CHAPTER 7
Capacities for Digital Government Transformation
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7.1. Introduction

Key questions:

• Why is digital government transformation critical to advancing sustainable development?

• What is digital government transformation about?

• How can countries ensure an effective and inclusive digital government transformation and what capacities are needed?

• Who should be involved in the process of digital government transformation?
7.1. Introduction

This chapter:

✓ Presents a holistic framework of how to develop digital government capacity for policy-making and service delivery by highlighting nine key pillars of a strategy and implementation plan for digital government transformation.

✓ It highlights the key elements of the process for digital government transformation.

✓ It examines capacities needed at the societal, institutional, organizational, and individual levels.

✓ It focuses on the critical role of systems thinking and integrated approaches.

✓ It highlights the importance of capacity builders and how to develop digital capacities at the societal level to ensure the usage and uptake of digital services.

✓ It features capacity development toolkits, methodologies and innovative cases from across the world, providing concrete examples and tools for capacity development.

✓ It concludes with a set of policy recommendations on how to develop digital government capacity for sustainable development.
7.2. What is digital government transformation for sustainable development about?

✓ **Fundamental change**: based on an ecosystem approach that embraces systemic change.

✓ **Home-grown and based on local knowledge** while also taking into account good practices from across the world.

✓ **Inclusive**: it should ensure that any transformation is aimed at creating equal opportunities for all people to access reliable and quality services.

✓ **Collaborative**: providing integrated digital services requires a high degree of coordination among ministries and agencies and with civil society and the private sector.

✓ **Responsive and user-centric**: informed by people-centric approaches to service delivery and programme management, addressing concrete problems and needs experienced by different groups in society.
7.3. How can countries ensure an effective and inclusive digital government transformation?

Key pillars for government transformation, by digital government development category

<table>
<thead>
<tr>
<th></th>
<th>Online Presence</th>
<th>Transactional</th>
<th>Connected</th>
<th>Transformative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vision, leadership, mindsets</strong></td>
<td>Individual leaders in IT; Department support e-government; Reactive mindsets</td>
<td>Some e-government champions across government</td>
<td>Leadership’s commitment at top level; Creates an environment that allows people to become more involved</td>
<td>Transformational leadership and full support for digital government from leadership at all levels of government; Digital strategy is embedded in or aligned with the national development strategy; Teams are aligned around data; Forward-looking, proactive/anticipatory, innovative, digital and adaptive mind-sets</td>
</tr>
<tr>
<td><strong>Legal and institutional framework</strong></td>
<td>Basic laws are in place</td>
<td>Regulators as watchdogs; Some form of legal authentication of citizen ID</td>
<td>Most legislation is in place</td>
<td>Regulators as facilitators; Far-sighted and comprehensive legal framework; Strong Digital ID; regulatory sandboxes to explore use of emerging technologies</td>
</tr>
<tr>
<td><strong>Organizational setup and culture</strong></td>
<td>Not centralized</td>
<td>E-government coordination is under a ministry such as the ICT Ministry</td>
<td>CIO located at the central level</td>
<td>CIO located within the highest-ranking decision-making body in government with budgetary autonomy; Multi-disciplinary and cross functional teams; network of CIOs national/local level; Environment of continuous learning to quickly adapt to change; Operational agility, e.g., analytics-enabled human resources to identify and bridge skills gaps, and procurement engages innovative start-ups; Augmented workforce or human and machine collaboration, which require among other things, creativity, strategic decisions and empathy; freeing up employees to carry out higher value-added tasks which require creativity</td>
</tr>
<tr>
<td><strong>Systems thinking and integration</strong></td>
<td>Departments work in silos, Low integration of services; Information available online</td>
<td>Two-way communication with people; Downloadable forms; Some e-government projects are experimenting with integrated approaches</td>
<td>E-services cut across ministries and departments and services are provided in a seamless manner; From government-centric to people-centric service delivery</td>
<td>Strong single government website; “Digital-first principle,” digital by default, digital by design and mobile-first principle; Public service delivery as an integrated system; Strong National Digital ID; Anticipatory people-centric and people driven services; Co-creation of services; Government is easy to deal with, responsive and adaptive to people’s needs</td>
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7.3. Key pillars for government transformation, by digital government development category

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</tr>
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<tbody>
<tr>
<td><strong>Data management</strong></td>
<td>Limited access to accurate, timely, disaggregated and widely available data</td>
<td>Transaction data-based culture</td>
<td>Data governance office; once-only (data) principle; data-driven culture; evidence-informed decisions; continuous monitoring and improvement of data open, machine-readable government data and high usage of open data</td>
</tr>
<tr>
<td><strong>ICT Infrastructure, affordability &amp; access</strong></td>
<td>Low connectivity</td>
<td>Data integration and synchronization</td>
<td>High broadband connectivity, use of frontier technologies, big data; platform business model; decentralized and interoperability architecture; secure by design; blockchain as a security feature; ecosystem centric</td>
</tr>
<tr>
<td><strong>Resources</strong></td>
<td>Low availability of hardware</td>
<td>Customer centric</td>
<td>One single government website</td>
</tr>
<tr>
<td><strong>Capacity of capacity developers</strong></td>
<td>No strategy on ICT investment as a whole</td>
<td>Investment for specific projects</td>
<td>Whole-of-government and long-term approach to IT investment, including sustainability in financing; public-private partnerships</td>
</tr>
<tr>
<td><strong>Societal capacities</strong></td>
<td>Limited capacity</td>
<td>Investment in computer labs</td>
<td>The use of ICTs in integrated in all curricula</td>
</tr>
<tr>
<td><strong>Limited programmes in place to build societal capacities</strong></td>
<td>Limited programmes in place to build societal capacities</td>
<td>The use of ICTs in integrated in all curricula</td>
<td>Strong partnerships with academia, think tanks, private sector, i.e., innovation labs, and other national governments, e.g., regional cybersecurity training; engagement of schools of public administration in building curricula for digital capacity and other relevant skills, continuous training of trainers</td>
</tr>
<tr>
<td><strong>Outreach activities to some vulnerable groups</strong></td>
<td></td>
<td></td>
<td>Digital literacy in society is high and Internet penetration is also very high at all levels; Omni or multichannel approach to lifelong learning; Partnerships between government and local ICT industries; Maintain trust in government and ICT security, safety and privacy.</td>
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</tbody>
</table>
7.4. Process for a holistic digital government transformation and capacity development for sustainable development

1. Context & Situation Analysis
   - Assess legal and governance frameworks
   - Assess beliefs, values, and attitudes
   - Examples of Capacity Development Tools: Star profiling for situation analysis through participatory workshops

2. Future Envisioning
   - Develop a vision of sustainable development and the role of digital government and a comprehensive mission statement
   - Examples of Capacity Development Tools: Participatory multistakeholder visioning workshops

3. Digital Government Transformation Strategy & Roadmap
   - Vision guides the strategy

4. Implementation
   - Priority Setting & Action Planning
     - Leadership and changing mindsets at all government levels and across all sectors
     - Institutional and regulatory framework
     - Organizational set-up and culture
     - Systems thinking and integrated approaches
     - Data governance
     - ICT Infrastructure, affordability and access to technologies
     - Mobilizing Resources and aligning them with priorities
     - Capacity of capacity developers
     - Societal capacities

Monitor and Evaluation
   - Accountability, monitoring and evaluation
   - Two-way communication through multiple inclusive channels
   - Public trust and Legitimacy

Effective, accountable, and inclusive public service delivery for SDG implementation
7.4.1. Conducting a diagnostic analysis of the situation to assess capacity gaps and opportunities across all government levels and society

Why is diagnostic situational analysis imperative?

**The first building block of a holistic approach to digital government transformation entails:**

1. **A diagnostic analysis of the socio-politico-economic history and value system of a country**

2. **An analysis of leadership’s commitment to digital government and the state of public governance and public administration**

3. **Most importantly, the situation analysis should take into account a country’s future development goals aligned with the SDGs**

The diagnostic analysis can make use of the star profiling approach, which analyzes the capacities of transformational leaders.

Digital government and developing digital capacities should support the implementation of a country’s development vision and help create public value.
7.4.1 Who should be involved in conducting a diagnostic analysis of the situation to assess capacity gaps and opportunities?

The situation analysis should be participatory and engage a broad spectrum of stakeholders. For example, the Government of South Australia developed a toolkit for local organizations on issues related to digital transformation.

A digital preparedness assessment should be part of the situation analysis. Understanding the levels of digital preparedness by key pillars of digital government transformation can serve to assess where "one is," and the changes needed to move towards enhanced digital maturity.

- National
- Local authorities
- Communities, local associations, youth, women
- ICT industry leaders and innovators in the business community

A country rarely falls entirely within one of the e-government development categories. Usually, a country will have features in different categories across the levels of digital progression and can also slip back. Indeed, the movement from one level to the next is not always linear but can be iterative and it does not happen at the same time for the whole country. Digital maturity as a concept is difficult to attain since technological advancements are continuous and so are the needs of people.
7.4.2 Undertaking a visioning exercise of digital government transformation for the SDGs

The second building block is to undertake a visioning exercise of where the country intends to go and how digital transformation can help to realize national goals, in line with the SDGs.

The visioning of future development needs should not only be about ICTs and digital government but, most importantly, it should be about the strategic and specific development of the country in general. Digital technologies in themselves do not deliver public services unless there is political commitment, a comprehensive digital government strategy and a roadmap, including adequate capacities to effect change and an implementation plan.

The visioning exercise can include defining the following:

- governance principles (reference to ECOSOC principles of effective governance for sustainable development as voluntary principles that can provide guidance)
- national goal
- digital government value
- digital government priorities in the short and long-term of a country, aligned with a country's development strategy and aligned with the SDGs
7.4.3 Developing a strategy and roadmap for digital government transformation and building capacities

Based on the identified needs, principles, goals and priorities, the strategy and roadmap for digital government transformation should take into account key pillars. A capacity-development programme along these pillars should be an integral part of the implementation plan.

<table>
<thead>
<tr>
<th>National strategy for digital government transformation</th>
<th>Aligning national digital government transformation strategy with local-level strategies</th>
<th>Roadmap and implementation plan</th>
<th>Capacity development programme</th>
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<tr>
<td>• 151 countries out of 193 presently have a digital strategy and 123 have a digital security strategy</td>
<td>➢ The three levels of Government in Denmark have agreed on a common public sector strategy for digitization 2016-2020</td>
<td>➢ UN DESA/DPIDG has developed a DiGIT4SD toolkit to help countries, especially those in special situations, including LDCs, SIDS, to develop and implement digital government initiatives/strategies</td>
<td>➢ MSQ: 130 out of 137 have aligned their national development strategy with the SDGs</td>
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<td>• MSQ: 130 out of 137 have aligned their national development strategy with the SDGs</td>
<td>➢ In Australia, the Digital Transformation Roadmap, which is the rolling two-year implementation plan of the strategy, is aligned with the sub-national strategy</td>
<td>➢ OECD developed a toolkit called “Going Digital Toolkit”, to assist countries in their digital development.</td>
<td>➢ Korea: 3rd Master Plan for Sustainable Development (2016-2035) was established</td>
</tr>
<tr>
<td>➢ The UK Government: a new Government Transformation Strategy 2017 to 2020</td>
<td>➢ In Korea, a review of the e-government strategy takes place every five years</td>
<td>➢ The UK Government: a new Government Transformation Strategy 2017 to 2020</td>
<td>➢ Korea: 3rd Master Plan for Sustainable Development (2016-2035) was established</td>
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#### Key pillars for digital government transformation

1. Develop an integrated institutional ecosystem through a comprehensive legal and regulatory framework
2. Transform the organizational setup and culture
3. Promote systems thinking and development of integrated approaches to policymaking and service delivery
4. Strengthen transformational leadership, changing mindsets and digital capacities at the individual level
5. Enhance the capacity of the capacity developers
6. Develop capacities at the societal level to leave no one behind and bridge the digital divide
7. Mobilize resources and align priorities, plans, and budgeting, including through public-private partnerships
8. Ensure data-driven policymaking and access to information through open government data
9. Enhance ICT infrastructure, including connectivity, affordability, and access to technology
### 7.4.4 Key pillars of a road map for digital governance transformation and digital capacity development

A country’s road map for digital government transformation should be built upon key pillars that can help promote effective, accountable and inclusive digital government.

As reiterated in table 7.2, there are nine key pillars that should serve as focal points for digital government transformation.

(Data governance is extensively addressed in chapter 6.)

| 1. **Vision, leadership and mindsets:** | Strengthen transformational leadership, build digital capacities, and change mindsets at the individual and institutional levels. |
| 2. **Institutional and regulatory framework:** | Establish a comprehensive legal and regulatory framework for the development of an integrated institutional ecosystem. |
| 3. **Organizational set-up and culture:** | Transform the organizational set-up and culture. |
| 4. **Systems thinking and integration:** | Promote systems thinking and the development of integrated approaches to policymaking and service delivery. |
| 5. **Data governance:** | Ensure the strategic and professional management of data to address data access and use priorities and enable data-driven policymaking. |
| 6. **ICT infrastructure and affordability and access to technology:** | Provide access to high-speed broadband Internet and safe and secure access to new technologies for all. |
| 7. **Resources:** | Mobilize resources and align priorities, plans and budgeting, including through public-private partnerships. |
| 8. **Capacities of capacity developers:** | Enhance the capacities of schools of public administration and other capacity-building entities and mechanisms. |
| 9. **Societal capacities:** | Develop capacities at the societal level to bridge the digital divide and ensure that no one is left behind. |
7.5. Capacities needed for effective digital government transformation

What capacities are needed for digital government transformation for sustainable development?

- Societal
- Institutional
- Organizational
- Individual
7.5.1. Capacities at the institutional level

✓ To successfully incorporate ICTs in the public sector, Governments must put in place an institutional ecosystem for the deployment of digital government, i.e., laws, regulations, policies, guidelines, and standards that addresses issues such as access to information, data privacy protection, digital security, AI legislation, among others.

✓ The challenges we face today – rising inequality, uneven growth, climate change, and fast-paced technological change – among others, demand a collective effort and a stronger multilateral response.

Comprehensive Legal Framework for Digital Government

- Access to information such as Freedom of Information Act
- Personal data protection act including digital security
- Child protection and abuse prevention
- Open government data
- Digital identity
- Digital certification/signature
- E-procurement
- Digitally publishing government expenditure
- Data interoperability
- Regulations on AI
- Digital government as a right
7.5.2. Capacities at the organizational level

- Capacities are needed to promote coordination to enable different government ministries and agencies to effectively communicate and exchange information. Effective digital government requires whole-of-government approaches.

- It is necessary to put in place government structures that define authority, roles and responsibilities, accountability and reporting lines, and mechanisms and processes for coordination and communication.

- A basic approach followed by the most advanced countries has been to reorganize institutions and organizations to establish appropriate horizontal and vertical workflows before starting an automation process.

- In terms of organizational set-ups, countries that are among the top performers in digital government usually have in place a central coordinating agency with budgetary autonomy to manage the national digital strategy and the national website team and to define and coordinate the functions of the chief information officer (CIO) or the equivalent. An organizational culture that values collaboration, synergy, teamwork and partnerships and that emphasizes value delivery is a key success factor in any digital government transformation.

- According to the 2020 MSQs, 145 of the 193 Member States have a CIO or the equivalent. Several countries have also established a network of CIO focal points within strategic institutions linked to the coordinating agency at both the national and local levels.
7.5.3. Capacities for system thinking and integrated approaches

✓ To facilitate integrated approaches, countries have set up or revamped institutional arrangements for SDG implementation as reported in the Voluntary National Reviews of the implementation of Agenda 2030.

✓ Digitally advanced countries have set up MyGov portals where citizens can review their personal, financial, educational and other information as well as information about their family members.

✓ Changing the mindsets of public servants, senior management, and politicians is as important, if not more important, than changing rules and procedures.

✓ A systems-thinking approach and leveraging technologies to support digital synergies and interoperability frameworks for data sharing can greatly help to promote integrated policies and services.
One of the most vital, yet underestimated factors, for the success of digital government transformation is strengthening transformational leadership, digital capacities, and changing mindsets within government and across society.

The following steps are critical in building individual capacity for digital government transformation:

- Ensure leadership commitment to digital government transformation
- Enhance digital literacy of senior and middle-level government officials
- Instill new mindsets and competencies through ongoing training programmes
- Create multidisciplinary and multi-sector teams
- Attract the best digital talent in the country through incentives and other programmes
- Develop clear career development paths and ensure proper succession planning
- Design entry-level programmes to attract young talents
- Ensure a high ratio of ICT experts vis-à-vis other experts in government
- Create multidisciplinary and multi-sector teams
- Ensure safe spaces for innovation and experimentation (Govtech for start-ups)
7.5.4. Capacities at the individual level

**MINDSETS AND COMPETENCIES**

**EVIDENCE-BASED MINDSET**

An evidence-based mindset is vital, as it allows public servants to base policy development and decision-making on proven evidence, sound data, and established research. One key competency of those with an evidence-based mindset is data literacy, which reflects the capacity to locate, retrieve, analyse and utilize data and information for problem-solving. An evidence-based mindset and data literacy support the achievement of SDG target 16.10, ensuring public access to information and protecting fundamental freedoms in accordance with national legislation and international agreements. These capacities can also be critical for ensuring the effective use of policy screening tools to support risk-informed decision-making.

**DIGITAL MINDSET**

An innovative digital mindset allows public servants to conceive of new and different ways ICT can be leveraged to improve processes and develop creative solutions. Those working in the public sector today must be willing and able to use rapidly evolving new technologies. They need to understand how these technologies can contribute to digital government transformation and must be able to identify relevant risks and limitations. Since new digital skills are regularly needed as technologies evolve, it is important that public employees have a digital mindset that allows them to be digitally “nimble” and ready to embrace change. Digital skills and competencies are needed to design and deliver services with end-users in mind.

**COLLABORATIVE MINDSET**

Public servants need to have a collaborative mindset that will allow them to identify issues of common concern and to pursue dialogue, coordination, partnerships and networking to address those issues. One of the competencies linked to the collaborative mindset is cooperation. Public servants need the knowledge and skills to apply an integrative whole-of-government and whole-of-society approach to work across silos and to facilitate network-based governance.
7.5.5. Developing capacities of the capacity builders

- Sustainable capacity development should include the whole chain of the education system
- Skills development requires a commitment to continuous growth and development (including identifying the skills of tomorrow)

The UN DESA, through its Division for Public Institutions for Digital Government (DPIDG) has established a Global Initiative by working with schools of public administration.

- Institutes of public management and schools of public administration play a central role in developing curricula.
- These programs strive to continually train and educate capacity developers and public servants with the ever-increasing array of ICTs and digital skillsets.
- The pursuit of cross-sectoral and public-private partnerships that engage relevant experts and stakeholders is at the core of these programs.
To promote digital inclusion and ensure that more people can benefit from digital government, many governments focus on providing opportunities for digital literacy training, and quality education to improve access.

Countries are increasingly providing specific online services to vulnerable groups.

In 91 states, they can also have free access to online government services through kiosks, community centers, post offices, libraries, public spaces, or free Wi-Fi. In 59 countries, the national portal offers live chat support functionality, and in 107 countries, the national portal offers guidance or tutorials to persons in understanding and using online services. Moreover, 107 countries offer a “Help” link. In 140 countries, the national portal makes information available about payments for government services through channels other than online.

Digital capacities can be developed in many ways, for example, through civil society organization’s hackathons, awareness-raising workshops, training, and informational meetings with an array of stakeholders.
7.5.7. ICT Infrastructure, affordability, security and access to new technologies

✓ When devising a plan for ICT infrastructure, it is vital to keep in mind the following critical steps for a digital government technology platform.

✓ Enhancing access to the Internet requires, among other things, that governments establish WiFi spots in public spaces, kiosks for services, and other similar initiatives.

- Analyze the existing infrastructure and undertake a mapping of the digital services
- Identify the infrastructure and services that should be moved to the commercial or private cloud
- Analyze the viability, complexity, risks and impact of transferring each service to the cloud and its implications at the organizational level
- Define the technical issues
- Estimate costs
- Build a roadmap for the project to be moved to the cloud

There is still a substantial discrepancy among the regions of the world.

The percentage of households with Internet is the lowest in Africa, significantly lower than the world average.
7.6. Capacities for continuous monitoring, evaluation and improvement

- Indicators of performance can include both quantitative and qualitative measures, such as user uptake, user satisfaction, and the share of automated customer service as generated by the digital government system.

- Goal 16.6.2 of the 2030 Agenda for Sustainable Development highlights the importance of user satisfaction of public services.

- Keep track of how digital services can help to realize the SDGs.

- Some countries have adopted a digital government implementation index to benchmark public institutions and evaluate impact.

- 124 countries have a "leave feedback" in their national portals.

- In 125 countries, a person can file a complaint about public service delivery.

- 139 countries provide information about the results of any government procurement/bidding process online.

- Only 58 states provide evidence of user satisfaction of online or mobile services.

- The University of Oxford and the Global Change Data Lab has developed the SDTracker, which has information across all of the 17 Goals.
7.7. Key insights and recommendations

✓ **Digital government transformation is not merely about technologies.** It is fundamentally about governance transformation and innovation as part of a country's overall government development strategy.

✓ To fully embrace the potential offered by technologies while mitigating its risks, **governments need to adopt a holistic approach to digital government transformation** that puts people first and revolves around their needs.

✓ **Leadership’s commitment at all levels of government** is essential to digital government transformation.

✓ The use of ICTs in government should support the overall vision of a nation. **A diagnostic analysis can help governments to identify the purpose** for digital government transformation.

✓ **The visioning of future development needs** should not only be about ICTs and digital government but, most importantly, **it should be about the strategic and specific development of the country in general.**

✓ **A digital government strategy and roadmap** for digital government transformation should consider in a holistic way several key pillars.
7.7. Key insights and recommendations

✓ Governments must **put in place an institutional ecosystem for the deployment of digital government**, i.e., laws, regulations, policies, guidelines, and standards, that addresses issues such as access to information, data privacy protection, digital security, AI legislation, among others.

✓ **A central coordinating agency with budgetary autonomy** to centralize domain management, manage the national digital strategy, and the national website team while coordinating CIO functions.

✓ **A systems-thinking approach and leveraging technologies** to support digital synergies and interoperability frameworks for data sharing can greatly help to promote integrated policies and services.

✓ **Recruiting and retaining the best talent in a country** is essential to effective digital government transformation. Allowing for safe spaces for experimentation is equally important.

✓ Without **digital capacities at the societal level**, including readjustments in values and norms, there will be little uptake of digital services and participation through digital means.

✓ To sustain digital government capacity development there is need for **continuous interactive feedback to ensure continuous improvement**.
Thank you