United Nations | Department of Economic and Social Affairs

Innovation and Digital Government for Public Service Delivery to Implement the Sustainable Development Goals

A Handbook for Local and National Governments

Department of Economic and Social Affairs

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A Handbook for Local and National Governments

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United Nations Department of Economic and Social Affairs

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Executive Summary

Innovation in public service delivery and digital government are critical to accelerate the implementation of the Sustainable Development Goals (SDGs). Transforming our world and achieving the SDGs by 2030 requires a paradigm shift in the way public services are designed and delivered as many countries face capacity challenges and gaps in providing effective, inclusive, and accountable services. To balance the three dimensions of sustainable development and to manage change, governments need to innovate their institutions, systems, and processes in support of public service delivery, including how to leverage digital technologies. They need to rethink how they can support coherent policy frameworks, establish, or strengthen institutional arrangements for the localization of the SDGs and enhance participatory decision-making by engaging all stakeholders. Governments also need to rethink how they provide services to ensure that no one is left behind; monitor and evaluate the implementation of the SDGs and mobilize funds and ideas to promote prosperity for all.

This Handbook provides local and national governments with current conceptual frameworks as well as a set of practical strategies and tools on how to promote innovation and digital government for the delivery of public services. It includes guidance on how to prepare action plans for innovation and digital government transformation and features relevant innovative practices as references.

The first chapter of the Handbook sets the stage by focusing on the 2030 Agenda for Sustainable Development and the SDGs and how they relate to the role of government and public service followed by an introduction to key concepts of innovation, digital government, and digital government transformation. It also includes recommendations on how to build situational awareness through a self-assessment tool entitled the "Digital Government Capability Assessment" (DGCA).

The second chapter relates national development plans' priorities to innovation and digital government, explores public value and social inclusion and introduces principles and practices of Design Thinking and Innovation Labs for social innovation through digital government.

The third chapter seeks to enhance the understanding of key capacities required to promote innovation and digital government and offers guidance on preparing a roadmap - from principles and strategies to actions required for implementation.

The fourth chapter explores how Design Thinking and Innovation Labs might be created and implemented and the role of action planning and the different steps involved – from making good decisions to launching prototypes and going live.

The fifth chapter explores different levels of change – institutional, organizational, and individual – and how these relate to one another. Emphasis is placed on leadership and people as agents of organizational change and on the importance of personal change.

Overview of the Handbook

Why a Handbook on Innovation and Digital Government for Public Service Delivery?

Innovation in public service delivery and digital government transformation are critical to accelerate the implementation of the Sustainable Development Goals (SDGs). At least 13 Goals of the 2030 Agenda for Sustainable Development require public service delivery. Furthermore, when celebrating 75 years of existence, the United Nations asked people in all countries of the world about their expectations. Respondents indicated that access to basic services is their major global priority, including healthcare, water, sanitation, and education. However, transforming our world and achieving the SDGs by 2030 requires a paradigm shift in the way public services are designed and delivered as many countries face challenges in providing effective, inclusive, and accountable services.

To balance the three dimensions of sustainable development and to manage change, governments need to innovate their institutions, systems, and processes in support of public service delivery, including how to leverage digital technologies. They need to rethink how they can support coherent policy frameworks, establish, or strengthen institutional arrangements for the localization of the SDGs and enhance participatory decision-making by engaging all stakeholders. Governments also need to rethink how they provide services to ensure that no one is left behind; monitor and evaluate the implementation of the SDGs and mobilize funds and ideas to promote prosperity for all.

What are the Objectives of the Handbook?

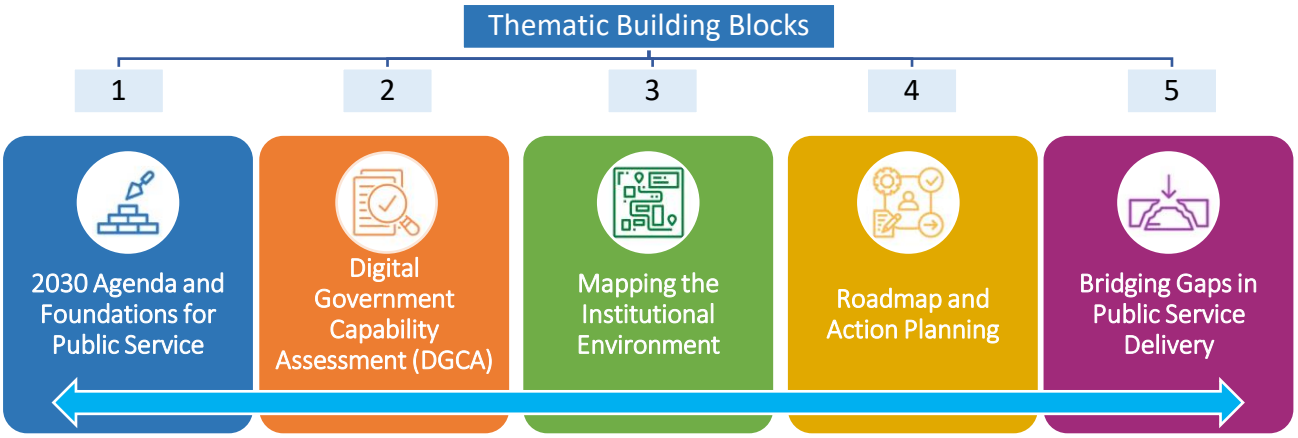
This Handbook's primary objective is to support the United Nations Member States in their efforts to strengthen institutions and governance capacities for public service delivery and to transition towards digital government transformation. The Handbook is intended to guide local and national government officials in promoting innovation and digital government for public service delivery. It includes a Digital Government Capability Assessment (DGCA) focusing on various dimensions towards digital government transformation: Leadership, Strategy, Governance, Legal, Technology and Professional Workforce Development.

The Handbook also focuses on mapping public services in the context of National Development Plans and the SDGs, assessing how government institutions support service delivery for the implementation of the SDGs, designing a Roadmap and Action Plan to identify priorities for innovation; which institutions will do what and how; baseline and action planning cooperation framework; examples and case studies of inclusive, effective, responsive and resilient service delivery, understanding the importance of evaluation frameworks and how to use them.

What is the Handbook's Main Thematic Building Blocks?

The thematic building blocks covered by the Handbook are shown below in Figure 1.

Figure 1: Thematic Building Blocks



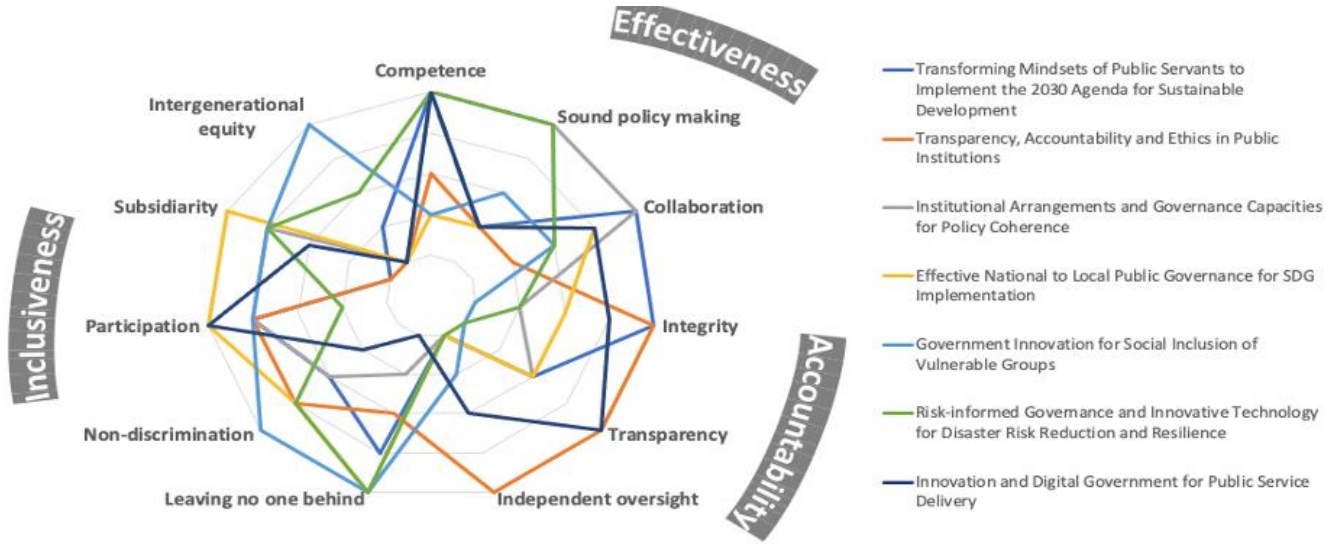
Source: Handbook on Innovation and Digital Government for Public Service Delivery

How was the Handbook Developed?

The Handbook was developed based on the Toolkit on Innovation and Digital Government for Public Service Delivery, which is part the Curriculum on Governance for the Sustainable Development Goals. The Curriculum, which addresses the 11 Principles of Effective Governance for Sustainable Development (see Figure 2), focuses on governance issues that are key for the implementation of the SDGs and was developed by the United Nations Department of Economic and Social Affairs (UN DESA) through its Division for Public Institutions and Digital Government (DPIDG).

The Curriculum provides a holistic and integrated framework for capacity development in governance and public institutions and is a comprehensive set of Training of Trainers Capacity Development Toolkits, which contain ready-to-use and customizable training material. More specifically, it provides methodologies and approaches to advance knowledge and assist governments in developing capacities at the individual, organizational, and institutional/societal levels, to drive the transformational change needed to implement the 2030 Agenda.

Figure 2: The Curriculum Toolkits address the 11 Principles of Effective Governance



Source: United Nations Curriculum on Governance for the Sustainable Development Goals Brochure

It also aims to promote critical understanding of sustainable development issues, enhance governance capacity, and strengthen public servants' awareness of their active role in contributing to the achievement of the SDGs.

The Training of Trainers Capacity Development Toolkits are intended to be used in interactive, results-oriented and engaging training courses. They can be used for a five-day face-to-face training workshop or selected modules can be used for shorter training workshops. Modules from various toolkits can be combined based on a country's needs. The Training of Trainers Capacity Development Toolkits will be continuously updated and expanded based on the feedback received from schools of public administration and governments. The Toolkits are to be considered as "living documents".

All training toolkits are available on the United Nations Public Administration Network UNPAN website including the Toolkit on Innovation and Digital Government for Public Service Delivery. To access the toolkit, please click the link "Access the Toolkit" in the box below.

Toolkit on Innovation and Digital Government for Public Service Delivery

UN DESA | DPIDG
Training of Trainers I English

Access the Toolkit

What are the Learning Outcomes of this Handbook?

The learning outcomes of this Handbook are based on three pillars:

- Learning new concepts, tools and techniques that can facilitate Innovation and Digital Government.
- Assessing Digital Government Capabilities at the country level.
- Exploring country strategies for Innovation, Digital Government Transformation and improved Public Service Delivery.

By using this Handbook, the user will have:

- **Understood** how National Development Plans are connected to the 2030 Agenda for Sustainable Development.
- **Obtained** tools and approaches to explore linkages between public service delivery and sustainable development goals.
- **Enhanced** understanding of key concepts, tools and to support country strategies, capabilities, and action planning in the areas of Innovation and Digital Government.
- **Conducted** a Digital Government Capability Assessment (DGCA) to identify policy entry points and key gaps related to Leadership, Governance, Strategy, Legal, Technology and Professional Workforce Development for enhanced public service.
- **Gained** insights on how to harmonize public value with findings resulting from innovation labs and design thinking.
- **Acquired methodologies to develop** a Roadmap and Action Planning, including techniques for situational awareness in support of concrete actions to strengthen the ability of public institutions to facilitate innovation in public service delivery.

The Handbook includes innovative practices from around the world, including United Nations Public Service Award winning initiatives.

How can the Handbook be Used?

The Handbook is intended to be used by local and national governments in trainings and capacity development workshops related to innovation and digital government. It can also be used by schools of public administration and government officials at local and national levels as training-of-trainers material to be adapted to the local context of a country or local authority. It can be used by UN Resident Coordinators and UN DESA advisors in conducting capacity development activities.

Table 1: Agenda at a Glance of a Capacity Development Workshop

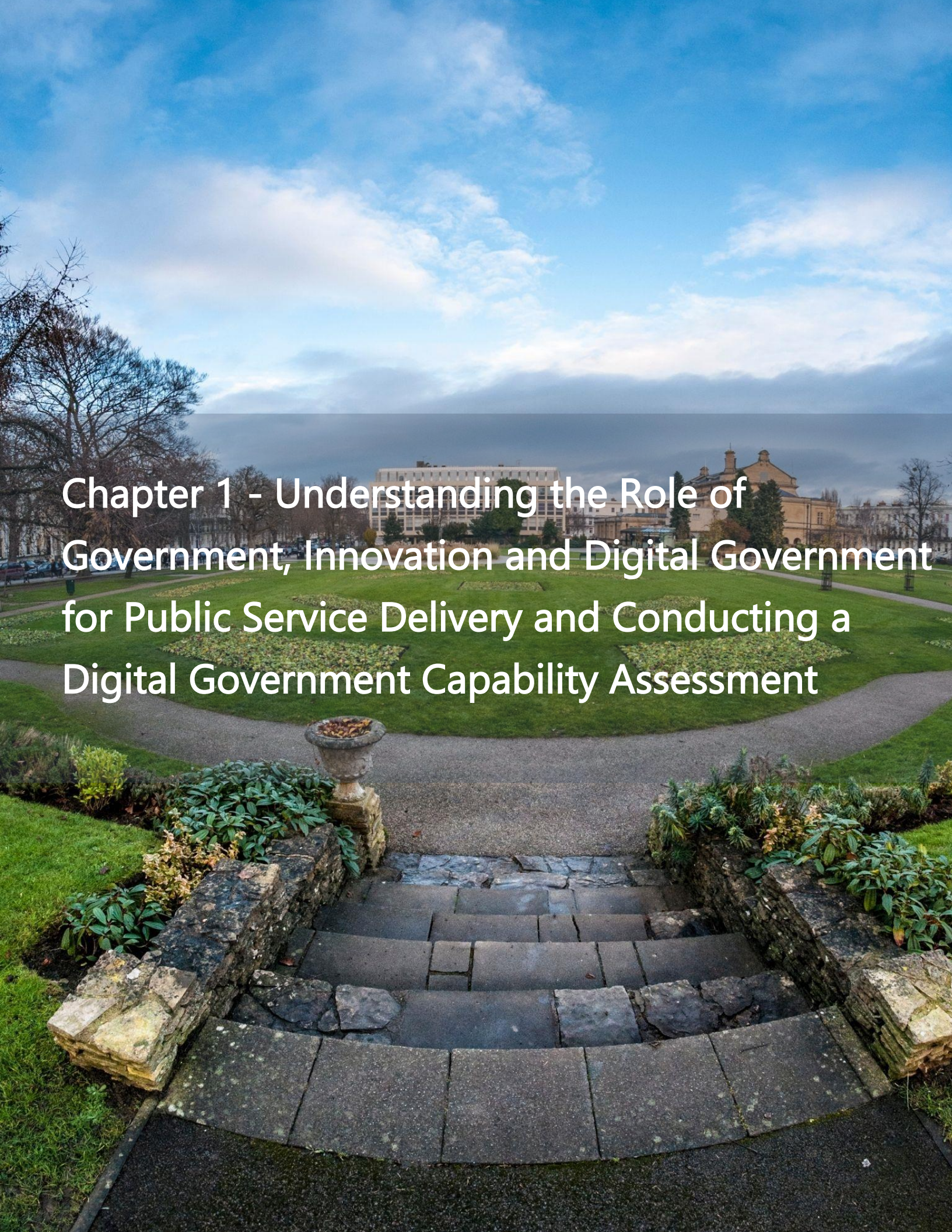
Innovation and Digital Government for Public Service Delivery					
Time	**Day 1**	**Day 2**	**Day 3**	**Day 4**	**Day 5**
	Understanding the role of government, the public service, innovation and digital transformation in realizing the Agenda 2030	**Exploring Key Concepts and Conducting the Digital Transformation Assessment**	**Mapping the Institutional Environment**	**Toward a Road Map and Action Plan**	**Bridging the Gaps in Public Service Delivery Action Plans**
Morning Session 09:00 – 12:00	**Module 1.1:** Welcome & Introduction to the Course	**Module 2.1:** Welcome and Introduction to Day 2	**Module 3.1:** Welcome and Introduction to Day 3	**Module 4.1:** Welcome and Introduction to Day 4	**Module 5.1:** Welcome and Introduction to Day 5
	Module 1.2: Government, Public Service and the Agenda 2030	**Module 2.2:** Innovation and Digital Government: Principles and Strategies to Innovate in Public Service Delivery	**Module 3.2:** Implications for the Realization of the NDP	**Module 4.2:** Tools and Techniques for Building Situational Awareness	**Module 5.2:** Plenary Discussion Prioritizing Recommended Actions
	Module 1.3: Our National Development Plan	**Module 2.3:** Building Situational Awareness with the DGCA, Part 2	**Module 3.3:** Public Value Framework Part 1	**Module 4.3:** Do-ability vs Priority Analysis	**Module 5.3:** What Needs to Change? What Change Will Create the Most Value?
Lunch Break					
Afternoon Session 13:00 – 17:00	**Module 1.4:** Innovation, Digital Transformation and Digital Government	**Module 2.3:** Building Situational Awareness with the DGCA, Part 2 Continued	**Module 3.3:** Public Value Framework Part 2	**Module 4.4:** Action Planning Part 2	**Module 5.4:** Case Study: Socio-Technical View of Innovation
	Module 1.5: Realizing Digital Government Transformation	**Module 2.4:** Systems Thinking and Situational Awareness	**Module 3.4:** Enabling change: Innovation Labs and Design Thinking	**Module 4.5:** Case Study. Reversing a Historical Inefficiency in Land Transfer through the e-Mutation System: A Digital Bangladesh Initiative	**Module 5.5:** Looking Ahead
	Module 1.6: Building Situational Awareness through a DGCA	**Module 2.5:** Introduction to Components of Action Planning Part 1	**Module 3.5:** Case Study: UNCEF's Kosovo Innovation Lab		**Module 5.6:** Course Evaluation and Closing Ceremony
	Module 1.7: Wrap-Up	***Module 2.6: Wrap Up***	***Module 3.6: Wrap-Up***	***Module 4.6: Wrap-Up***	***Module 5.7: Wrap-Up***

Source: Toolkit on Innovation and Digital Government for Public Service Delivery

Table 1 (above) illustrates the Agenda at a Glance of a capacity development workshop that can be organized using this Handbook. The use of the Handbook in a capacity development setting will have the most impact if the following conditions are present:

- There is presence and buy-in from senior decision-makers.
- The implementation of innovation and digital government is a country priority.
- Participants have a predisposition for learning and change.
- Participants are keen to implement new learning in their organizations.

This capacity development training can be adapted to different group sizes. To enable a good level of interaction, a good number of participants would be between 10 and 15, though it is possible to accommodate fewer or more people. The full-time presence of all is important because many modules depend on teamwork and continuity from one session to the next. A Facilitator's Guide for such a workshop is available on the UNPAN at:
https://unpan.un.org/sites/unpan.un.org/files/Guide%20for%20Facilitators_Online%20Training.pdf



Chapter 1 - Understanding the Role of Government, Innovation and Digital Government for Public Service Delivery and Conducting a Digital Government Capability Assessment

KEY OBJECTIVES OF CHAPTER 1

- ✓ Examine the role of government and public service and how they relate to the realization of the 2030 Agenda for Sustainable Development.
- ✓ Present an overview of the 11 Principles of Effective Governance for Sustainable Development.
- ✓ Introduce the concepts of Innovation, Digital Transformation and Digital Government and how they drive change.
- ✓ Introduce the Digital Government Capability Assessment (DGCA).

1.1. The Role of Government and Innovation for Public Service and How They Relate to the Realization of the Agenda 2030

1.1.1. The 2030 Agenda for Sustainable Development: An Overview

The 2030 Agenda for Sustainable Development is a universal policy document that was adopted by 193 United Nations Member States in 2015. It calls for transforming our world and leaving no one behind. The 2030 Agenda recognizes the need to build peaceful, just, and inclusive societies that provide equal access to justice and that are based on respect for human rights (including the right to development), on effective rule of law and good governance at all levels and on transparent, effective and accountable institutions.

The 2030 Agenda is built around 17 Sustainable Development Goals (SDGs) which guide Member States to achieve inclusive, people centered and sustainable development. Among the 17 SDGs, SDG 16 on effective, inclusive, and accountable institutions is central to any transformational change and it calls for effective, accountable, and inclusive institutions at all levels. However, public sector reforms needed to implement the SDGs continue to be a major and vexing challenge in many countries.

Both public service innovation and the goals contained in the 2030 Agenda are not "new". The challenges outlined in the 2030 Agenda have always been identified by UN Member States as part of the relevant inter-governmental debate. The public sector has always been an innovator, although we tend to forget that many of the innovations adopted by the private sector and society came from the public sector, one example being the computer. The public sector also adopted innovations developed by the private sector. The goals contained in the 2030 Agenda such as promoting economic growth, poverty eradication, ending hunger, promoting peaceful and inclusive societies, are also not new. Governments have been tackling these issues for a very long time.

What is new about the 2030 Agenda is that, for the first time in the history of humankind, nations have come together to commit to a plan of action for people, planet, and prosperity – including clear targets and indicators. The 2030 Agenda is UNIVERSAL. It also puts the principle of LEAVING NO ONE BEHIND at the center of all efforts. We know that in many countries around the world, inequalities are rising and are aggravated by the COVID-19 pandemic. Addressing the challenges of vulnerable groups, including people living in poverty, persons with disabilities, youth – many of whom are unemployed-, indigenous people, immigrants, and migrants, among others, requires urgent attention.

The 2030 Agenda is also TRANSFORMATIVE. It aims to eradicate poverty in all its forms, everywhere by 2030. It seeks to realize human rights for all and to ensure that all human beings can fulfill their potential in dignity.

The 2030 Agenda calls for INTEGRATION. The 17 goals are integrated and indivisible and balance the three dimensions of sustainable development: the economic, social, and environmental. The goals, therefore, require a holistic approach to promoting prosperity and growth for all.

PARTNERSHIPS and PARTICIPATION are central to the realization of the 2030 Agenda. The process to elaborate the agenda was itself one of the most inclusive processes in the history of the UN.

What is also new is that we are at a critical juncture in human history. We are witnessing complex and inter-dependent social, economic, and environmental challenges that are posing considerable risks to the sustainability of our planet and our civilization. "These problems are not accidents of nature or the results of phenomena beyond our control. They result from actions and omissions of people – public institutions, the private sector, and others charged with protecting human rights and upholding human dignity."[1]

Based on a transformational vision and goals, the 2030 Agenda calls for equitable and universal access to quality education at all levels, to health care and social protection, and to safe drinking water and sanitation, among others. At the same time, the 2030 Agenda envisions promoting well-being for all at all ages and building a better future for all people. In fact, the links between the 2030 Agenda and public service delivery are found across all 17 goals. 17(see Figure 3).

Figure 3: 17 Sustainable Development Goals

Source: United Nations Department of Economic and Social Affairs Sustainable Development

[1] United Nations. *The Road to Dignity by 2030: Ending Poverty, Transforming All Lives and Protecting the Planet. Synthesis Report of the Secretary-General on the Post-2015 Agenda.* (New York, 2020), available at: https://www.un.org/disabilities/documents/reports/SG_Synthesis_Report_Road_to_Dignity_by_2030.pdf

SDG 16 Icon - Peace, Justice and Strong Institutions

Through the endorsement of Sustainable Development Goal (SDG) 16, the international community has highlighted the central role effective, accountable and inclusive institutions play in enabling sustainable development. This is the first time that they have agreed on the role of such institutions.

1.1.2. How does the 2030 Agenda relate to Public Service Delivery?

In times of multiple crises, including recovering from the COVID-19 pandemic and climate change, it is clear that "business as usual" is not an option. Incremental conventional changes will not help to preserve our planet and promote prosperity for all. Bold action is required from present and future generations and strengthened governance capacities and public institutions at all levels.

As is well known, the fundamental purpose of all governments is to address basic human needs: jobs, clean water, education, transport, housing, infrastructure, primary health care, particularly to those who are left furthest behind. The public sector is the world's largest service provider. However, the bottom 20% remain typically marginalized, without access to the formal economy and to the formal market for basic services. Of the 17 Sustainable Development Goals contained in the 2030 Agenda for Sustainable Development, 13 Goals have content related to public service delivery. Among 169 targets, there are 59 targets (35%) related to public service delivery. Among 230 indicators, 66 of them (29%) require some specific public service to be delivered by public institutions. In fact, most of the SDGs are delivered to people through public services. If governments cannot deliver or provide access to services, the attainment of the SDGs is highly unlikely.

What is a public service?

A public service is a service which is provided by government to people living within its jurisdiction, either directly (through the public sector) or by financing private provision of services.

Source: https://www.sciencedaily.com/terms/public_services.htm

Public service(s) is a composite of activities needed by the general public but cannot be availed in the open market unless through resource allocations provided by the government (Emerson 2020).

As such, governments need to find ways to create public value more effectively through inclusive and people-oriented service delivery. In addition, people are increasingly expecting from their governments: (a) more personalized services that fit their unique needs, (b) greater degrees of transparency, accountability, and effectiveness of a variety of governmental services, and (c) more significant participation in decision-making processes. Although governments are still central to society, it is now widely recognized that governance is not the sole prerogative of governments and that innovative

partnerships are crucial for the success of the SDGs. It is therefore not surprising that most public and private key development actors are engaged in one way or another in public service delivery. There is no blueprint to guarantee an effective and people-centered service delivery, but there are principles, strategies, enabling factors for innovation in service delivery, which are illustrated in Chapter 3 of this Handbook.

1.1.3. What are the 11 Principles of Effective Governance for Sustainable Development?

To provide practical and expert guidance to interested countries in a broad range of governance challenges associated with the implementation of the 2030 Agenda, the United Nations Committee of Experts on Public Administration (CEPA) has devised 11 Principles of Effective Governance for Sustainable Development, which were endorsed in 2018 by the Economic and Social Council (ECOSOC). The principles highlight the need for pragmatic and ongoing improvements in national and local governance capabilities to reach the SDGs. To this end, the principles are linked to a variety of commonly used strategies for operationalizing responsive and effective governance, many of which have been recognized and endorsed over the years in various United Nations forums, resolutions and treaties.

There are 3 pillars, 11 principles and 62 strategies for effective governance identified by the UN Committee of Experts on Public Administration (CEPA). The pillars are effectiveness, accountability and inclusiveness. Table 2 below provides an overview of the 11 principles. Under the pillar of "effectiveness" and the principle of "competence", the strategy "investment in e-government" has been endorsed by the ECOSOC as relevant to promote effective governance. Other complementary strategies have also been identified. Under the pillar of "effectiveness" and the principle of "sound policy-making", the strategy "monitoring and evaluation systems" has also been identified. Under the pillar of "accountability" and the principle of "transparency" the strategy "open government data" has been identified. Under the pillar of "inclusiveness" and the principle of "leaving no one behind" the strategy "data disaggregation" has been identified. All these strategies are relevant to innovation and digital government transformation.

Table 2: 11 principles and 62 strategies of Effective Governance for Sustainable Development

EFFECTIVENESS		
COMPETENCE	**SOUND POLICY-MAKING**	**COLLABORATION**
• Promotion of a professional public sector workforce • Strategic human resources management • Leadership development, training of civil servants • Performance management • Results-based management • Financial management and control • Efficient and fair revenue administration • Investment in e-government	• Strategic planning and foresight • Regulatory impact analysis • Promotion of coherent policymaking • Strengthening national statistical systems • Monitoring & evaluation systems • Science-policy interface • Risk management frameworks • Data sharing	• Centre of government coordination under Head of State / Government • Collaboration, coordination, integration, dialogue across levels of government, functional areas • Raising awareness on SDGs • Network-based governance • Multi-stakeholder partnerships

ACCOUNTABILITY		
ACCOUNTABILITY	**TRANSPARENCY**	**INDEPENDENT OVERSIGHT**
• Promotion of anti-corruption policies, practices and bodies • Codes of conduct for public officials • Competitive public procurement • Elimination of bribery, including trading • Conflict of interest policies • Whistle-blower protection • Provision of adequate remuneration and equitable pay scales for public servants	• Proactive disclosure of information • Budget transparency • Open government data • Registries of beneficial ownership • Lobby registries	• Promotion of the independence of regulatory agencies • Arrangements for review of administrative decisions by courts or other bodies • Independent audit • Respect for legality

INCLUSIVENESS				
LEAVING NO ONE BEHIND	**NON-DISCRIMINATION**	**PARTICIPATION**	**SUBSIDIARITY**	**INTERGENERATIONAL EQUITY**
• Promotion of equitable fiscal and monetary policy • Promotion of social equity • Data disaggregation • Systematic follow-up and review	• Promotion of public sector workforce diversity • Prohibition of discrimination in public service delivery • Multilingual service delivery • Accessibility standards • Cultural audit of institutions • Universal birth registration • Gender-responsive budgeting	• Free and fair elections • Regulatory process of public consultations • Multi-stakeholder forums • Participatory budgeting • Community-driven development	• Fiscal federalism • Strengthening urban governance • Strengthening municipal finance and local finance systems • Enhancement of local capacity for prevention, adaptation and mitigation of external shocks	• Multilevel governance • Sustainable development impact assessment • Long-term territorial planning and spatial development • Ecosystem management

Source: United Nations Department of Economic and Social Affairs, E/2018//44-E/C.16/2018/8

1.2. What is Innovation, Digital Transformation and Digital Government and How Do They Drive Change?

There are many definitions of innovation in public governance and a rich literature on the subject matter. As the economist, Schumpeter once stated: "Innovation is mankind's effort to endlessly pursue change for a better world".[2] In general terms, innovation is a creative idea which is implemented to solve a pressing problem of public concern, i.e., a useful solution to a governance challenge. It is the act of conceiving and implementing a new way of achieving a result and performing work that creates public value. It is not just about developing new ideas, but about implementing them.

Innovation can refer to new products, new policies and programs, new approaches, and new processes. It can involve:

- The incorporation of new elements,
- A new combination of existing elements, or
- A significant change or departure from the traditional way of doing things
- The generation, acceptance, and implementation of new ideas, processes, products, or services.

Source: Kanter, Rosabeth M. The Change Masters: Innovation for Productivity in the American Corporation. New York: Simon & Schuster, 1983.

Innovation at the individual level is based on creativity, which implies imagining something **new** and **making it happen**. Creativity is **ACTION**. Creativity is the best way to deal with accelerating change.

1.2.1. What are some of the benefits of innovation in governance?

Experience has shown that introducing innovations in governance has many positive results:

1. It can help maximize the utilization of resources and capacities to create public value as well as encourage a more open/participatory culture in government, therefore improving good governance in general.
2. By enhancing the image and services of the public sector, it can help governments regain people's trust and restore legitimacy.
3. Innovation in governance can boost the pride of civil servants working in the public sector, as well as encourage a culture of continuous improvement. Innovations can have an inspirational capacity, which builds a sense of the possible among public officials.
4. Although innovations are limited governance interventions, they can produce a domino effect in that successful innovation in one sector can open the door to innovations in other areas.

[2] Economist, Joseph A. Schumpeter, Theorie der Wirtschaftlichen Entwicklung, 1912.

Each innovation can create the opportunity for a series of innovations leading to a favorable environment for positive change. Innovations can lead to building a new block of an institution and change the relationship between levels of government and within government departments. For instance, the development of centers for one-stop-public service delivery, used in many countries, can accelerate integrated modalities engaging various government institutions delivering different services such as issuing IDs and birth certificates (Agenda 2030, Goal 16, target 16.9). However, if we wish to define innovation, it is essential to bear in mind that innovation is not an end, but rather a means to improve services for the benefit of all. One of the most widespread ways of promoting public service innovation in today's world is by leveraging digital technologies through digital transformation.

Innovation and Risk

- Innovation characteristics interact with context characteristics
- Uncertainty results from the lack of adequate knowledge about the interaction
- Risk results from uncertainties about the consequences of change efforts

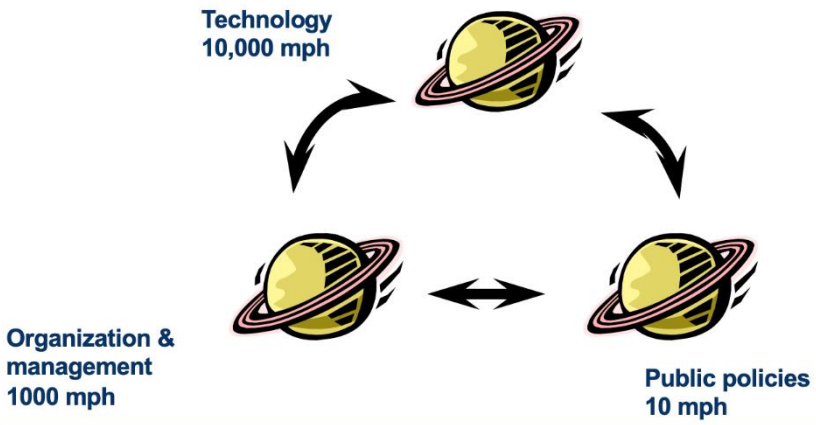
Digital transformation is fundamentally about governance transformation and cultural change in support of a country's overall national development vision and strategy, which should be in line with the SDGs. It includes leveraging digital technologies in the political, economic and social domains of collective action. The use of different **digital technologies in all areas of operations and in communications**. Digital Transformation fundamentally **changes ways of organizing work** and **delivering value**. When Digital Transformation is well planned and implemented, **gains in efficiency and value can be considerable**.

Digital government denotes the adoption and extensive use of digital technologies by government to produce public value. Digital government is not an end. It is a very powerful means for improving public service delivery, increasing people's engagement, enhancing transparency, accountability and inclusion and, ultimately making life better for all.[3] Digital government has been consistently acknowledged by the UN Member States as a key pillar for delivering services and for enhancing dialogue with civil society and the private sector.

[3] United Nations, *United Nations E-Government Survey 2020: Digital Government in the Decade of Action for Sustainable Development,* Sales No.: E.20.II.H.1 (New York, 2020), available at: https://publicadministration.un.org/egovkb/Portals/egovkb/Documents/un/2020-Survey/2020%20UN%20E-Government%20Survey%20(Full%20Report).pdf

Public policies, organizational changes and technologies are evolving at very different speeds. While technological developments are rapidly advancing, changes in organizational management are much slower. Changes in regulatory frameworks and policies are even slower (see Figure 4).

Figure 4*:* Public Policies, Organization & Management, Technology



Source: Toolkit on Innovation and Digital Government for Public Service Delivery

Digital government transformation can be defined as the process of transforming governance models and interaction mechanisms between government and society and innovating government policymaking, organizations, services and programmes by leveraging digital technologies. It refers to a process of fundamental change requiring a holistic approach that puts people first and revolves around the needs of individuals, including those left furthest behind, and the mitigation of risks associated with the use of technologies.[4] Digital government transformation entails fundamental changes in the mindsets of public servants, embracing a digital mindset and digital literacy (to be aware of opportunities and risks of the new digital world), and in the way public institutions collaborate.

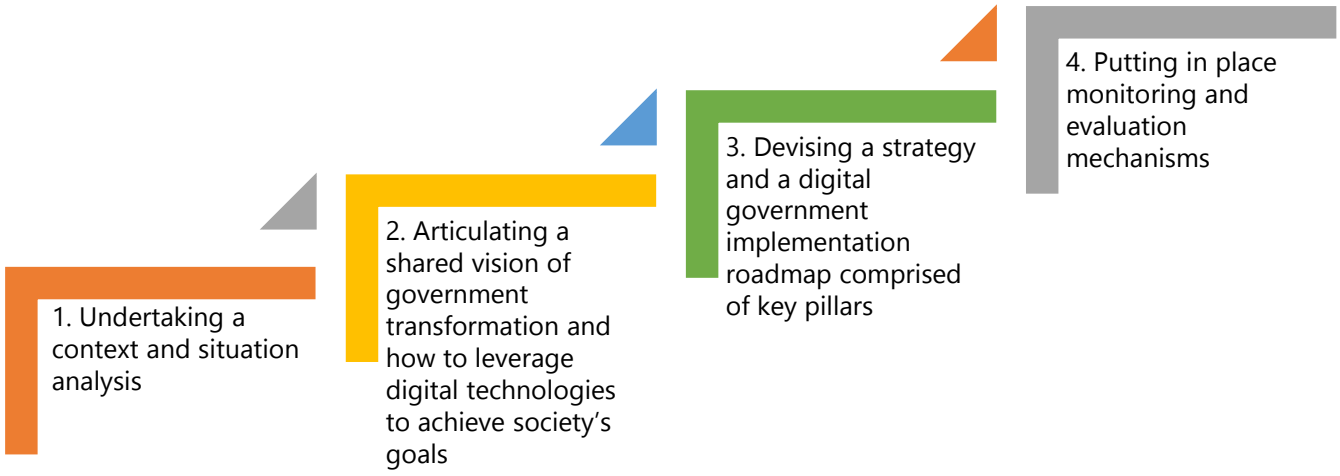
The most digitally advanced countries, such as Denmark, Australia, Republic of Korea, United Kingdom, Estonia and Sweden demonstrate that a holistic approach going beyond technology itself to engage people usually leads to concrete results. For instance, Uruguay is digitizing all public services; in Finland, citizens are digitally engaged in legislative reforms; in Portugal a platform to simplify bureaucracy, called Simplex modernizes public administration; the European Commission created the Digital Skills and Jobs Coalition to enhance digital skills in the labour force.

[4] United Nations, *United Nations E-Government Survey 2020*: *Digital Government in the Decade of Action for Sustainable Development,* Sales No.: E.20.II.H.1 (New York, 2020), available at: https://publicadministration.un.org/egovkb/Portals/egovkb/Documents/un/2020-Survey/2020%20UN%20E-Government%20Survey%20(Full%20Report).pdf

1.3 Realizing Digital Government Transformation: Four-Step Iterative Process

Digital government transformation can be implemented through a four-step iterative process that encompasses situation analysis (including an assessment of digital capacities within and outside of government), the development of a strategy and road map, implementation, and monitoring and evaluation for continuous improvement (see Figure 5). Digital government transformation requires a holistic approach that is value-driven and institutionalized across all government levels and society.

Figure 5: Four-Step Iterative Process



Source: Handbook on Innovation and Digital Government for Public Service Delivery

According to the 2020 UN E-Government Survey, countries leading in Digital Government have a number of common characteristics:

- Their institutions have a systems-thinking approach to policy making and service delivery by using ICTs to enhance operational linkages.
- A basic step they followed was to re-organize their institutions and organizational structures to establish appropriate horizontal and vertical workflows before starting an automatization process.
- Many leading countries have put in place organizational structures to lead their digital government transformation. Out of 193 UN Member states, 145 countries have a Chief Information Officer (CIO) or equivalents.
- Organizational structures are complemented by a change in a government's organizational culture at all levels and new individual capacities in the public sector and society.
- Capacities to mobilize resources, manage data, promote effective public communication and address issues related to ICT infrastructure, affordability and accessibility to technologies are also part of a holistic approach.
- They develop the capacities of the capacity developers and of all people including vulnerable groups.

The extent of engagement and the methodology varies from country to country, but what works for all is the adoption of a holistic approach for a more inclusive people-centric public-sector reform and ethical leadership at all levels that will restore the public administration's credibility and trust in public institutions. In the same manner, providing the preconditions for sustainable and resilient societies through digital government depends upon a holistic approach that eliminates firewalls between ministries and builds government capacity to rewire policymaking through a new framework of governance and high-impact public services.

Digital government transformation should also aim at promoting digital inclusion and ensuring that all people, including vulnerable groups, can access new technologies to improve their wellbeing. It should put people first and revolve around their needs.[5]

There are several innovative cases in using digital technologies to deliver services that have won the United Nations Public Service Awards (UNPSA), which is the most prestigious international recognition of excellence in public service. The UNPSA rewards the creative achievements and contributions of public service institutions that lead to a more effective and responsive public administration in countries worldwide. A few of them are highlighted for illustration purposes and discussion (see Boxes 1, 2 and 3).

1.4. Capacities for Innovation and Digital Government Transformation

To Achieve the SDGs, public sector capacity must be bolstered at the national and local levels to promote:

a) Institutional innovations, which focus on the renewal/reform of established institutions or in the establishment of new institutions.

b) Organizational innovations, including the introduction of new working procedures or management techniques in public administration.

c) Process innovations, which focuses on the improvement of the quality of public service delivery and coordination mechanisms, and

d) Conceptual innovations, which focuses on the introduction of new forms of governance (e.g., interactive policymaking, people's budget reforms, horizontal networks).

Success is not a Mystery

- An often overlooked lesson is the relevance of capacity/capability to undertake reform
- Key Lessons Learned:
    - Proper institutional coordination
    - Policy coherence
    - Context-specific adaptation

[5] United Nations, *United Nations E-Government Survey 2020: Digital Government in the Decade of Action for Sustainable Development,* Sales No.: E.20.II.H.1 (New York, 2020), available at: https://publicadministration.un.org/egovkb/Portals/egovkb/Documents/un/2020-Survey/2020%20UN%20E-Government%20Survey%20(Full%20Report).pdf

- Engagement of beneficiaries in a collaborative manner
- Appropriate consideration of digital and technological options
- Transparency in budgeting and expenditures
- Public private partnerships
- Accountability towards customer-centric models
- Effective linkages between local and national levels of government

Concepts for Analysis and Planning

- Capability
- Stage models and frameworks
- Theories of change
- Enablers

1.5 Building Situational Awareness through a Digital Government Capability Assessment

The Digital Government Capability Assessment (DGCA) was designed to identify the key organizational and technological enablers for improvement of digital transformation. Using the DGCA to conduct an assessment of capability produces new insights for identifying options and making decisions about strategies and action plans to guide future efforts to transform government and create public value. It is a set of six dimensions that are key factors in assessing the level of digital government capability. The DGCA uses an "enabler" focus with each of the dimensions representing a theory of change related to the key enabling factors in terms of capabilities that contribute to digital government development. Enablers, as theories of change, in the DGCA, represent what is needed to improve institutional and organizational capabilities for Digital Government. A theory of change is a model that explains how an intervention will lead to improved performance in a specific domain. It specifies a direction (a desired performance or outcome), and implies the inputs and activities needed to attain the desired direction. A theory of change answers the question "How might A lead to B?" Each of the theories of change underlying the enablers of the DGCA is based on recent relevant literature and a review of current and best practices in innovation and digital government for public service delivery.

The DGCA was based on an extensive field review of a selected set of relevant digital development "models", particularly: 1) Gartner's Digital Government Maturity Model, 2) McKinsey's Digital by Default, 3) UN METER 2, 4) CTG's Capability Framework, 5) a set of literature reviews synthetizing over 25 "maturity models" developed in the last 20 years, and 6) a review of current and best practices. These reviews were developed by the CTG, University of Albany.

Completing a DGCA will help civil servants build new understanding of the level of digital Government capability that exists in a country as a foundation for continued efforts to innovate and lead in the area of digital government and public service delivery. A DGCA is not meant to be used to benchmark capability, but rather to develop an understanding of current capability and to inform decision making about where investments are needed to increase innovation and Digital Government capability leading to improvements in public service delivery.

This tool can be used at the inter-institutional level as part of a national exercise or as an international comparative exchange between different countries at the regional or global level. One example is the Caribbean Training Workshop engaging 13 countries held in February/March 2021 with five online facilitated virtual training sessions for two different groups of countries (see the workshop report).

Completing a DGCA as part of a workshop serves multiple purposes. The first is to provide workshop participants with exposure to the general process of conducting assessments as a way to systematically identify gaps between existing capability and desired capability. The second is to use that understanding as a new lens through which to learn about the content presented in the workshop, and third, to use that new understanding of a country's digital government capabilities when working with fellow workshop participants to create an action plan for building new capability.

The focus of interest, or unit of analysis, in completing a workshop with the DGCA is not a particular digital initiative, such as a portal, but rather it is the whole of government capability for creating and sustaining digital government transformation. The DGCA process can be carried out in a workshop setting through two complementary steps:

1) a self-assessment to be filled out individually by workshop participants and
2) a collaborative assessment to be conducted through small or larger groups as a workshop activity.

In summary, although the DGCA has been designed to provide a context for digital government development, it is not in itself a contextless exercise, as it should be ideally seen as an exercise within the overall effort to improve governance effectiveness within any given local, provincial or national government. Table 3 below highlights the key dimensions of the DGCA.

Table 3: Six Dimensions of the Digital Government Capability Assessment

Icon	Dimension	Definition
	**Leadership**	Leaders are the stewards of digital government efforts. They must engage, motivate, build commitment, and mobilize resources for the successful implementation of a digital strategy. Leaders must also craft the plans to achieve the organizational goals, as well as its communication to stakeholders and monitor progress.
	**Strategy**	Strategic plans help to support the government agenda. This contains the actions to be taken to pursue the digital government goals.
	**Governance**	The organizational capacity and managerial actions developed to overcome potential cultural barriers in implementing the digital strategy across agencies and departments. The development of good governance must be aligned with the strategic goals, as well as legal framework.

	**Legal**	The set of legislation, guidelines, and standards that a department or agency must comply with in deploying digital services.
	**Technology**	The set of technologies that directly and indirectly contribute to the delivery of programs and services through digital platforms.
	**Professional and Workforce Development**	The policy and programmatic affordances in place to support ongoing capacity development.

Source: Digital Government Capability Assessment Handbook

Each enabler, or dimension of the DGCA, has sub-dimensions that focus on specific actions that could be taken in order to increase capability in each of the dimensions. Each sub-dimension has a set of statements or items that are used in the DGCA process. Table 4 shows the list of dimensions, sub-dimensions, and the number of items per sub-dimension.

Table 4: Dimensions, Sub-dimensions, and Number of Items per sub-dimension in the Digital Government Capability Assessment Framework

Dimension	Sub-dimension	Number of Questions	Sub-total
 **Leadership**	Vision	4	11
	Policy	4	
	Data	3	
 **Strategy**	General	8	15
	Integration and Interoperability	3	
	Data	4	
 **Governance**	General	6	20
	Citizen and Business	5	
	Partnership	2	
	Data	3	
	Organization	4	

Legal	Laws and Regulations	5	26
	Policies and Procedures	14	
	Data	3	
	Procurement	4	
Technology	General	4	21
	Citizen and Business	5	
	Public Servants	3	
	Cybersecurity	9	
Professional and Workforce Development		7	7
Total			**100**

Source: Digital Government Capability Assessment Handbook

Each of the 100 items of the DGCA appear as shown in Table 5. On the left-hand side, there is an identifying code for every item. For instance, LEA01 stands for the first item in the Leadership Dimension. The column in the middle presents the item statement. The process of conducting a DGCA is based on two basic steps. The first is considering the statements and the second is deciding the extent to which the respondents agree or disagree that the statement represents the situation in their government (Likert scale). The right-hand column presents the scoring scale (5-point scale) corresponding with values 1 to 5 - 1. Reference statements are provided for the high, low, and medium ratings for each item. However, the most important aspect is the actual discussion between participants, which would highlight differences in perception and between institutions within the same government – thus leading to potential policy entry points for eventually enhancing public service delivery.

Table 5: DGCA Sample Statement

LEA 01	Leadership from the organizational units in our Ministries/Agencies are constantly informed and updated about how digital technologies may bring opportunities in transforming the working environment and improving citizen satisfaction	☐ 5 - Strongly Agree Management personnel from all departments are regularly informed and updated about how digital technologies may create opportunities for transforming the working environment and improving citizen satisfaction ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Management personnel from all departments are not regularly informed and updated about how digital technologies may create opportunities for transforming the working environment and improving citizen satisfaction ☐ 2 - Disagree

		☐ 1 - Strongly Disagree There is no plan in place for management personnel from all departments to be regularly informed and updated about how digital technologies may create opportunities for transforming the working environment and improving citizen satisfaction.

Source: Digital Government Capability Assessment Handbook

To view the full assessment, please see Annex II of this Handbook or access the UNPAN website to conduct an online interactive assessment.

Exercise 1.1 - Localizing the Sustainable Development Goals

1. In a team discuss and select some SDGs that are important to your National Development Plans (or equivalent[6]). Decide which member of your team will present these.

2. Has your government effectively mainstreamed the 2030 Agenda and the Sustainable Development Goals (SDGs) into national and/or local development strategy and plans? If so, what actions have been adopted?

[6] Not all countries have a consolidated "National Development Plan" per se. However, participants of the Caribbean pilot, for instance, could identify official documents with a similar role of supporting guidance towards national development.

3. How does your National Development Plan relate to the UN Sustainable Development Goals?

4. After reading pages 15-27 of "Transforming our world: the 2030 Agenda for Sustainable Development", select one SDG that relates to public service delivery and provide key points on: How does public service delivery relate to this SDG?

5. What are/were the key challenges and capacity gaps in setting national development goals reflecting the ambitious goals and targets of the SDGs?

6. Since the adoption of the 2030 Agenda and the SDGs, what are your country's priorities in pursuing SDG implementation?

7. Is your Government aware of the Principles of Effective Governance for Sustainable Development developed by the UN Committee of Experts on Public Administration and endorsed by the UN Economic and Social Council?

8. Ensuring leaving no one behind is one of the overarching principles of SDG implementation. Has your government adopted any targeted policies and/or innovative measures for service delivery (for example through special budget allocation) to improve the inclusion of the poorest and most vulnerable people including through bridging the digital divide? What capacities need to be strengthened in the area?

Exercise 1.2 – Innovation, Digital Transformation and Digital Government

1. Innovation and Change in Public Service Delivery

What is innovation? How does it relate to creativity and change? Why are the speed of innovation and developing capacity for innovation crucial?

2. Digital Government and Digital Government Capability Assessment (DGCA)

What is digital government? How does it bring value, and what are the characteristics of policies in leading countries?

3. Participative Activity (structured sharing): *In what ways might Digital Transformation bring value to public service delivery in your country?*

Case Studies

Box 1: Case Study: Republic of Korea - Accessible Health Care Services - Seongdong District's HYO Policy – conceptual innovation and digital information systems to care for older persons

Related SDGs:

UNPSA Year: 2020

Country: Republic of Korea

Region: Asia and the Pacific

Seongdong District's HYO Policy

Problem: Korea has an ageing society. In 2019, older people (65 and up) accounted for 14.9 per cent of Korea's population, a figure that is expected to exceed 46.5 per cent by 2067. In Seongdong District in Seoul the number of older persons aged 65 or older stands at 14.4% and those aged 75 or older (the "old-old") at 5.8%. The 'old-old', often face a range of issues including economic poverty, healthcare, mental health issues, accessibility barriers, and social isolation. At the same time Korea is witnessing a shift in responsibility for older person care from the family to the government, presenting challenges on how to ensure care.

Solution: Seongdong District introduced its older person friendly healthcare programme, the "HYO Policy" in a bid to make healthcare services more accessible to 'old-old' persons suffering from serious economic poverty, frailty, and social isolation. The 'HYO Team', composed of doctors and nurses, provides home health visits to the old-old in five areas: health checkups, chronic disease management, depression and dementia management, and financial support for medical bills. In 2018, the healthcare management programme for the intensive management of the old-old with frailty issues was created which included socialization programmes to combat isolation and depression and increased the physical accessibility of welfare services through the building of a medical welfare network, including through partnerships with private clinics, welfare services and care providers at various services points.

Impact: The Republic of Korea Seongdong District's (Seoul) "HYO Policy" programme makes health care services more accessible, including through home visits, to older persons suffering from poverty, health issues and social isolation.

Source: United Nations Public Service Innovation Hub - 2020 Winners

Box 2: Case Study: Portugal - Access to Energy Reduction Tariff - Automatic Social Energy Tariff (ASET) – Process Innovation addressing a social challenge while improving infrastructure

Related SDGs:

UNPSA Year: 2020

Country: Portugal

Region: Western Europe and Other Groups

ASET - Automatic Social Energy Tariff

Problem: Since 2010 the Portuguese government has operated a 'Social Energy Tariff' programme which aims to ease the burden of energy bills for low-income families by allowing for reduced fees for the most in need. However, uptake of the programme remained low with consumers either unaware of the entitlement or deterred by the administrative burden that came with putting in a request for tariff reductions.

Solution: To address the low uptake rate, the Automatic Social Energy Tariff (ASET), a national interoperability platform, was developed in 2016. The platform automates the tariff application process, cross checking data from several government entities to identify the consumers who are entitled to the "Social Energy Tariff". Through the service, the Government proactively checks for eligibility and automatically attributes a social tariff allowed to bridge the gap and ensure all families in need now have financial support for their energy services. In such a way, the onus has shifted from the individual to the government to ensure that low-income families have access to the reduction.

Impact: According to evaluations provided, automating the Social Energy Tariff saw an improvement in the number of beneficiaries from 4 per cent to about 20 per cent of all the households in Portugal, representing an overall discount of over 85 million euros on their invoices. The Automated Social Energy Tariff platform was launched for piped natural gas only, however a pilot project for a "Bottled Liquefied Petroleum Gas" social tariff is under development in order to benefit vulnerable consumers who do not have access to natural gas. The initiative greatly increased the uptake of the entitlement among low-income households.

Source: United Nations Public Service Innovation Hub - 2020 Winners

Box 3: Case Study: Brazil - Reducing Truancy - Jaboatão Prepara Programme - Organizational Innovation

Related SDGs:

UNPSA Year: 2020

Country: Brazil

Region: Latin America and the Caribbean Group

Jaboatão Prepara: preparatory course for students' admission into reference technical schools

Problem: Evidence had shown that there was a very low approval rate for district middle school students into secondary level technical schools. Professional technical schools have a highly competitive admission criteria, and district students, who tended to be from vulnerable backgrounds or/and have low educational achievement levels, were at a notable disadvantage experiencing very low acceptance rates. Not gaining a place in such technical schools had the potential to have lifelong negative impacts on their continuing education and future job opportunities. In addition, there was a high dropout rate of school students after completion of middle school.

Solution: In 2015 the Jaboatão Prepara Programme was established to encourage middle school students' access to and attendance in secondary level technical schools, by offering professional guidance and a free preparatory course for low-income students with extra classes on Saturdays, including with online options for learning. The programme targets students in their last year of middle school and offers didactic-pedagogical support to navigate the selection and federal processes to access technical schools that are otherwise out of reach. It particularly targets students who live in situations of social vulnerability, coming from extremely poor families with low education levels.

Impact: The initiative has significantly boosted the number of district students selected by technical schools (more than 1,500 between 2015 and 2018). In 2018, of the 2,000 students enrolled in Prepara, 781 submitted applications to the vestibular test, where 88% were approved, 631 being approvals to State Technical Schools and 60 to Federal Technical Institutes. In addition, the drop-out rate of young people after middle school fell by 27% to be now below Brazil's national average. The Jaboatão Prepara Programme encourages middle school students' attendance in secondary level technical schools by offering professional guidance and a free preparatory course for low-income students, greatly increasing the acceptance rates of students.

Source: United Nations Public Service Innovation Hub - 2020 Winners

Reading Materials of Chapter 1

- United Nations. Transforming our world: the 2030 Agenda for Sustainable Development
- United Nations. Principles of Effective Governance for Sustainable Development
- United Nations. The Sustainable Development Goals Report, 2020.
- Jackson, Emerson. (2020). Importance of the Public Service in Achieving the UN SDGS. 10.1007/978-3-319-71058-7_20-2
- Whaites, A., 2016. Achieving the Impossible – Can we be SDG Believers?
- United Nations. UN Highlights the role of the public service in achieving SDGs
- UN DESA. Compendium of Digital Government Initiatives in response to the COVID-19 Pandemic 2020, 2020.
- Chimhowu, A.O., David Hulme, D., Munro, L.T., 2019. The 'New' national development planning and global development goals: Processes and partnerships, World Development
- UN DESA. Policy Note: Innovation in Public Service Delivery for the Sustainable Development Goals (Draft) - DPIDG Interim Policy Brief Capacity Development Unit
- Pardo, T., 2008, A Capabiilty Based View of Government IT Innovation
- Pardo, T. & Dawes, S., 2013, Timeless Lessons for Government Innovators
- Dawes S.S., Pardo T.A. (2002) Building Collaborative Digital Government Systems. In: McIver W.J., Elmagarmid A.K. (eds) Advances in Digital Government. Advances in Database Systems, vol 26. Springer, Boston, MA. https://doi.org/10.1007/0-306-47374-7_16
- Renteria, C., Gil-Garcia, J.R. & Pardo, T. (2019). Toward an Enabler-Based Digital Government Maturity Framework: A Preliminary Proposal Based on Theories of Change. 408-417. 10.1145/3326365.3326419.
- The Digital Transformation Capability Assessment Framework, Center for Technology in Government, University at Albany, SUNY, 2020.

Key Takeaways of Chapter 1

01 The 2030 Agenda represents a key advancement for all countries as it defines a consensual pathway towards sustainable development including concrete goals, targets and indicators. A brief analysis of the 2030 Agenda by DPIDG/UNDESA outlined that 13 out of 17 SDGs require specific public services to be delivered (job generation, education, healthcare, water and sanitation, energy, transportation, etc.). "Business as usual" is not an option.

02 There is a broad range of governance challenges associated with the implementation of the 2030 Agenda. Following extensive research and discussions, the UN Committee of Experts on Public Administration (CEPA) has outlined 3 pillars, 11 principles and 62 strategies for effective governance, which were endorsed by the UN Member States through the UN Economic and Social Commission (ECOSOC). The key pillars are effectiveness, accountability and inclusiveness.

03 Digital Government is an effective tool for facilitating integrated policies and public service by promoting accountable and transparent institutions, such as through open data and participatory decision-making, and therefore it has the potential to help support the implementation of the Sustainable Development Goals (SDGs)[7].

04 Innovation includes technology but should not be limited to it. It is important to consider a holistic inclusive approach that is value-driven and institutionalized across government levels and society. Innovation also implies risk-taking on the part of senior management in government institutions.

05 Digital government transformation can be implemented through a four-step iterative process that encompasses situation analysis (including an assessment of digital capacities within and outside of government), the development of a strategy and roadmap, implementation, and monitoring and evaluation for continuous improvement.

06 Innovation goes beyond technology to include Institutional innovations, Organizational innovations, Process innovations and Conceptual innovations.

07 Digital Government can be seen as a transformation enabler following six key dimensions: Leadership, Strategy, Governance, Legal, Technology and Professional Workforce Development.

[7] An informal analysis by DPIDG/UNDESA outlined that 13 out of 17 SDGs require specific public services to be delivered. https://sustainabledevelopment.un.org/?menu=1300

08 Governments are not homogeneous: A Digital Government Capability Assessment (DGCA) will help civil servants build new understanding of the level of digital government capability that exists in a country, institutional capacity gaps and policy entry points as a foundation for continued efforts to innovate in the field of digital government and public service delivery.

09 The DGCA is usually undertaken through intra-governmental discussions about statements on the key six dimensions and sub-dimensions. More details in Annex II.

Chapter 2 - National Development Priorities and New Approaches to Innovation and Digital Government for Inclusive Service Delivery

KEY OBJECTIVES OF CHAPTER 2:

- ✓ Explore Public Value and Innovation for Social Inclusion.
- ✓ Discover principles and practice of Design Thinking and Innovation Labs for Innovation and Digital Government.
- ✓ Relate National Development Plans Priorities to Innovation and Digital Government Transformation.

2.1. Public Value and Innovation for Social Inclusion

Public Value is defined as "The value created by government through services, laws, regulation and other actions." - Mark Moore, Harvard Kennedy School, 1995. Public Value focuses attention on the collective and societal interests that are served by particular institutional arrangements and actions of government. A public value framework can help to determine the value of government activities and do so from multiple stakeholder perspectives, not just a generalized, and thus ambiguous, citizen viewpoint.

Value Based on Interests:

- Personal: What's good for me?
- Group: What's good for those who share my interests?
- Organizational/institutional: What's good for my town? State? Organization? Employer? Church?
- Societal: What's good for all of us?

All individuals and groups, i.e., stakeholders, have multiple interests, tied to their many roles and overlapping identities and relationships. These interests seldom align neatly, leading to complex patterns of desired outcomes and preferred investments. This kind of analysis is central to understanding the stakeholder perspective, which is central to public value analysis.

Awareness is made that, quite often, divisive party politics and political agendas tend to define decision-making and outline investments based on the interests of specific groups. Nevertheless, this discussion will focus mostly on the dimensions of public value.

There are indeed some problems of value based on interests. For example, multiple value propositions: personal, social group, organizational/institutional, societal; No or limited consensus on measures or measurability; How to combine into a public value proposition—the public return on investment? The measurement issues are inherent in public value analysis. The methods to come include many possible kinds of evidence as useful in assessing value, including many qualitative indicators. The lack of consensus on what are "valid" measures of value is part of the overall framework, requiring an eclectic approach to the use of assessment methods and traditions.

Therefore, there is a need for a new framework:

- For a way to recognize many, often competing notions of value
- For links to an expanded investment rationale for government
- To incorporate understanding about stakeholder interests with value creating mechanisms

- Provide a more comprehensive model and results, beyond financial and economic models

Value assessment as presented here is bound to be multi-dimensional, given the multiple interests and perspectives across individuals and groups in a society. The method to be presented must bridge the distance between a more structured and manageable set of dimensions/interests that can be consistent across initiatives versus a highly diverse and complex set of interest dimensions tailored to a particular context. This public value analysis is one way to deal with the problem.

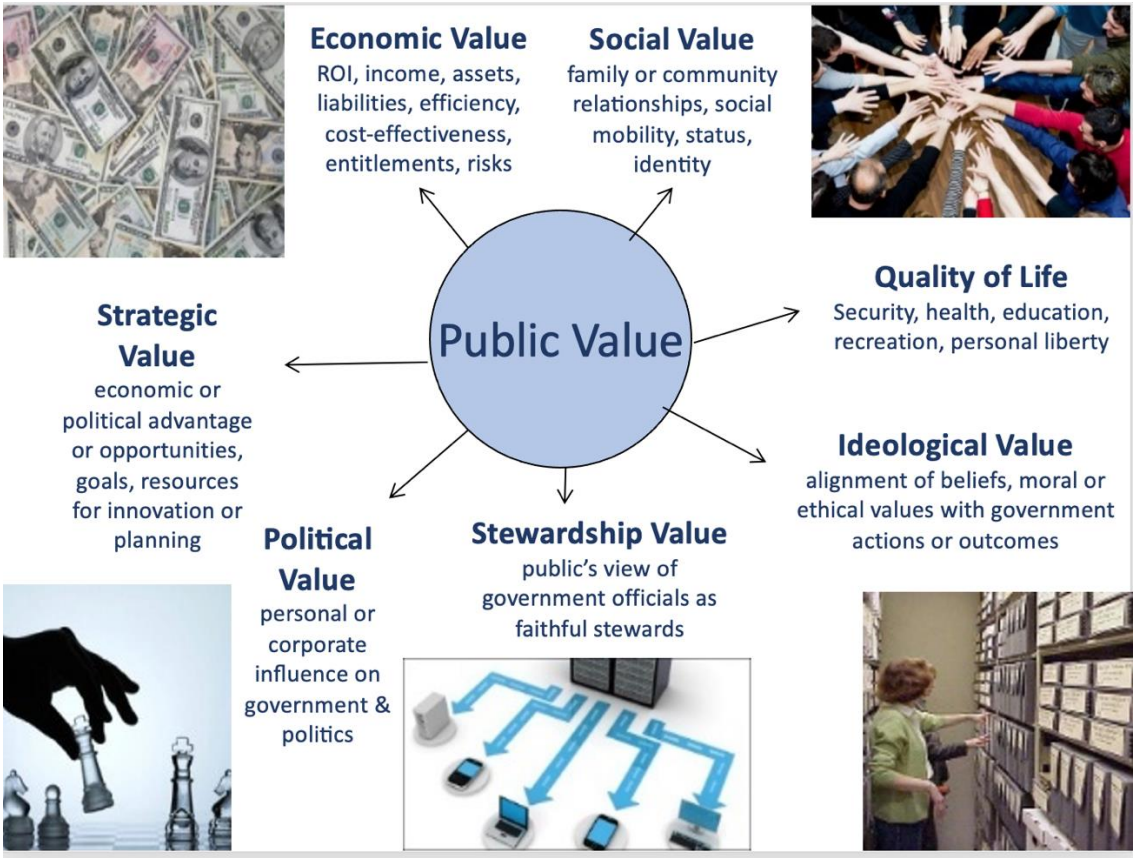
There are two kinds of public value:

- Value that results from delivering specific benefits directly to persons or groups.
- Value to the public that results from improving the government as a public asset.

Recognizing the public value of enhancing the value of government itself as a societal asset is central to this form of analysis. It also directs attention to investments that make the government an enabler of activities that then produce public value, either in or outside government.

Public Value can be generated in different domains and at different levels:

Figure 6: Public Value Framework



Source: Toolkit on Innovation and Digital Government for Public Service Delivery

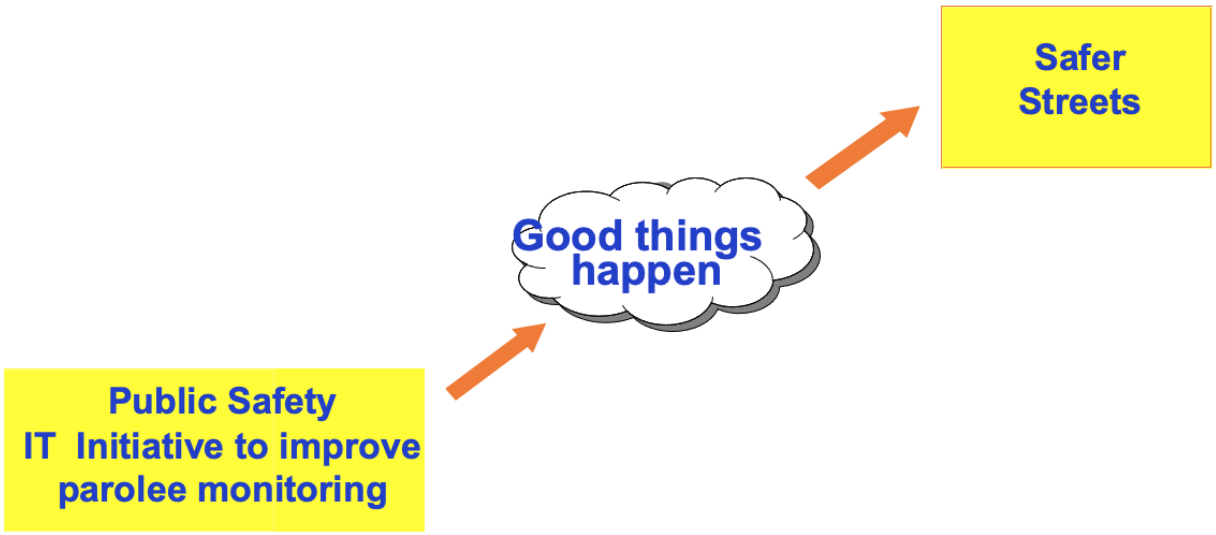
Assessing public returns should reveal value in terms of **stakeholder interests.** It is very important to note that value impacts of the same initiative can be, in fact are very likely to be both positive and negative, depending on stakeholder interests.

What are the Value Generators?

- Increases in efficiency
- Increases in effectiveness
- Enablement
- Intrinsic enhancements

The idea of value generators allows for bringing the wide range of possible value outcomes into the picture and linking them to the initiative of interest. Every aspect of an initiative is thus analyzed in terms of what value generators it includes and how they are expected to operate. For example, an initiative that implements a mobile app for paying a particular government fee can result in increased efficiency in both the payment activity of the citizen and the receiving activities of the government agency.

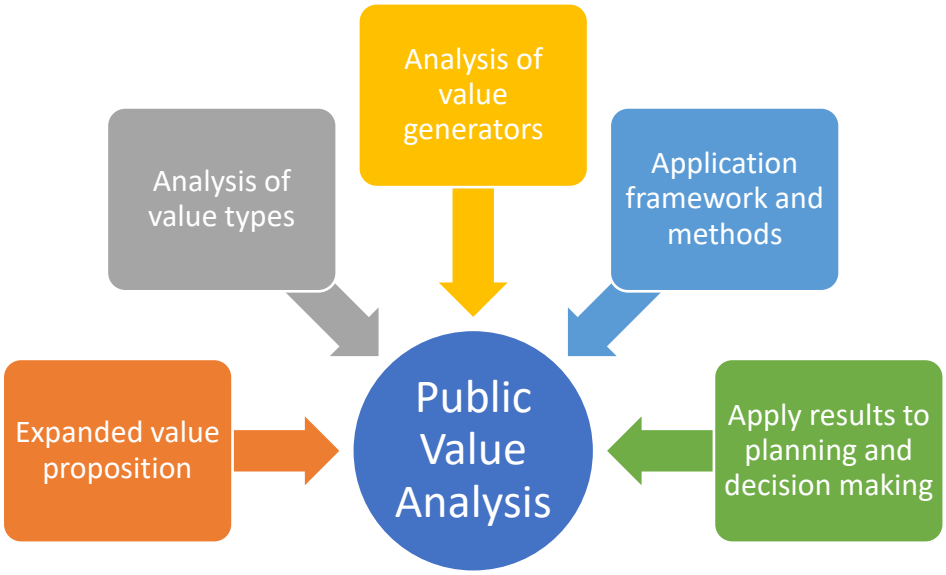
Figure 7: Connecting Public Value to Government Action



Source: Toolkit on Innovation and Digital Government for Public Service Delivery

A logic model that describes how to make this kind of connection is the core of the framework. The example of public safety initiative to improve parolee monitoring is a hypothetical one. Having a GPS monitoring system that allowed the parole officers to keep track of a parolee's movements would in theory assist with ensuring the streets are safer vs. the opposite of where a parolee is released and then vanishes and is not able to be monitored (in case the parolee commits a new crime), resulting in unsafe streets.

Figure 8: Components of Public Value Analysis



Source: Handbook on Innovation and Digital Government for Public Service Delivery

Performing a Public Value Analysis

Step 1 - Describe Initiative. This step asks you to produce a description of the initiative in terms of these three elements: 1. Goals and Intent; 2. Mission related? How? 3. Tactics/methods.

Step 2 - Identify and Prioritize Stakeholder Groups. This step asks you to produce a prioritized list of internal and external stakeholders who are primarily impacted by the proposed government initiative.

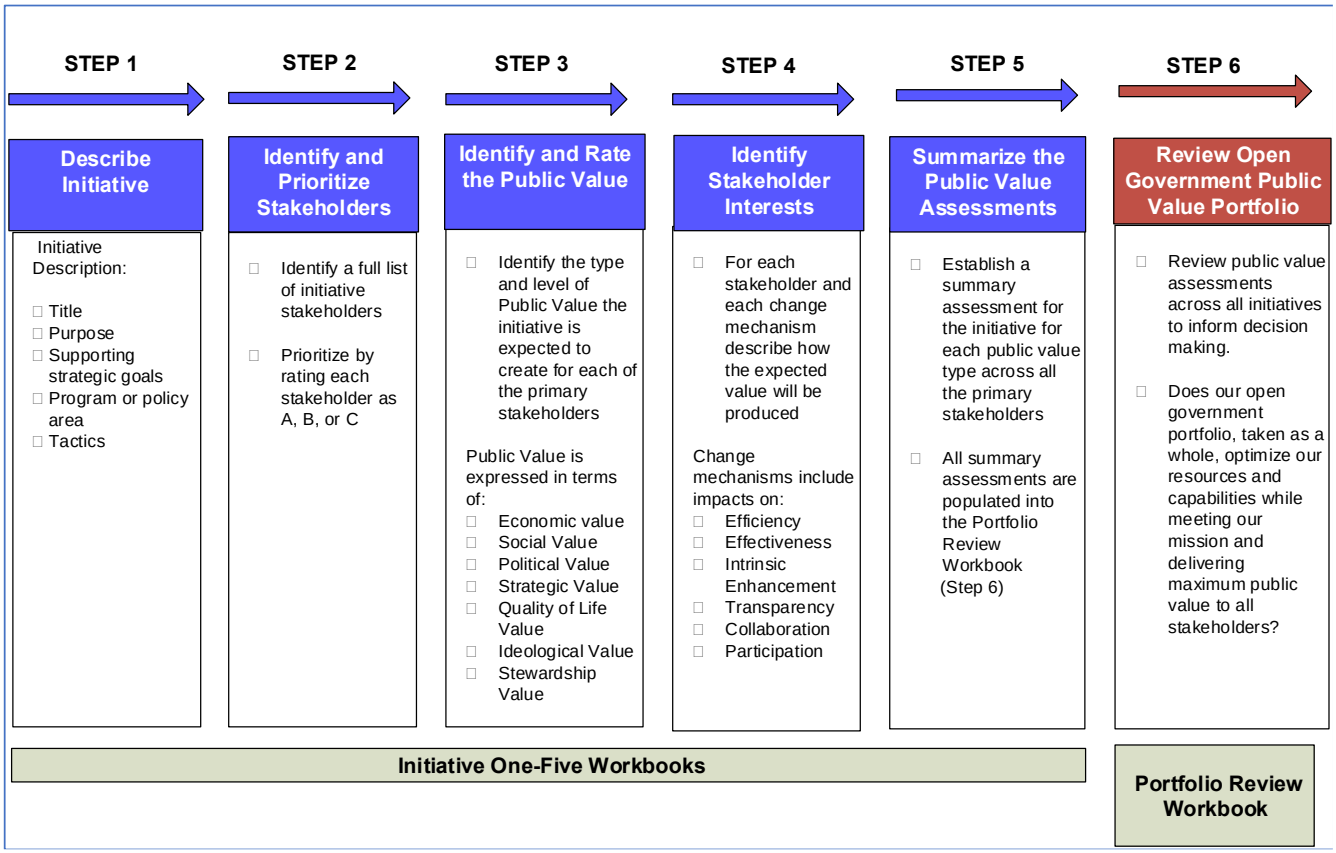
Step 3 - Identify and Rate the Public Value. This step asks you to identify the public value you perceive the government initiative will have for each stakeholder.

Step 4 - Identify Stakeholder's Interests. This step asks you to describe how this government initiative will generate value for stakeholders through impacts on efficiency and effectiveness, creating intrinsic enhancement, and enhancing transparency, participation, and collaboration.

Step 5 - Summarize the Public Value Assessments. This step asks you to establish a summary assessment for the initiative for each public value type across all the primary stakeholders.

Step 6 - Review Open Government Public Value Portfolio. This step asks you to review public value assessments across all initiatives to inform decision making.

Table 6: Performing a Public Value Analysis



Source: Toolkit on Innovation and Digital Government for Public Service Delivery

Governments around the world are grappling with a set of social challenges that are acting as a break on sustainable economic growth, leading to inequality and instability in society and impinging upon the general well-being of their populations. The 21st century experience highlights the widening gulf between the sophistication of contemporary challenges on the one side, and the ability of the governments' organizational, procedural and methodological tools to handle the sophistication on the other.[8]

Complex social challenges create wicked public problems, e.g., eradicating poverty.

- Complex and embedded in cultural context(s).
- Organic, not divisible into manageable parts.
- Information-intensive, process-intensive.
- Cut across domains of knowledge and action.
- Demand innovation, experimentation, learning and adjustment.
- Require multi-faceted understanding before action

[8] Social Innovation for Public Service Excellence Global Centre for Public Service Excellence, UNDP

A novel solution to a social problem that is more effective, efficient, sustainable, or just than existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals. [9]

Social Innovation provides a way to respond to new social challenges and wicked problems. It calls for new ideas to meet social goals and it places capacity to innovate at the core of public service. It also requires governments to work across silos.[10]

Social Innovation combines multiple disciplines, types of actors and sectors, design thinking, systems thinking and entrepreneurial action. It requires governments to move beyond support of individual social innovation projects and create a social innovation infrastructure.

Two Elements of a Social Innovation Infrastructure:

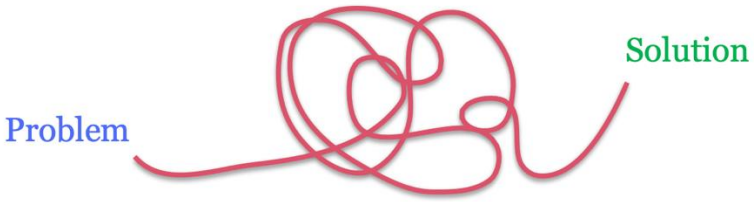
- Design Thinking
- Innovation Labs

Innovation Labs also known as Design Labs, Living Labs, I-Labs, Maker Spaces, among other labels. It serves as innovation intermediaries. Innovation intermediaries are external organizations and individuals that support their organizations in their innovative activities.

2.2. Enabling Change: Design Thinking and Innovation Labs

2.2.1 Design Thinking for Innovation and Digital Government

Design thinking is a first and foremost a human-centered innovation method, focused on solving wicked problems or resolving complex challenges. Design thinking puts end-users' needs at the center of service design – Human-Centered Design. Solutions are progressively refined through a process that engages end-users in shaping decisions.

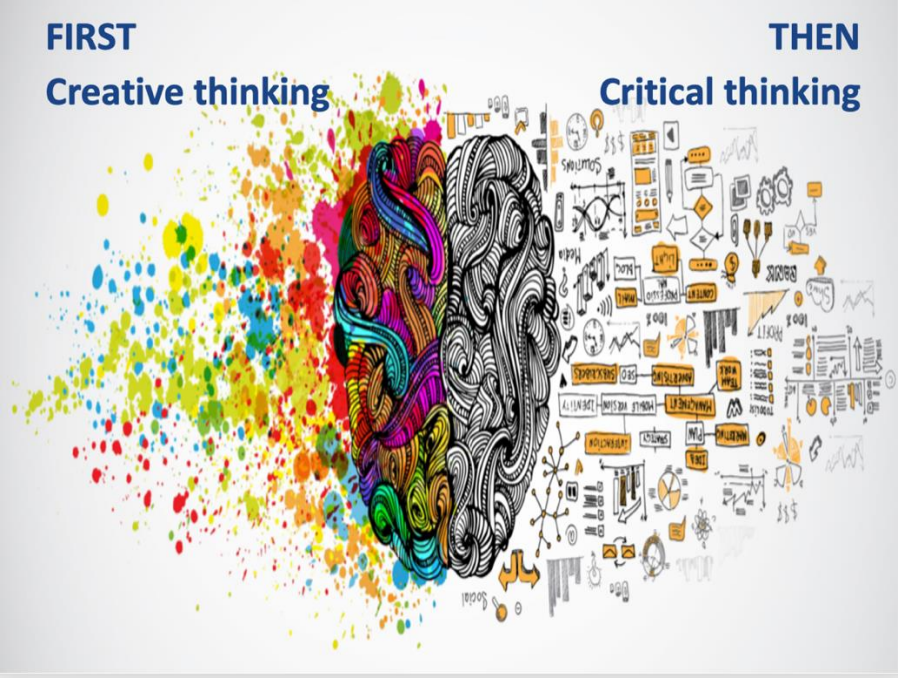


According to "Design Thinking for Public Service Excellence", design thinking has more success at service design than policy design. Public service design problems carried out within Labs and focused on a local problem have had success. Policy formulation "where more uniformity and legal certainty are required… still appears to be a goal to aspire to."[11]

[9] Stanford Social Innovation Review
[10] Design Thinking for Public Service Excellence, Global Centre for Public Service Excellence, UNDP
[11] Brown, T and Wyatt, J., Design Thinking for Social Innovation, Stanford Social Innovation Review, 2010

Problems are resolved in **sequential stages**. At each stage we first apply **Creative** (Divergent) thinking, then **Critical** (Convergent) thinking, which are fundamentals of Design thinking.

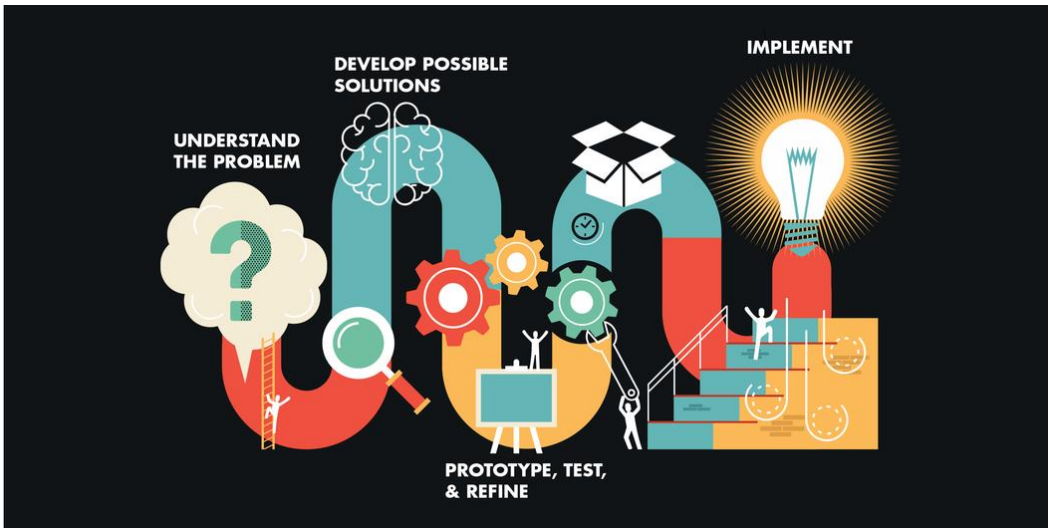
Figure 9: Creative thinking and Critical thinking



Source: Abridged Version of the Training Toolkit Material

Design thinking steps: 1) Fully understand the problem;2) Explore a wide range of possible solutions; 3) iterate extensively through prototyping and testing; and 4) Implement through the customary deployment mechanisms.

Figure 10: Design thinking steps



Source: Toolkit on Innovation and Digital Government for Public Service Delivery

The skills associated with these steps help people apply creativity to effectively solve real-world problems better than they otherwise would. They can be readily learned but take effort. For instance, when trying to understand a problem, setting aside your own preconceptions is vital, but it's hard.

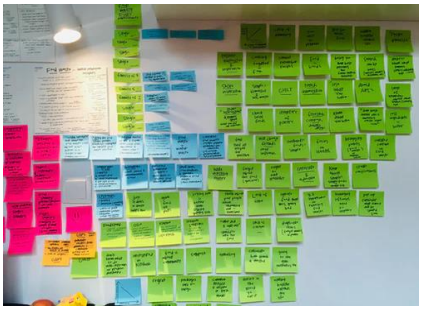
Design thinking focus on users and the problems. For example, the first step in Design Thinking is to understand the problem you are trying to solve before searching for solutions. Sometimes, the problem you need to address is not the one you originally set out to tackle. The mistake people make is to try and empathize, connecting the stated problem only to their own experiences. This falsely leads to the belief that you completely understand the situation. But the actual problem is always broader, more nuanced, or different than people originally assume.

A very large variety of tools and techniques are available to enable the practice of Design Thinking and each of its stages. Design Thinking thrives in an environment that favors:

Figure 11: Practices of Design Thinking

Teamwork

meeting the users



exchanges with sticky notes or online tools

"prototyping" solutions

failing frequently, learning & moving on

Source: Abridged Version of the Training Toolkit Material

Design Thinking in Public Service for Social Innovation

Madagascar's National Community Nutrition Program

- "The country's government and the World Bank team leveraged human centered design (HCD) to improve programs designed to reduce chronic childhood malnutrition, which is staggeringly high in the country.

One of the powerful insights that came out of the HCD work

- A lack of awareness among mothers as to what constitutes nutritious food and how to prepare it, and that this was a much more significant barrier to overcoming malnutrition than the financial barrier.

In response

- The team designed, among other interventions, an awareness campaign and cooking demonstrations focused on preparing nutrient-rich food.

The World Bank team observed that HCD allowed them to 'design interventions better suited to beneficiary desires and behavioral tendencies with quick, cheap generation and testing of new approaches to influence people to adopt new behaviors'.[12]

Box 4: Design Thinking in Practice

UNICEF (United Nations International Children's Emergency Fund)

Leaders are coupling it with traditional policy analysis methods to create new approaches to advocacy planning.

Singapore

Employed as a national policy to drive growth and innovation. Design thinking considered by the Prime Minister as fundamental to the "reimagining of Singapore."

New Zealand

A critical element in New Zealand's initiative to "make smart choices easier" for citizens and is being utilized to manage highly complex transportation infrastructure investments like high-speed rail in the United Kingdom.

The United States

- Food & Drug Administration to help manufacturers and government regulators in Washington find common ground on medical device standards;
- At U.S. airport checkpoints, combined with Agile Software Development processes, to help the Transportation Security Administration (TSA) calm traveler anxiety.

Source: Handbook on Innovation and Digital Government for Public Service Delivery

Design-thinking processes counteract human biases that thwart creativity while addressing the challenges typically faced in reaching superior solutions, lowered costs and risks, and employee buy-in. Recognizing organizations as collections of human beings who are motivated by varying perspectives and emotions, design thinking emphasizes engagement, dialogue, and learning. By involving customers

[12] https://www.innovations.harvard.edu/blog/design-thinking-better-government-services-human-centered

and other stakeholders in the definition of the problem and the development of solutions, design thinking garners a broad commitment to change. And by supplying a structure to the innovation process, design thinking helps innovators collaborate and agree on what is essential to the outcome at every phase. It does this not only by overcoming workplace politics but by shaping the experiences of the innovators, and of their key stakeholders and implementers, at every step. That is social technology at work.[13]

2.2.2 Innovation Labs for Innovation and Digital Government

Innovation lab is a key to a social innovation infrastructure; it draws on external ideas as resources for innovation and serve as innovation intermediaries that convene users and other stakeholders in the processes of design thinking. Innovation Lab provides collaborative platforms for research, development and experimentation in real-life contexts, based on specific methods (design thinking and systems thinking) and tools (situational analysis, brainstorming, prototyping and experimentation).

Living Labs = innovation networks based on the philosophy of open innovation where users become equivalent to other participants[14]

Innovation Labs are present in public sector, non-profit academic and private sector organizations. Some stand alone as non-profit organizations working closely with other sectors, while some are networks of organizations and individuals working together on social innovation challenges. Some are more technical in nature, some more social. Innovation Labs thrive worldwide in many different forms and under many different names.

Examples of Innovation Lab in Public Service are shown in the box 5, 6, 7, and 8.

Box 5: Pakistan: Civic Innovation Lab

CODE FOR PAKISTAN

LAHORE, PAKISTAN: CIVIC INNOVATION LAB

- A civic innovation lab of mostly volunteers who work in collaboration with government, non-profits and media.
- Work with technology, data, policy and design projects to strengthen their communities.
- Some of their projects are:
    - Fuel Locator, an app to help people find fuel available in times of shortage
    - Social Story Telling App, an app to empower citizens to be heard people can share their stories with the world and even find solutions together.

Source: Toolkit on Innovation and Digital Government for Public Service Delivery

[13] https://hbr.org/2018/09/why-design-thinking-works
[14] https://blog.hypeinnovation.com/living-labs-and-open-innovation

Box 6: Chile: Laboratorio De Gobierno

CHILE: LABORATORIO DE GOBIERNO

- Part of the Government of Chile, the Laboratorio de Gobierno is a civic innovation lab, which serves to build new relations between the government and citizens.
- They develop, facilitate and promote innovation processes in public services with an emphasis in citizens.

Source: Toolkit on Innovation and Digital Government for Public Service Delivery

Box 7: Mexico City: Lab for the City

MEXICO CITY: LAB FOR THE CITY

- The Lab for the City is a hybrid (governmental and civic) innovation lab which facilitates collaboration and dialogue between citizens and government.
- They promote creativity and innovation in and out of government and are constantly prototyping and testing practices and ideas to adapt them to the needs of the city.

Source: Toolkit on Innovation and Digital Government for Public Service Delivery

Box 8: AfriLabs

AfriLabs

- A network organization of 225 innovation centers across 47 African countries.
    - AfriLabs support hubs to raise successful entrepreneurs that will create jobs and develop innovative solutions to African problems.
- Objectives:
    - To encourage technology, innovation and entrepreneurship in all forms
    - To promote the creation of African made technology with a special focus on the social, economic and environmental sectors
    - To provide an environment characterized by open collaboration, technical innovation and support for the technological community at large
    - Commitment to capacity building, mentorship, networking and forming bonds that will serve as building blocks for the next generation of thinking

Source: Toolkit on Innovation and Digital Government for Public Service Delivery

2.3. Relating National Development Plans and Priorities to Innovation and Digital Government Transformation

Exercise 1.1: How can Innovation and Digital Government help you achieve your National Development Plan and Priorities?

What challenges arise from achieving your priorities the digital way?

What actions might you take to achieve them?

Are there any goals that cannot be better achieved through the use of digital means?

How well did you work as a team?

Reading Materials of Chapter 2

- Luna, D., et al, 2019, Public Value Creation through Digital Service Delivery from a Citizens' Perspective, International Conference on Digital Government, dg.o 2019 Proceedings.
- Cook, M.E. & Harrison, T., 2014, Using public value thinking for government IT planning and decision making: A case study, Information Polity, 20(2,3).
- Advancing Return on Investment Analysis for Government IT A Public Value Framework, 2006, CTG University at Albany.
- Delivering Public Value through Open Government, 2011, CTG, University at Albany.
- Public Value Assessment Tool PVAT: An Overview, A power point presentation, CTG, University at Albany.
- UNDP Efficient and Accountable Local Governance (EALG) in Bangladesh
- UN Joint Programme on Local Governance (JPLG) in Somalia
- Tackling wicked problems: A public policy perspective, 2018. Australian Public Service Commission
- Onyango, P, 2009, 2009. Re-configuring Poverty: The Wickedness Perspective, African Journal of Tropical Hydrobiology and Fisheries 12: 37-46
- Dawes, S., Cresswell, A., and Pardo, T., 2009. From ''Need to Know'' to ''Need to Share'': Tangled Problems, Information Boundaries, and the Building of Public Sector Knowledge Networks, Public Administration Review
- Brown, T and Wyatt, J., 2010. Design Thinking for Social Innovation, Stanford Social Innovation Review
- Design Thinking for Public Service Excellence, Global Centre for Public Service Excellence, UNDP
- Liedtka, J. and Salzman, R., Applying Design Thinking to Public Service Delivery, IBM Center for the Business of Government.
- Gasco, M., 2016. Living labs: Implementing open innovation in the public sector, Government Information Quarterly.
- 20+ Inspiring Innovation Lab Examples Worldwide, 2016.
- Timeus, K., & Gasco, M., 2018. Increasing innovation capacity in city governments: Do innovation labs make a difference? Journal of Urban Affairs
- Gasco-Hernandez, M., Sandoval-Almazan, R. and Gil-Garcia, J. 2017. Open Innovation and Co-creation in the Public Sector: Understanding the Role of Intermediaries. 9th International Conference on Electronic Participation (ePart)

Key Takeaways of Chapter 2

01 Innovation and Public Value: a public value framework can help determine the value of government activities and do so from multiple stakeholder perspectives, not just a generalized, and thus ambiguous, citizen viewpoint.

02 Public Value can be generated in different domains and at different levels: economic value, social value, strategic value, political value, stewardship value, ideological value, quality of life (page 44).

03 Performing a Public Value Analysis (page 47)

- Step 1 - Describe Initiative. This step asks you to produce a description of the initiative in terms of these three elements: 1. Goals and Intent; 2. Mission related. How? 3. Tactics/methods.
- Step 2 - Identify and Prioritize Stakeholder Groups. This step asks you to produce a prioritized list of internal and external stakeholders who are primarily impacted by the proposed government initiative.
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- Step 6 - Review Open Government Public Value Portfolio. This step asks you to review public value assessments across all initiatives to inform decision-making.

04 Design Thinking Steps (page 49): 1) Fully understand the problem; 2) Explore a wide range of possible solutions; 3) Iterate extensively through prototyping and testing; and 4) Implement through the customary deployment mechanisms.

05 Innovation lab is a key to a social innovation infrastructure; it draws on external ideas as resources for innovation and serve as innovation intermediaries that convene users and other stakeholders in the processes of design thinking (page 52).

06 Examples of Innovation Labs in page 52 and 53: Chile (Gov Lab), Pakistan (Civic Innovation Lab), Mexico (City Lab), Afri Labs.

Chapter 3 - Defining a Strategy and Roadmaps for Innovation Public Service Delivery and Digital Government

KEY OBJECTIVES OF CHAPTER 3

- ✓ Discover principles and strategies for innovation in public service delivery
- ✓ Understand key capacities for innovation and digital government transformation
- ✓ Elaborate key steps for designing a roadmap for digital Government transformation in public service delivery

3.1 Innovation and Digital Government: Principles and Strategies to Innovate in Public Service Delivery

Based on the review of innovative practices from around the world, particularly those initiatives that have won the United Nations Public Service Awards, and building on the lessons learned, there are five critical enabling factors to promote innovation in service delivery as shown in Box 9.

Box 9: Five Main Principles for Innovation in Public Service Delivery

Access

Global, regional and national commitments to sustainable development and poverty reduction require that all citizens, men, and women, have equal access to quality services. Target 16.9 of the 2030 Agenda is devoted to this issue. Expanding the coverage or enhancement of quality service delivery to vulnerable groups is critical to inclusive, sustainable development. One way to expand coverage is by having in place adequate civil identity registration and management systems.

Quality

High-quality service delivery includes – but is not limited to – how effectively services are delivered. It relates to the availability of quality government services at times and in ways that are more convenient to the public. It refers to the speedy processing of applications or claims, reduction in the amount of paperwork and other activities people must perform to demonstrate compliance with clearly written government regulations.

Inclusion and responsiveness to the needs of those furthest left behind

The principle of "leaving no one behind" implies that it is not enough to offer standard delivery of public services if the vulnerable, including the poor, remain ignored. Recognizing that the dignity of the human person is fundamental, the Goals and targets must be met for all nations and peoples and all segments of society, reaching the furthest behind first. Disaggregated data is vital to understanding the needs of the vulnerable groups and delivering inclusive services.

People-driven and personalized services

Utilizing both online and offline survey mechanisms and methodologies is critical to collect feedback from people and succeed in engaging them in the delivery of services.

Transparency and accountability of service delivery

Transparency and accountability in service delivery are critical to ensuring that resources are going to the most vulnerable groups.

Source: Handbook on Innovation and Digital Government for Public Service Delivery

For governments to provide essential public services in an equitable, effective, inclusive, and people-centric way, the public sector capacity to deliver services must be bolstered at national and local levels. To provide effective and fair services requires strengthening four major and inter-twined dimensions of the public sector. These include the institutions, particularly at the local level, to deliver services; the leadership and human resources capacities needed to provide services in a transparent, equitable, and accountable manner; the processes and mechanisms that favor the participation of citizens in the design and delivery of services; and the organizational culture so that it may provide a fertile ground for continuous improvement and innovation in service delivery.

As mentioned in Chapter 1 (page 26), there are different types of innovations in public administration, including:

- Institutional Innovations,
- Organizational Innovations,
- Process Innovations and
- Conceptual Innovations

Based on a review of innovative cases, there are five central strategies to promote innovation in service delivery:

Figure 12: Five Central Strategies for Promoting Innovation in Service Delivery

Source: Handbook on Innovation and Digital Government for Public Service Delivery

These five strategies are inter-linked and interdependent and therefore should be considered holistically. In other words, it is essential to address challenges in an integrated and holistic manner strengthening

institutional frameworks, processes and mechanisms to deliver services equitably and effectively, human resources capacity-building for equitable service delivery and ICT development and utilization. Please see examples in Page 80-84.

3.2 Key Capacities for Promoting Innovation and Digital Government Transformation

Digital government transformation is not merely about technologies. It is about public governance transformation and innovation as part of a country's overall national development vision and strategy. Developing capacities for digital government transformation is essential. This requires a holistic approach that is value-driven and institutionalized across all levels of government and society. It entails fundamental changes in the mindsets of public servants and in the way public institutions collaborate.

The United Nations Sustainable Development Group defines **capacity** as "the ability of people, organizations, and society as a whole to manage their affairs successfully" and **capacity development** as "the process whereby people, organizations and society as a whole unleash, strengthen, create, adapt, and maintain capacity over time" to achieve their development objectives.[15] **Digital government capacity** reflects the ability of governments and society to transform policies, programmes, processes and services by leveraging innovation and digital technologies.

Figure 13: Capacity vs Capability vs Competencies

Source: https://cidt.org.uk/capacity-strengthening/key-terminology-unpacked/

Comprehensive digital government capacity development is needed to ensure the delivery of accessible, reliable, fast, personalized, secure, and inclusive digital services and the engagement of people in decision-making processes and service design and delivery. The capacities needed for Digital Government Transformation are highlighted below in Box 10:

Box 10: Capacities for Digital Government Transformation

[15] United Nations Development Group, UNDAF Companion Guidance: Capacity Development, available at https://unsdg.un.org/sites/default/files/UNDG-UNDAF-Companion-Pieces-8-Capacity-Development.pdf.

Capacities for Digital Government Transformation:

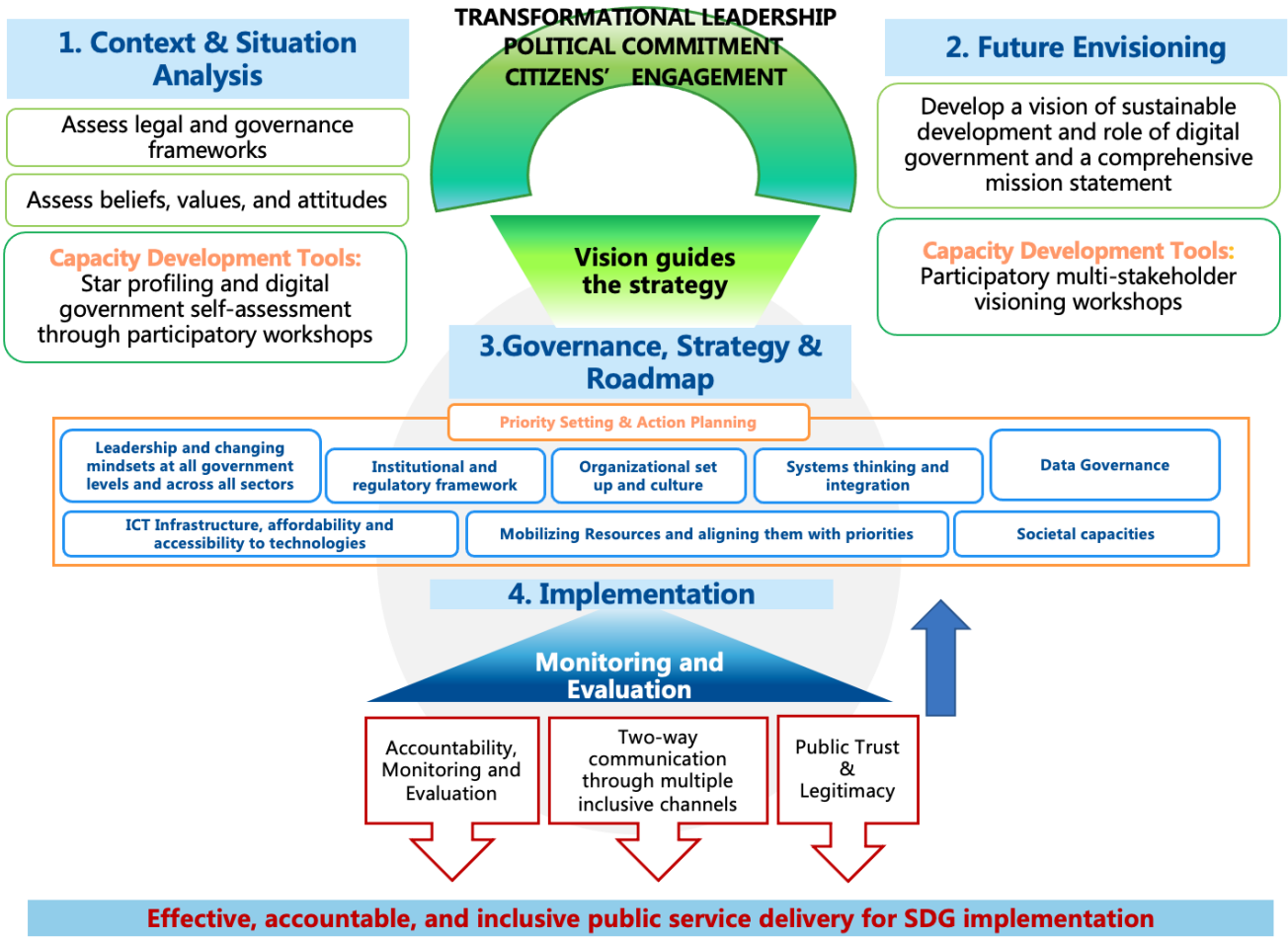
- Institutional level, including rules, laws, policies, regulations and standards that addresses issues such as access to information, data privacy protection, digital security, AI legislation, among others.
- Organizational capacities, including structures and mechanisms for coordination
- Individual capacities, including mindsets and digital skills
- Societal capacities, especially among the most vulnerable groups
- Capacities of the capacity developers
- Capacities for continuous monitoring and evaluation

For the effective design and implementation of a holistic approach to digital government transformation, broad capacity development is needed at the institutional, organizational and individual levels in government as well as at the societal level. Political commitment at the highest levels of government is an essential precondition, as is a clear vision of the purpose of government transformation guided by a set of core values that are aligned with the 2030 Agenda for Sustainable Development. Capacities to engage in transformational leadership and change mindsets at the national and local levels and across all sectors in society are equally important. Digital government transformation also requires building digital capacities in government by attracting and retaining the best digital talent in a country[16] as well as re-skilling of public servants.

Figure 14 maps the process of implementing digital government transformation and highlights the key pillars of a strategy and implementation plan. This can be used as a capacity development tool to identify the elements and steps needed to move the digital government transformation process forward.

[16] United Nations Development Group, UNDAF Companion Guidance: Capacity Development, available at https://unsdg.un.org/sites/default/files/UNDG-UNDAF-Companion-Pieces-8-Capacity-Development.pdf.

Figure 14: A holistic approach to digital government transformation and capacity development



Source: United Nations E-Government Survey 2020

This infographic is rich, informative and best presents the circumstances for Digital Government Transformation, which revolve around Transformational Leadership, Political Commitment, and Citizens Engagement. They are all united by the general scope of achieving, effective accountable and inclusive public service delivery for implementation of Sustainable Development Goals.

It also shows the stages of transformational planning and action:

1. Context and Situation Analysis – the Diagnostic part of the transformational initiative
2. Future Envisioning – imagining a new a new and attainable future with significant advantages over the status quo
3. Governance, Strategy and Roadmap – The Vision becomes Objectives, Projects and Action Plans
4. Implementation – as transformation unfolds there is monitoring, feedback and improvement

Though the transformational logic is simple, there is a lot of complexity in what is to be achieved because each of these steps involves many dimensions, parameters, stakeholders etc. At practically every point the word capacity – capability to make this work – is crucially important and this is why strategy assessment begins as the first step (diagnostic statement) and will always permeate the whole transformation model.

Table 7 provides a diagnostic framework that can help governments identify where they are in relation to each of the key pillars for digital government transformation. The features highlighted in the table are grounded in empirical analysis and case studies collected from a number of countries but are by no means exhaustive. A country rarely falls entirely within one of the digital government development categories highlighted in the table. Usually, a country will exhibit features from different categories and may move forward or slip back over time. The movement from one digital government category to the next is not always linear but can be iterative, and it may not happen at the same time for the whole country. In any case, it is important to assess where a country is situated and to identify the changes or steps needed for improvement. As a reference point, features of the most digitally advanced countries fall within the "transformative" category.

Table 7: Key pillars for government transformation, by digital government development category

	Online presence	Transactional	Connected	Transformative
01 Vision, leadership, mindsets	Individual leaders in IT department support e-government; Reactive mindsets	Some e-government champions across government	Leadership's commitment at top level creates an environment that allows people to become more involved	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 aligned around data; forward-looking, proactive/anticipatory, innovative, digital and adaptive mind-sets
02 Legal and institutional framework	Basic laws are in place	Regulators as watchdogs; some form of legal authentication of citizen ID	Most legislation in place	Regulators as facilitators; Farsighted and comprehensive legal framework; strong Digital ID; regulatory sandboxes to explore use of emerging technologies
03 Organizational set-up and culture	Not centralized	E-government coordination is under a ministry such as the ICT ministry	CIO at the central level	CIO located within the highest-ranking decision-making body in government with budgetary autonomy; multidisciplinary and cross-functional teams; network of CIOs national/local levels 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
04 Systems thinking and integration	Departments work in silos; low integration of services; information available online	Two-way communication with people; downloadable forms' some e-government projects are experimenting with integrated approaches	E-services cut across ministries and departments and services are provided in a seamless manner; from government-centric to people-centric service delivery	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 easy to deal with, responsive and adaptive to people's needs

	Online presence	Transactional	Connected	Transformative
05 Data management	Limited access to accurate, timely, disaggregated and widely available data	Transaction data–based culture	Data integration and synchronization	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
06 ICT Infrastructure, affordability & access	Low connectivity; Low availability of hardware No strategy on ICT investment as a whole; IT centric	Customer centric	One single government website	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
07 Resources	Little or no investment for digital transformation	Investment for specific projects	Large-scale investment	Whole-of-government and long-term approach to IT investment, including sustainability in financing; public-private partnerships
08 Capacity of capacity developers	Limited capacity	Investment in computer labs	The use of ICT integrated in all curricula	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
09 Societal capacities	Limited programmes in place to build societal capacities	Outreach activities to some vulnerable groups		Digital literacy in society high and Internet penetration 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

Source: United Nations E-Government Survey 2020

Governments and international organizations have devised different methodologies for capacity development. The UN DESA Readiness Assessment on Institutional Arrangements for Policy Coherence to Implement the 2030 Agenda is another relevant capacity-development tool. It is designed to diagnose the extent to which existing public sector values, priorities and strategies enable the implementation of integrated policies and to assist governments and policymakers in developing, monitoring, refining and improving the context within which policy coherence is implemented. Technology and digital capacity are key elements of the Readiness Assessment.[17] To access the Institutional Readiness Assessment, please visit UNPAN website.

[17] United Nations, *United Nations E-Government Survey 2020: Digital Government in the Decade of Action for Sustainable Development*, Sales No.: E.20.II.H.1 (New York, 2020), Chapter 7: Capacities for Digital Government Transformation, available at: https://publicadministration.un.org/egovkb/Portals/egovkb/Documents/un/2020-Survey/2020%20UN%20E-Government%20Survey%20(Full%20Report).pdf

3.3 Key Steps for Developing Capacities for Digital Government transformation in Public Service Delivery

The following section will help users map out the key steps for designing a capacity building roadmap for digital government transformation in public service as shown in Figure 15.

Figure 15: Key steps for designing a roadmap for Digital Government Transformation

Source: Handbook on Innovation and Digital Government for Public Service Delivery

3.3.1 A holistic approach

Capacities to put in place a comprehensive institutional and regulatory framework for digital government are critical. It is necessary to strengthen capacities to develop integrated approaches, effect organizational change, and enhance people's participation in public affairs. Capacities to mobilize resources, manage data, promote effective public communication, and address issues related to technology access and ICT infrastructure and affordability are also part of a holistic approach.

Developing capacities for Digital Government requires changes at societal, institutional, organizational and individual levels; as well as fundamental changes in the mindsets of public servants and in the way public institutions collaborate. It is a people-driven not a technology-led process.

Interdependent Strategies for national and local levels:

1. Institutional and organizational innovation – particularly collaborative governance to deliver integrated services.
2. Transformation of leadership - public officials' capacities.
3. Process innovation, including new channels and mechanisms for partnerships and people engagement.
4. Organizational culture and management to promote integrity, the 2030 Agenda principles and knowledge sharing for innovation, transparency and accountability.
5. Leveraging the potential of ICTs.

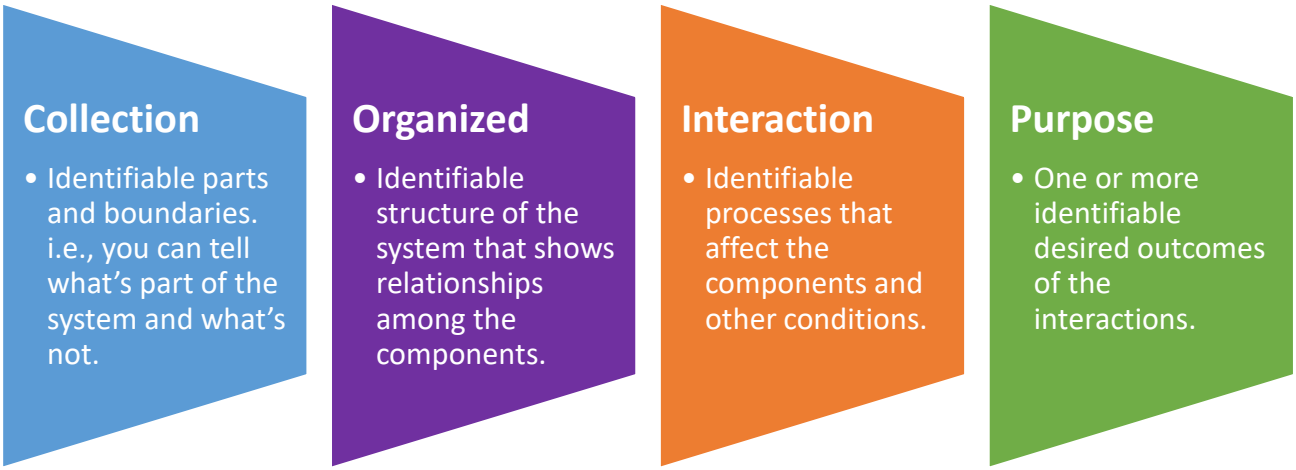
3.3.2 Systems thinking

Figure 16: System Thinking

> Systems thinking is . . . seeing **wholes** . . . seeing **interrelationships** rather than **things**, seeing **patterns of change** rather than static "**snapshots**."
>
> . . . systems thinking is a sensibility — for the subtle **interconnectedness** that gives living systems their unique character.
>
> -Peter Senge

Source: Abridged Version of the Training Toolkit Material

Figure 17: Main Concepts of System Thinking



Source: Handbook on Innovation and Digital Government for Public Service Delivery

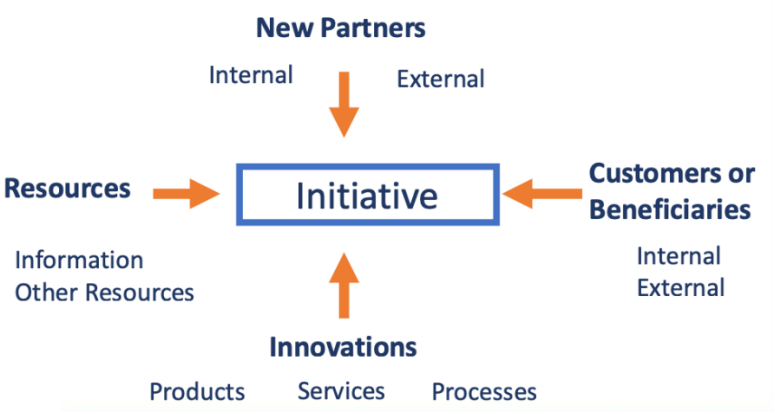
Systems thinking components are:

- Process, process, process
- Holistic perspective: big picture view
- Input-process-output-feedback
- Links and loops, not linear chains
- Focus on dynamic complexity, not detail complexity
- Importance of mental models and process maps
- Looking for archetypes

3.3.3 Strategic framework

Analysis of the internal and external factors that a public organization must consider to achieve a program or service objective and as it plans strategy.

Figure 18: Strategic Framework



Source: Abridged Version of the Training Toolkit Material

3.3.4 Stakeholder analysis

Stakeholder Analysis: What is it good for?

- Understanding the external environment.
- Appreciating differences among stakeholder groups.
- Specifying possible outcomes of an innovation and its impact on stakeholders.
- Assessing data needs for a more complete evaluation.
- Choosing a "good" problem.

3.3.5 Strategy

- Strategic Framework & Stakeholder analysis.
- Vision – what's success?
- Objectives.
- Resources.
- Action Plans – projects to implement.

3.3.6 Towards Action Planning

Actions to deliver strategic objectives

- **What** actions or changes will occur?
- **Who** will carry out these changes?
- **When** will they take place, and for how long?
- What **communication** is necessary before, during and after implementation?

Exercise 3.2: Capacity gaps & opportunities for Digital Government Transformation across all government levels and society

Based on the concepts presented in table 7, please assess your country's level of digital advancement by checking the relevant box.

9 Key Pillars for Transformation	Level of Digital Advancement →			
	Online Presence	Transactional	Connected	Transformative
1. Vision, Leadership mindsets				
2. Legal & Institutional Framework				
3. Organizational Setup & Culture				
4. Systems thinking & Integration				
5. Data Management				
6. ICT Infrastructure, Affordability & Access				
7. Resources				
8. Capacity of Capacity Developers				
9. Societal Capacities				

Exercise 3.2. Capacities for innovation and digital government transformation

1. What capacities are needed to promote innovation and digital government transformation for effective, inclusive, and accountable serviced delivery in your country?

2. What changes are needed at the institutional level, including regulatory framework?

3. What changes are need at the organizational level?

4. What changes are needed at the individual level, including what mindsets and behaviors are most needed?

5. Has your government set up new capacity development strategies for promoting digital government transformation and what are the main challenges in this process? (Please refer to the 2020 UN E-Government Survey and the online *Training Toolkit on Innovation and Digital Government for Public Service Delivery*)

Reading Materials of Chapter 3

- UN DESA. Policy Note: Innovation in Public Service Delivery for the Sustainable Development Goals (Draft) - DPIDG Interim Policy Brief Capacity Development Unit
- UN E-Government Readiness Rankings Report, 2020, Executive Summary
- Applebaum, S., 1997. Socio-technical systems theory: an intervention strategy for organizational development. Management Decision
- Peters, J., 2014. The Application of Systems Thinking in Health: Why use systems thinking. Health Research Policy and Systems
- Toolbox System Archetypes at a Glance – Systems Thinking Tools. Pegasuscom.com
- Making Smart IT Choices, 2005, CTG, University at Albany, SUNY

Key Takeaways of Chapter 3

01 There are five key principles for innovation in public service delivery: Access, Quality, Inclusion, People-Driven and Transparency/Accountability (page 58)

02 Comprehensive digital government capacity development is needed to ensure the delivery of digital services. Capacity development is to be considered at the individual, institutional, organizational and societal levels. (page 61)

03 There are four basic stages towards transformational planning and action (page 62):

1. Context and Situation Analysis – the Diagnostic part of the transformational initiative
2. Future Envisioning – imagining a new a new and attainable future with significant advantages over the status quo
3. Governance, Strategy and Roadmap – The Vision becomes Objectives, Projects and Action Plans
4. Implementation – as transformation unfolds there is monitoring, feedback and improvement

04 Key steps for designing a roadmap for Digital Government Transformation include (pages 64 to 67):

1. A Holistic Approach
2. Systems Thinking
3. Strategic Framework
4. Stakeholder Analysis
5. Strategy
6. Action Planning

Chapter 4 - Action Planning for Innovation and Digital Government

KEY OBJECTIVES OF CHAPTER 4

- ✓ Share ideas on how Design Thinking and Innovation Labs might be created and actioned.
- ✓ Explore the components and pathway of Action Planning and the different steps involved, from making good decisions to launching prototypes and going live.

4.1 Introduction to Components of Action Planning

The implementation of a plan is a journey in itself. Prior to establishing an action plan the most appropriate solution may have to be chosen among different alternatives. From thinking to action, two general criteria to select the best solutions are Value and Feasibility.

VALUE

- What net benefits will this solution bring and to whom?
- In financial terms this is **(Benefits – Costs) x Risk**, but not all value is financially measurable.

FEASIBILITY

- How likely is the successful completion and operation of this solution? How big are the disruptions on the way?
- This takes into account capabilities of implementation as well as possible obstacles.

Trade-offs between VALUE and FEASIBILITY are very frequent. This 2 X 2 matrix shows how they might be categorized. The section in RED print is where most value probably lies and **this is where most serious action-planning happens.**

Table 8: Trade-offs between Value and Feasibility

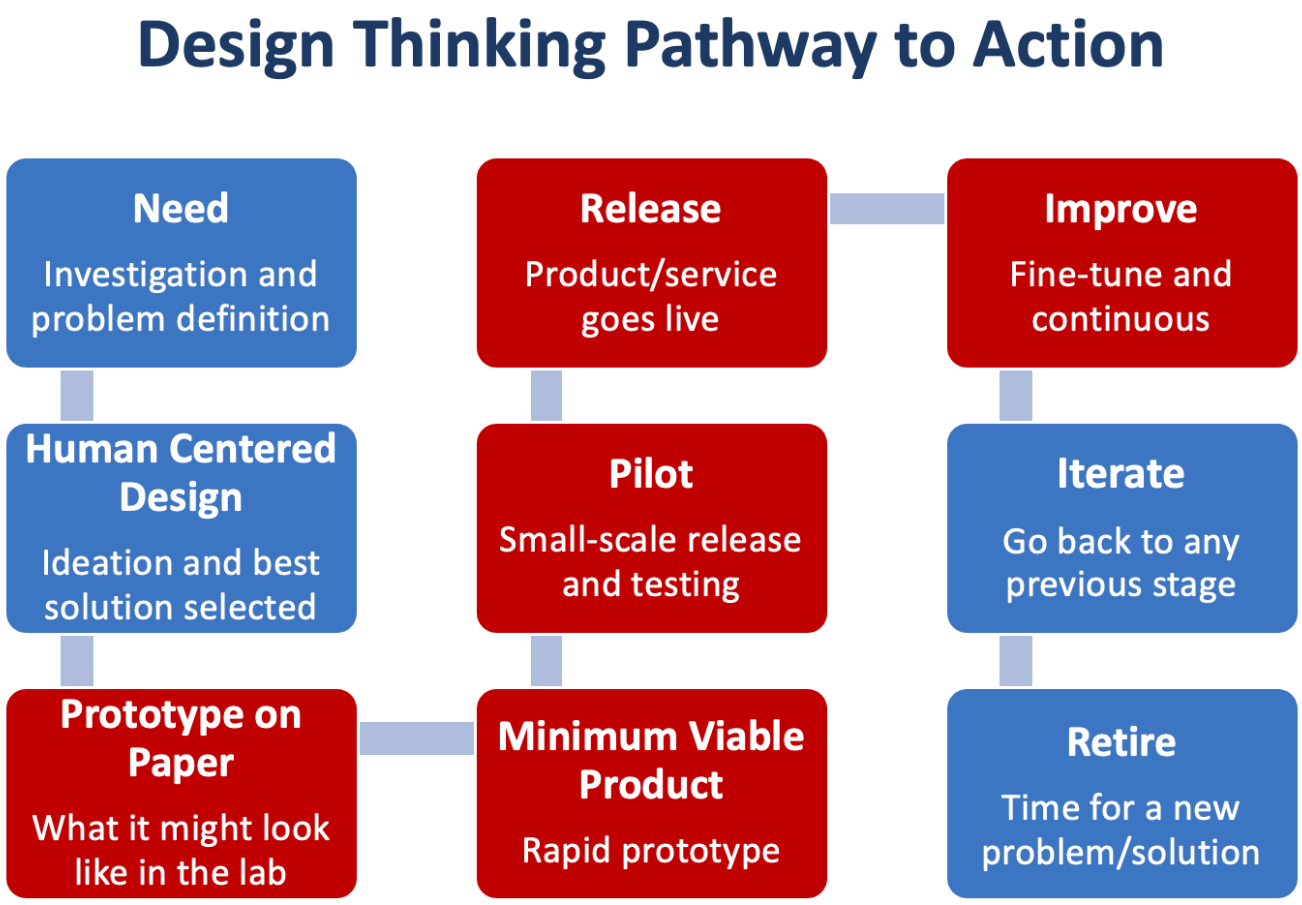
Source: Abridged Version of the Training Toolkit Material

Besides **Value** and **Feasibility**, many other criteria often need to be considered, such as:

- Impact on a specific set of people (and ensuring nobody is left behind).
- Impact on trust and transparency.
- Impact on learning.
- Impact on culture.
- Choices of timeframes for desired results.
- … and many others according to case and context, including political circumstances which tend to influence any planning process.

An Action Plan or Action Programme is a detailed plan with specified actions that are needed to achieve a goal. It can also consist of a series of steps that must be taken to successfully complete a certain strategy. For example, Prototyping moves from Paper to Minimum Viable Product to Pilot to Release to Improve. This process can have many iterations and allows for experimentation and action with imperfection and mistakes before there is new learning and improvement.

Figure 19: Design Thinking Pathway to Action



Source: Abridged Version of the Training Toolkit Material

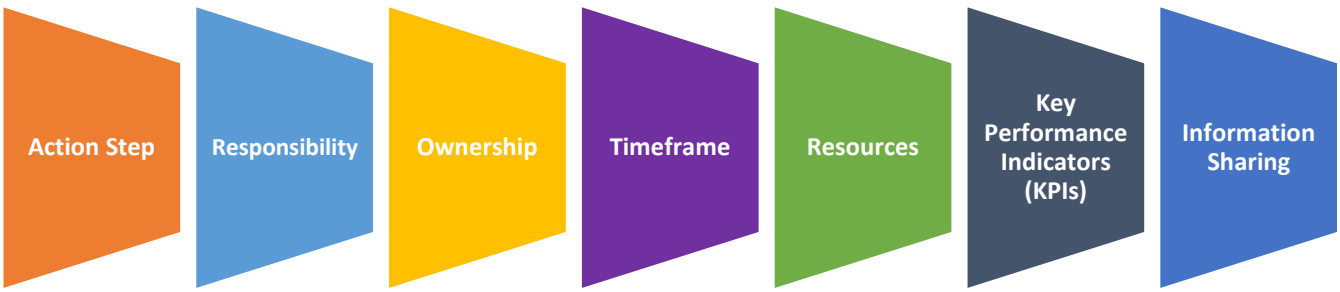
The important part of the action plan is the detail that goes into it. In many instances by the time we get to develop the action plan, we already have planning fatigue. This is the most important part of the strategic planning process for without this detail, your team will be wandering without a map to guide them and they will never know if they have achieved it.

Action plans answer critical questions:

- **What** actions or changes are to be planned?
- **Who** will carry out these changes?
- **When** will they take place, and for how long?
- What **resources** (i.e., funding, staff) are needed to carry out these changes?
- Who should we **communicate** with and **how often?**
- What does **success** look like?

A good action plan is a living document that gets reviewed and updated on an ongoing basis to reflect the (possibly changing) context. A good action plan has a Communication Plan that is reviewed and updated on an ongoing basis to ensure that all stakeholders are informed.

Figure 20: Key Components of an Action Plan



Source: Handbook on Innovation and Digital Government for Public Service Delivery

Action Step: Each goal or objective needs a series of action steps that provide a clear detail of what needs to happen in order to achieve this goal.

Responsibility: Whose job is it to perform this task? Who is responsible for leading this action step. This person would report up to the 'owner' of the plan. Also, it is important to identify who will also be needed to help support this person or team.

Ownership: This is different than 'Responsible" for the task. The owner of the action plan or task is the person who will be responsible and accountable for ensuring timely completion of the action. They are also the person responsible for corrective action if the project or task goes off track.

Timeframe: What are the key milestones and what is the target end date?

Resources: What resources do you need in order to complete this task? Both financial as well as non-financial resources.

Key Performance Indicators (KPIs): How will you measure your success? How will you know you are done? A KPI is a measurable value that demonstrates how effectively you have achieved your goal.

Information Sharing: This is part of the communication plan for this initiative. Who needs to be kept informed and how frequently? What is the cadence of the communication?

Tools and Techniques for Action Planning

- Strategic Framework
- Stakeholder Analysis
- Brainstorming
- Work Breakdown Structure

The Project Management Institute (PMI) Project Management Book of Knowledge (PMBOK) defines the Work Breakdown Structure as a "deliverable oriented hierarchical decomposition of the work to be executed by the project team." There are two types of WBS: 1) Deliverable-Based and 2) Phase-Based. The most common and preferred approach is the Deliverable-Based approach. The main difference between the two approaches are the **Elements** identified in the first Level of the WBS.[18]

Exercise 4.1: Design an Innovation Lab to resolve social problems using Innovation and Digital Technologies in your country.

1. Who are the main beneficiaries of your Innovation Lab (IL)?

[18] https://www.workbreakdownstructure.com/

2. What is the IL's general vision and the main strategic objectives?

3. How might you measure the public value delivered when the IL becomes operational?

4. Who should have accountability for organizing and managing the IL? How would the IL use Design Thinking?

5. What are the skills you require for the people who work in the IL?

6. When should this be operational?
7. What might be a concrete example of a problem solved by the IL?

Exercise 3.2: Action Planning Table

Components/Questions	Answers
Action Step **What needs to be done?**	
By Whom **Who will be responsible for this step?**	

By When **At what date will the action be completed?**	
Resources and Support Available Needed **Resources Needed (Financial, Human Resources, Political, others?)**	
Potential Barriers or Resistance What individuals and organizations might resist? How?	
Communication Plan By Whom Target Audience What individuals and organizations should be informed? Who is responsible?	
Key Performance Indicators (KPIs)	

4.2 Good Action Planning in Practice (Case Studies)

The cases of the cities of Medellin (Colombia) and Curitiba (Brazil) are excellent examples of innovative and transformational planning and implementation. (See box 11 and box 12)

Box 11: Case Study: Medellin, Colombia – A laboratory of progressive architectural and urban interventions

Medellin Revisited: Infrastructure for Social Integration - *A World Economic Forum Urban Innovation*

- In 1992, Medellin was considered one of the most dangerous cities in the world.
- By 2016, it was seen as a laboratory of progressive architectural and urban interventions that were initiated under the mayoral administration of Sergio Fajardo (2003-2007).
- Whereas urban development projects often target specific solutions to physical problems, Medellin opted for a different strategy, using architecture and urban planning as tools for social integration.

Medellin, former "*drug cartel capital*", is now an example of safe and participatory community development.

Signature Projects Change the City

- Spatial, economic and cultural transformation
    - Projects such as the España Library Park and the city's elevated cable car as a mode of public transportation are key symbols of a process that led to the city's spatial, social, economic and cultural transformation – connecting the city's low-income residents and communities with its wealthier commercial centre.
- Culture as an important tool for development
    - Medellín changed not just in its spatial dynamics but also in the mentality and perception of its inhabitants who now see culture as an important tool for development.
    - Experts see Medellín as an exemplar model in urban planning and governance.

Award-Winning City due to local Innovation

Lesson learned from Medellin

- Using architecture and urbanism as tools for social development can bring surprising results in physical, functional and behavioral changes.
- In particular, breaking down city barriers between rich and poor can work as an instrument to contain and gradually eliminate violence in cities.

Source: Toolkit on Innovation and Digital Government for Public Service Delivery

Box 12: Case Study - Curitiba, Brazil

- In 1970s, Curitiba has had the highest urban growth rate in Latin America at 10%, due to agriculture mechanization and rural migration.
- A strategic vision and transformative leadership by Mayor Jaime Lerner led to the definition of structured growth.
- The innovative creation of Bus Rapid Transit (BRT), guided land development and a hierarchy of the road system were integrated into the urban fabric and land use legislation.
- Urban design was harmonized with nature with the creation of a system of parks to avoid flooding and allow leisure and cycle ways.

The creation by Curitiba of Bus Rapid Transit (BRT) sparked a Transportation Revolution in Cities around the World (Project Management Institute (PMI) Most Influential Projects)

Public Transport, Land Use and Road Hierarchy used as structuring elements

When properly planned the BRT works as a Subway on the Surface, costing 200 times less.

A System of Parks for Structuring the Urban Fabric and Flood Control

Garbage Exchange for Food

Lessons Learned from Curitiba

- Innovation can be promoted in public service delivery even when resources are scarce.
- Integrated vision for sustainable urban development: social, economic and environment features
- Elements of a subway system can be combined on the surface at a cost 200 times smaller
- The Bus Rapid Transit solution was adapted in more than 150 cities

Source: Toolkit on Innovation and Digital Government for Public Service Delivery

How did Medellin and Curitiba do it?

- Medium to long-term timeframe
- Transformational Leadership
- Communication
- Inclusiveness
- Public-Private Partnerships
- Ownership by beneficiaries
- Challenging technological dogmas

The Box 13 shows the innovative practice e-Mutation from Bangladesh which is UNPSA 2020 Winner.

Box 13: Case Study: Bangladesh - Facilitating Land Transfer - e-Mutation System

Related SDGs:

UNPSA Year: 2020

Country: Bangladesh

Region: Asia and Pacific Group

e-Mutation

Problem: Bangladesh, one of the most densely populated countries in the world, has a both a land scarcity problem and a complex property transfer system. The mutation of land (the method of changing the title of ownership from one person to another when the property is inherited, transferred or sold) has long been a lengthy, expensive and complex process rife with corruption and a lack of transparency which affected the rights of women, the poor and the vulnerable to access land. The manual mutation process often took up to 60 days, requiring 3 to 4 in person meetings and could often include the added expense of 'middlemen' who helped with application submission.

Solution: The e-Mutation initiative established a digital mechanism for mutation applications, which allowed for more efficient application, tracking of the process, and delivery of timely services. It's aim is to ensure transparency and accountability in the process, increase efficiency, and ensure a system that is fair to all citizens, particularly the most vulnerable including the illiterate, women, older persons and the poor. The initiative also recently developed a hotline service for land-related issues and grievances. The e-Mutation service has helped increase the credibility and trustworthiness of the public administration in charge of land services.

Impact: The time for land and property mutation was reduced from 60 to 28 days with only one visit (instead of 3 or 4 prior to the initiative). According to reports provided, it served 1.5 million beneficiaries, especially women and people with disabilities.

In Bangladesh, the e-Mutation initiative established a digital application mechanism to make land transfer easier, more accessible, efficient and transparent. This better serves the most vulnerable and those facing discrimination, including the illiterate, women, older persons and the poor.

Source: United Nations Public Service Innovation Hub - 2020 Winners

Key Takeaways of Chapter 4

01

Action Planning should take into account the following criteria:

- Balance between **Value** and **Feasibility** (page 73)
- Impact on a specific group of people, ensuring nobody is left behind.
- Impact on trust and transparency.
- Impact on learning.
- Impact on culture.
- Choices of timeframes for desired results.

02

Action planning critical questions: **What** actions or changes are to be planned? **Who** will carry out these changes? **When** will they take place, and for how long? What **resources** (i.e., funding, staff) are needed to carry out these changes? Who should we **communicate** with and **how often?**

03

Key Components of an Action Plan: **Action Steps, Responsibilities, Ownership, Timeframe, Resources, Key Performance Indicators (KPIs), Information Sharing** (page 74)

04

Examples of Concrete Action Planning with Positive Results: Medellin, Colombia (page 80), Curitiba, Brazil (page 82).

05

How did Curitiba and Medellin do it:

- Medium to long-term timeframe (commitment to a process, not just a project),
- Transformational Leadership,
- Communication with stakeholders,
- Inclusiveness and Public-Private Partnerships,
- Ownership and engagement of beneficiaries,
- Challenging technological dogmas (page 84).

Chapter 5 - Developing Capacities for Institutional, Organizational and Individual Change for Transformational Action

KEY OBJECTIVES OF CHAPTER 5

- ✓ Examine different levels of change – institutional, organizational and individual – and how these relate to one another.
- ✓ Discover the role of people (Leadership, Workforce) and culture in bringing about organizational change, and the importance of change at the individual level.

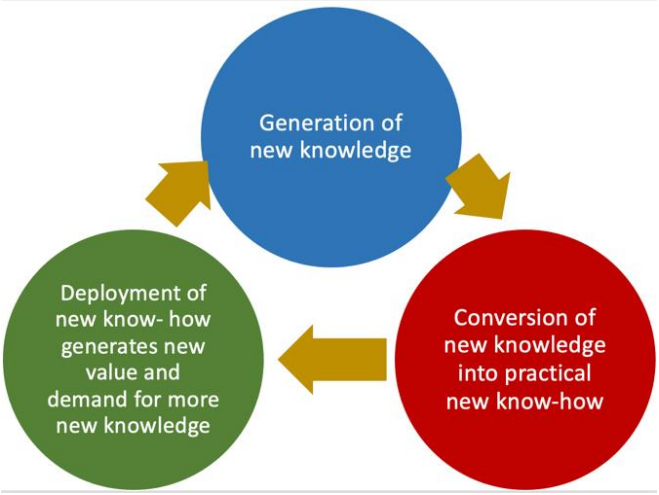
5.1. Different levels of change – institutional organizational and individual – and how these relate to one another

Change generated by innovation can be conceptualized as a 3-stage iteration:

1. Generation of new knowledge
2. Conversion of new knowledge into practical new know-how
3. Deployment of new know-how that generates new value and demand for more new knowledge

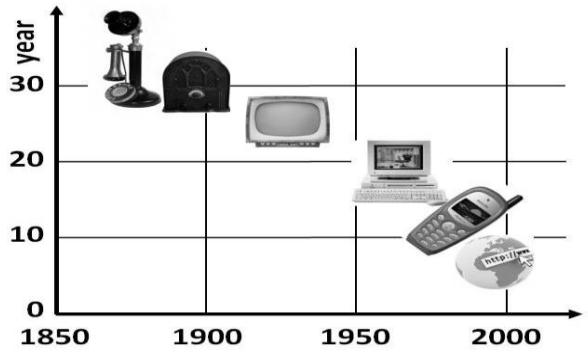
This Innovation cycle is accelerating markedly in the 21st century.

Figure 21: Innovation cycle



Source: Abridged Version of the Training Toolkit Material

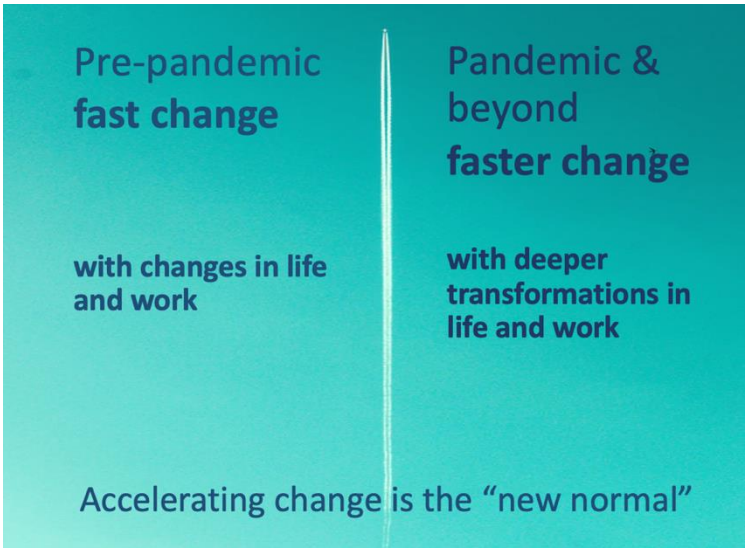
Figure 22: A common illustration of the acceleration of the pace of change since the 20th century



Source: Innovation Intelligence. Commoditization. Digitalization. Acceleration. Albert Meige and Jacques Schmitt (2015)

This image below is a reference to the COVID-19 pandemic, which has itself accelerated change that was already happening. Many responses to the pandemic (distance working, distance learning and, above all, Digital Transformation) will no doubt continue after the pandemic too.

Figure 23: Pre-pandemic fast change vs Pandemic beyond faster change



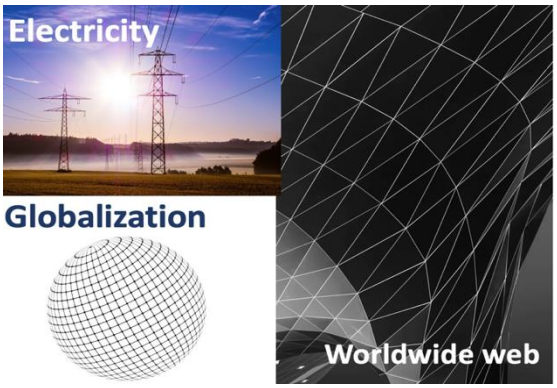
Source: Abridged Version of the Training Toolkit Material

There are three levels of capacity development and change. These are directly or indirectly experienced by all people.

- Individual change
- Institutional change
- Organizational change

Institutional change refers to changes in society, technology, industry, citizens, clients, competitors, employees, ways of living and working. No organization, no individual alone can significantly influence contextual changes. Nobody can remain indifferent.

Figure 24: Examples of big contextual changes of the past and present.



New high impact technologies:

- AI
- BioTech
- Vertical Farming
- Blockchain
- and many more

Source: Abridged Version of the Training Toolkit Material

Organizational change refers to integrating new technologies, systems, processes, products, services, behaviors and norms in existing institutions. Individuals take responsibility in leading and participating in organizational change. When it is happening all people in the organization are impacted.

Figure 25: Organizational Change

Source: Abridged Version of the Training Toolkit Material

Individual change refers to Change in our mindsets and actions. The only change over which every person has a good degree of control on how they to change and how they might make it happen.

Conclusion: Change is usually complex and involves people changing their mindsets and exiting their comfort zones, something which some people find more difficult than others.

5.2. The role of people (Leadership, Workforce) and culture in bringing about organizational change, and the importance of change at the personal level

People have a crucial role in realizing Innovation and Digital Government.

1. Leadership (1st dimension of the DGCA)
2. The Workforce and their Professional Development (6th dimension of the DGCA)

To promote change in an organization, leaders must have a plan on building digital transformation capabilities, holistic approach, systems thinking, strategic framework, stakeholder analysis, strategy, action plan.

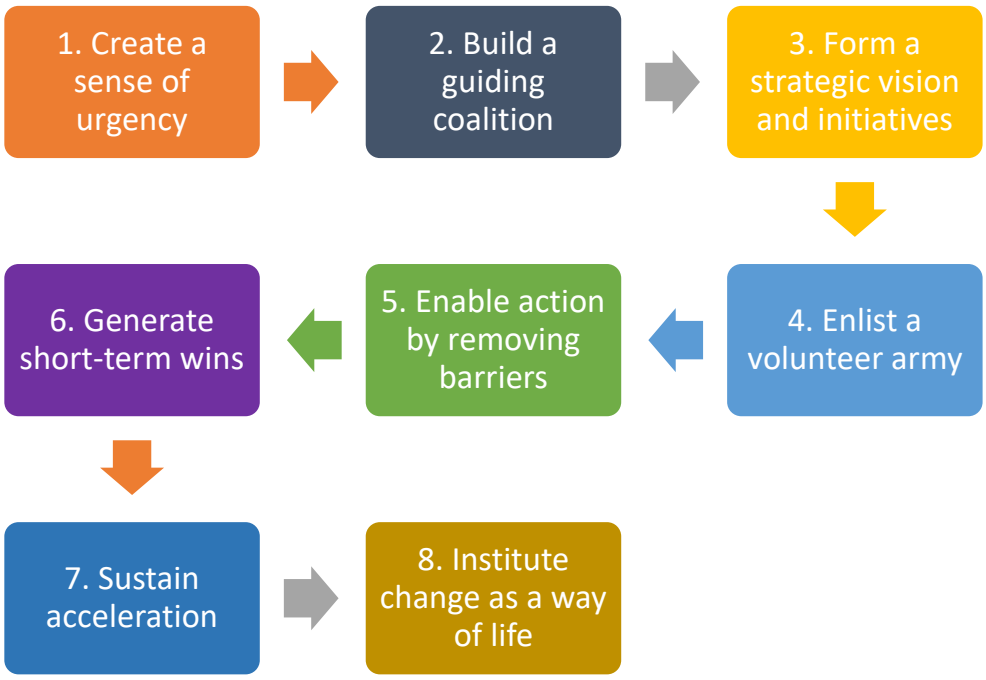
Leaders must mobilize people to accept and to actively implement change. This has many facts:

- Gaining acceptance
- Generating new learning
- Organizing teams for action
- Ensuring accountability

And (perhaps the most challenging)

- Changing mindsets
- Creating a new culture

Figure 26: Classic 8-step Process for Leading Change



Source: Handbook on Innovation and Digital Government for Public Service Delivery

Top-down and bottom-up approaches are synergistic not contradictory. The top-down approach establishes a holistic approach to organizational transformation. The bottom-up approach recognizes the value of people as innovators and instigators of change. Blending the two approaches is likely to make Digital Government Transformation happen faster and more effectively.

Leadership sets strategy using a systems-driven approach, based on principles and values with a clear strategic framework, stakeholder analysis and action planning.

The **Workforce** enriched with new learning and training contributes through collaborative and creative problem-solving.

Four tips for personal creative change:

- Most problems have many solutions
- Imagine
- Courage
- Taking responsibility for your own creativity. Awareness is made that in public institutions innovations are subject to a risk-taking mentality on the part of senior management. There is no innovation without risk, but public officials tend to be risk-averse in the absence of support from supervisors.

5.3 Socio-Technical View of Innovation

Socio-Technical Systems: (STS) is based on socio-technical theory.[19]

- At the foundation of social innovation, design thinking and innovation
- Contrasts with traditional methods that first design the technical component and then fit people to it
- Traditional methods often lead to mediocre performance at high social costs

Changing from a traditional work design or organization to one based on STS principles requires a transitional structure for managing the change process. This transition organization helps employees to gain new skills and knowledge and facilitates the learning necessary to make the new design work. The transition period involves considerable innovation, learning and change and is usually both different and more complex than either the old or new design.

STS designing is never really complete but continues as new things are learned and new conditions are encountered. Thus, the ability to continually design and redesign work needs to be built into existing work teams. Members must have the skills and knowledge to assess their work unit continually and to make necessary changes and improvements. From this view, STS designing rarely results in a stable work design but provides a process for continually modifying work to fit changing conditions.[20]

[19] Trist, circa 1967

[20] Applebaum, S., 1997. Socio-technical systems theory: an intervention strategy for organizational development, available at: https://www.emerald.com/insight/content/doi/10.1108/00251749710173823/full/html

Healthcare.gov case study highlights the challenges faced by the US Department of Health and Human Services in implementing a website to provide consumers with access to a health insurance marketplace. This case draws attention to the combination of factors that jeopardized the project and those innovations that were critical to turning the project around.

Exercise 4.1: How fast can our organization adapt to contextual change?

Which are the greatest obstacles to Innovation and/or Digital Transformation in public administration in your country? (Check up to 3)

- ☐ 1. Lack of financial resources.
- ☐ 2. Lack of technical expertise.
- ☐ 3. Cumbersome regulations and/or procedures.
- ☐ 4. Politicians.
- ☐ 5. People in public service.
- ☐ 6. Unwillingness to change.
- ☐ 7. Fear of failure.
- ☐ 8. Me (you).
- ☐ 9. Something else (please note)?

How important are the human obstacles (4-8) as opposed to the technical, legal and procedural obstacles (1-3)?

If you checked 1, are you really sure you have exhausted all potential for change which does not require money?

If you checked 4, how can you convince politicians to champion change?

How might you change 6 and 7 so that 5 is less of an obstacle?

Why did some of you avoid checking 8? Are you absolutely confident of your adaptability and openness to changing yourself?

Exercise 5.2: Innovation and Digital Transformation call for significant changes in the ways most public services operate

Please reflect individually and take personal notes on the following questions:

1. What are the obstacles in promoting Innovation and Digital Government Transformation in your country? (focus the issues arising from your DGCA)

2. In what ways might you and your organization overcome these obstacles to implement your Action Plan for Digital Government? (focus on the main principles of Access, Quality, Inclusion and Responsiveness, People-orientation and Transparency)

3. What concrete actions can be taken at the organizational and institutional levels to implement your Action Plan Ideas?

4. In what ways might you change your own behavior and actions to achieve the change you would like to see towards digital government transformation in your country?

Reading Materials of Chapter 5

- Toolkit Module 2.4: Systems Thinking and Situational Awareness
- Toolkit Case Study 5_4_1 US Dept of HHS's Case on Healthcare.gov

Key Takeaways of Chapter 5

01 Change generated by innovation can be conceptualized as a 3-stage iteration: a) Generation of new knowledge; b) Conversion of new knowledge into practical new know-how and c) Deployment of new know-how that generates new value and demand for more new knowledge (page 89)

02 There are three levels of capacity development and change. These are directly or indirectly experienced by all people: Individual change, Institutional change and Organizational change.

03 Leaders must mobilize people to accept and to actively implement change. This process includes: gaining acceptance, generating new learning, organizing teams for action, ensuring accountability, and eventually changing mindsets and creating a new culture for public service delivery.

04 Contemporary approaches to change put emphasis on **emotions and behavior as well as reason and facts.** Storytelling is significantly more powerful as a means of communication than logical argument, hence is popularity in contemporary management literature. Storytelling for organizational change:

- Focuses on the human emotions at work.
- More persuasive than just listing facts.
- More engaging therefore more memorable.

05 **Top-down and bottom-up approaches are synergistic not contradictory.** The top-down approach establishes a holistic approach to organizational transformation. The bottom-up approach recognizes the value of people as innovators and instigators of change. Blending the two approaches is likely to make Digital Government Transformation happen faster and more effectively.

06 **Transformative Leadership** can implement a strategy using a systems-driven approach, based on principles and values with a clear strategic framework, stakeholder analysis and action planning.

07 The **Workforce** can be enriched with new learning and training contributes through collaborative and creative problem-solving.

Conclusion and Key Take-aways

- To address the SDGs more effectively public sector capacity for implementation should be enhanced both at national and local levels in an integrated way, to the extent possible. Public service delivery often has cross-jurisdictional implications requiring inter-institutional coordination at various levels.
- Innovation and digital transformation require fundamental changes in the mindsets of public servants and in how public institutions operate and collaborate.
- Capability to innovate is always context-specific, but innovators can be guided by sets of recognized principles and strategies based on proven lessons learned.
- Building situational awareness and creating an understanding about the interests of stakeholders is relevant to determine if any innovation being considered has the potential to create public value.
- Systems thinking, stakeholder analysis, and strategic framework are tools to support scenario development and testing as part of an action planning exercise.
- The Digital Government Capability Assessment (DGCA) can be used as a tool to promote the initial steps towards digital government transformation within a cross-institutional environment within government. The DGCA can be found in Annex II.
- Wicked problems require social innovation, which relies on the ability to engage in design thinking and to provide innovation intermediaries such as innovation labs. Using a range of analytical models and tools such as systems thinking, strategic framework, innovation labs and design thinking can support efforts to generate a deeper understanding of public service challenges and their potential solutions.
- Such understanding is important to test potential solutions as inputs into performance management systems.
- Action Plans are living documents the capture and communicate the results of design thinking and can inform both iterative processes of prototyping and refinement and implementation
- Many analytical tools and techniques can contribute to design thinking by generating new understanding of problems and analysis of solutions as inputs to Action Planning.
- Performance contracting can be an effective tool for increasing transparency and accountability and improving efforts to adhere to the principles of Public Service Delivery.
- Innovation can be promoted as a substitute for lack of financial resources in public service delivery, as demonstrated by the case of Curitiba, Brazil.
- Breaking down city barriers between rich and poor can work as a tool to contain and gradually eliminate violence in cities, as shown in Medellin, Colombia.

Annex I – Reading Materials

- 20+ Inspiring Innovation Lab Examples Worldwide, 2016.
- Advancing Return on Investment Analysis for Government IT A Public Value Framework, 2006, CTG University at Albany.
- Applebaum, S., 1997. Socio-technical systems theory: an intervention strategy for organizational development. Management Decision
- Brown, T and Wyatt, J., 2010. Design Thinking for Social Innovation, Stanford Social Innovation Review
- Chimhowu, A.O., David Hulme, D., Munro, L.T., 2019. The 'New' national development planning and global development goals: Processes and partnerships, World Development
- Cook, M.E. & Harrison, T., 2014, Using public value thinking for government IT planning and decision making: A case study, Information Polity, 20(2,3).
- Dawes S.S., Pardo T.A. (2002) Building Collaborative Digital Government Systems. In: McIver W.J., Elmagarmid A.K. (eds) Advances in Digital Government. Advances in Database Systems, vol 26. Springer, Boston, MA. https://doi.org/10.1007/0-306-47374-7_16
- Dawes, S., Cresswell, A., and Pardo, T., 2009. From ''Need to Know'' to ''Need to Share'': Tangled Problems, Information Boundaries, and the Building of Public Sector Knowledge Networks, Public Administration Review
- Delivering Public Value through Open Government, 2011, CTG, University at Albany.
- Design Thinking for Public Service Excellence, Global Centre for Public Service Excellence, UNDP
- Gasco-Hernandez, M., Sandoval-Almazan, R. and Gil-Garcia, J. 2017. Open Innovation and Co-creation in the Public Sector: Understanding the Role of Intermediaries. 9th International Conference on Electronic Participation (ePart)
- Gasco, M., 2016. Living labs: Implementing open innovation in the public sector, Government Information Quarterly.
- Gil-Garcia, J. & Pardo, T., 2005. E-government success factors: Mapping practical tools to theoretical foundations. Government Information Quarterly
- Jackson, Emerson. (2020). Importance of the Public Service in Achieving the UN SDGS. 10.1007/978-3-319-71058-7_20-2
- Liedtka, J. and Salzman, R., Applying Design Thinking to Public Service Delivery, IBM Center for the Business of Government.
- Luna, D., et al, 2019, Public Value Creation through Digital Service Delivery from a Citizens' Perspective, International Conference on Digital Government, dg.o 2019 Proceedings.
- Making Smart IT Choices, 2005, CTG, University at Albany, SUNY
- Making Smart IT Choices, 2005. CTG, University at Albany, SUNY

- Onyango, P, 2009, 2009. Re-configuring Poverty: The Wickedness Perspective, African Journal of Tropical Hydrobiology and Fisheries 12: 37-46
- Pardo, T. & Dawes, S., 2013, Timeless Lessons for Government Innovators
- Pardo, T., 2008, A Capabiilty Based View of Government IT Innovation
- Peters, J., 2014. The Application of Systems Thinking in Health: Why use systems thinking. Health Research Policy and Systems
- Public Value Assessment Tool PVAT: An Overview, A power point presentation, CTG, University at Albany.
- Rabinovitch, Jonas and Hoehn, John, A Sustainable Urban Transportation System: The "Surface Metro" in Curitiba, Brazil, Working Paper EPAT/MUCIA, January 1995
- Renteria, C., Gil-Garcia, J.R. & Pardo, T. (2019). Toward an Enabler-Based Digital Government Maturity Framework: A Preliminary Proposal Based on Theories of Change. 408-417. 10.1145/3326365.3326419.
- Scientific American, March 1996, "*Urban Planning in Curitiba*", Jonas Rabinovitch and Josef Leitman.
- Tackling wicked problems: A public policy perspective, 2018. Australian Public Service Commission
- The Digital Transformation Capability Assessment Framework, Center for Technology in Government, University at Albany, SUNY, 2020.
- Timeus, K., & Gasco, M., 2018. Increasing innovation capacity in city governments: Do innovation labs make a difference? Journal of Urban Affairs
- Toolbox System Archetypes at a Glance – Systems Thinking Tools. Pegasuscom.com
- Toolkit Module 2.4: Systems Thinking and Situational Awareness
- Toolkit Case Study 5_4_1 US Dept of HHS's Case on Healthcare.gov
- UN DESA. Compendium of Digital Government Initiatives in response to the COVID-19 Pandemic 2020, 2020.
- UN DESA. Policy Note: Innovation in Public Service Delivery for the Sustainable Development Goals (Draft) - DPIDG Interim Policy Brief Capacity Development Unit
- UN E-Government Readiness Rankings Report, 2020, Executive Summary
- UN Joint Programme on Local Governance (JPLG) in Somalia
- UNDP Efficient and Accountable Local Governance (EALG) in Bangladesh
- United Nations. Principles of Effective Governance for Sustainable Development
- United Nations. The Sustainable Development Goals Report, 2020.
- United Nations. Transforming our world: the 2030 Agenda for Sustainable Development
- United Nations. UN Highlights the role of the public service in achieving SDGs
- Whaites, A., 2016. Achieving the Impossible – Can we be SDG Believers?

Annex II – Digital Government Capability Assessment

Dimension 1. Leadership

Leaders are the stewards of Digital Government efforts. They must engage, motivate, build commitment, and mobilize resources for the successful implementation of a digital strategy. Leaders must also craft the plans to achieve the organizational goals, as well as its communication to stakeholders and monitoring the progress.

Dimension 1. Leadership – Vision		
LEA 01	Leadership from the organizational units in our Ministries/Agencies are constantly informed and updated about how digital technologies may bring opportunities in transforming the working environment and improving citizen satisfaction.	☐ 5 - Strongly Agree Management personnel from all departments are regularly informed and updated about how digital technologies may create opportunities for transforming the working environment and improving citizen satisfaction. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Management personnel from all departments are not regularly informed and updated about how digital technologies may create opportunities for transforming the working environment and improving citizen satisfaction. ☐ 2 – Disagree ☐ 1 - Strongly Disagree There is no plan in place for management personnel from all departments to be regularly informed and updated about how digital technologies may create opportunities for transforming the working environment and improving citizen satisfaction.

LEA 02	Leadership in our Ministries/Agencies has a clear vision of the role of digital government in our functions and services and how they can support the implementation of the sustainable development goals.	☐ 5 - Strongly Agree Senior management in our Ministry/Agency have a clear vision for the role of digital government in carrying out our functions and providing services and that vision is being implemented by the ministry. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Government leaders in our Ministry/Agency are in the process of creating the environment necessary to enable interoperable systems. ☐ 2 - Disagree ☐ 1 - Strongly Disagree Senior management in our Ministry/Agency do not have clear vision for the role of digital government in carrying out our functions and providing services.
LEA 03	Leadership in our Ministries/Agencies have adopted a long-term view of digital government transformation that is linked to the national sustainable development plan.	☐ 5 - Strongly Agree Senior management in our Ministry/Agency has a long-term view of digital transformation. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Senior management in our Ministry/Agency is in the process of defining a long-term view of digital transformation. ☐ 2 - Disagree ☐ 1 - Strongly Disagree Senior management in our Ministry/Agency does not have a long-term view of digital transformation.

LEA 04	Our Ministries/Agencies have an official who is formally assigned the role of Chief Information Officer or equivalent.	☐ 5 - Strongly Agree The Ministry/Agency has formally assigned the position of CIO. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency does not have the position of CIO, but someone is performing some of the functions. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency does not have the position of CIO.
Dimension 1. Leadership – **Policy**		
LEA 05	Political commitment to digital government activities is continuous and long-term in our Ministries/Agencies.	☐ 5 - Strongly Agree Government leadership in the Ministry/Agency fully commits to digital government activities that are likely to be continuous and long term. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Government leadership in the Ministry/Agency does not commit to digital government activities that are likely to be continuous and long term. ☐ 2 – Disagree ☐ 1 - Strongly Disagree Government leadership in the Ministry/Agency are not developing a commitment to digital government activities that are likely to be continuous and long term.

LEA 06	Our political leaders are supportive of investments in digital government priorities for our Ministries/Agencies.	☐ 5 - Strongly Agree Political leaders in the Ministry/Agency are supportive of investments in digital government priorities. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Political leaders in the Ministry/Agency are not supportive of investments in digital government priorities. ☐ 2 – Disagree ☐ 1 - Strongly Disagree Political leaders in the Ministry/Agency are not supportive of investments and have no plan to be in digital government priorities.
LEA 07	In our Ministries/Agencies, we are capable of establishing an environment enabling innovation and modernization.	☐ 5 - Strongly Agree Political leaders in the Ministry/Agency are capable of establishing an environment enabling innovation and modernization. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Political leaders in the Ministry/Agency are not capable of establishing an environment enabling innovation and modernization. ☐ 2 – Disagree ☐ 1 - Strongly Disagree Political leaders in the Ministry/Agency are not capable of establishing an environment enabling innovation and modernization.

LEA 08	Digital government champions are recognized and supported by the leadership of our Ministries/Agencies.	☐ 5 - Strongly Agree Digital government champions in the Ministry/Agency are strongly recognized and supported by our leadership. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Digital government champions in the Ministry/Agency are partially recognized and supported by our leadership. ☐ 2 – Disagree ☐ 1 - Strongly Disagree Digital government champions in the Ministry/Agency are not recognized and supported by our leadership.
Dimension 1. Leadership – Data		
LEA 09	Our Ministries/Agencies have committed resources for executive and management positions in data management including a Chief Data Officer or equivalent.	☐ 5 - Strongly Agree The Ministry/Agency has fully committed resources for executive and management positions in data management including a Chief Data Officer. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has not committed resources for executive and management positions in data management including a Chief Data Officer. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency has no plan to commit resources for executive and management positions in data management including a Chief Data Officer.

LEA 10	Our Ministries/Agencies regularly commit resources to building data management capabilities through formal training programs.	☐ 5 - Strongly Agree The Ministry/Agency regularly commits resources to building data management capabilities through formal training programs. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency does not commit resources to building data management capabilities through formal training programs. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency does not have a plan to commit resources to building data management capabilities through formal training programs.
LEA 11	Our Ministries/Agencies have effectively implemented a range of standards to support data management.	☐ 5 - Strongly Agree The Ministry/Agency has effectively implemented a range of standards to support data management. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has implemented a range of standards to support data management, but it is not effective. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency has no plans to implement a range of standards to support data Management.

Digital Government Capability Assessment Framework Items

Dimension 2. Strategy

Strategic plans help to support the Government agenda.
This contains the actions to be taken to pursue the digital Government goals.

Dimension 2. Strategy - General		
STR 01	Our Ministry's/Agency's strategy prioritizes the digitization of the services with the highest volume of constituents' requests.	☐ 5 - Strongly Agree The Ministry/Agency's strategy prioritizes the digitization of services with the highest volume of constituent request or the most labor intensive. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency's strategy does not prioritize the digitization of services with the highest volume of constituent request or the most labor intensive. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency's is not developing a strategy that prioritizes the digitization of services with the highest volume of constituent request or the most labor intensive.
STR 02	Policy makers are aware of the benefits of digital government when used by our Ministries/Agencies.	☐ 5 - Strongly Agree Policy makers are fully aware of the benefits of digital government.

		☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Policy makers are generally aware of the benefits of digital government. ☐ 2 – Disagree ☐ 1 - Strongly Disagree Policy makers in our Emirate are not aware of the benefits of digital government.
STR 03	Civil servants in our Ministries/Agencies are aware of the benefits of digital government.	☐ 5 - Strongly Agree Most civil servants have participated in digital government workshops and training sessions; strong evidence of their awareness can be seen in their programs, projects, and workplans. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Some civil servants have not participated in digital government workshops and training sessions; minimal evidence of their awareness can be seen in their programs, projects, and work plans. ☐ 2 – Disagree ☐ 1 - Strongly Disagree No civil servants have participated in digital government workshops and training sessions. Civil servants do not acknowledge the role and benefits of digital government in their efforts.

STR 04	Our Ministries/Agencies have an e-participation strategy in place.	☐ 5 - Strongly Agree An e-participation strategy has been developed and is implemented for the Ministry/Agency. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree An e-participation strategy has been developed but is not being implemented for the Ministry/Agency. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency have no current plan to develop an e-participation strategy for the Ministry/Agency.
STR 05	Our Ministry's/ Agency's digital government strategy is aligned with the overall public sector reform programme and the sustainable development goals.	☐ 5 - Strongly Agree The Ministry/Agency's Digital Government Strategy is fully integrated with the Ministry/Agency's Public-Sector Reform Programme and in line with the SDGs. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Our Digital Government Strategy and the Ministry/Agency's Public-Sector Reform Programme are clearly linked in specific areas. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency have no plans to integrate our Digital Government Strategy with the Ministry/Agency's Public-Sector Reform Programme and the SDGs.

STR 06	Our Ministries/Agencies regularly review and refine our digital government strategy to ensure we are delivering the expected benefits.	☐ 5 - Strongly Agree The Ministry/Agency are actively engaged in the use of a governance process which requires regular review and refinement of the Ministry/Agency's Digital Government Strategy to ensure the Ministry/Agency are delivering expected benefits. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency review and refine the Ministry/Agency's Digital Government Strategy to ensure the Ministry/Agency are delivering expected benefit on an ad hoc basis. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency have no plans to create a regular review and refinement process to ensure the Ministry/Agency's Digital Government Strategy is delivering expected benefits.
STR 07	Our Ministries/Agencies have an action plan that builds capacity to effectively implement a digital government strategy.	☐ 5 - Strongly Agree The Ministry/Agency has a robust action plan that builds capacity to effectively implement a digital government strategy. ☐ 4 - Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has developed an action plan that addresses some capacity building to effectively implement a digital government strategy. ☐ 2 - Disagree ☐ 1 - Strongly Disagree Our Ministry/Agency has not developed an action plan that address capacity building to effectively implement a digital government strategy.

STR 08	Our Ministry's/Agency's communication strategy to promote citizen awareness, interest and trust in digital government is effective.	☐ 5 - Strongly Agree A digital government communication strategy has been developed and has been implemented for the Ministry/Agency. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree A digital government communication strategy has been developed but has not been implemented for the Ministry/Agency. ☐ 2 – Disagree ☐ 1 - Strongly Disagree There is no plan to develop a digital government communication strategy for the Ministry/Agency.
Dimension 2. Strategy - Integration and Interoperability		
STR 09	Systems in use in our Ministry's/Agency's organizational units support the integration and sharing of data across the boundaries of government agencies.	☐ 5 - Strongly Agree All of the Ministry/Agency's departments are investing in the integration of information systems across the boundaries of departments and agencies. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree All of the Ministry/Agency's departments are planning for investment in the integration of information systems across the boundaries of departments and agencies. ☐ 2 – Disagree

		☐ 1 - Strongly Disagree None of the Ministry/Agency's departments are investing in the integration of information systems across the boundaries of departments and agencies.
STR 10	The portal architecture facilitates the integration of the services across government units in our Ministries/Agencies.	☐ 5 - Strongly Agree Internet access is available in all local government offices in the Ministry/Agency. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Internet access is available in some local government offices in the Ministry/Agency. ☐ 2 – Disagree ☐ 1 - Strongly Disagree Internet access is not available in local government offices in the Ministry/Agency.
STR 11	Our Ministry's/Agency's digital strategy encourages its departments and units to launch communication campaigns to increase citizen's awareness and use of e-services and e-participation platforms.	☐ 5 - Strongly Agree The Ministry/Agency has fully launched a communication campaign to enhance citizen's awareness and use of e-participation. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has launched some communication materials to enhance citizen's awareness and use of e-participation. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency has no intention of launching a communication campaign to enhance citizen's awareness and use of e-participation.

Dimension 2. Strategy - **Data**		
STR 12	Our Ministries/Agencies have a strategy and policy environment that supports the opening of data by publishing it on government websites.	☐ 5 - Strongly Agree The Ministry/Agency has a fully implemented policy for publishing open government data through our government portal. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency does not have a policy for publishing open government data through our government portal, but a process for creating one is being put in place. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency has no plans to produce a policy for publishing open government data through our government portal.
STR 13	Government data in our Ministries/Agencies is being used to enhance current e-services or to build new e-services.	☐ 5 - Strongly Agree Government data in the Ministry/Agency is regularly and systematically used to enhance current e-services or to build new e-services. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Government data in the Ministry/Agency used in an ad hoc way to enhance current e-services or to build new e-services. ☐ 2 – Disagree

		☐ 1 - Strongly Disagree The Ministry/Agency has no plans to use government to enhance current e-services or to build new e-services.
STR 14	Our Ministry/ Agency has committed resources to build information systems to improve the availability and quality of information.	☐ 5 - Strongly Agree The Ministry/Agency has committed resources to building information systems that improve the availability and quality of information. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has not committed resources to build information systems that improve the availability and quality of information. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency has no plans to commit resources to build information systems that improve the availability and quality of information.
STR 15	Our Ministries/Agencies have committed ongoing resources to identifying data quality issues in the data it produces, uses, and makes open.	☐ 5 - Strongly Agree The Ministry/Agency has a data quality strategy and action plan and has committed ongoing resources, in the form of staffing and budget, to identify data quality issues in data. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has a data quality strategy and action plan, but resources for identifying data quality issues in data are only available on an ad hoc basis.

		☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency has no plans to create a data quality strategy or action plan.

Digital Government Capability Assessment Framework Items

Dimension 3. Governance

The organizational capacity and managerial actions developed to overcome potential cultural barriers in implementing the digital strategy across agencies and departments. The development of good governance must be aligned with the strategic goals, as well as legal framework.

Dimension 3. Governance - **General**		
GOV 01	A single department or unit is in charge of ensuring that the digital government strategy is being implemented by all departments and units of our Ministries/Agencies, and that they have the resources necessary to implement it.	☐ 5 - Strongly Agree A single department is in charge of implementing digital strategy and is fully funded. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree There are department overlaps in who is in charge of implementing digital strategy. ☐ 2 – Disagree ☐ 1 - Strongly Disagree No department is in charge of implementing digital strategy.
GOV 02	Our Ministries/Agencies have formally established and use an integrated IT governance structure.	☐ 5 - Strongly Agree The Ministry/Agency has a formally established enterprise-wide IT governance structure and uses this structure to make enterprise-wide IT decisions. ☐ 4 – Agree

		☐ 3 - Neither Agree nor Disagree The Ministry/Agency has a formally established enterprise-wide IT governance structure and sometimes uses this structure to make enterprise wide IT decisions. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency has no plans to establish enterprise-wide IT governance structure to guide enterprise wide IT decisions.
GOV 03	Our Ministries/Agencies regularly have the budget necessary to fully implement our digital government strategy.	☐ 5 - Strongly Agree The Ministry/Agency has fully approved the budget necessary to implement our digital government strategy. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has not approved any part of the budget necessary to implement our digital government strategy. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency has no plans to request funds to support our digital government strategy.
GOV 04	Our Ministry/Agency has effectively implemented a range of standards to support technology decision making.	☐ 5 - Strongly Agree The Ministry/Agency has effectively implemented a range of standards to support technology decision making. ☐ 4 – Agree

		☐ 3 - Neither Agree nor Disagree The Ministry/Agency does not have a range of standards to support technology decision making. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency has no plans to implement a range of standards to support technology decision making.
GOV 05	Our Ministries/Agencies have committed ongoing resources to ensuring its government websites are user-friendly and meet international accessibility standards.	☐ 5 - Strongly Agree The Ministry/Agency has a strategy and action plan for ensuring our government websites are user-friendly and has committed ongoing resources in the form of staffing and budget resources. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has a strategy and action plan for ensuring our government websites are user-friendly, but only ad hoc resources in the form of staffing and budget are committed. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency does not have a strategy and action plan for ensuring our government websites are user-friendly.
GOV 06	Our Ministries/Agencies follow standard policies for data acquisition, management, and access.	☐ 5 - Strongly Agree The Ministry/Agency fully complies with standard policies for data acquisition, management and access. ☐ 4 – Agree

		☐ 3 - Neither Agree nor Disagree The Ministry/Agency partially complies with standard policies for data acquisition, management, and access. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency does not follow standard policies for data acquisition, management, and access.
Dimension 3. Governance - **Citizens & Business**		
GOV 07	Our Ministry's/Agency's digital strategy includes initiatives to develop and deliver more e-services based on constituents' requests and feedback.	☐ 5 - Strongly Agree The Ministry/Agency digital strategy develops e-services based on the feedback of users. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency digital strategy develops some e-services based on the feedback of users. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency digital strategy dose not develop e-services based on the feedback of users.
GOV 08	Our Ministry/ Agency have committed ongoing resources to provide online interaction tools to support interactions	☐ 5 - Strongly Agree The Ministry/Agency has a strategy and action plan for providing online interaction tools to support interaction between government, businesses and citizens and has committed ongoing resources in the form of staffing and budget.

	between government, businesses, and citizens.	☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has a strategy and action plan for providing online interaction tools to support interaction between government, businesses and citizens, but only ad hoc commitment of resources in the form of staffing and budget. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency does not have a have a strategy and action plan for providing online interaction tools.
GOV 09	Citizens were consulted in the development of our Ministries/Agencies digital government strategy.	☐ 5 - Strongly Agree Citizens in The Ministry/Agency are actively and formally involved in the development of the digital government strategy. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Citizens in The Ministry/Agency are involved in the development of the digital government strategy in an ad hoc way. ☐ 2 – Disagree ☐ 1 - Strongly Disagree Citizens in The Ministry/Agency are not involved in the development of the digital government strategy.
GOV 10	Our Ministries/Agencies regularly seeks and acts on the feedback from non-governmental users.	☐ 5 - Strongly Agree The Ministry/Agency regularly and formally uses feedback on services from non-governmental users. ☐ 4 – Agree

		☐ 3 - Neither Agree nor Disagree The Ministry/Agency sometimes uses feedback on services from non-governmental users. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency does not use feedback on services from non-governmental users.
GOV 11	Our Ministries/Agencies effectively uses social media as an outreach tool to the non-governmental users.	☐ 5 - Strongly Agree The Ministry/Agency regularly social media as an outreach tool. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency sometimes social media as an outreach tool. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency never uses social media as an outreach tool.
Dimension 3. Governance - **Partnership**		
GOV 12	Our Ministries/Agencies are collaborating with the civil society in developing and implementing our digital government strategy.	☐ 5 - Strongly Agree The Ministry/Agency is collaborating with our civil society in our digital government development effort. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency is partially collaborating with civil society in our digital government development effort.

		☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency is not collaborating with civil society in our digital government effort.
GOV 13	Our Ministries/Agencies are effectively collaborating with the private sector in developing and implementing our digital government efforts.	☐ 5 - Strongly Agree The Ministry/Agency is collaborating with the private sector in our digital government development efforts. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency is collaborating with the private sector in our digital government development efforts, but it has only been partially effective. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency is not collaborating with the private sector in our digital government development efforts.
Dimension 3. Governance - **Data**		
GOV 14	The information available on the websites of our Ministries/Agencies is accurate and timely.	☐ 5 - Strongly Agree The information available on websites for The Ministry/Agency is accurate. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree There is no information available on websites for The Ministry/Agency.

		☐ 2 – Disagree ☐ 1 - Strongly Disagree There are no statistics available on government websites in The Ministry/Agency.
GOV 15	Our Ministries/Agencies can count on the availability of an open data portal and/or open datasets.	☐ 5 - Strongly Agree The Ministry/Agency can count on the availability of an open data portal and/or open datasets. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency can partially count on the availability of an open data portal and/or open datasets. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency cannot count on the availability of an open data portal and/or open datasets.
GOV 16	Our Ministries/Agencies regularly assess whether the information available on our websites is useful to non-governmental users.	☐ 5 - Strongly Agree The Ministry/Agency regularly assesses whether the information available on our websites is useful to non-governmental users. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency does not assess whether the information available on our websites is useful to non-governmental users. ☐ 2 – Disagree

		☐ 1 - Strongly Disagree The Ministry/Agency does not have any plans to assess whether the information available on our website is useful to non-governmental users.
Dimension 3. Governance - Organization		
GOV 17	Our Ministries/Agencies have committed resources to hire or develop the skilled professionals necessary to plan and execute a user-centered digital e-services strategy.	☐ 5 - Strongly Agree The Ministry/Agency has committed resources to bring and develop skilled professionals necessary to plan and execute user-centered digital e-services. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has partially committed resources to bring and develop skilled professionals necessary to plan and execute user-centered digital e-services. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency has not committed resources to bring and develop skilled professionals necessary to plan and execute user-centered digital e-services.
GOV 18	Our Ministry's/Agency's ICT personnel have the skills necessary to effectively evaluate vendor proposals.	☐ 5 - Strongly Agree The Ministry/Agency ICT personnel have the skills necessary to effectively evaluate vendor proposals. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency ICT personnel have some of the skills necessary to effectively evaluate vendor proposals. ☐ 2 – Disagree

		☐ 1 - Strongly Disagree The Ministry/Agency ICT personnel do not have the skills necessary to effectively evaluate vendor proposals.
GOV 19	Our Ministry's/Agency's personnel have the skills necessary to effectively monitor and evaluate our e-services.	☐ 5 - Strongly Agree The Ministry/Agency personnel have the skills necessary to effectively monitor and evaluate our e-services. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Some of The Ministry/Agency personnel have the skills necessary to effectively monitor and evaluate our e-services. ☐ 2 – Disagree ☐ 1 - Strongly Disagree None of The Ministry/Agency personnel have the skills necessary to effectively monitor and evaluate our e-services.
GOV 20	Our Ministries/Agencies have ICT support personnel to adequately meet the needs of users of our e-services.	☐ 5 - Strongly Agree The Ministry/Agency's ICT support personnel fully meet the needs of users. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Some of The Ministry/Agency's ICT support personnel meet the some of the needs of users. ☐ 2 – Disagree ☐ 1 - Strongly Disagree None of The Ministry/Agency's ICT support personnel fully meet the needs of users.

Digital Government Capability Assessment Framework Items

Dimension 4. Legal

The set of legislation, guidelines, and standards that a department or agency must comply with in deploying digital services.

Dimension 4. Legal - Laws and Regulations		
LEG 01	The laws and regulations in place for the provision and use of ICT and digital government services for our Ministries/Agencies are effective.	☐ 5 - Strongly Agree The laws and regulations for the provision and use of ICT or e- government services in the Ministry/Agency are effective. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The laws and regulations for the provision and use of ICT or e- government services in the Ministry/Agency are partially effective. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The laws and regulations for the provision and use of ICT or e-government services in the Ministry/Agency are not effective.

LEG 02	Our Ministry's/Agency's ICT and digital government regulations are aligned with international trends.	☐ 5 - Strongly Agree The Ministry/Agency's ICT and digital government regulations are aligned with regional or international trends. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency's ICT and digital government regulations are partially aligned with regional or international trends. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency's ICT and digital government regulations are not aligned with regional or international trends.
LEG 03	There are laws and regulations allowing electronic filing in government units within our Ministries/Agencies.	☐ 5 - Strongly Agree The Ministry/Agency has laws and regulations allowing electronic filing within government agencies. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has some laws and regulations allowing electronic filing within government agencies. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency does not have laws and regulations allowing electronic filing within government agencies.

LEG 04	The laws and regulations in place for the recognition and use of digital signature in our Ministries/Agencies are effective.	☐ 5 - Strongly Agree The Ministry/Agency's laws and regulations for the recognition and use of digital signature are effective. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency's laws and regulations for the recognition and use of digital signature are partially effective. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency's laws and regulations for the recognition and use of digital signature are not effective.
LEG 05	The legislation for cyber-crime monitoring and prevention, privacy protection and for the safeguard of personal information in our Ministries/Agencies is effective.	☐ 5 - Strongly Agree The legislation for cyber-crime monitoring and prevention, privacy protection and for the safeguard of personal information in the Ministry/Agency is effective. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The legislation for cyber-crime monitoring and prevention, privacy protection and for the safeguard of personal information in the Ministry/Agency is partially effective. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The legislation for cyber-crime monitoring and prevention, privacy protection and for the safeguard of personal information in the Ministry/Agency is not effective.

Dimension 4. Legal - **Policies and Procedures**		
LEG 06	Our Ministries/Agencies have developed policies on integrating the SDGs to the national digital government strategy.	☐ 5 - Strongly Agree The Ministries /Agencies have developed policies on integrating the SDGs into the National Digital Government strategies. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministries/Agencies have some policies that address integrating the SDGs into the National Digital Government strategies. ☐ 2 - Disagree ☐ 1 - Strongly Disagree At this time, the Ministries/Agencies have not developed any policies that address integrating the SDGs into the National Digital Government strategies.
LEG 07	Our Ministry's/Agency's open data policy established that open government data repositories and/or datasets should be implemented and made available to all public institutions.	☐ 5 - Strongly Agree Open government data repositories are available to all public institutions. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Open government data repositories are partially available to all public institutions. ☐ 2 – Disagree ☐ 1 - Strongly Disagree Open government data repositories are not available to public institutions.

LEG 08	Our Ministry's/Agency's open data policy established that government data is open for external consumption. Companies, universities, or citizens can use and analyze those data for their own benefit.	☐ 5 - Strongly Agree The Ministry/Agency's open data policy that government data is open for external consumption. Companies, universities, or citizens can use and analyze those data for their own benefit. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency's open data policy that government data is open to some for external consumption. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency's open data policy that government data is not open for external consumption.
LEG 09	Our Ministries/Agencies have policies regulating the sharing and dissemination of public information that are adequate to ensure the protection of citizen's identity and to enable effective government services.	☐ 5 - Strongly Agree The Ministry/Agency has public information sharing and dissemination policies and procedures in place that ensure the protection of citizen identity and to enable effective government services; those policies and procedures are regularly reviewed and updated. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has some public information sharing and dissemination policies and procedures in place that ensure the protection of citizen identity and to enable effective government services; those policies and procedures are not regularly reviewed and updated. ☐ 2 – Disagree

		☐ 1 - Strongly Disagree The Ministry/Agency has does not have public information sharing and dissemination policies and procedures in place that ensure the protection of citizen identity and to enable effective government services.
LEG 10	Our Ministries/Agencies have implemented security policies to ensure against unauthorized access to systems.	☐ 5 - Strongly Agree The Ministry/Agency has implemented security policies to protect against unauthorized access to systems. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has implemented some security policies to protect against unauthorized access to systems. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency has not implemented security policies to protect against unauthorized access to systems.
LEG 11	Our Ministry's/Agency's management framework for security and control is effective in securing information and technology resources.	☐ 5 - Strongly Agree The Ministry/Agency's management framework for security and control is effective in securing information and technology resources. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency's management framework for security and control is partially effective in securing information and technology resources. ☐ 2 – Disagree

		☐ 1 - Strongly Disagree The Ministry/Agency's management framework for security and control is not effective in securing information and technology resources.
LEG 12	Our Ministries/Agencies have policies and procedures in place to ensure the long-term preservation of information of cultural and historic value held by its government units.	☐ 5 - Strongly Agree The Ministry/Agency has policies and procedures in place to ensure the long-term preservation of information of cultural and historic value held by government agencies. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has some policies and procedures in place to ensure the long-term preservation of information of cultural and historic value held by government agencies. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency does not currently have policies in place to ensure the long-term preservation of information of cultural and historic value held by government agencies.
LEG 13	Our Ministries/Agencies have electronic records management policies in place.	☐ 5 - Strongly Agree The Ministry/Agency has electronic records management policies and procedures in place and regularly reviews and updates those policies and procedures. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has some electronic records management policies and procedures in place and regularly reviews and updates those policies and procedures. ☐ 2 – Disagree

		☐ 1 - Strongly Disagree The Ministry/Agency has some electronic records management policies and procedures in place and regularly reviews and updates those policies and procedures.
LEG 14	Our Ministries/Agencies have policies and procedures in place to ensure regular updates to information made available to non-governmental users on its government websites.	☐ 5 - Strongly Agree The Ministry/Agency has policies and procedures in place to ensure regular updates to information made available to non-governmental users on government the Ministry/Agency-based sites. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has some policies and procedures in place to ensure regular updates to information made available to non-governmental users on government the Ministry/Agency-based sites. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency does not have policies and procedures in place to ensure regular updates to information made available to non-governmental users on government the Ministry/Agency-based sites.
LEG 15	Our Ministries/Agencies have policies and procedures in place to ensure regular updates to information made available to civil servants on its government websites.	☐ 5 - Strongly Agree The Ministry/Agency has policies and procedures in place to ensure regular updates to information made available to civil servants on government the Ministry/Agency-based sites. ☐ 4 – Agree

		☐ 3 - Neither Agree nor Disagree The Ministry/Agency has some policies and procedures in place to ensure regular updates to information made available to civil servants on government the Ministry/Agency-based sites. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency does not have policies and procedures in place to ensure regular updates to information made available to civil servants on government the Ministry/Agency-based sites.
LEG 16	Our Ministries/Agencies have accessibility standards to guide Website design and development in line with the W3C requirements and recommendations.	☐ 5 - Strongly Agree The Ministry/Agency has accessibility standards to guide Website design and development in line with the W3C. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has some accessibility standards to guide Website design and development in line with the W3C. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency has no accessibility standards to guide Website design and development.
LEG 17	Our Ministries/Agencies have developed policies or guidelines on digital identity and signature.	☐ 5 - Strongly Agree The Ministry/Agency has developed policies on digital signatures. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency is planning on implementing digital signatures.

		☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency has no plans on implementing digital signature.
LEG 18	Our Ministries/Agencies have developed policies or guidelines on the use of social media.	☐ 5 - Strongly Agree The Ministry/Agency has developed policies on social media. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency is planning on social media. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency has no plans on social media.
LEG 19	Our Ministry's /Agency's digital government policies do not create barriers to effective online services.	☐ 5 - Strongly Agree The Ministry/Agency does not create barriers to implementing online services. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency does create some barriers to implementing online services. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency does create barriers to implementing online services.

Dimension 4. Legal - Data		
LEG 20	Our Ministries/Agencies have developed and implemented standards on data (data classification, data exchange, and data quality).	☐ 5 - Strongly Agree The Ministry/Agency is fully committed including ongoing commitment of staff and budget to developed and implemented standards on data (data classification, data exchange, and data quality). ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has some plans to commit to developed and implemented standards on data (data classification, data exchange, and data quality). ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency has no plans to commit to developed and implemented standards on data (data classification, data exchange, and data quality).
LEG 21	Our Ministries/Agencies are fully committed to the creation and maintenance of national statistical databases (national economic, labor, health, public safety, or educational data).	☐ 5 - Strongly Agree The Ministry/Agency is fully committed including ongoing commitment of staff and budget to national statistical databases. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has some plans to commit to national statistical databases. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency has no plans to commit to national statistical databases.

LEG 22	Our Ministries/Agencies have effectively implemented a range of software solutions for data management.	☐ 5 - Strongly Agree The Ministry/Agency has fully implemented a range of software solutions for data management. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has somewhat implemented a range of software solutions for data management. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency has not implemented a range of software solutions for data management.
Dimension 4. Legal - Procurement		
LEG 23	The process for procurement of ICT tools, equipment and services in our Ministries/Agencies is transparent and effective.	☐ 5 - Strongly Agree The process for procurement of ICT tools and equipment in our government is effective. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The process for procurement of ICT tools and equipment in our government is partially effective. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The process for procurement of ICT tools and equipment in our government is not effective.

LEG 24	Our Ministries/Agencies developed standards, including, an enterprise architecture to guide procurement decisions for ICT tools and equipment.	☐ 5 - Strongly Agree The Ministry/Agency has developed standards to guide procurement decisions for ICT tools and equipment. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has partially developed standards to guide procurement decisions for ICT tools and equipment. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency has not developed standards to guide procurement decisions for ICT tools and equipment.
LEG 25	Our Ministry's/Agency's e-procurement policies, processes, and systems are transparent and effective.	☐ 5 - Strongly Agree The Ministry/Agency's e-procurement is extremely transparent and effective. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency's e-procurement is somewhat transparent and effective. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency's e-procurement is not transparent and effective.
LEG 26	Vendors find our Ministry's/Agency's e-procurement system easy to use.	☐ 5 - Strongly Agree The Ministry/Agency's e-procurement is extremely easy to use.

		☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency's e-procurement is somewhat easy to use. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency's e-procurement is not easy to use.

Digital Government Capability Assessment Framework Items

Dimension 5. Technology

The set of technologies that directly and indirectly contribute to the delivery of programs and services through digital platforms.

Dimension 5. Technology - General		
TEC 01	Government personnel have access to the hardware, software, and network tools they need to design and implement online public services.	☐ 5 - Strongly Agree All government personnel in the Ministry/Agency have access to the hardware, software, and network tools they need to design and implement online public services. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Some of our personnel has access to the hardware, software, and network tools they need to design and implement online public services. ☐ 2 – Disagree ☐ 1 - Strongly Disagree There are no government personnel that have access to the hardware, software, and network tools they need to design and implement online public services.
TEC 02	Our Ministries/Agencies have a strategy that include multiple channels	☐ 5 - Strongly Agree The Ministry/Agency has developed a multi-channel strategy to deliver services.

	to deliver services to citizens and businesses.	☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Some of the Ministry/Agency has plans to develop a multi-channel strategy to deliver services. ☐ 2 – Disagree ☐ 1 - Strongly Disagree None of the Ministry/Agency has no plans to develop a multi-channel strategy to deliver services.
TEC 03	Government personnel can count on a public institution to manage and supervise the digital solutions designed and adopted by the Government (including managing access to cloud solutions, outsourcing to third parties, others).	☐ 5 - Strongly Agree Government personnel can count on a public institution to manage and supervise the digital solutions designed and adopted by the Government (including managing access to cloud solutions, outsourcing to third parties, others). ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Government personnel can partially count on a public institution to manage and supervise the digital solutions designed and adopted by the Government (including managing access to cloud solutions, outsourcing to third parties, others). ☐ 2 – Disagree ☐ 1 - Strongly Disagree Government personnel cannot count on a public institution to manage and supervise the digital solutions designed and adopted by the Government

		(including managing access to cloud solutions, outsourcing to third parties, others).
TEC 04	Our Ministry/Agency can count on a government institution who owns the software sources for the digital solutions adopted by our Government (even if implemented by third parties).	☐ 5 - Strongly Agree The Ministry/Agency can count on a government institution who owns the software sources for the digital solutions adopted by our Government (even if implemented by third parties). ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency can partially count on a government institution who owns the software sources for the digital solutions adopted by our Government (even if implemented by third parties). ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency cannot count on a government institution who owns the software sources for the digital solutions adopted by our Government (even if implemented by third parties).
Dimension 5. Technology - **Citizens & Business**		
TEC 05	All of our Ministry's/Agency's e-services represent an integrated online experience, in a way that users do not need to visit a government office or	☐ 5 - Strongly Agree All of the Ministry's/Agency's e-services represent an integrated online experience. ☐ 4 – Agree

	place a phone call to fully complete the government service.	☐ 3 - Neither Agree nor Disagree Some of the Ministry's/Agency's e-services represent an integrated online experience. ☐ 2 – Disagree ☐ 1 - Strongly Disagree None of the Ministry's/Agency's e-services represent an integrated online experience.
TEC 06	Most of our Ministries/Agencies e-services have been adapted onto mobile access (e.g. mobile apps or mobile platforms).	☐ 5 - Strongly Agree The Ministry/Agency e-services have been adapted onto mobile access (e.g. mobile apps or mobile platforms). ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Some of the Ministry/Agency e-services have been adapted onto mobile access (e.g. mobile apps or mobile platforms). ☐ 2 – Disagree ☐ 1 - Strongly Disagree None of the Ministry/Agency e-services have been adapted onto mobile access (e.g. mobile apps or mobile platforms).
TEC 07	Our Ministry's/Agency's on-going programmes to deal with digital divide issues for our users are transparent and effective.	☐ 5 - Strongly Agree The Ministry/Agency's on-going programmes to bridge the digital divide effectively. ☐ 4 – Agree

		☐ 3 - Neither Agree nor Disagree Some of The Ministry/Agency's on-going programmes to bridge the digital divide effectively. ☐ 2 – Disagree ☐ 1 - Strongly Disagree None of The Ministry/Agency's on-going programmes to bridge the digital divide effectively.
TEC 08	Our Ministry's/Agency's government contents or services can be accessed through third-party intermediaries (e.g. citizen-developed dashboards or third-party mobile apps).	☐ 5 - Strongly Agree The Ministry/Agency's government contents or services can be accessed through third-party intermediaries. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Some of The Ministry/Agency's government contents or services can be accessed through third-party intermediaries. ☐ 2 – Disagree ☐ 1 - Strongly Disagree None of The Ministry/Agency's government contents or services can be accessed through third-party intermediaries.
TEC 09	Our Ministry's/Agency's tools to measure client satisfaction of e-services are effective.	☐ 5 - Strongly Agree The Ministry/Agency has tools to measure client satisfaction of e-services. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has some tools to measure client satisfaction of e-services.

		☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency has no tools to measure client satisfaction of e-services.
Dimension 5. Technology - **Public Servants**		
TEC 10	Our government officials have easy access to contact information for other government officials including email addresses.	☐ 5 - Strongly Agree The Ministry/Agency has an internal contact information of all government officials and is easily accessible and used by government officials in the Ministry/Agency. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency has an internal contact information some of government officials and is easily accessible and used by government officials in the Ministry/Agency. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency does not have an internal contact information of all government officials and is easily accessible and used by government officials in the Ministry/Agency.

TEC 11	Civil servants in our Ministries/Agencies effectively use ICT tools including applications for word processing and data analysis.	☐ 5 - Strongly Agree Public servants in the Ministry/Agency are regular users of ICT applications for data analysis. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Some policy makers in the Ministry/Agency are regular users of ICT applications for data analysis. ☐ 2 – Disagree ☐ 1 - Strongly Disagree No public servants in the Ministry/Agency are regular users of ICT applications for data analysis.
TEC 12	Policy makers in our Ministries/Agencies effectively use ICT tools.	☐ 5 - Strongly Agree Policy makers in the Ministry/Agency are regular users of ICT tools. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Some policy makers in the Ministry/Agency are regular users of ICT tools. ☐ 2 – Disagree ☐ 1 - Strongly Disagree No policy makers in the Ministry/Agency are regular users of ICT tools.

Dimension 5. Technology - Cybersecurity		
TEC 13	Our Ministries/Agencies regularly use an independent third-party to validate the effectiveness of our adoption and use of international standards for cybersecurity (i.e., Information Security Management System (ISMS) and International Organization for Standardization (ISO) 27001).	☐ 5 - Strongly Agree The Ministry/Agency is fully aligned with international standards by using independent third-party entities to validate the effectiveness of our cybersecurity strategy. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency is partially aligned with international standards by sometimes using independent third-party entities to validate the effectiveness of our cybersecurity strategy. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency is not aligned with international standards by not using independent third-party entities to validate the effectiveness of our cybersecurity strategy.
TEC 14	Our Ministries/Agencies each have a Chief Information Security Officer (CISO).	☐ 5 - Strongly Agree Ministry/Agency has a full time Information Security Officer (CISO). ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Ministry/Agency has someone performing ad hoc tasks of an Information Security Officer (CISO) sometimes. ☐ 2 – Disagree

		☐ 1 - Strongly Disagree Ministry/Agency does not have an Information Security Officer (CISO).
TEC 15	Our Ministries/Agencies each have created a Risk Management Committee to assess the potential threats, assess the risks and development response and mitigation strategies.	☐ 5 - Strongly Agree Ministry/Agency has a Risk Management Committee to assess the potential threats, assess the risks and development response and mitigation strategies. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Ministry/Agency has plans for a Risk Management Committee to assess the potential threats, assess the risks and development response and mitigation strategies. ☐ 2 – Disagree ☐ 1 - Strongly Disagree Ministry/Agency does not have Risk Management Committee in place.
TEC 16	Our Ministries/Agencies each have a cybersecurity strategy.	☐ 5 - Strongly Agree The Ministry/Agency's cybersecurity strategy is fully aligned international standards. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency's cybersecurity strategy is partially aligned with international standards. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency does not have a cybersecurity strategy.

TEC 17	Our Ministry/Agency has allocated adequate financial and human resources to identifying and managing risks to our assets from cybersecurity threats.	☐ 5 - Strongly Agree The Ministry/Agency is fully aligned with international standards on the allocation of financial and human resources. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency is partially aligned with international standards on the allocation of financial and human resources. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency is not aligned with international standards on the allocation of financial and human resources.
TEC 18	Our Ministries/Agencies have provided cybersecurity training for the staff.	☐ 5 - Strongly Agree The Ministry/Agency is fully aligned with international standards on cybersecurity training policy. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency is partially aligned with international standards on cybersecurity training policy. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency is not aligned with international standards on cybersecurity training policy.

TEC 19	Our Ministries/Agencies have a transparent and effective password policy.	☐ 5 - Strongly Agree The Ministry/Agency is fully aligned with international standards on the use of passwords. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency is partially aligned with international standards on the use of passwords. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency is not aligned with international standards on the use of passwords.
TEC 20	Our Ministries/Agencies can count on advanced cybersecurity options such as biometric systems, cryptography, others.	☐ 5 - Strongly Agree The Ministries/Agencies can count on advanced cybersecurity options such as biometric systems, cryptography, others. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministries/Agencies can partially count on advanced cybersecurity options such as biometric systems, cryptography, others. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministries/Agencies cannot count on advanced cybersecurity options such as biometric systems, cryptography, others.

TEC 21	Our Ministries/Agencies can count on an internal set of cybersecurity rules and procedures which all civil servants are expected to follow.	☐ 5 - Strongly Agree The Ministries/Agencies can count on an internal set of cybersecurity rules and procedures which all civil servants are expected to follow. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministries/Agencies can partially count on an internal set of cybersecurity rules and procedures which all civil servants are expected to follow. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministries/Agencies cannot count on an internal set of cybersecurity rules and procedures which all civil servants are expected to follow.

Digital Government Capability Assessment Framework Items

Dimension 6. Professional and Workforce Development

The policy and programmatic affordances in place to support ongoing capacity development

Dimension 6. Professional and Workforce Development		
PWD 01	Our Ministries/Agencies invest in digital learning and in promoting a digital mindset among our staff.	☐ 5 - Strongly Agree The Ministry/Agency provides a digital learning platform in the online education and workforce development program. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency relies on an external partner for a digital learning platform in the online education and workforce development program. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency does not have a digital learning platform in the online education and workforce development program.

PWD 02	Government provides adequate financial support for ICT training for civil servants who work in our Ministries/Agencies.	☐ 5 - Strongly Agree Ministry/Agency civil servants can receive full financial support for external training. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Ministry/Agency civil servants can receive partial financial support for external training. ☐ 2 – Disagree ☐ 1 - Strongly Disagree Ministry/Agency civil servants receive no financial support for external training.
PWD 03	Our Ministry's/Agency's civil servants have received ICT training deployed by the government or third-party providers.	☐ 5 - Strongly Agree Ministry/Agency civil servants can receive full ICT training. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree Ministry/Agency civil servants can receive partial ICT training. ☐ 2 – Disagree ☐ 1 - Strongly Disagree Ministry/Agency civil servants receive no ICT Training.
PWD 04	Our Ministry's/Agency's digital learning platform supports upskilling (improving a personal skill set).	☐ 5 - Strongly Agree The Ministry/Agency's digital learning platform in the online education and workforce development program provides for upskilling (improving your personal skill set). ☐ 4 – Agree

		☐ 3 - Neither Agree nor Disagree The Ministry/Agency relies on an external partner for a digital learning platform in the online education and workforce development program. This platform supports upskilling (improving your personal skill set). ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency does not have a digital learning platform in the online education and workforce development program.
PWD 05	Our Ministry's/Agency's digital learning platform supports the development of soft skills, such as critical thinking, problem-solving/innovation and creativity.	☐ 5 - Strongly Agree The Ministry/Agency's digital learning platform in the online education and workforce development program supports soft skills, such as critical thinking, problem-solving and creativity. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency relies on an external partner for a digital learning platform in the online education and workforce development program. This platform supports soft skills, such as critical thinking, problem-solving and creativity. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency does not have a digital learning platform in the online education and workforce development program.
PWD 06	In our Ministry/Agency there is a committee making decisions about online education and workforce development.	☐ 5 - Strongly Agree The Ministry/Agency has a committee that decides policies, strategies and practices for online education and workforce development.

		☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency makes ad hoc decision on policies, strategies and practices for online education and workforce development. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency does not have committee that decides policies, strategies and practices for online education and workforce development.
PWD 07	Our Ministries/Agencies ensure that the policies and procedures for online learning and workforce development programs are transparent and consistent throughout the Ministry/Agency.	☐ 5 - Strongly Agree The Ministry/Agency policies and procedures for online learning and workforce development programs are fully transparent. ☐ 4 – Agree ☐ 3 - Neither Agree nor Disagree The Ministry/Agency policies and procedures for online learning and workforce development programs are somewhat transparent. ☐ 2 – Disagree ☐ 1 - Strongly Disagree The Ministry/Agency policies and procedures for online learning and workforce development programs are not transparent.