecd.org/gov/digital-government/recommendation-on-digital-government-strategies.htm>.

In March 2017, the OECD performed a peer review mission with the participation of Argentina, Mexico and Uruguay. In the framework of this mission, the OECD and the Government of Peru organised *design thinking* workshops with all relevant stakeholders from the public and private sector to collaboratively identify and come up with solutions for the challenges to the implementation of digital government in the country. The *Digital Government Review of Peru* (OECD, 2016) focuses on three key aspects that were identified in these workshops: (1) leadership and governance; (2) the shift from e-government to digital government; and (3) fostering a data-driven public sector in Peru. The current document builds not only upon the PGR, but also benefits from the peer-review mission of 2017 and analysed through the OECD's digital government framework (OECD, 2014).

Box 1.1. PGR of Peru: Recommendations on digital government**Set digital government at the heart of the public sector reform**

- Adopt a broader concept of digital government than e-government and implement it by reformulating the current e-government strategy to integrate the use of digital government as a key strategic tool or enabler in the government's pursuit of its overall public sector reform agenda. This would imply identifying complementarities, and ensuring alignment and mutual reinforcement between the digital government strategy and other relevant sector strategies at the national and local levels of government.
- Engage regularly and strategically with the relevant stakeholders, and all levels of government, to capture input to the further development of the digital government strategy that should establish a coherent approach towards public sector digitisation and related priorities in the various sectors and across levels of government.
- Embed a vision in the strategy that builds on a “long-term consensus” of all relevant stakeholders and is supported by a coherent action plan shared across sectors and levels of government. This would help create collective commitment and facilitate a shift from isolated developments and pilot projects to joint efforts or initiatives that can be scaled up.

Secure leadership for more robust governance, management and planning

- Revisit the governance framework to ensure high-level commitment and support to the digital strategy. This would enable the government to create a stable institutional framework with a senior position formally responsible for setting the strategic direction for digital government (e.g. a CIO). This would build on the existing National e-Government and Information Technology Office in the Presidency of the Council of Ministers (PCM), and set clear roles and responsibilities for digital government co-ordination (including a mechanism to align overall strategic choices on investments in digital technologies with technological deployment in various policy areas supporting overall policy outcomes).
 - The position needs to be of a sufficiently high level to exert political and policy influence (e.g. a secretary general, on par with the heads of CEPLAN, the SGP, etc.), and be located in the centre of government (see below).
 - The CIO needs to be able to count on co-ordination mechanisms to work in close and ongoing co-operation with all of the other units of the PCM responsible for aspects of governance reform and national development strategy (e.g. CEPLAN, Secretariat for Public Governance Reform, SERVIR, Decentralisation Secretariat).
 - The right space and value have to be granted to the National Advisory Council on Statistics (Consejo Consultivo Nacional de Estadística e Informática), gathering representatives from the civil society, the private sector and the public sector. It can play a key role in relation to the legitimacy, prioritisation and responsiveness of concrete actions

undertaken to implement the digital government policy. For its functioning to be efficient, it would be necessary to set clear agendas with defined objectives and ensure good representativeness of the private sector and of civil society. This can be used to set multi-sector objectives and can also help to better articulate the interaction across levels of government.

- Build an effective organisational and financial structure for digital government to mainstream the digital strategy within the government's main multi-year development and modernisation plans to provide the methodological support for managing digital government projects across levels of government, linking policy and funding, and establishing efficient and effective implementation and performance monitoring processes. This capacity could be built around the existing National e-Government and Information Technology Office and report to the CIO within the PCM.

The National Office of E-Government and Informatics (ONGEI), thus transformed into a true CIO, could be included in the cluster of secretariats and entities reporting to the Vice-Minister of National Strategy and Public Administration Modernisation, if this position is created as recommended in Chapter 2 on the centre of government.

Define and implement a robust evaluation and measurement framework for the digital government strategy. This should include medium- and long-term strategic outcomes, requisite performance targets and indicators for better service delivery that improve results for people regardless of where they live in the country, and immediate-term outputs and results indicators for project performance at all levels of government. These could ensure efficient project management and overview mechanisms, with the availability at any time of a comprehensive picture of ongoing digital initiatives to avoid duplication of systems and datasets.

- Identify funding mechanisms (e.g. FONCOMUN) to ensure adequate investments in the development of the right level of digital skills across the administration across the country.
- Procure digital technologies based on an assessment of the existing assets and inter-agency agreements to increase efficiency, support innovation and best sustain objectives stated in the overall public sector modernisation agenda.

Pursue digitisation using a coherent, integrated approach across the country

- Move away from isolated developments and projects and create a critical mass of good practices to share, promote and support the scaling up of successful initiatives, particularly those with a strong users' perspective, such as mobile apps and the open data example in Miraflores municipality.
- In line with the main findings of Chapter 7 on open government, take advantage of IT to strengthen public engagement and interaction. This can aim to encourage participation in policy making, service design and delivery, e.g. of citizens, the private sector and non-governmental actors. This could include conducting early sharing, testing and evaluation of prototypes with the involvement of the expected users.

- Address the shift to transactional services through proactive channel management and making information on services (e.g. on costs and time) public, more user-friendly and transparent.
- Identify key cross-cutting priority areas for the whole public sector on where to focus efforts and investments – such as high-impact services, “life events”, digital skills, ICT security, standardisation and digital inclusion.
- Support implementation of legal changes and make effective use of the key horizontal enablers (e.g. interoperability) in order to ensure a real impact on citizens’ lives through a more integrated and easily accessible administration.

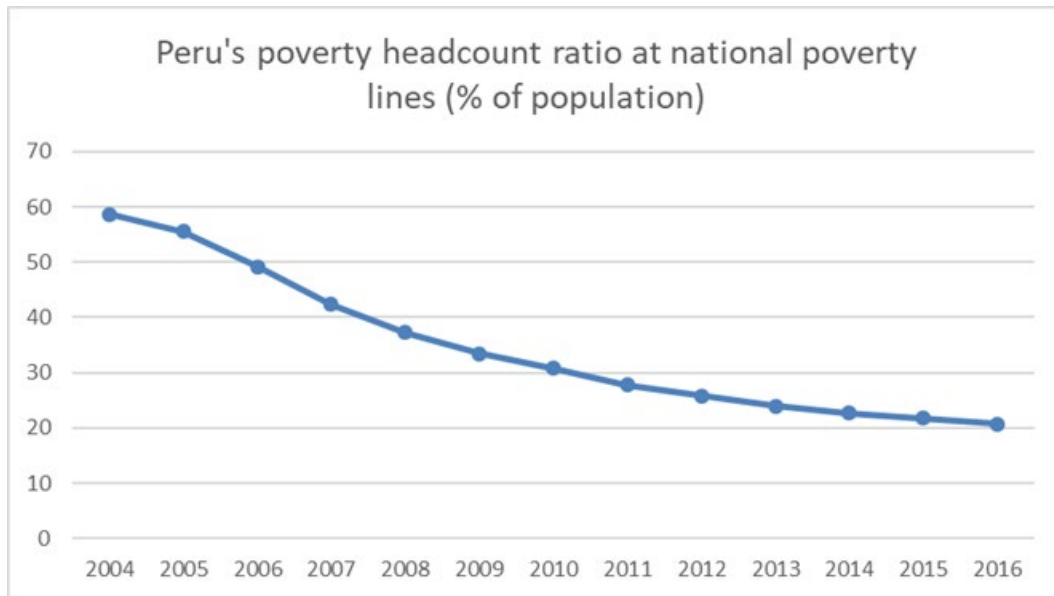
Pave the way to a data-driven public sector

- Develop and secure the political leadership’s commitment to implement a strategy on shifting to a data-driven culture in the public sector and promoting open government data.
- Further develop the national open government data portal with the idea of making it a platform open to citizens’ contributions and facilitating data accessibility and reuse.
- Plan and execute a framework on open data, with guidance allowing the collection and publication of quality data in open formats.
- Allow and promote the production, use and reuse of open data among governmental and non-governmental actors, in order to maximise the delivery

Source: (PCM, Decreto Supremo 033-2018-PCM, 2018)

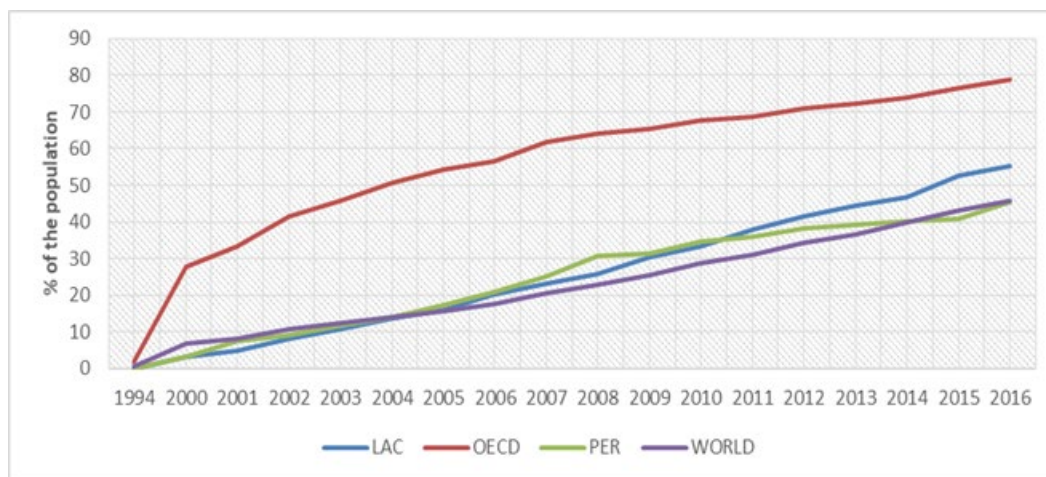
1.1. Political, social and economic context of digitalisation

To overcome the impact of terrorism and hyperinflation in the early 90’s, Peru implemented important public sector reforms, especially over the past two decades. These include major reforms of key public-sector institutions such as the Ministry of Finance, the Central Bank, and other vital institutions for economic performance, planning and policy-making, which promoted a reliable and stable economy that boomed in the 2000’s as a result. The accelerated rate of economic growth brought about a new set of questions, including how to adjust institutional arrangements and decision-making approaches to shift from a government specialised in managing scarcity to one that fosters general well-being and delivers sound public policies. The change in policy decisions over the last 10 years saw Peru’s poverty rate decrease from 50% to nearly 20% (Figure 1.2). However, this wave of public sector reform had a positive impact on a limited number of institutions that came to be known as “islands of efficiency”. For this reason, one of the most important challenges is to promote and develop a more comprehensive and widespread transformation of the public sector.

Figure 1.2. Peru's poverty rate 2004-2016 (%)

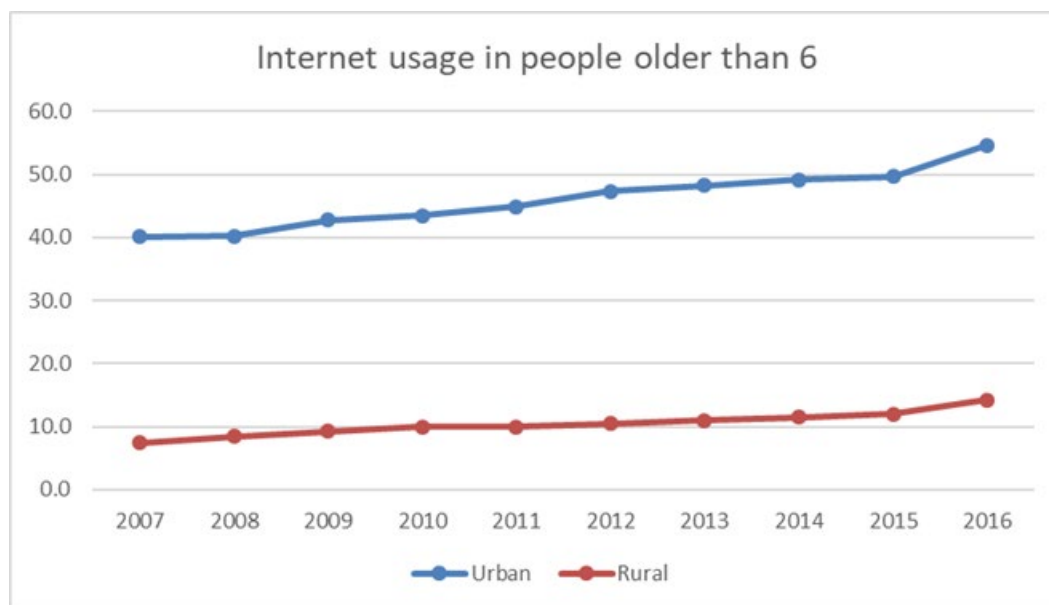
Source: World Bank (2018) World Development Indicators Database.

Nevertheless, Peru has invested heavily in telecommunications infrastructure as a means to advance economic modernisation and integration and lay the foundations of the digital economy in the country. The National Optic Fibre Network project (Red Dorsal Nacional de Fibra Optica), to develop more than 13 thousand kilometres of optic fibre, connecting 22 regional capitals and 180 province capitals had a total cost of \$323 million US dollars (ProInversión, 2013). The project was later replicated at the regional level, connecting the province capitals with the districts. These investments have allowed for greater coverage and faster and cheaper internet service across the country, especially in poorer areas. Peru's investments in infrastructure have helped to achieve a steady increase in the number of internet users in absolute and relative terms, even if at a slower pace than the rest of the region in recent years (ITU, 2017). This evidence shows that and, while challenges remain in terms of connectivity, Peru is deploying a sustained strategy to move forward and meet its peers at the regional level.

Figure 1.3. Individuals using the internet (% of the population)

Source: International Telecommunications Union (2017) Statistics

However, the most important challenge is the big coverage and usage gap if we compare urban centres, Lima in particular, to rural areas of the country (INEI). In terms of coverage, 48% of households in Lima have access to internet, 34% in the urban areas across the country and only 1.5% in rural areas. On the other hand, Internet usage of people over 6 years old in rural areas is just one-fifth of that in urban areas, 14.2% vs 54.6% respectively (see Figure 1.4). It is also interesting that the percentage of people using the internet daily in the urban area is 60% compared to merely 30% in rural areas.

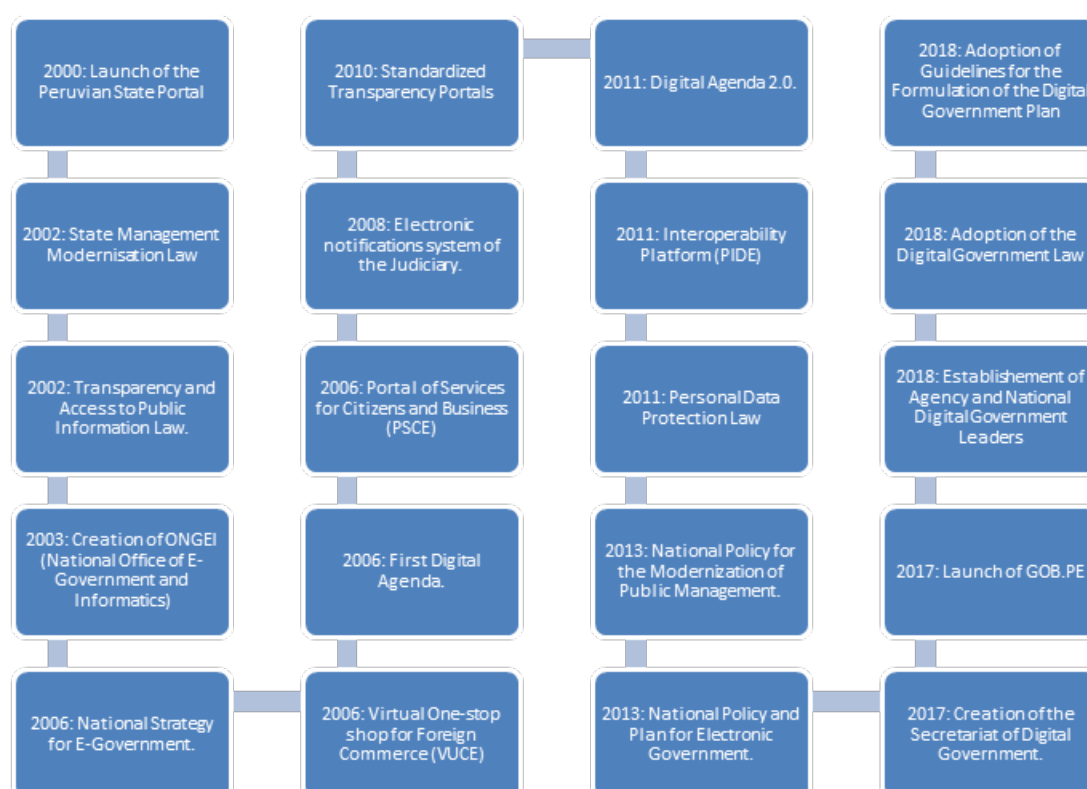
Figure 1.4. Internet usage ages 6 and older

Source: E-Government: Laying the foundations for digital government

1.2. E-Government: Laying the foundations for digital government

Peru's road towards digital government started in the early 2000's with the launch of the Peruvian State Portal, followed by the enactment of the Transparency and Access to Public Information Law (see Figure 1.5). By 2003 the National Office of E-Government and Informatics (ONGEI) was created inside the Presidency of the Council of Ministers (PCM). This landmark meant the birth of an institution in the heart of the Centre of Government (CoG) of the country to promote the digitalisation of government. ONGEI progressively developed a robust legal and regulatory framework and developed crucial projects such as the Portal of Services for Citizens and Business (*Portal de Servicios al Ciudadano y Empresas* - PSCE) and the Interoperability Platform (*Plataforma de Interoperabilidad del Estado* - PIDE). The use of technology in public sector transformation efforts was embraced by multiple institutions and included projects such as online notifications in the Judiciary Branch or the virtual one-stop shop for foreign trade.

Figure 1.5. Timeline of e-government and digital government in Peru



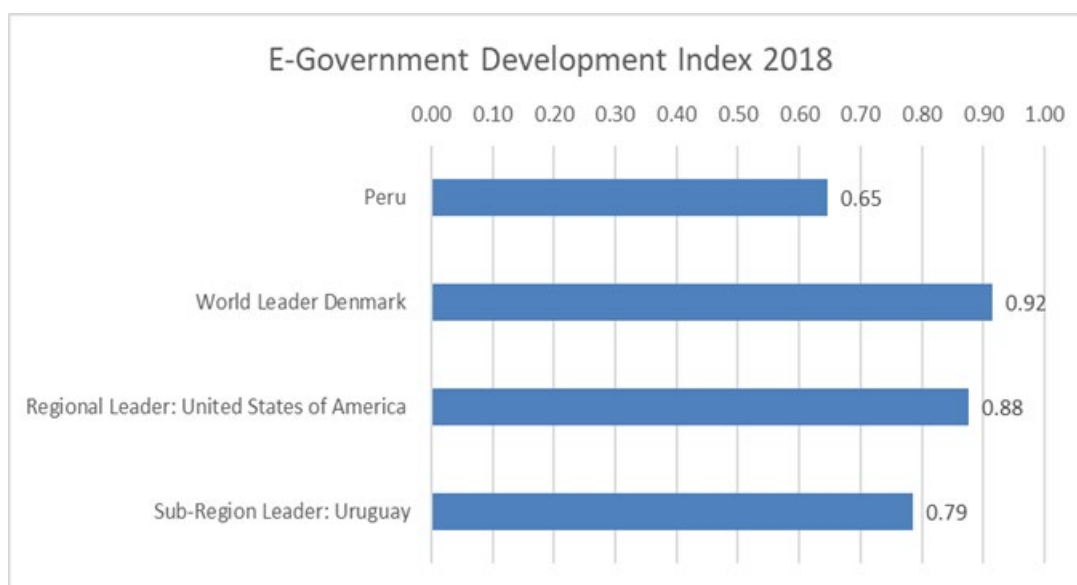
Source: Based on information provided by Secretariat of Digital Government (SEGDI).

The efforts of the ONGEI did not manage to leverage the progress of Peru in the international indexes of digitalization achieved by other countries. According to the UN E-Government Index, Peru dropped from the 56th position in 2005 to the 81st position in 2016, and dropped even more significantly in the E-Participation Index, going from 36th in 2005 to 82nd in 2016. However, It is also true that the efforts developed by the Digital Government Secretariat have paid off. For instance, Peru has improved its performance in both indices, ranking 77th on the 2018 E-Government Development Index and, most

impressively, coming back to the 36th position on E-Participation, moving up a total 46 positions.

While one can expect the efforts implemented since 2018 will be reflected in the results of future e-government indicators, there are many opportunities for the improvement of Peru's performance in terms of digital government to meet the advances other countries have made in the past decade. The *Digital Government Review of Peru* aims to help Peru close the gap between them and the rest of the world in terms of digital government by advancing feasible, action-oriented recommendations.

Figure 1.6. E-Government Development Index 2018



Source: UNDESA (2018) UN E-Government Index, 2018

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2. Governance of digital government

This chapter focuses on the governance and leadership of digital government. It lays out the evolution of the institutional architecture and governance arrangements of digital government in the country and analyses its implications. The chapter assesses the mandate and policy levers of key digital government institutions and describes the key government-wide co-ordination mechanisms supporting the digital transformation of government. The chapter also addresses digital leadership in the public sector and its role in driving change and fostering a digital culture in the public sector. It also provides a detailed assessment of the legal and policy framework governing the development of digital government in Peru. Finally, the chapter provides a brief assessment of the alignment of budget and digital government policy objectives.

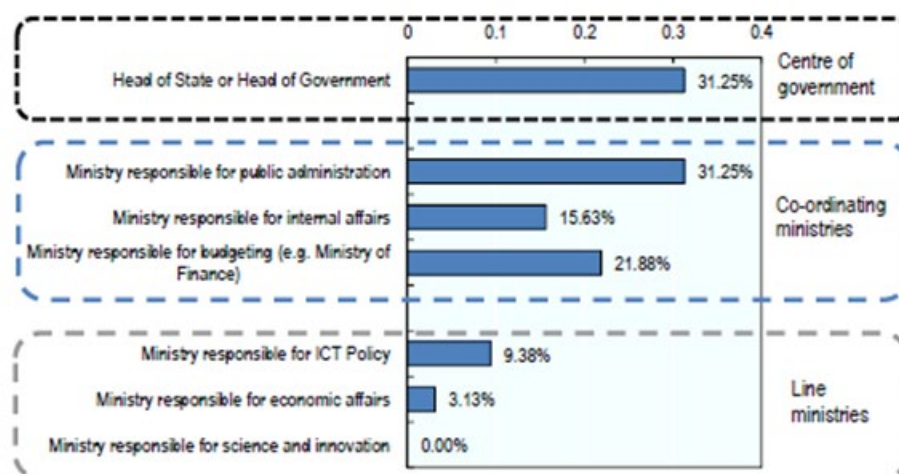
2.1. Institutional governance and leadership

The OECD Recommendation on Digital Government Strategies (OECD, 2014) calls on governments to secure leadership and commitment to national digital government strategies in order to allow for inter-ministerial coordination and achieve coherent implementation across all levels and areas of government. The Recommendation also highlights the need to establish effective organisational and governance frameworks for co-ordination, which includes a clear identification of roles and responsibilities.

In Peru, until 2016, the institution responsible for the development of digital government in the country was the National Office for e-Government and Informatics (*Oficina Nacional de Gobierno Electrónico e Informática* – ONGEI). This institution was part of the Presidency of the Council of Ministers (PCM), a cross-cutting ministry at the Centre of Government (CoG) responsible of the co-ordination of national policies in the Executive Branch. The PCM is led by the President of the Council of Ministers, who proposes the priorities of the government to the President (Ley N°29158, 2007). On paper, ONGEI reported directly to the President of the Council of Ministers, placing it at the heart of the Centre of Government, which is consistent with practices across OECD countries.

The establishment of the ONGEI within PCM was a first step forward to give this body some level of administrative independence (budgetary, human resources, etc.) and enough autonomy to enjoy a certain protection from the highly volatile political environment. Nevertheless, the distance and autonomy often translated, in practice, to a lack of interest and political support. That lack of political support resulted, in turn, in insufficient budget and personnel that made it difficult for Peru to achieve its digital priorities.

Figure 2.1. Location of the central/federal government Chief Information Officer in OECD Countries



Source: Author's own work based on OECD (2014b), "OECD Survey on Digital Government Performance" (dataset), OECD, Paris, <http://qdd.oecd.org/subject.aspx?Subject=6C3F11AF-875E-4469-9C9E-AF93EE384796>; OECD (2016a), "OECD Questionnaire on Governance of Digital Government" (unpublished dataset), OECD, Paris.

Therefore, one of the recommendations advanced in the *OECD Public Governance Review of Peru* - PGR (OECD, 2016) was to transform ONGEI to a Secretariat that would directly report to a new Vice-Ministry of National Strategy and Public Administration

Modernisation and link policy, funding and co-ordination capability thus transforming ONGEI into a true National Chief Information Officer (CIO). A Secretariat is an internal body of the PCM, administratively dependent of the PCM that responds to the Secretary-General. Although the Vice-Ministry was not created (the General Secretariat effectively serves as a Vice-ministry of Public Administration), ONGEI did become a Secretariat of the PCM, which would bring the digital government agenda closer to the PCM. This arrangement provided the national authority for digital government with more visibility within the PCM (see Figure 2.3).

Having the agency responsible for Digital Government closer to the CoG has proven successful for diverse countries such as France, Japan, Portugal, the United Kingdom, and the United States (OECD, 2016). This set-up allows the agency to benefit from the political authority of the CoG and embed its efforts into the broader public sector agenda.

There have been, however, discussions around the creation of Vice Ministry of ICT, following the model of the Ministry of Information Technology and Communications (MinTIC) in Colombia. The argument follows that the Peruvian Ministry of Transport and Communications (MTC), building on its expertise in the regulation and oversight of telecommunication services (such as TV, radio, internet, cable, etc.) and policies aimed at infrastructure development, should create a new Vice Ministry of ICT. However, it is important to note that these efforts lost the focus on the creation of value as the key objective. As a result, Peru has moved towards a new governance model that scales up the value of digital government beyond a strict focus on the adoption of technology.

The digital transformation of the public sector is fundamentally about transforming the way government works (how it develops and deliver services and policies) rather than about developing infrastructure per se. It is about building a new culture, and this requires significant capabilities in terms of cross-institutional co-ordination. This is why a significant majority of OECD governments have chosen to place the national digital government authority at a cross-cutting ministry or department rather than at a sectoral one, such as the ministry of telecommunications. Given this background, and beyond any reforms needed in the telecommunications sector, it would seem preferable for Peru to keep the digital government function at the CoG. The ratification of SEGDI's role as National Digital Government Leader through the new governance model laid out in the recently adopted Digital Government Law and Guidelines of the Digital Government Leader is an important development (PCM, 2018; President of Peru, 2018; SEGDI, 2018).

The creation of the SEGDI is in line with the analysis and recommendations included in the PGR. Indeed, the OECD report highlighted that digital government in Peru would benefit from stronger institutional capabilities and policy levers by the co-ordinating authority (ONGEI) in order to have a real impact. The PGR recommended setting clear roles and responsibilities and providing the co-ordinating authority with the political support and policy levers needed to drive change (OECD, 2016). Under the new legal and regulatory framework SEGDI has been endowed with greater scope of responsibility when it comes to regulatory and policy design (including setting government standards for digital government) and new, stronger mandates in terms of spatial data, open data, interoperability, digital identity and digital security.

Table 2.1. Evolution of responsibilities from ONGEI to SEGDI

ONGEI responsibilities	SEGDI responsibilities
Act as the governing body of the National Information Technology System; issue guidelines to help apply this system	Exercise the leadership of National Information Technology System, through the formulation and approval of norms, directives and guidelines, among others, that allow the fulfilment of its objectives.
Propose the National e-Government Strategy as well as co-ordinate and supervise its implementation	Propose national public policies, strategies and plans within its sphere of competence.
	Approve norms, directives, guidelines and other dispositions within its sphere of competence, as well as supervise its implementation
Develop actions aimed at the consolidation and development of the National Information Technology System and supervise compliance with the corresponding regulation.	Develop actions aimed at the consolidation and development of the National Information Technology System and supervise compliance with the corresponding regulation.
Co-ordinate and supervise the functional integration of the state's computer systems and promote the development of systems and applications for common use across public administration entities.	Co-ordinate and supervise the functional integration of the state's computer systems and promote the development of systems and applications for common use across public administration entities.
Co-ordinate and supervise the development of public administration entities' websites to facilitate the interrelation of entities among them and with citizens with the purpose of establishing one-stop shops.	Co-ordinate and supervise the development of public administration entities' websites based on standards and good practices, in order to facilitate the relation between them and with the citizen.
Manage the Peruvian government's website	Supervise the management of the Peruvian government's website and others within its sphere of competence
Propose guidelines for e-contracting of the Acquisition and Contracting E-system of the State (SEACE)	
Provide technical assistance to public administration entities for the implementation of technological projects in matters within its sphere of competence.	Provide technical assistance to public administration entities for the implementation of technological projects in matters within its sphere of competence.
Make proposals to boost technological development and innovation for enhancing public management and modernising the state by promoting technological integration.	Make proposals to boost technological development and innovation for enhancing public management and modernising the state by promoting technological integration.
	Design, implement and monitor indicators to measure the digitalisation of the State and digital government.
Approve technological standards to ensure security measures of information at public administration entities	Approve norms and approve technological standards to ensure security measures, infrastructure of spatial data, open data, interoperability, websites, among others, of public administration entities
Foster meetings between representatives from the public administration and the private sector with the purpose of co-ordinating and strengthening efforts aimed at enhancing better use of new technologies applied in public management modernisation	Promote coordination spaces with representatives from the public administration, the private sector, academia, organised civil society, and citizens with the purpose of optimising the use of digital technologies applied in public management modernisation
Give technical opinions (on matters within its sphere of competence) on drafts, bills and regulatory projects submitted by the top management	Give technical opinions within its sphere of competence.

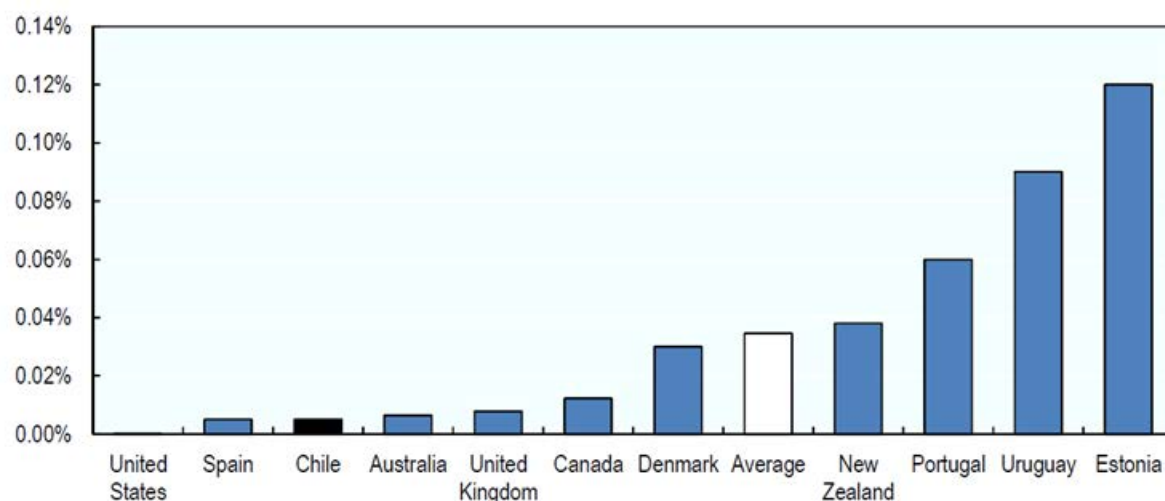
Note: Author's own translation

Source: Authors own work based on the Supreme Decrees N° 063-2017-PCM and N° 022-2017-PCM

The creation of the SEGDI represents an important step in overcoming the institutional limitations of the ONGEI highlighted in the PGR (OECD, 2016). However, the SEGDI has built upon the ONGEI thus inheriting its personnel and culture. In this light, As a result, the Secretariat is challenged to transform its organisational ethos and acquire the necessary resources that can allow it to fulfil its mission. In terms of budget, SEGDI's budget represents 0.002% of total public expenditure. This is a significant improvement regarding

previous years. In addition, in 2018 Peru signed an agreement with the Inter-American Development Bank to finance digital government actions. These actions aim to tackle budgetary challenges, particularly when compared vis-à-vis to most digitally advanced OECD countries (see Figure 2.2).

Figure 2.2. Budget of the unit or structure leading/co-ordinating digital government as a share of total public expenditure, 2014



Note: The Direction of ICT of Spain was created in 2014. Data for Spain correspond to fiscal year 2015. Data for the United Kingdom correspond to fiscal year 2015. For the other countries, data from fiscal year 2014 are used.

Source: National budgets, national budget execution reports; OECD (2016a), “OECD Questionnaire on Governance of Digital Government” (unpublished dataset), OECD, Paris.

In terms of human resources, the attraction of digital talent to the public sector is still a challenge due to political instability and low wages. The PGR expressed that this was also the case with ICT professionals, and ONGEI was not the exception (OECD, 2016). For this reason, in 2018 the Digital Government Secretariat prioritised attracting multi-faceted profiles to reinforce its human capital capacity for digital transformation e.g. (software engineering, communicators, agile development, digital lawyers, design focused on the user, social sciences). These profiles now integrate the digital services team and lead the Digital Single Platform GOB.PE.

Although the availability of these profiles and approach is not widespread across the public sector, the Secretariat has deployed a process of attraction, development and retention of talent. Such a strategy builds on the premise that these professionals are driven by the transcendence in the results and the possibility of enabling change rather than economic remuneration.

2.2. Co-ordination for whole-of-government transformation

One of the major challenges of the digital transformation is achieving the effective co-ordination and co-operation among government agencies (both horizontally and vertically). This organisational challenge enables more collaborative approaches and, most importantly, a fundamental re-organisation of service delivery approaches. Traditionally, government institutions are organised by verticals or sectors, with specific mandates and

services. While these arrangements have facilitated the specialisation and accountability of the public administration, they have not sufficiently taken into consideration the experience of service users, who often must interact with several departments to complete a specific procedure. The digital transformation allows the public sector to rethink its service delivery arrangements to organise them around user needs while maintaining desirable levels of accountability (see Box 2.1).

Furthermore, digital technologies offer new opportunities for the public sector to engage with external stakeholders to allow users to inform and significantly shape how services and policies are delivered. Listening to external stakeholders (such as the private sector, academia and civil society) becomes all the more relevant. This section of the review focuses on the cross-government co-ordination needed to successfully implement the digital transformation.

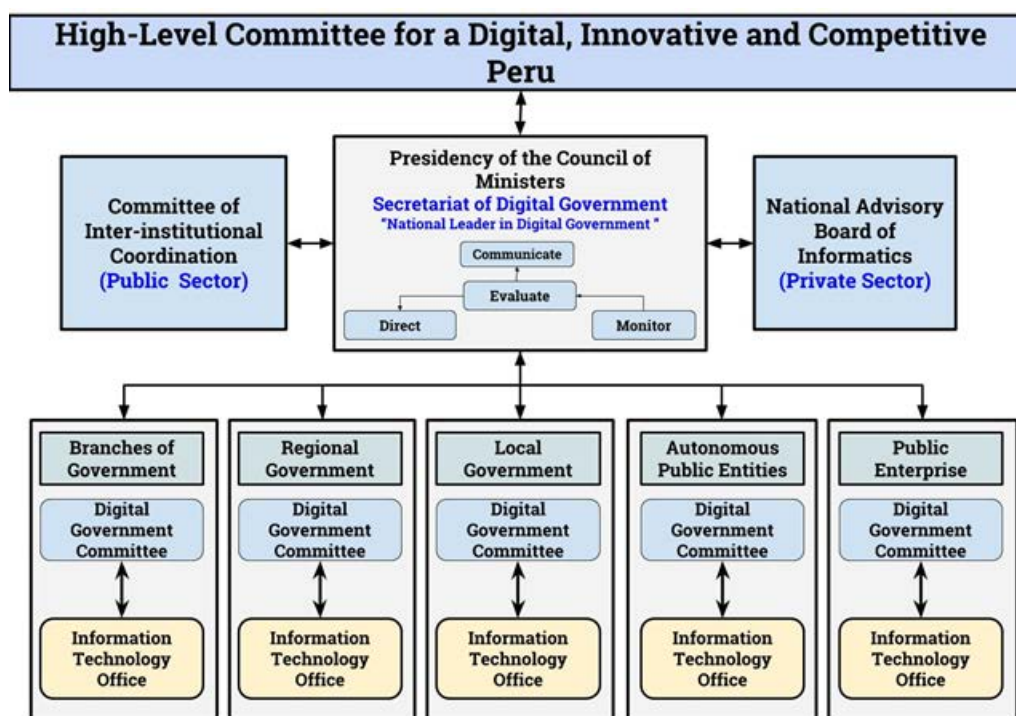
Peru used the creation of multisectoral committees as means to steer, articulate, coordinate and monitor the digital government policy. The Multisectorial Commission for the Digital Agenda 2.0 (created in 2011) was the main coordination mechanism used for this purpose. The Commission is attached to the PCM.

The Digital Agenda 2.0 is Peru's broader digitalisation effort, covering issues such as connectivity, telecommunications infrastructure, digital skills and the development of the digital economy (CODESI, 2011). The Digital Agenda 2.0 officially intended to cover the 2011-2015 period, which suggests that updating the national digital agenda should be a priority in the short-term. In this sense, the adoption and publication of the guidelines for the elaboration of a new digital government plan, is an encouraging sign, showing Peru's current administration understands the relevance of having a shared, organising vision for the public sector (SEGDI, 2018). This is all the more true when digital government has been recognised as a policy area of national interest (PCM, 2018).

While the national co-ordination of Peru's broader digital efforts is extremely important, the ability to achieve joined-up approaches on the digital transformation of the public sector is equally crucial. The co-ordination mechanism among public institutions on digital government implementation should enable government to address the strategic and operational challenges of government transformation. In this regard, the creation of the High-Level Committee for a Digital, Innovative and Competitive Peru, focusing exclusively on considering strategic issues related to the development of digital government, innovation and the digital economy, bring positive benefits to the improvement of the governance of the digital transformation of the public sector in the country (PCM, 2018).

The creation of the High-Level Committee for a Digital, Innovative and Competitive Peru through the Supreme Decree No. 118-2018-PCM is crucial. The Supreme Decree establishes an integral, multi-sectoral and high-level approach to digitalisation and the digital transformation of government. The Supreme Decree nominates SEGDI as technical secretary of the High-Level Committee, providing it with tools to better co-ordinate efforts with public, private, civil society and academic actors.

Figure 2.3. New Governance for Digital Government in Peru



Source: SEGDI

Areas of opportunity remain to improve the inter-institutional co-ordination of digital government at the operational level. The enactment of the Supreme Decree No. 033-2018-PCM represents a major institutional evolution helping drive coherent government transformation. The Supreme Decree establishes the Digital Government Leader in all government agencies, including sub-national governments considering their specific typology (SEGDI, 2018). Subsequently, the Resolution No. 004-2018-PCM/SEGDI of the Digital Government Secretariat approved the Guidelines of the Digital Government Leader, bringing more detail to its scope of work (SEGDI, 2018). In addition, an internal Digital Government Committee was created inside each public organisation to drive organisational change (See Section 2.3 on Enabling Digital Stewardship below). However, it is important to develop the required processes supporting multi-level operational coordination with others levels of government

The creation of the new Digital Government Leader provides an opportunity to enhance the collaborative and co-ordinated implementation of digital government policy as it is required to work with the National Digital Government Leader (the Secretary of Digital Government) on effectively implementing digital government standards, guidelines and policies.

The emergence of this new role suggests there is room for a co-ordination mechanism which includes the agency digital government leaders of all government institutions as it would have a different purpose. Different from the High-Level Committee, whose *raison d'être* is to improve the government's ability to steer and make strategic calls on digital affairs, this new co-ordination body would focus on ensuring inter-institutional co-ordination for effective operational, government-wide service transformation.

The new co-ordination body would bring together digital government leaders to deliberate on operational decisions relevant on digital government. Such a body would also benefit from technical working groups to support the work of Digital Government Leaders to find joint solutions to technical problems. These co-ordination spaces could bring the government a long way into coherent implementation of digital government in Peru.

As a result, it might be advisable **to establish a co-ordination body for digital government implementation with the Secretary of Digital Government as the President and SEGDI as the Secretariat**. If adequately designed and implemented, this co-ordination body would be consistent with the OECD Recommendations for Digital Government Strategies which calls for “providing the institution formally responsible for digital government co-ordination with the mechanism to align overall strategic choices on investments in digital technologies”.

Furthermore, the Supreme Decree No 033-2018-PCM creates the legal framework Single Platform of the State and provides the Secretary of Digital Government with the power to determine the process, timeline and rules for migrating the digital presence of all public institutions to the new government platform (GOB.PE), which represents a major shift in the political economy of government digitalisation. Not only it is now mandatory for public organisations to migrate the new state portal and services, but the SEGDI is able to determine the technical rules, standards and guidelines for doing so, including design and technical qualities of digital government services, sharing data between government institutions and of authenticating service users. This is a uniquely powerful lever for harmonising digital government services and driving organisational change across the public administration, enabling digital-, user- and data-driven approaches in government.

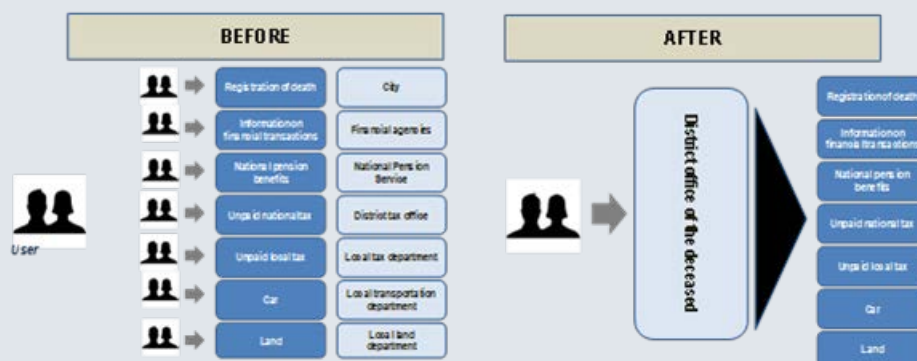
Box 2.1. Transforming service delivery in Korea through life events approaches

Korea is widely recognised as one of the most advanced countries when it comes to digital and user-driven public administrations. It has achieved this by putting a strong focus on the user’s journey and experience and carrying out a comprehensive implementation of a life-events approach.

As an illustration of this, the figure below represents the transformation of the administrative procedures required by heirs when confronted with the death of their parents. Prior to the integration of systems, the mourning heir had to complete seven different procedures: register the death at his/her local government, provide information on transactions to financial agencies, pay national and local taxes and complete the transfer of car and lands. These administrative burdens made the mourning even more burdensome.

Today, these procedures can be completed with a single form thanks to the integration and interoperability of systems.

Figure 2.4. Transforming service delivery in Korea through life events approaches



Source: Ministry of Interior of Korea (2017), "Presentation at the OECD-MENA Working Group II on Open and Innovative Government", Dubai, United Arab Emirates, February 2017.

Similarly, today new parents can automatically apply for a wide variety of birth-related welfare services using a single form when registering the birth of a baby. This is a tangible example of how services can be reorganised around the user's needs by cutting across traditional silos and areas of responsibility.

2.3. Enabling digital stewardship in the public sector: The Digital Government Leaders in Peru

To effectively steer the digital transformation, public sector leadership will need to create an authorising environment for change and enable bold action. Most importantly, in order to seize the opportunities of the digital transformation and address the increasingly sensitive questions raised by the digital era, leaders increasingly need to understand the strategic implications of emerging technologies. The OECD Recommendation (OECD, 2014) highlights that strong political leadership and commitment are vital for effective digital government strategies. As such, it is important the Secretary-General of the Presidency of the Council of Ministers and the President of the Council of Ministers lead the strategic co-ordination efforts for digital government to ensure alignment in views and general orientation of the government.

Furthermore, the digital transformation of government also demands a shift on how technology is perceived and used in public organisations. It calls for "*E-Leaders*" that can foster new ways of working and help re-engineer government. Traditionally, the ICT Department is understood to have a support function, not a strategic one. To change the paradigm in the use of technologies in the public sector, government institutions will increasingly need digital transformation officers who can think about technology as a strategic tool to achieve policy objectives, greater organisational performance and improve programme delivery. This usually means organisations require digital thought leaders to work closer with senior management and political leadership in setting organisational strategy and helping them identify and seize digital opportunities. The creation of the position of Digital Government Leaders across institutions of the Peruvian public

administration represents a major development for digital government in the country (see Box 2.2).

These new Digital Government Leaders could become the drivers of change, helping public organisations achieve new levels of technological maturity. They are not only called to work more closely with the National Digital Government Leader (see previous section), but to work more closely with senior executives from their respective organisations to help them leverage technology to fulfil their mission. While working together with the National Digital Government Leader is of critical importance for government-wide co-ordination, the ability to work with agency leaders effectively is just as important. Working with senior executives effectively would be mutually beneficial, empowering digital leaders to drive organisational change and enabling executives to deliver on their ambitions.

The success of Digital Government Leaders, however, will rely on key leadership skills enabling them to influence decision-making by senior executives and to motivate their teams. For Digital Government Leaders to go beyond a fancy title and be effective agents of change, their skills and roles should be clearly defined. The competency framework of Digital Government Leaders should not only require digital skills and strategic thinking, but also skills like management, story-telling and collaborative leadership.

Another important development in institutional governance helping advance agency-level transformation and digitalisation is the establishment of Digital Government Committees within each government agency (see Figure 2.2) through the 119-2018-PCM Ministerial Resolution (PCM, 2018). These Committees have the following members:

- The head of the entity/agency or his/her representative.
- The Digital Government Leader.
- The head of the office of ICT.
- The head of the office of Human Resources.
- The head of the office of Citizen Services.
- The official of information security.

These committees have the following responsibilities:

- Formulate the entity's Digital Government Plan.
- Lead and direct the institution's digital transformation process.
- Assess if the current and future uses of digital technologies are in line with the technological and regulatory changes, organisational needs, and institutional objectives.
- Manage the allocation of personnel and resources necessary for the implementation of the Digital Government Plan as part of the Institutional Operational Plans, Annual Procurement Plans and others.
- Promote and manage the implementation of standards and good practices in management and governance of digital technologies inside the entity.
- Prepare annual reports that assess the progress of the implementation of the Digital Government Plan.

- Monitor compliance with regulations related to the implementation of digital government in public entities.
- Promote the exchange of information data, as well as collaboration in the development of digitalisation projects between entities.
- Other functions assigned to it within the scope of its competence and those related to the subject

The Digital Government Committees will help translate the standards and guidelines established by the Secretary of Digital Government into coherent actions by public agencies.

Box 2.2. Digital Government Leaders

In March 2018 the Presidency of the Council of Ministers released the Supreme Decree N° 033-2018-PCM which required the nomination of the Digital Government Leader in all institutions of the Peruvian public administration, including other powers of the government, such as the Legislative Power, and autonomous organizations. The Digital Government Leader is a member of the Board of Advisors of his or her respective institution, providing the Leader with direct access to the highest-ranking officials of the his or her institution, empowering them to drive changes.

The Digital Government Leader coordinates with SEGDI the objectives and actions for the digital transformation of his or her organisation.

SEGDI's Resolution No. 004-2018-PCM/SEGDI established that the Digital Government Leader is responsible for:

- Leading the digital transformation process of his/her entity
- Actively participating in the agency's Digital Government Committee
- Promoting the use of technologies to achieve strategic goals of the organisation
- Promoting the use of innovative and agile methods
- Promoting a digital culture inside the organisation
- Managing resource allocation for strengthening digital government capacity inside his agency.
- Identifying with divisions and programme units opportunities for process redesign and service digitalisation

Source: (PCM, Decreto Supremo 033-2018-PCM, 2018)

2.4. Policy and legal framework

The *PGR of Peru* highlights that efficient and effective co-ordination bodies require “clear agendas with defined objectives” (OECD, 2016). National digital government strategies usually serve the function of building a shared vision for digital government and of setting clear goals and targets. However, Peru needs to establish a national digital government strategy, or other similar policy instrument focused on digital government, to lever the opportunities brought by the Digital Government Law.. Peru approved its first national

digital strategy for digital government in 2006: The Digital Agenda and the National Strategy of E-government. The objective of the first Digital Agenda was to increase the use of internet in the country and to modernise the public administration through the use of information and communication technologies (ICTs) to make public institutions more transparent, more efficient and more effective (CODESI, 2006).

The first effort was followed by a second digital agenda, or the Digital Agenda 2.0 of 2011, the National Policy for the Modernization of Public Management of 2013 and the National Policy of E-Government for 2013-2017.

The second Digital Agenda 2.0 aimed to foster the development of the knowledge and information society and create an environment conducive to the digital development of the country (CODESI, 2011). As previously mentioned, the Digital Agenda 2.0 was intended to provide strategic guidance for the period 2011-2015. While the Digital Agenda 2.0 has not been replaced by a new agenda, meaning that its normative underpinnings and regulatory framework are still in force, its vision and strategic approach do call for a renewal to effectively play its role as a governance tool of the digital transformation.

Furthermore, the global context of struggle against corruption and impunity provide a fertile opportunity for the crosscutting use of technologies helping transform all processes, services and functions of the State in views of strengthening confidence and transparency, helping build an Open State. This goal calls for digital government to be integrated as a fundamental component of public sector reform and the transparency and integrity policy framework.

Box 2.3. Peru's Digital Agenda

In June 2003, the Ministerial Resolution 181-2003-PCM created the Commission for the Development of the Information Society for Peru (CODESI), which aimed to drive policy action that fosters the development of the Information and Knowledge Economy. The CODESI is composed of government, private sector, academia and civil society organisations. It helped develop the First Digital Agenda Peru, which was adopted in 2006 and structured around 5 strategic objectives:

- Telecommunications infrastructure and connectivity
- Skills to access the Information Society
- Digital inclusion, access to services, research and Innovation
- Use and application of ICTs to enhance economy-wide productivity.
- E-Government

Each objective had detailed goals, action plans, assigned responsibilities and indicators (CODESI, 2006). The Digital Agenda was updated in 2011, renamed “Digital Agenda 2.0” as approved by Supreme Decree N° 066-2011-PCM. This new digital agenda has the following eight objectives (CODESI, 2011):

- Telecommunications infrastructure
- Skills to access and participate in the Information Society
- Digital inclusion

- ICT research, development and innovation
- Use and application of ICTs for economy-wide productivity.
- Development of the Peruvian ICT sector
- User-oriented public administration (e-government)
- Whole-of-government approach (embedding the Digital Agenda 2.0 in public policies across sectors and levels of government).

The goals, indicators and responsibilities were updated. The Digital Agenda 2.0 was intended to cover the period 2011-2015. However, it is necessary to update or replace it according to the provisions of the Digital Government Law.

Source: PCM (2003) Ministerial Resolution 181-2003-PCM; PCM (2011) Supreme Decree No. 066-2011-PCM

However, in the absence of a national strategy or plan for digital government, the new Digital Government Law is a policy milestone, for it defined a governance framework pushing government forward in its digital ambitions (Box 2.4). The law lays out the institutional foundations for digital government and clarifies the governance framework of digital identity, digital services, data, IT architecture, interoperability and digital security in order to provide citizens with faster, cheaper, safer and more convenient services to citizens.

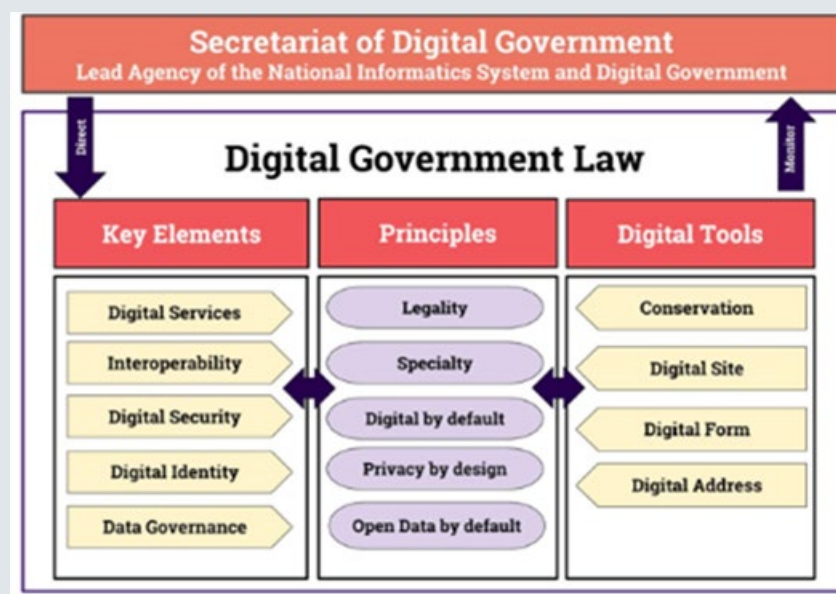
Box 2.4. Peru's New Digital Government Law

Peru's new Digital Government Law, approved by Legislative Decree No. 1412, was adopted to establish a governance framework for digital government and improve the management of digital identity, digital services, IT architecture, data, digital public documents, interoperability and digital security.

The Law concerns the whole Public Administration and sets up an institutional architecture to support its digital transformation. It establishes key guiding principles which, if embedded into government processes, can become transformational ones. These include principles such as digital and privacy by design, digital co-operation, open data by default, usability and equal responsibility and rights through digital means.

The Digital Government Law ratifies the role of the Digital Government Secretariat of the Presidency of the Council of Ministers as the National Digital Government Leader, setting policies, overseeing their implementations and evaluating its results. It also sets the stage for harmonising the use of digital identity, the digitalisation of services, and unleashing the power of data in the public administration by enhancing responsible and responsive data sharing and use.

Figure 2.5. Peru's New Digital Government Law

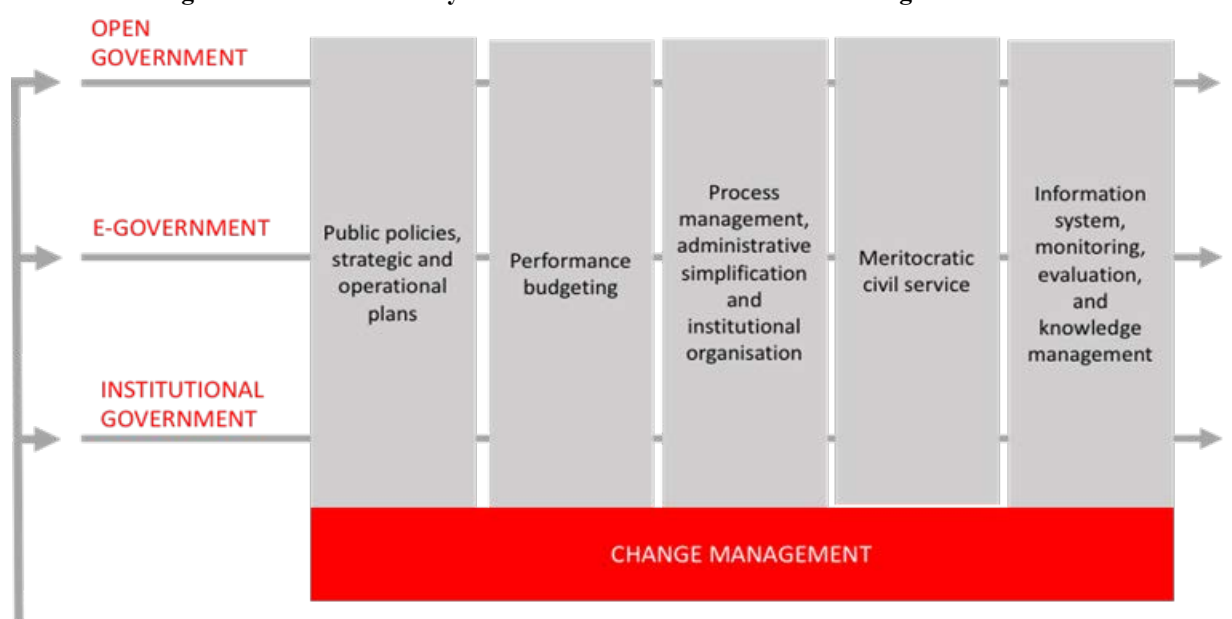


Source: (President of Peru, 2018); SEG D

The National Policy for the Modernisation of Public Management 2013-2021 developed by the Public Management Secretariat (SGP) provides a thorough analysis of the challenges of the public sector in Peru which is summarised in 5 pillars and 3 cross-cutting axes

E-government is considered one of the cross-cutting axes for the modernisation of the public sector in the country. Having e-government within the National Policy for the Modernisation of Public Management 2013-2021 is consistent with the Recommendation of the OECD on Digital Government Strategies of “integrating the digital government strategy in overall public administration reforms”. This National Policy developed a Plan that put forward specific actions, baselines, and indicators for every guideline in every pillar and axis for the years 2013 to 2016.

Figure 2.6. National Policy for the Modernisation of Public Management 2013-2021



Source: National Policy for the Modernisation of Public Management 2013-2021

Finally, the National Policy for E-government 2013-2017, adopted through Supreme Decree No. 081-2013-PCM, established five objectives for e-Government: (i) strengthen e-government in the public administration, (ii) bring the state closer to citizens through ICT, (iii) secure the integrity, confidentiality, and availability of public information, (iv) promote digital inclusion of citizens, and (v) promote the information society in Peru. These objectives were accompanied by seven strategic guidelines: Transparency, e-inclusion, e-participation, e-services, technology and innovation, information security and infrastructure. However, in the absence of political support for the now extinct ONGEI in previous years, the creation of the Digital Government Secretariat, the E-government Policy lacked a detailed action plan to operationalise its objectives. It is now mandatory to work on a new policy that pushes the transition towards a digital government, and avoid perpetuating outdated e-government approaches.

In that context, the National Policy for the Modernisation of Public Management 2013-2021 is the only policy document that is still in its period of intended validity that refers to the use of technology in the public sector. However, this policy document dates back to 2013, and does not reflect more recent developments including the shift to digital government (OECD, 2014). The policy, which reflects the e-government mindset that was predominant in 2013, includes three general guidelines:

- Facilitate citizens' access to public services online, which are organised in a simple, close and consistent way.
- Give citizens access to permanently updated information on the entity.
- Integrate, as far as possible, the communication systems of the entity to the national electronic government platforms, in accordance with the National Plan of e-Government.

These guidelines do not cover the extent of the digital government reform such as the adoption of user- and data-driven approaches, the adoption of agile and iterative

methodologies or proactive approaches in government service delivery. The time seems to be ripe for a new policy document to ensure there is an up-to-date government vision for seizing digital opportunities to improve government performance. This can prepare the ground to kick-off the holistic digital transformation in the State, and define such a goal as one of the core missions of the PCM, together with the modernisation of public management.

In 2016, ONGEI was already working on preparing a new National Strategy for e-Government (OECD, 2016); however, it has still not been approved, missing opportunities provided by the publication of the Digital Government Law.. As advanced in the *PGR of Peru*, “in the absence of a more detailed and broadly accessible action plan, expected results remain unclear and uncertain’ (OECD, 2016). A renewal of the digital government policy framework, and its underlying consensus, is a work in progress and the establishment of a clear roadmap for the adoption of a new digital government plan should be welcomed by the whole digital government ecosystem.

In addition, the very concept of state modernisation must evolve to capture the idea of disruptive transformation of the state, based on the intensive use of digital technologies and smart regulation as central pillars of public value creation for the citizens and society more broadly. Likewise, a whole-of-government transformation strategy would benefit from an evolution of the Peruvian National Informatics System. The Peruvian public sector seems to be ripe for a new system that understands the new roles, processes, components, methods and digital technologies required for digital transformation, digital economy, digital security and innovation. Such a system, managed by SEGDI, could provide a platform for collaboration and action beyond the public. Likewise, the High-Level Committee for a Digital, Innovative and Competitive Peru could lead the design and structuring of an autonomous entity or body that, underpinned by SEGDI, promotes the evolution to a digital society, working with the public, private, academia, civil society sectors and engaged citizens in advancing digitalisation.

The elaboration of this policy document provides an opportunity to implement some good OECD practices. In this sense, the plan would benefit from incorporating the following elements:

- Overall objectives
- Specific targets or goals
- Activities to achieve specific targets
- Actors responsible for the implementation of activities
- Indicators to monitor implementation (key performance indicators)

By including these elements in the Digital Government Strategy this would enable Peru to take the first steps towards fulfilling the following recommendation of the PGR (OECD, 2016)

“Define and implement a robust evaluation and measurement framework for the digital government strategy that includes medium- and long-term strategic outcomes and their requisite performance targets and indicators for better service delivery that improve results for people regardless of where they live in the country, and immediate-term outputs and results indicators for project performance at all levels of government, to ensure efficient project management and overview mechanisms, with the availability at any time

of a comprehensive picture of ongoing digital initiatives to avoid duplication of systems and datasets”.

2.5. Budget

The PGR of Peru clearly states budgetary and policy decisions are not closely linked together, creating inconsistencies between the policy and legal intent of the central coordination body and the actual financial allocations for project development” (OECD, 2016). Indeed, it is a common practice in Peru that Decrees related to the adoption of a new policy or a Multisectoral Commission include an article stating the new policy or co-ordination body will not demand or require additional resources from the Treasury and the source of funding of these activities will be the institution’s own budget. In this light, it is important to acknowledge that reducing policy gaps require strategic investments by the State.

While budget allocations are always highly political and contentious, It will be important to evaluate the financial return of investments in digital government in order to support the business case for investing further resources to meet digitalisation ambitions.

Digital government has too often been overlooked by government institutions (OECD, 2016). The digital transformation of the public sector requires digital government policy be seen as a strategic lever for government objectives. This can only be achieved if digitalisation efforts are properly funded, in particular in a context of scarce digital skills (i.e. software developers, data science and user experience) and high demand.

Two approaches could help drive greater financial support for digital government implementation. First, clear messaging from the head of the executive signalling digital government is a priority as well as the continuous monitoring of progress in digital government implementation can help align political incentives and accelerate change. The adoption of the Supreme Decree No. 118-2018-PCM which declares that digital government, innovation and the digital economy are of national interest and creates the High-Level Committee for a Digital, Innovative and Competitive Peru is a first step to that effect (PCM, 2018). This approach could further be reinforced through the creation of central, earmarked funds to finance strategic digital government projects. These funds have proven effective in creating incentives for change in the public policy practice and debate.

Second, by focusing on helping programme and business units of public organisations, digital government leaders can stimulate demand for digitalisation and its modernisation opportunities for executives. This work fosters internal curiosity, buy-in and builds long-lasting incentives for the use of technology, underpinning the programme’s internal demand for new digital and innovative approaches to tackling policy problems.

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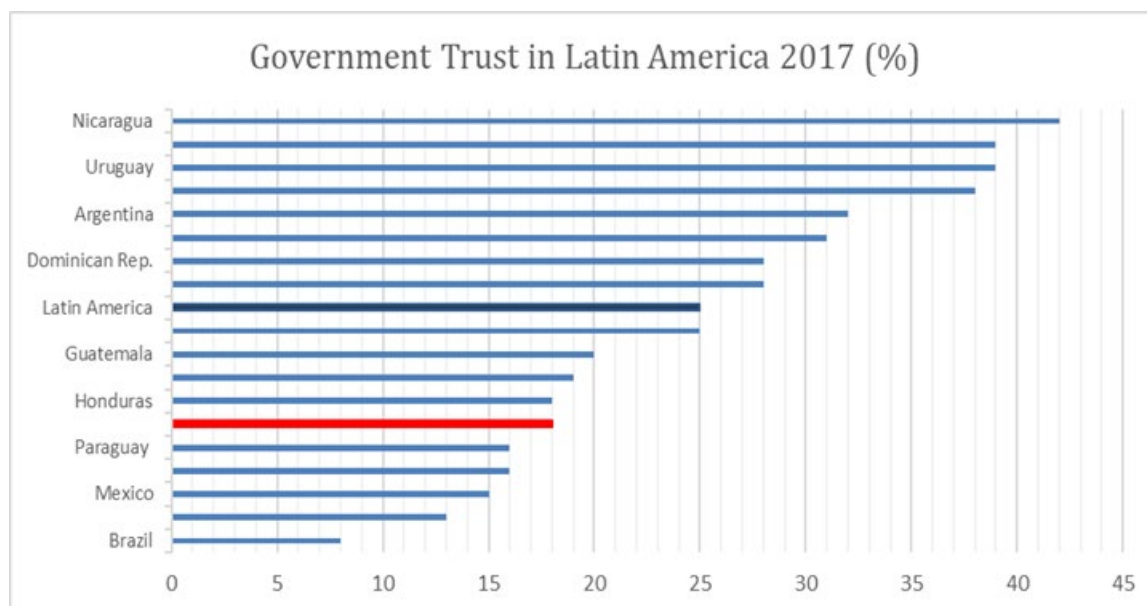
3. Digital Service Transformation in Peru

Considering the current state of emerging technologies, this chapter looks at the opportunities offered by the digital revolution to transform government services to drive trust in government. Based on comparative data from Latinobarómetro, the chapter analyses the user experience of Peruvian administrative procedures and identifies areas of opportunity. Furthermore, the chapter highlights the regulatory landscape of digital service delivery in Peru as one of the enabling components of the digital transformation of public services. Finally, the chapter reviews the tools and capabilities needed to transform the Peruvian public sector anchored on OECD best practices and approaches.

The fast-spreading adoption and use of the internet worldwide in the early 21st century sparked the interest of governments in using information and communications technologies, and particularly the internet, to make government work better. These efforts came to be known as e-government (OECD, 2014). The accelerating pace of technological change and innovation is changing the ways people work, interact and access services. As digital technologies become ubiquitous, expectations about government services evolve. Citizens increasingly expect high quality digital services, available twenty-four hours a day, seven days a week, and accessible from wherever they are. Governments, however, have traditionally outsourced technology services, which has often prevented the public sector from developing its digital capability and culture. However, analogue governments cannot effectively steer or operate in digital societies. The emerging digital economies and societies put pressure on governments to leapfrog forward to transform public sector operations. If governments fail to do so, they face substantial risks, such as poor service delivery, significant policy failures and diminishing trust in government's ability to lead in a new era of technological innovation.

Peru's institutions currently experience low levels of public trust (Figure 3.1). The effective implementation of digital government could bring the Peruvian Government a long way in improving transparency, public participation and satisfaction with public services, all of which can help secure and strengthen trust in institutions.

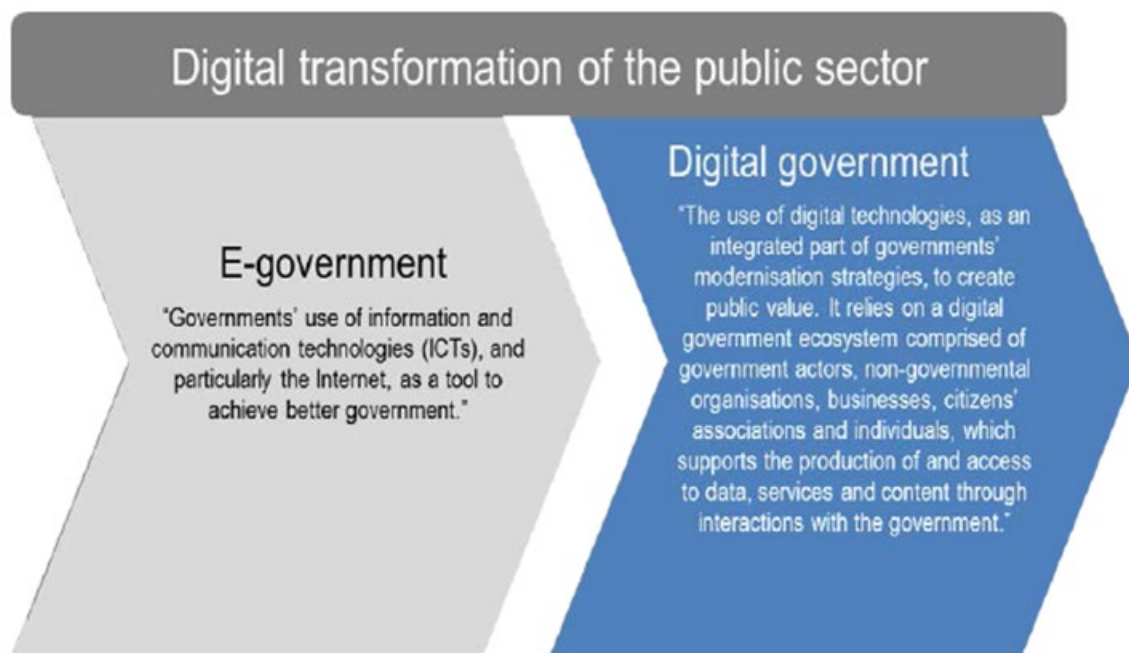
Figure 3.1. Government trust in Latin America



Source: Latinobarometro Report 2017

To respond to these trends, governments across the OECD have looked for ways to redesign government services and processes. These improvements aim to enhance the agility of the public sector, to adopt new digital approaches to policy-making and service delivery, to create more direct relationships with service users, to make the public sector more transparent and to move towards data-driven decisions to improve government performance. This general trend is part of the shift from e-government to digital government (see Figure 3.2).

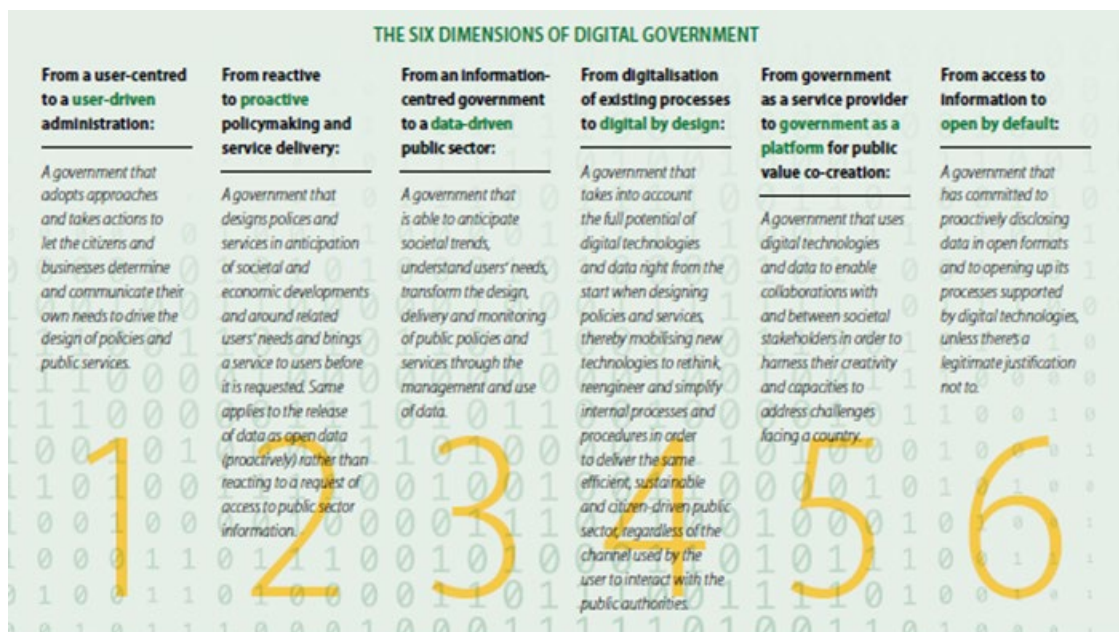
Figure 3.2. Digital transformation of the public sector



Source: Based on OECD (2014), "Recommendation of the Council on Digital Government Strategies", OECD, www.oecd.org/gov/digital-government/recommendation-on-digital-government-strategies.htm.

Indeed, OECD analysis has identified six main dimensions of digital government (see Figure 3.3) that fundamentally change how governments operate and how they relate to their constituents (OECD, Forthcoming). Digital governments are: (1) user-driven; (2) proactive; (3) data-driven; (4) digital by design; (5) platforms of collaboration and co-creation; and (6) open by default.

Figure 3.3. The six dimensions of digital government

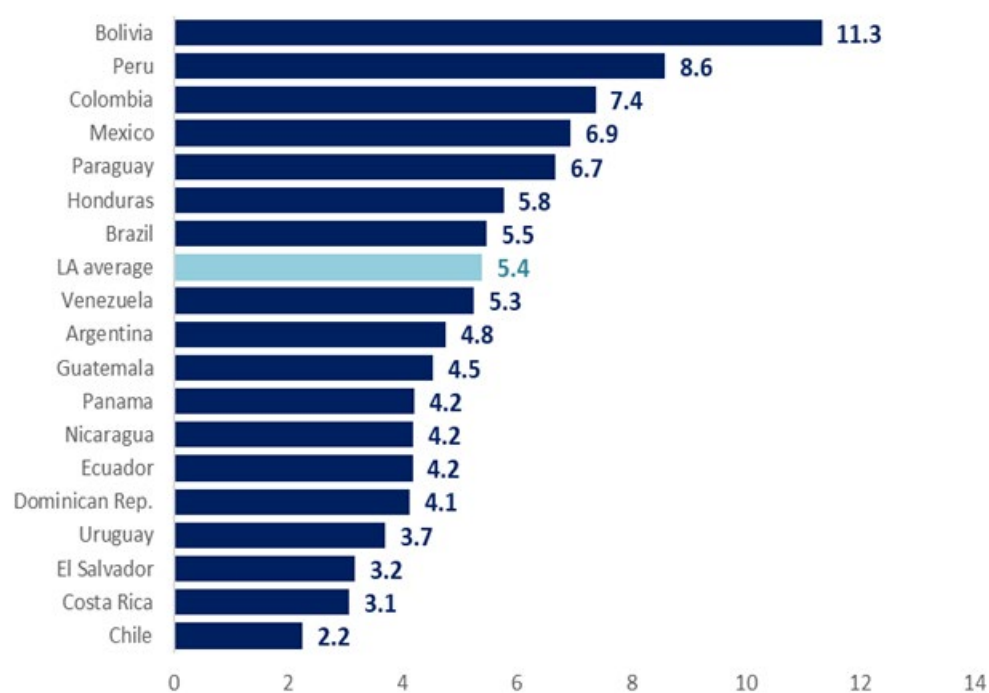


Source: Based on OECD (2014), "Recommendation of the Council on Digital Government Strategies", OECD, www.oecd.org/gov/digital-government/recommendation-on-digital-government-strategies.htm.

These six dimensions of digital government are closely intertwined and have crosscutting elements to them. These cross-cutting elements include a shift to collaborative approaches, a new culture and mindset among public servants', the need for new skills and a focus on protecting privacy and security of data while seizing the opportunities of the digital era. Building on the experience of OECD countries, and taking the Peruvian context as a starting point, this chapter will look at how to take steps for the Peruvian public administration to become more user-driven, adopt processes that are digital by design and leverage digital technologies to act as a platform for collaboration and co-creation.

3.1. Procedures in Peru and Latin America

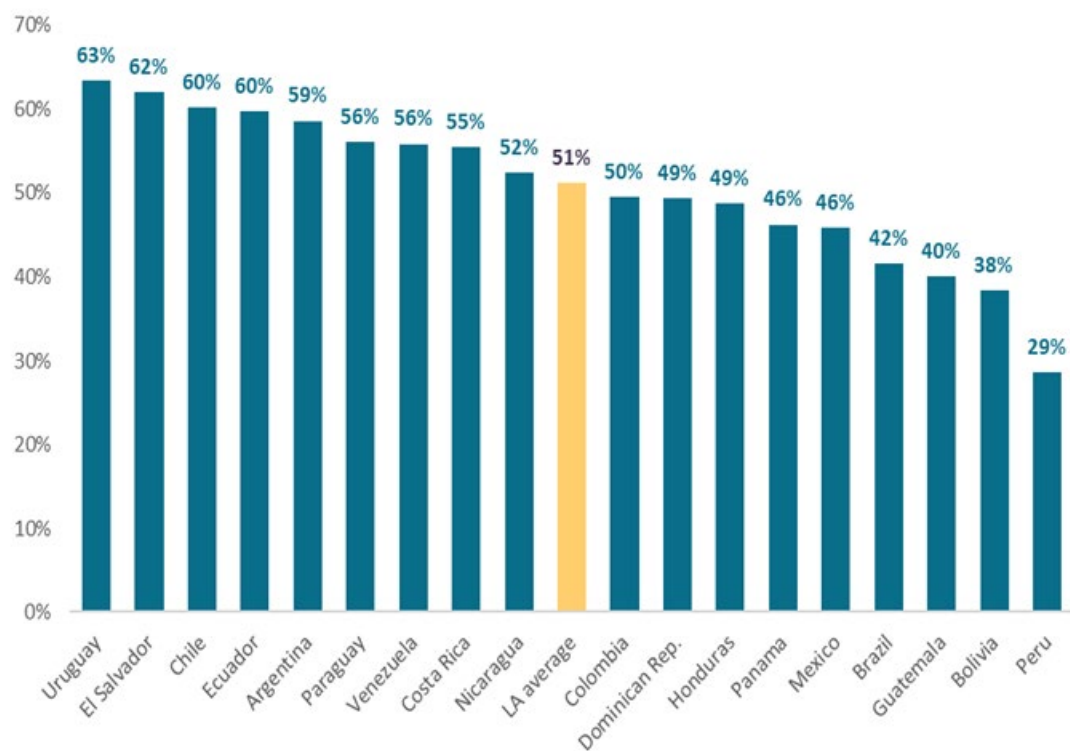
Administrative simplification, agility and digitalisation have become issues of increasing concern and focus for the Peruvian public sector and with good reason. As Figure 3.4 shows, completing a procedure in Peru requires 8.6 hours on average (Latinobarometro, 2017). Only Bolivia, with an average of 11.3 hours, performs worse than Peru in Latin America by this indicator. Furthermore, only 29% of Peruvians finish their transactions in a single visit. As many as 41% of procedures require three or more interactions and only 17% of the procedures are considered easy, meaning that they can be completed in one visit and in less than 2 hours (Roseth, et al., 2018). By all these measures, Peru faces enormous challenges in terms of public services.

Figure 3.4. Hours needed to finish a procedure in Latin America

Note: Prepared by the IDB with the information of Latinobarometro.

Source: Roseth, et al., 2018

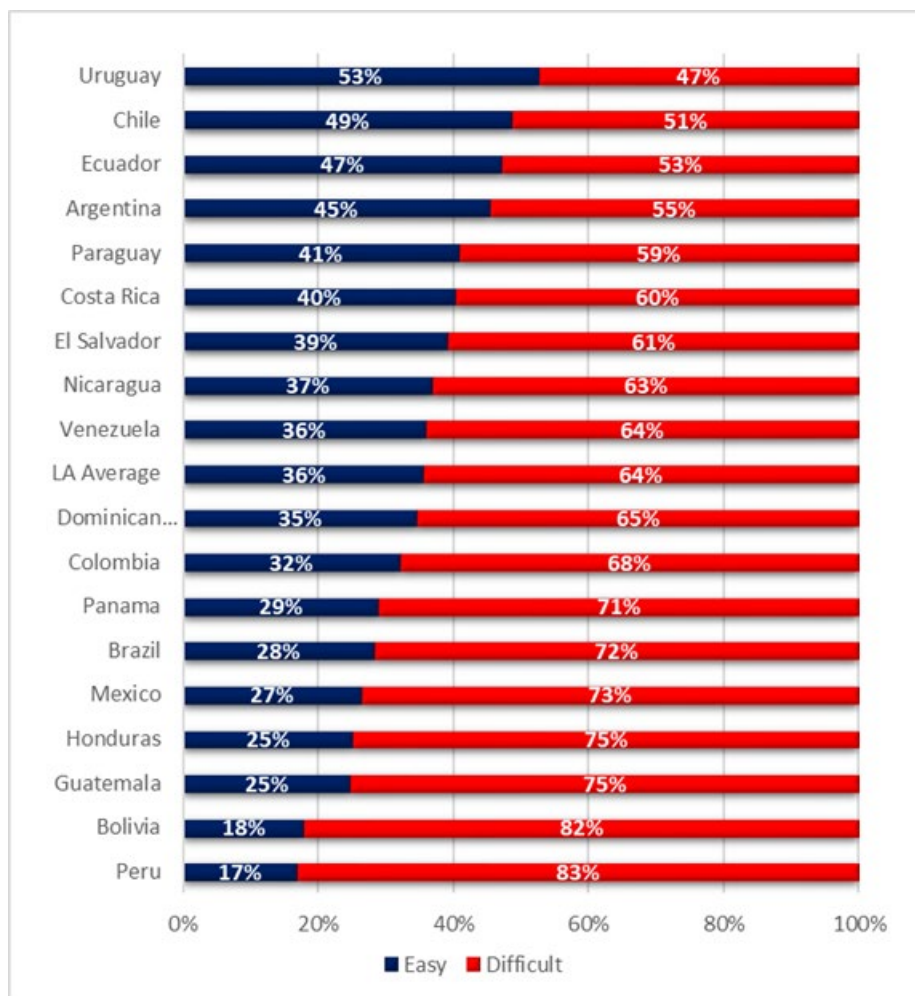
Figure 3.5. Percentage of procedures completed in a single interaction



Note: developed by BID with the information of Latinobarometro.

Source: Roseth, et al., 2018

Figure 3.6. Difficulty of government procedures by country



Note: developed by BID with the information of Latinobarometro.

Source: Roseth, et al., 2018

Of the 4,535 procedures managed by the Peruvian Central Government, only 15.1% can be started online and a mere 4% can be completed digitally. This represents a lost opportunity for Peru's competitiveness and productivity, as research shows digital transactions take 74% less time than physical transactions in the region and barely 2.35% to 5% of the total cost of face-to-face transactions. Furthermore, these low levels of digitalisation provide significant the opportunities for corruption (Roseth, et al., 2018).

All of this sets the stage for the Secretariat for Digital Government (*Secretaría de Gobierno Digital* – SEGDI) to play a growing role in government transformation by seizing the opportunities of digital technologies to help improve public sector performance. SEGDI's leadership could help the Peru public administration rethink how it delivers services and how well they respond to users' needs and preferences.

3.2. Enabling the digital transformation

Aware of its challenges, Peru has made decisive efforts to lay out the foundations of the digital transformation of the public sector. Over recent years it has taken important steps to set up the basic building blocks that support the emergence of a digital- and user-driven administration that can deliver faster, cheaper and simpler services.

Peru enacted a law on digital signatures and certificates in the year 2000 (*Ley No. 27269*). In 2008, the Supreme Decree N° 052-2008-PCM established the required regulation to make this law effective, establishing an electronic National Identification Document (*Documento Nacional de Identidad electrónico – DNIE*) that enables users to digitally sign official documents.

More recently, the Legislative Decree 1246 of 2016 pushed the public administration to simplify procedures, requiring that citizens are not asked for information that already exists within the public administration and making the adoption of the State's Interoperability Platform mandatory as a means to make life easier for citizens. This drive for interoperability has focused on key registries, such as the National Registry of Identification and Civil Status (*Registro Nacional de Identificación y Estado Civil – RENIEC*), and its scope has progressively expanded to include other key registries (see Legislative Decree 1310 of 2016, Supreme Decree No. 121-2017-PCM, Supreme Decree 067-2017-PCM and Supreme Decree 051-2017-PCM).

Furthermore, the adoption of the new Digital Government Law (see previous section on policy and legal framework) provides the institutional infrastructure to support the digital transformation of the public sector. It sets guiding principles for the digitalisation efforts of the government, establishes the mandate of the national digital government authority (SEGDI), and lays out the efforts needed to achieve the digitalisation of services and the digital integration of the public sector.

These efforts to advance digital identity, interoperability and data sharing in the public sector are creating the conditions for Peru to make effective the *once only principle* (the right of citizens and businesses not to provide the public sector with the same information twice), as acknowledged in the abovementioned Legislative Decree 1246. Moreover, they are giving rise to a true Peruvian digital identity. This will not only enable end-to-end digital service delivery, but will also provide government with a comprehensive view of service user, contributing to a better understanding of user needs and creating meaningful data for policy-making.

3.3. Digital Service Transformation

Traditional public administrations in developed economies have been structured in sectors with highly hierarchical and specialised cultures. For all their benefits in ensuring the effective organisation of government in other eras, these arrangements have resulted in siloes and service delivery approaches that reflect organisational mandates rather than citizen needs. The technological progress and the continuous push for the modernisation of the State have progressively brought into question such arrangements as it has become evident that new technologies enable new and more convenient approaches.

Governments in OECD countries have been moving from closed organisations with an internal focus (analogue government), to institutions that are transparent and try to anticipate what citizens need with insufficient data (e-government), to open institutions that

engage users, allowing them to determine their own needs and preferences (digital government). Digital government starts with user needs.

The digital transformation has shown how digital organisations are better able to create and deliver value for users. At the end of the first quarter of 2018, seven out of the 10 most valuable companies in the world by market capitalisation were technology companies, compared to just one at the same time in 2000. Digital technologies have opened new ways of engaging with the user, allowing organisations to gain a better understanding of what he or she wants and to improve the service or product provided and its value proposition.

Governments have looked at companies, and most specifically start-ups, for ways to rethink how they design, develop and deliver services and policies. These new approaches have resulted in a dramatic paradigm shift, putting users in the driver's seat. This trend has seen the rise in relevance of expertise such as UX and digital service design, agile and DevOps development and the idea of continuous iteration as fundamental principle of public service delivery. Moreover, governments are striving to embed user-feedback throughout all the stages of the service and policy development process as a key element of quality assurance and democratic legitimacy.

Government transformation, however, is easier said than done. It is not uncommon to find resistance and risk aversion, characteristic in the public sector, often operates against reform. However, some powerful tools have been identified as serving as levers of change by helping embed new principles into government operations (OECD, 2018). For instance, countries like Australia¹, Canada², Mexico³, New Zealand⁴, the United Kingdom⁵, and the United States⁶ have developed design principles, digital service standards, guidelines and toolkits as levers helping boost the digital transformation.

These tools provide digital teams with a principle-based approach to service design, empowering them to leave behind obsolete rules that make little sense in the new context. They also provide clear definition about what good performing services are, shifting incentives to bring a greater focus on user-driven services (Bracken & al, 2018; Bracken & Greenway, How to Achieve and Sustain Government Digital Transformation, 2018). These principles, once embedded into government processes, can do a lot to advance a digital culture in the public sector.

Peru today is ideally placed to develop similar tools of governance. The recently adopted Digital Government Law establishes a first level of principles for service transformation. The new governance structure established by the recently adopted Digital Government Law and the updated legal and regulatory framework make it clear Peru is ready to benefit from a new layer of design principles and more detailed service standards. The introduction of the new State Portal with the Supreme Decree 033-2018-PCM (PCM, 2018) strengthened the position of the Secretariat for Digital Government (*Secretaría de Gobierno Digital* – SEGDI) to enforce the implementation of standards, thus magnifying their power (see Chapter 2). Indeed, the Decree mandates that all public institutions migrate their digital presence to this new platform following the standards determined by the SEGDI, who manages the platform. This provides a great opportunity for SEGDI to push for redesigning services from scratch instead of replicating analogue procedures online. This push will also benefit from the effort of the Peruvian Government to accelerate the interoperability of data and systems across the public sector, which is an enabler of process re-engineering (see Section 3.2).

Box 3.1. United Kingdom's Digital Service Standard

The Government of the United Kingdom, through the Government Digital Service in Cabinet Office, has put in place a set of 18 criteria known as the Digital Service Standard. All public facing transactional services must meet the standard to be approved for public use. The high-level criteria are listed below, and more detailed information can be found at the link in the source. The three main components of the portal are:

1. Understand user needs.
2. Do ongoing user research.
3. Have a multidisciplinary team.
4. Use agile methods.
5. Iterate and improve frequently.
6. Evaluate tools and systems.
7. Understand security and privacy issues.
8. Make all new source code open.
9. Use open standards and common platforms.
10. Test the end-to-end service.
11. Make a plan for being off line.
12. Make sure users succeed the first time.
13. Make sure user experience is consistent with GOV.UK.
14. Encourage everyone to use the digital service.
15. Collect performance data.
16. Identify performance indicators.
17. Report performance data on the Performance Platform.
18. Test with the minister.

Source: Government of the United Kingdom (n.d.), "Digital Service Standard", GOV.UK Service Manual, webpage, www.gov.uk/service-manual/service-standard (accessed on 9 February 2018).

It is also timely as the use of service design principles and digital service standards are reaching new stages of maturity, which would allow Peru to leapfrog its way forward. The United Kingdom, a trend-setter in this domain, is already signalling where the next evolution of digital government may be heading. The UK Government Digital Service has announced that it is working on a revised framework that will aim to achieve more joined up approaches to service transformation, rather than focusing on improving the experience of individual services (Gill, 2018).

If implemented under the right conditions, digital service standards can foster an important shift in mentality when it comes to public service design and delivery. By focusing on understanding users' needs first and engaging the user all throughout the design process, promoting continuous iterations and improvement, these standards help advance public

sector agility and integration and, ultimately, the emergence of a user-driven administration. These principles are all the more important since the push from the centre can only get you so far in building a true digital culture. As these principles become embedded in procurement processes, service and policy development, a true digital mindset will start to take over the administration.

However, as it is well known, culture requires nurture. This is what makes Digital Government Leaders a crucial piece of public service transformation in Peru. As indicated in Chapter 2, Digital Government Leaders have a key role to play in bringing digital to the core of organisational strategy, ensuring whole-of-government co-ordination, demonstrating value to business units and inspiring digital teams to drive change.

3.4. GOB.PE

In the past few years, the adoption of a single state portal has served in many cases as mission-driven approach to government transformation. The *United Kingdom*, with the case of GOV.UK, or *Mexico* with the case of GOB.MX are two clear examples. Countries like *Argentina* and *Uruguay* have also followed suit.

This concept combines several valuable ideas. First, it helps drive economies of scale and scope due to the elimination of thousands of government platforms and domains. It also facilitates service interoperability and data sharing between government institutions. Moreover, it acknowledges distinctions exist between agencies. While they may make sense functionally and for accountability purposes, citizens often see government as a whole. A single state portal facilitates interactions between citizens and government-as-a-whole. With one portal with one design and one interface, it also helps harmonise user experience and helps the user more clearly identify what is an official government website and what is not.

The majority of the state portals observed globally include the following elements:

- Access to digital services and procedures
- Information about the government
- Service catalogue
- Use of digital identification
- Interoperability platform
- Cybersecurity standards

Prior to the establishment of GOB.PE, Peru had the peru.gob.pe portal while at the same time every institution maintained its own portal too. However, the information available in institutional portals was often unclear. In 2016, the Office for Innovation was created inside the PCM and one of its key findings was the need of citizens to easily access updated and clear information from and about government (PCM, 2018). [GOB.PE](http://gob.pe) emerged as a result of this analysis and the joint work between the Office for Innovation and the then recently created SEGDI. Created using agile methodologies, the beta version was launched in July 2017, and the official launch took place on March 23, 2018

. The current version of [GOB.PE](http://gob.pe) includes information about institutions, procedures and services. By mid-2018, more than 1 million citizens had accessed the platform with a level of satisfaction of 97% (PCM, 2018).

[GOB.PE](#) was officially launched and replaced the Services Portal for Citizens and Businesses (*Portal de Servicios para Ciudadanos y Empresas – PSCE*), the [peru.gob.pe](#) and the [tramites.gob.pe](#) portals. The Supreme Decree 033-2018-PCM that launched the portal also established mandatory progressive incorporation of all entities to [GOB.PE](#), with full migration by 2021 (for national institutions). It also mandates that all services (existent and to come) be digitalised, and that all supporting systems, infrastructure and data participate in the interoperability platform. It also mandates the use of the national digital identification mechanism (digital signature and DNIE) to enable digital services.

Box 3.2. GOB.MX : Transforming service delivery and digital engagement in Mexico

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

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

The three main components of the portal are:

- **Gob.mx/tramites:** Gives citizens and business quick, easy access to 4,000 federal public services.
- **Gob.mx/gobierno:** A shared content management system and a UX design standard applied to 5,336 government websites, effectively consolidating, harmonising and integrating the government's digital presence.
- **Gob.mx/participa:** Interactive platform providing citizens with a channel to make proposals, report acts of corruption and participate in the development of new services and policies.

Source: Gob.mx (2018) ¿Qué es gob.mx? <https://www.gob.mx/que-es-gobmx-extendido> (accessed on Oct 26, 2018); OECD (2015) Digital Government Toolkit: Good Practices – National One Stop Portal Gob.mx, <http://www.oecd.org/gov/mexico-one-stop-portal.pdf> (accessed on Oct 26, 2018); National Digital Strategy Co-ordination (2018) National Digital Strategy – Project files (internal, unpublished document).

3.5. Building digital capability in the Peruvian public sector

The digital transformation ultimately comes down to the human factor. It is not about transforming technology, but the way government is organised, how it works and the capabilities it needs to deliver in the digital age. The digital capability of public institutions will be determined by the talent, quality and performance of digital teams, and by the rules and processes that structure how these teams work.

The digital revolution is reshaping the present and future of work (Chui, 2015; Manyika, 2017). New skills are required in virtually every industry and government is not an exception. If anything, governments have been left more vulnerable due to decades of outsourcing digital competence. The technical skills required to support the digital transformation of government are scarce and in high demand. To face this reality, the Government of Peru urgently needs to prioritise strategies to upskill, reskill and attract new talent to the public sector if it expects to deliver on its digital ambitions, as other OECD countries have done (see Box 3.2).

Box 3.3. Attracting new talent in government

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

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

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

These efforts must first be able to distinguish between the skills it can develop in-house through re-training, and those that will need to be found outside of the public sector. New project management approaches, such as agile methodologies or DevOps, can be taught to public sector project managers. However, other skillsets – such as data science, or human-centred design- require very specific training and experience, making them hard to transfer (Bughin, 2018).

In order to design an effective skills development strategy, the Government of Peru might benefit from mapping the existing gaps and needs in the public sector considering current technological trends as well as current and foreseeable government priorities.

To be able to attract talent, the hiring process must assess candidate based on relevant skills. This means UX designers, software developers or data scientists should not go through a traditional civil service examination process where candidates are assessed based on resume or competencies such as eloquence and ability to write memos that are not relevant for their roles. On the contrary, talent acquisition frameworks should appraise the candidate's actual abilities to code and/or manipulate and analyse massive amounts of data if that is what they are hired to do. Furthermore, the hiring process should be relatively agile, as it is in the private sector, if the government expects to stand a chance of attracting digital talent.

Moreover, the government must not only be able to attract new talent, but to upskill and re-skill existing personnel to allow civil servants to operate effectively in a digital environment. OECD governments have sought to address this challenge through the creation of digital academies delivering courses in relevant areas for civil servants. Canada launched its Digital Academy in October 2018⁷ and Mexico launched its Academia Digital⁸ that same year. The trend-setter was again the United Kingdom. The GDS Academy⁹ was originally launched in 2014 (then known as Digital Academy) and is focused not only on training civil servants to work with digital methods, tools and approaches, but also to help senior decision-makers understand the implications of technological change and emerging technologies for their work. These are two very valuable elements that have led other peers to adopt similar approaches. Other OECD countries are also working on launching their own versions of the initiative soon.

These efforts are often done in partnership with the country's ministry of public administration (or equivalent) of the national school of the civil service for reasons of evident synergy. The new Digital Government Law calls on SEGDI to work with SERVIR, Peru's National Civil Service Authority, to strengthen digital government capability of the public sector. Both agencies might usefully consider the development of a comprehensive programme looking at building the digital capabilities and leadership needed within the public sector.

Finally, another critical component of the public sector's digital capability are the technology acquisition frameworks that support digitalisation efforts. The digitalisation of government also entails changing how the public sector develops and acquires technology to support more agile and collaborative approaches. ICT commissioning is changing to arrangements where the public administration procures technology based on user needs and existing assets.

As part of their transformation process, governments are moving away from waterfall project management where all elements and requirements are defined in advance, and to a contracting model that acknowledges that not all functionalities and specifics of a platform can or will be defined in advance, but that they will be revealed through testing and progressive iterations. New contracting approaches and frameworks are needed for the public sector to be able to seize the opportunities of agile methodologies.

Another important initiative that has the potential to quickly advance and scale the digitalisation of public services and to spread digital capabilities across sectors and levels of government is the Public Software (Software Público), established via Supreme Decree 051-2018-PCM.¹⁰ The Public Software platform will help advance the re-use of government software and solutions and promote the use of open standards in government. If backed by an ecosystem of practitioners and developers, it could considerably reduce ICT costs for the public administration and facilitate adoption and leapfrogging by agencies with scarce resources and digital capabilities but that have similar missions, functions and needs, such as the subnational governments (OECD, 2018).

Along these lines, the development of basic guidelines to ensure the scalability, interoperability and security of the information systems of public organisations across levels of government is key. These guidelines could also help drive the adoption of digital approaches, making the design and conception of the services digital by default.

Furthermore, as the digitalisation of the state makes progress, it is essential to ensure adequate technical, organisational and legal measures to manage digital security risks that affect the personal data, national security and infrastructure, as well as the economic and

social prosperity of the country. Since digital and cybersecurity risks affect the whole of society, it is important for the design and operationalisation of the digital strategy to ensure a joined-up approach with public, private, academia sectors as well as other relevant stakeholders. For the above, the OECD Recommendations for the "Management of Digital Security Risks for Economic and Social Prosperity" can serve as reference (OECD, 2015).

National digital security risks and response team have proven valuable resources for mitigating risks and responding to incidents. These national response centres often integrate resources from different entities with the aim of generating a single point of contact and equipment that addresses the risks that affect infrastructure. These emergency response teams tend to bring together expertise from the public and the private sector in a wide variety of areas, including technical cybersecurity specialists, legal and policy specialists, among others, working together to ensure the protection of national critical infrastructure, data and legal sovereignty, among other. In a digital era, national digital security is a matter of national security.

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Notes

¹ <https://www.dta.gov.au/standard/>

² <https://www.canada.ca/en/government/publicservice/modernizing/government-canada-digital-standards.html>

³ Mexican digital service design principles (<https://www.gob.mx/serviciospdigitales/articulos/principios-generales-de-diseno-de-servicios-digitales>), digital service standard and re-usable tools (<https://www.gob.mx/estandar>), guides (<https://www.gob.mx/wikiguias>),

⁴ <https://www.digital.govt.nz/standards-and-guidance/digital-service-design-standard/>

⁵ <https://www.gov.uk/service-manual/service-standard>

⁶ <https://playbook.cio.gov/>

⁷ <https://www.canada.ca/en/treasury-board-secretariat/news/2018/10/government-of-canada-launches-digital-academy.html>

⁸ <https://www.gob.mx/academiadigital>

⁹ <https://gds.blog.gov.uk/2017/07/27/the-gds-academy-is-here/> and <https://gdsacademy.campaign.gov.uk/>

¹⁰ <http://www.softwarepublico.gob.pe/index.php/es/>

4. Paving the way for a data-driven public sector

This chapter explores the pathway towards a more strategic use of data in the public sector in Peru. The chapter provides a brief overview of the legal and regulatory framework for public sector data as well as the governance of public sector data. Drawing on experiences of OECD countries, the chapter identifies areas of opportunity for unlocking the power of data in government and achieving a data-driven public sector in Peru. Finally, the chapter advances an assessment of Peru's open government data policies based on the framework of the OECD's Open, Useful and Re-usable Data Index (OURdata Index) and the progress made until 2017.

The digital revolution has faced the world with dramatic technological change. While change is not new, the speed, depth and breadth of the digital transformation is quickly reshaping economies, societies and governments around the world (Schwab, 2017). As digital devices become ubiquitous and are progressively embedded into our lives and the physical world, the ability to produce, store, share and process data has skyrocketed fuelling a new generation of data processing technologies, such as advanced analytics, machine learning algorithms and artificial intelligence.

These new capabilities have opened a whole host of possibilities. Self-driving cars have already taken to the streets of Phoenix. Artificial intelligence is revolutionising medical diagnostics and the idea of smart, data-driven government is materialising before our eyes. Not without reason data was famously referred to as the oil of the 21st century (The Economist, 2017).

Research by the OECD shows the ability to harness the power of technology and data is a decisive factor explaining the growing productivity gap between firms (Andrews, Criscuolo, & Gal, 2015; Andrews, Criscuolo, & Gal, 2016). Indeed, organisations that are able to use data to gain insights and support their strategic goals have an edge that helps them outperform less data savvy and capable organisations. The pace of technological change will only accelerate, and governments must prepare to be able to seize the opportunities that open up to them, but also to mitigate the risks and challenges that technological changes are bringing.

This Chapter will look at the current state of affairs of public sector data in Peru and the steps taken to unlock the power of public sector data, both for the internal use of data within the administration for policy making and service delivery, but also the use of data as an infrastructure that allows the government to act as a platform that enables the co-creation of economic, social and good governance value.

4.1. Laying the foundation for a data-driven public sector

Getting data where it is needed, when it is needed is the first necessary step when the government is seeking to enable public authorities to make decisions based on data and evidence or to enable the public sector to deliver seamless services that do not burden the user with a list of unreasonable requirements. Over the past two years, the Government of Peru has focused on simplifying administrative procedures and delivering services that are convenient and easy to use (see Chapter 3).

The Legislative Decree No. 1246, in efforts to simplify administrative procedures, mandated public institutions to adopt the State Interoperability Platform, prohibited public institutions from requesting specific documents or information they could obtain through the interoperability platform with the user's consent (PCM, 2016). Furthermore, the Legislative Decree No. 1310 of 2016 mandates that all document management systems be connected to the State's Interoperability Platform (*Plataforma de Interoperabilidad del Estado* – PIDE) and gives them until 31st December 2019 to adjust their document management systems to support the automatic sharing of documents through the platform. These measures ultimately seek to ensure official public documents can be shared between institutions in an agile way. (PCM, 2016)

Another wave of reform to public sector data sharing practices came in 2017. The Supreme Decree No. 051-2017-PCM of March 2017 significantly expanded the scope of registries and documents that were required to be shared between public agencies through the PIDE as a means of simplifying life for service users. The scope of the documents and data that

must be shared within the administration was further expanded through the Supreme Decree No. 067-2017-PCM of 22 June 2017 and Supreme Decree No. 121-2017-PCM of 16 December 2017.

However, liberating and structuring the flow of data is only the initial step as the Government of Peru seeks to unlock the power of data to improve policy outcomes and service delivery. Building a true data-driven public sector requires the establishment of a robust data governance in the public sector, progressively building the capabilities to manage and analyse the data to extract value, and nurturing the ecosystems of data users within and outside the public sector so all data producers, consumers and “prosumers” (consumers and producers) can work together in creating public value.

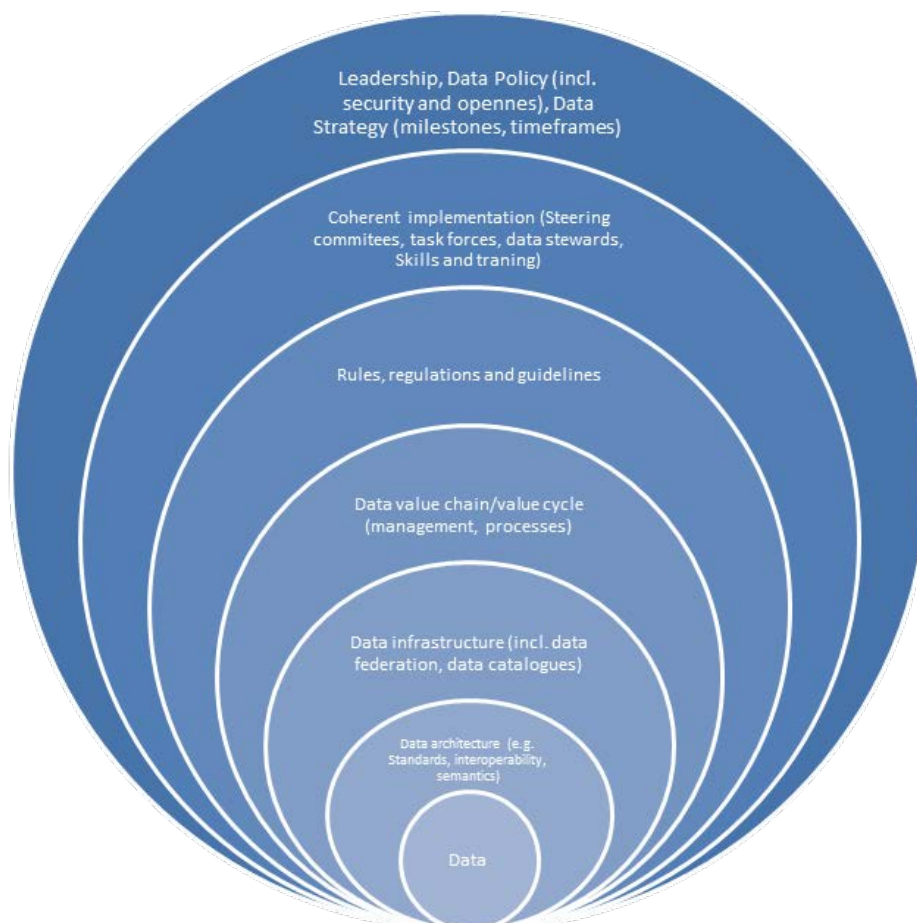
4.2. Data governance in the Peruvian public sector

The exponential growth in the generation of data globally and data-driven enterprises and government policies and services have made evident -even if we are barely scratching the surface- the potential of data to dramatically improve organisational performance, value generation and societal well-being. However, data leaks and thefts, privacy violations, identity fraud and vulnerable systems and infrastructure highlight the risks and challenges of this new era of technological development. Seizing the opportunities of the digital transformation and data-driven government, while managing the risks, demands new governance arrangements that respond to the new reality of government.

Governments are becoming increasingly aware of the need of new institutional, legal, regulatory and policy frameworks to govern data production, management, sharing, processing and investment (OECD, 2018). The absence of these frameworks can lead to unintended results and consequences, such as fragmented policy implementation, enhanced risks of data breaches, abuses of privacy, cybersecurity vulnerabilities, and significant opportunity costs due to poor decision-making (OECD, 2018). In this regard, Peru’s Digital Government Law brings some clarity to the public sector’s data governance in terms of processes, legal and regulatory framework and other governance components (President of Peru, 2018).

Recent improvements in the flow of data in the Peruvian public sector and the enhancement of data governance should be welcomed. They set out the foundations for the emergence of a meaningful, data-driven public sector, and set the conditions for the effective deployment of analytics capabilities across the public sector to help deliver better government. However, it is important to follow a holistic approach to develop a sound policy framework for the development of a data-driven public sector.

Data governance frameworks supporting delivery and policy impact have different levels and areas of concern. These include (1) data architecture, (2) data infrastructure, (3) data value chain, (4) rules, regulations and standards (5) co-ordination mechanisms, and (6) leadership, strategies and overarching policy frameworks (see Figure 4.1).

Figure 4.1. Data governance in the public sector

Source: OECD (2019), Digital Government Review of Sweden, OECD Publishing, Paris, <https://doi.org/10.1787/4daf932b-en>

To adjust to these changing realities and to structure the government's strategic use of data, some OECD countries have chosen to establish a Government Chief Data Officer (OECD, 2018). This new role is tasked with improving the whole government data value chain, structuring co-ordination mechanisms, developing or helping develop rules, regulations, guidelines and processes for data management. GDOs are also tasked with developing, managing and updating data infrastructure as well as data architecture standards and solutions in the public sector. GCDOs also monitor the implementation of government policies and technical guidelines supporting data governance (OECD, 2018).

This role is also often tasked with mapping data assets in the public sector, identifying strategic opportunities in data use or reuse to improve government performance, risk mitigation strategies and progressively building government data capabilities in the use of analytics, algorithms and/or artificial intelligence.

According to the OECD Survey on Open Government Data 3.0 (OECD, 2017), just over a third or eleven out of thirty-two OECD members that completed the survey have in place a GCDO. As many other OECD countries, Peru does not yet have an equivalent position. However, as the data revolution takes hold, the government's ability to develop, implement and monitor a strategic approach to data will only grow in relevance. The Government of

Peru might benefit from considering the benefits of having a dedicated function helping it prepare for and seize the opportunities of the age of data. A Government CDO or equivalent position would help ensure the government is in a position where it can extract value and make smart decisions based on data.

4.3. The way forward: data-driven public sector, beyond the hype

Data and digital are inextricably linked. The wealth of data produced by the ubiquity of digital devices combined with ever growing computing power and increasingly sophisticated statistical models (i.e. algorithms) allow us to gain user and operational insights, improve organisational performance, develop new business models and ensure more robust and evidence-based decision-making mechanisms.

As previously highlighted, Peru has been making decisive efforts to overcome the digital fragmentation of the public sector and to promote the flow of data in the administration. By facilitating data flows, the Government of Peru is creating an environment where simple, user-driven services are possible. This is however merely a first step in the journey towards smart, data-driven and proactive government. To achieve that, the public sector must build its data capabilities across sectors and levels of government, targeting in particular performance, service delivery and forecasting capabilities (OECD, 2016).

A second necessary step is to make the case for the relevance of open data and data-driven approaches going forward among senior leadership. The work sessions with the digital government and OGD ecosystems hosted by the OECD in Lima in March of 2017 identified the lack of awareness of the strategic importance of emerging technologies and data for public sector reform and most importantly, the present and future of policy-making and service delivery (OECD, 2017). There is a need for increasing awareness among senior executives in relation to the value of enhanced data sharing and management practices that can help achieve intended outcomes and propel the emergence of a substantive data culture of data in the public sector. Most importantly, it can result in poor strategic choices that leave Peruvian public institutions ill prepared for the technological changes society is going through and could ultimately have sizeable effects on the economic competitiveness of the country.

This challenge requires an effective communication strategy and a redesign of incentives for senior executives. Consistent messaging from the top clearly stating that the digital government agenda and evidence-based policy-making are government priorities everybody is expected to contribute to would, by itself, bring things a long way in reshaping organisational incentives in the public sector. Indeed, political leaders and senior executives are still seldom digital natives. However, the breadth and speed of the technological transformation puts their organisations at greater risk of policy and operational failure. This requires that the new leadership takes the time to understand the strategic implications resulting from emerging technologies for their organisations and sectors (Díaz, Rowshankish, & Saleh, 2018). This will also imply that senior executives develop closer relationships with Digital Government Leaders, chief technology officers and data scientists as they design new strategies, policies, services and reform programmes.

Once a certain degree of awareness has been raised, the challenge then becomes, in context full of hype about new data-processing technologies, to understand how to achieve substantive change and avoid initiatives that are only meant to signal that the organisation is doing innovative work. Ensuring leaders are able to look beyond the hype and engage with a way of thinking that is founded on the actual understanding of the opportunities and

limitations of emerging technologies, the organisational capabilities and the vision for the future of the organisation.

The aim is to develop a sharp view that understands the power of data is about more than just a buzz, but about making sound decisions, and invests time and resources accordingly. Indeed, data science skills are scarce and in high demand, making them expensive. The public sector, in turn, has limited resources that should be used consciously, with a balanced understanding of trade-offs and opportunity costs if they are not used effectively to achieve the intended impact.

The experience across the public and private sectors in OECD countries reveals that, in order to yield results, data efforts should start with a clearly defined business or policy problem that is going to be tackled. It is the problems and strategic questions at hand, not the hype, that must drive data efforts and investments (Díaz, Rowshankish, & Saleh, 2018). The issue is making technology and data valuable assets and sources of information to shape strategic decisions and policy interventions to achieve organisational objectives. As these efforts progressively improve performance and delivery, senior executives and programme units will encourage and incentivise digital and data-driven approaches. The formulation of the new Digital Government Plan provides an excellent window of opportunity to choose a number of high-impact, mission-driven initiatives that help build Peru's data appetite and capability (SEGDI, 2018).

Ultimately, to sustain the data culture beyond changing administrations and leadership, digital and data teams must nurture demand. By helping improve the performance of business units and operations, and working effectively with other parts of the organisations, data teams will build their legitimacy and demand for their skills. Initially, it might be advisable to focus on quick wins that can deliver important improvements with modest efforts. For instance, the predictive maintenance of infrastructure and equipment could translate into important savings of resources and lives (Bender, Henke, & Lamarre, 2018).

4.4. OGD: Government (Data) as a platform for collaboration

Open Government Data (OGD) has become a central aspect of the digital transformation of the public sector. Open Government Data is perhaps the most representative example of governments' shift to open by default standards and a clear push for government to work as a platform allowing stakeholders to collaborate in the creation of public value (Ubaldi, 2013; OECD, 2018).

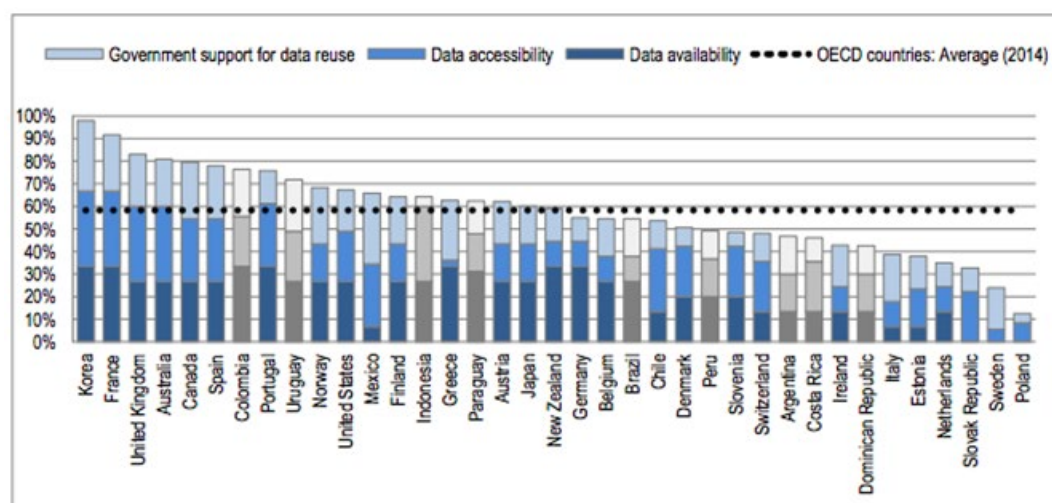
Peru's efforts to foster the release and reuse of government data are still relatively recent. In 2013, the country had no formal OGD policy and the most structured actions formulated in that regard were those included as part of the Open Government Partnership (OGP) Action Plan. In effect, Peru had committed to adopt OGD technology and make available "open government data" as part of its action plan, but these were not linked to any specific goals or targets.

As in many countries, initially OGD development found support in the framework of the 2002 Freedom of Information Act. The governance of OGD, barely formalised, relied on the Secretariat of Public Management (*Secretaría de Gestión Pública* – SGP), which led the national open government efforts. However, the first open data platform was developed and managed by National Office for e-Government and Informatics (*Oficina Nacional de Gobierno Electrónico e Informática*, ONGEI), today known as Secretariat for Digital Government (*Secretaría de Gobierno Digital* – SEGDI).

The 2014 OECD report *Open Government in Latin America* highlighted that despite Peru's progress in implementing the Open Government agenda, it still needed a strategy for Open Government Data (OECD, 2014). The report also encouraged the country to map the existing data assets in the public sector as a means to develop a more strategic approach to the use of data and information in the public sector, improve data governance and for the government to better tailor and target its data release efforts – a recommendation that remains valid to this day.

In 2016, a new appraisal was made through the 2017 *OECD Government at a Glance: Latin America and the Caribbean* (GaaG LAC) published in December 2016 (OECD, 2016). As part of this report, the Government of Peru completed the OECD Survey on Open Government Data 2.0, which allowed the OECD Secretariat to calculate the Open, Useful and Reusable Data (OURdata) Index for the country using the 2014 pilot methodology. The OURdata Index is a methodology that produces comparable data to assess OGD performance covering three main dimensions: data accessibility and availability on the national open data platform, as well as the government's efforts to foster data reuse. This effort put into the production of this new edition of the GaaG LAC provided the country with a benchmark to assess where it stood in relation to OECD and LAC countries.

Figure 4.2. 2014 OURdata Index



Note: Data for the Czech Republic, Hungary, Iceland, Israel, and Luxembourg are not available. 2014 was a “pilot” version covering the following dimensions: data accessibility and availability on the national data portal, and government's efforts to support data reuse.

OECD countries: a) Data for Australia, Austria, Belgium, Canada, Chile, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Japan, Korea, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom and the United States are for 2014; b) Data for the Czech Republic, Hungary, Iceland, Israel and Luxembourg are not available; c) Turkey did not have a one-stop-shop open data portal at the time of data collection.

Partner and other economies: a) Data for Indonesia are for 2015; b) Data for Argentina, Brazil, Colombia, Costa Rica, Dominican Republic, Paraguay, Peru and Uruguay are for 2016; c) Guatemala, Panama and El Salvador did not have a one-stop-shop open data portal at the time of data collection (2016).

Source: OECD (2015), *Government at a Glance 2015*, OECD Publishing, Paris, http://dx.doi.org/10.1787/gov_glance-2015-en and OECD (2017a), *Government at a Glance: Latin America and the Caribbean 2017*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264265554-en> with data from country responses to the OECD Open Government Data Survey 2.0 (2014).

The results showed that while the country was performing a little better than the LAC average (0.49 vs 0.44), there was room for improvement across all dimensions measured by the Index, in particular on government's efforts to foster reuse, the only dimension which scored below the LAC average (0.125 vs 0.13), and significantly below OECD performance (0.172).

Since then, the Government of Peru has not only sought to enhance backend integration as highlighted in the previous section, but to strengthen the open government data policy framework as well as clarifying the processes and responsibilities regarding their implementation. The Supreme Decree No. 016-2017-PCM approved the National Strategy of Open Government Data in Peru 2017-2021 and the Open Government Data Model of Peru which, among other things, clarifies and strengthens the role of the SEGDI (PCM, 2017). The Supreme Decree is an important step towards the use of data as a stepping stone in the development of an ecosystem of collaboration and co-creation with stakeholders within and outside the public sector. The ultimate objective of the government's approach to Open Government Data (OGD) is to promote transparent government and economic and social innovation as means to achieve greater social well-being.

The Supreme Decree is also a significant milestone as it establishes an Open by Default standard when it comes to government data. This is an important contribution to setting the framework for the emergence of a culture of openness and collaboration in the public sector, which the new era of civil service badly needs.

In addition to the adoption of the Supreme Decree, the Government of Peru revamped the national open data portal. The new portal substantially improved navigation and the discoverability of datasets, improving the experience of users and data publishers. By 14 December 2018, the number of published datasets stood at 1348 and covered a very wide diversity of sectors and activities.

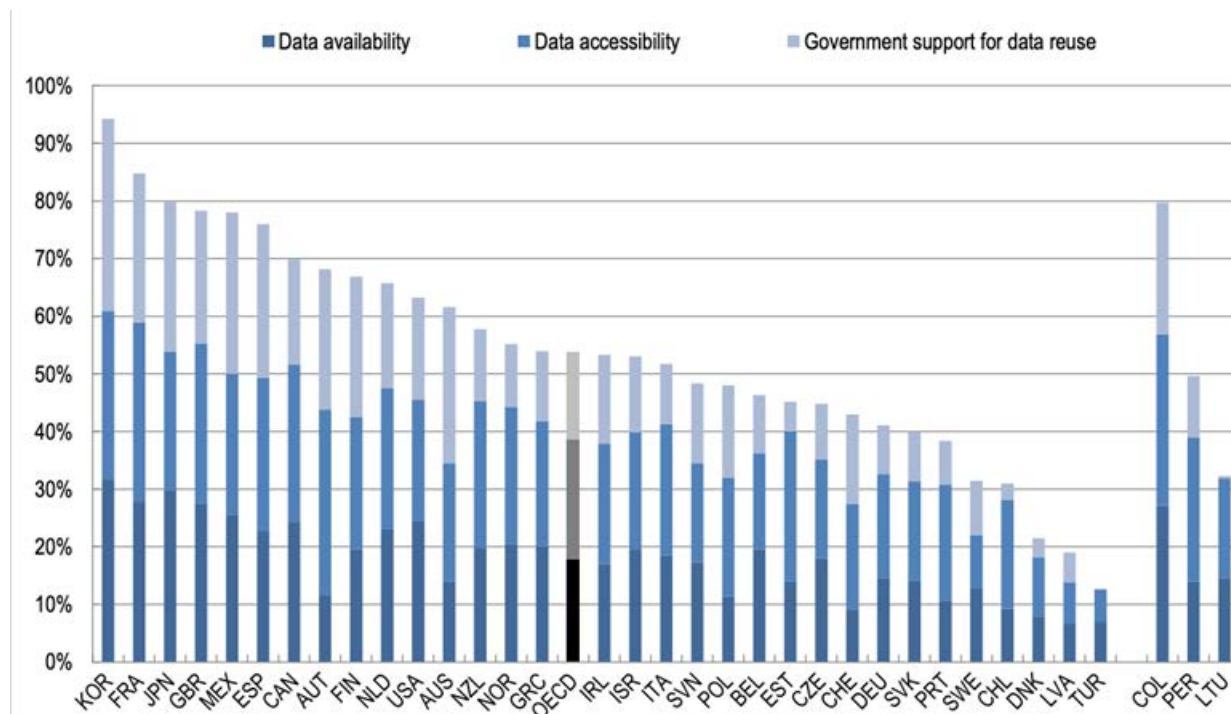
A new version of the OURdata Index became available in 2017, based on a revised survey and methodology covering the following pillars: 1) higher data availability; 2) efficient data accessibility; and 3) greater support for data reuse and impact. The results of the first version of this survey were published in the *OECD Open Government Data Report* of 2018 (OECD, 2018), which included the participation of Peru as a partner economy.

The 2017 OECD OURdata Index shows a better performing Peru, which has made progress particularly in terms of efficient data accessibility. However, at the time of data collection in 2017, Peru still had to translate its efforts into measurable improvements in terms of higher data availability and, just as crucially, greater support for data reuse and impact. Peru's performance was particularly low on the third pillar, suggesting that in addition to enhancing data availability, a greater focus on data promotion and partnerships, data literacy in government and monitoring OGD impact would yield the greatest returns on investment.

This is of great relevance as the evidence shows a strong focus on data publication with insufficient efforts to foster reuse can lead to the data graveyards – open data catalogues that are neither used nor relevant for users. Opening up data takes time and resources, both of which are precious to public institutions. It is unclear how much human, financial and technical resources Peruvian institutions can realistically allocate to the task of opening up government data. For this reason, the impact of the publication of OGD will depend on the ability of the public sector to be strategic, demand-driven and proactive in prioritising data release. The prioritisation of specific data categories for publication, in collaboration with external users, will play a key role in this regard.

At the same time, the experience from OECD countries highlights the critical role of stimulating the demand for OGD as the ecosystem matures and becomes increasingly able to produce economic and social value from available data. This will require ensuring multi-stakeholder collaboration and value co-creation initiatives are paired with skill development initiatives.

Figure 4.3. 2017 OECD OURdata Index



Note: Data not available for Hungary, Iceland and Luxembourg. Information on data for Israel:

<http://dx.doi.org/10.1787/888932315602>.

Source: OECD (2017b), *Government at a Glance 2017*, OECD Publishing, Paris,

https://doi.org/10.1787/gov_glance-2017-en with data from country responses to the OECD Survey on Open Government Data 3.0 (2017)

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