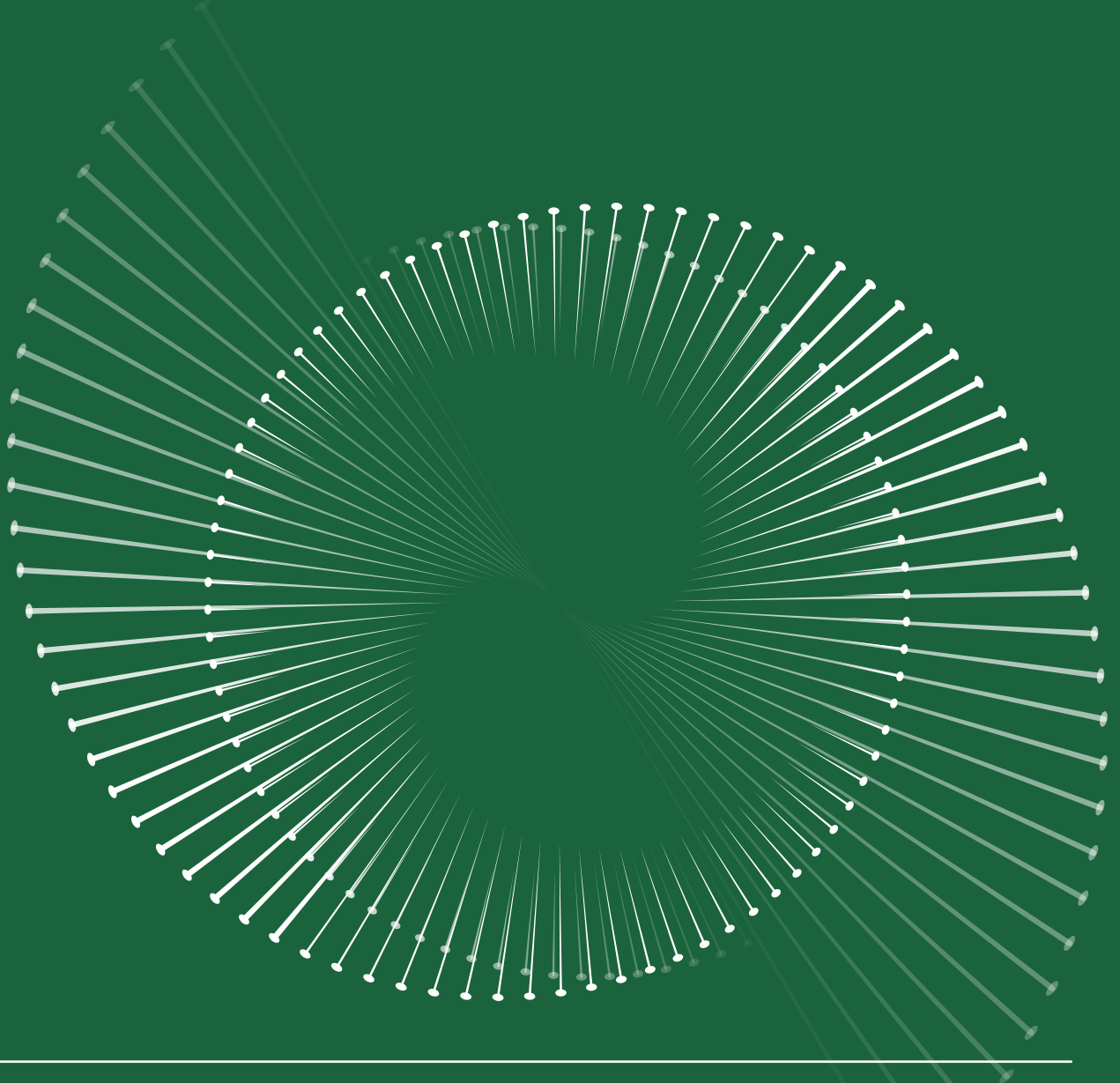# United Arab Emirates

Digital Government Maturity Model

(UAEDGMM)

1. OVERVIEW

1.1   What is a Maturity Model?

This Digital Government Maturity Model Framework (DGMMF) is a set of dimensions that are the key factors in determining the performance of a digital government strategy. The frame of reference for this model is not a particular digital government initiative, such as a portal, but rather it is the government-wide capability for creating and sustaining a mature digital government.

The goal of this digital government maturity assessment (DGMA) is to create an understanding of the level of digital government maturity of each of the ten selected UAE Ministries/Authorities and to use that new understanding as a foundation for the continued efforts of the UAE to innovate and lead in the area of digital government and some selected subareas reflected in the model. The DGMA is not meant to be used as a scoring to benchmark across the UAE Ministries/Authorities. It should rather be used to develop an understanding of the current level of maturity and to inform decision making about where investments are needed to increase the capability of each UAE Ministry/Authority to innovate in digital government. Governing bodies in each UAE Ministry/Authority may be inclined to take different approaches to digital transformation, depending on their functions and constituencies.

Stage models, sometimes called maturity models, have long been used by organizations to help create clarity about capability and to inform investments in new capability. A wide variety of designs and underlying theories of change have resulted in a number of models of many different types. The DGMMF development team reviewed many of these models (over 25) to identify the best elements of each related to digital government and used them to create a unique DGMMF. The models reviewed vary in many ways including the categorizations of "maturity" stages and, of particular importance for this assessment, the scope of the model. For example, the United Nations model focuses on e-government best practices from a global perspective, the Lee and Kwak Model focuses on open government and
 e-participation, the Gartner Model focuses on emerging technologies, and the McKinsey Model emphasizes government services and organizational processes.

[1] Lee, G., & Kwak, Y. H. (2012). An open government maturity model for social media-based public engagement. Government Information Quarterly, 29(4), 492-503.

After a thorough review of the selected models a decision was made to focus the DGMMF on enablers, rather than on stages or results. The DGMMF addresses core capabilities and a range of activities related to emerging technologies and new trends. Because of this "enabler" focus, each of the dimensions of the DGMMF represents a theory of change related to the key enabling factors in terms of capabilities that contribute to a mature digital government.

The DGMMF for the UAE is composed of three pillars with nine dimensions: (1) Leadership, (2) Strategy, (3) Governance, (4) Legal, (5) Technology, (6) Cybersecurity, (7) API Ecosystem Management, (8) Specific Technologies and New Trends, and (13) Ministry/Authority Specific. Most dimensions have a set of sub-dimensions that guide enabling actions that each UAE Ministry/Authority might take to increase their maturity along each Dimension. Each sub-dimension has a set of specific items to be used by each UAE Ministry/Authority to determine their level of "maturity" for each sub-dimension and dimension. The five levels of maturity in the DGMMF range from Level 1 representing a very low level of maturity, to level 5 representing a very high level of maturity (See Table 1). The assessment responses provide an outline for a roadmap for a successful digital government transformation. The items specific to each Ministry/Authority may be included in the overall assessment or as an addendum for each Ministry/Authority to better understand how they are using technologies for some of their specific functions and services.

Table 1. DGMMF Levels of Maturity	
LEVEL	**Description**
1	Very Low Level of Maturity
2	Low Level of Maturity
3	Average Level of Maturity
4	High-Level of Maturity
5	Very High Level of Maturity

1.2 Dimensions and Levels of Digital Government Maturity Assessment

The DGMMF is organized by enablers. Enablers, as theories of change, represent what is needed to improve 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 DGMMF is based on recent relevant literature and a review of current and best practices. One example about the role of leadership is:

"Leaders should set priorities, then make sure that the agencies have the right talent, and promote innovation and risk taking."

The Dimensions of the DGMMF are based on an extensive field review of a selected set of relevant maturity models. Specifically, the DGMMF is a synthesis of 1) Gartner's Digital Government Maturity Model, 2) McKinsey's Digital by Default Model, 3) UN METER 2, 4) CTG's Capability Framework, 5) a set of literature reviews synthetizing 26 maturity models developed in the last 20 years, and 6) a review of current and best practices.

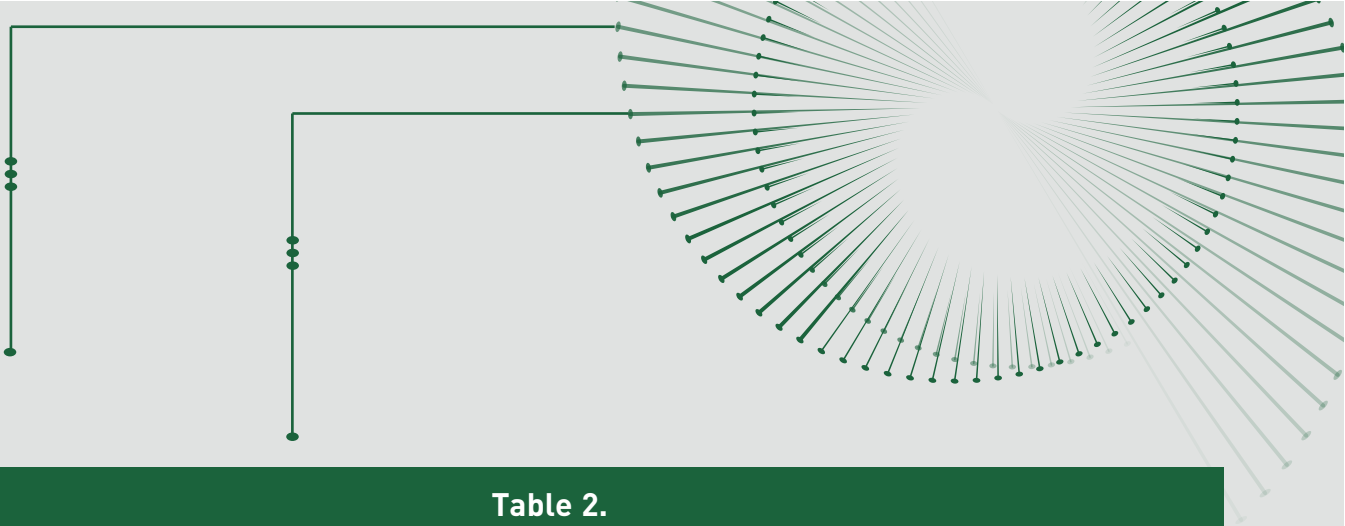| Table 2. Three main pillars and Nine Dimensions	
Dimension	**Definition**
Pillar1: (Leadership and Policies)	
Leadership	Leaders are the stewards of digital transformation efforts. They must engage, motivate, build commitment, and mobilize resources for the successful implementation of a digital strategy. Leaders must also craft the plans to achieve the organizational goals, as well as its communication to stakeholders and monitoring it's the progress.

Dimension	Definition
Table 2. **Three Main Pillars and Nine Dimensions**	

Pillar1: (Leadership and Policies)

Dimension	Definition
Strategy	Strategic plans help to execute the transformation agenda. A digital transformation strategy contains the actions to be taken to pursue the digital transformation goals.
Governance	The organizational capacity, decision-making rules and managerial actions developed to overcome potential barriers in implementing the digital strategy across agencies and departments. Good governance must be aligned with strategic goals, as well as legal frameworks.
Legal	The legislation, administrative regulations, guidelines and standards that a department or agency must comply with in transforming digital services.

Pillar2: (Technological Accelerator)

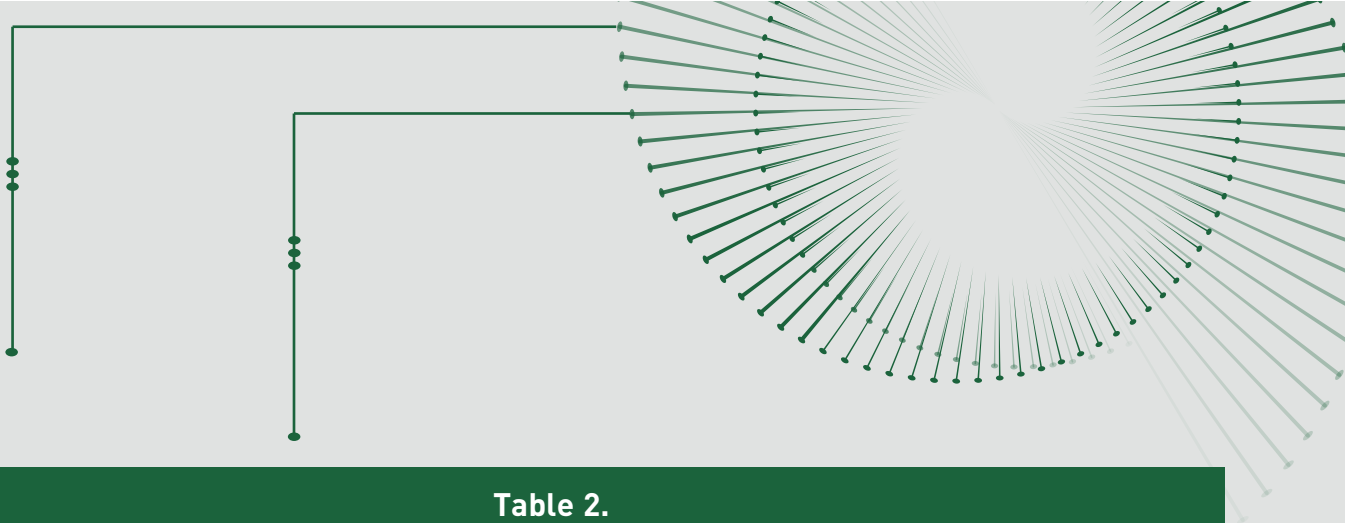| Dimension	Definition
Technology	The technologies that directly and indirectly contribute to the delivery of programs and services through digital platforms.
Cybersecurity	Cybersecurity is increasingly important for digital government. With more services being made available online, there is a need to increase security mechanisms to ensure protection to sensitive information, including private citizen information.
Specific Technologies and New Trends	Emergent technologies and new trends bring promising opportunities for governments to transform their digital services and leapfrog in terms of citizen satisfaction.

Table 2.	
Three Main Pillars and Nine Dimensions	
Dimension	**Definition**
Pillar 3: Organizations and Data	
Ministry/Authority Specific	These are items specific to each Ministry/Authority and they reflect some primary functions as well as the most important information and services provided digitally.
API Ecosystem Management	Technical, organizational, and legal elements of an ecosystem related to the organization's digital services and assets through application programming interfaces (APIs).

Each enabler, or dimension of the DGMMF, except Cybersecurity and API Ecosystem Management, has sub-dimensions that focus on specific actions that could be taken to increase maturity for each of the dimensions. Each sub-dimension has a set of statements or items that are used in the rating process. Table 3 lists the dimensions and sub-dimensions, as well as the number of items per sub-dimension. The total number of items in the DGMMF is 527. However, it is important to emphasize that only the items relevant to each ministry or Authority will be used from the pool of Ministry/Authority specific items, which is average 15 items and therefore the number of items applicable to a specific ministry or authority is 194 (see Table A).

Table 3.
Dimensions, Sub-dimensions and Number of Items in the
Digital Government Maturity Model Framework

Dimension	Sub-dimension	# of Items
Pillar1: (Leadership and Policies)		
Leadership	Vision	9
	Policy	6
	Data	6
Strategy	General	24
	Integration and Interoperability	19
	Data	8
Governance	General	10
	Citizens & Business	16
	Partnership	9
	Data	6
	Organization	11
Legal	Laws and Regulations	10
	Policies and Procedures	26
	Data	8
	Procurement	10

Table 3.
Dimensions, Sub-dimensions and Number of Items in the Digital Government Maturity Model Framework

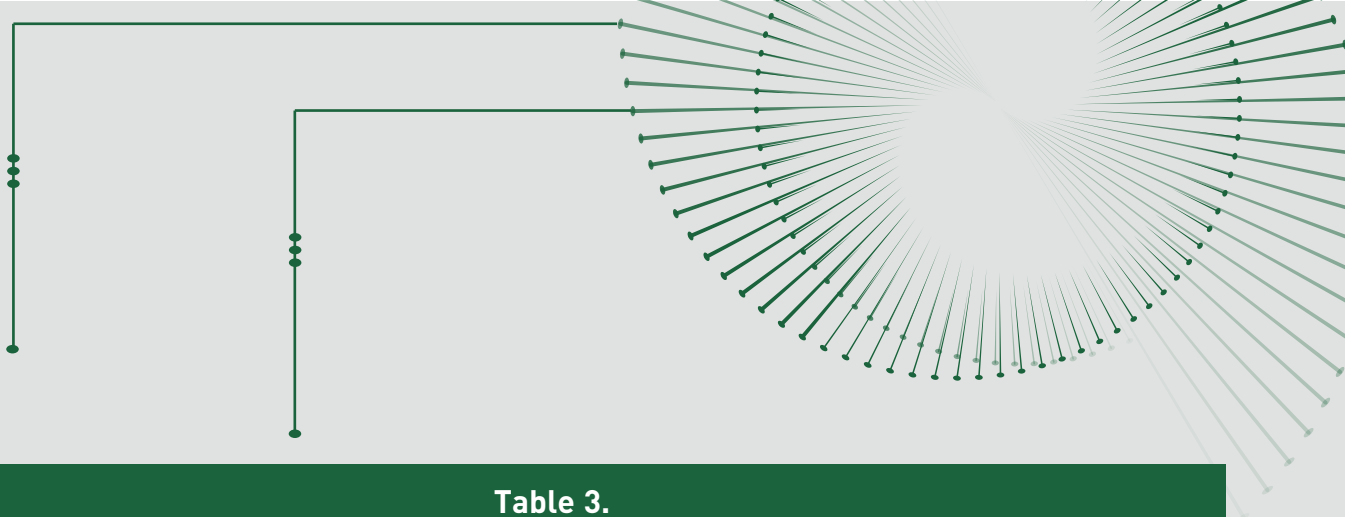| Dimension	Sub-dimension	# of Items
Pillar2: (Technological Accelerator)		
Technology	General	10
	Citizens & Business	16
	Public Servants	9
	Training	6
Cybersecurity	Cybersecurity	43
Specific Technologies and New Trends	Specific Technologies - Implemented/Current Projects	20
	Specific Technologies – Exploring	11
	Work from Home/ Telework	36
	Online Education & Workforce Development	35

Table 3.
Dimensions, Sub-dimensions and Number of Items in the Digital Government Maturity Model Framework

Dimension	Sub-dimension	# of Items
Pillar 3: Organizations and Data		
Ministry/Authority Specific	Ministry of Health (MOHAP)	14
	Ministry of Energy & Infrastructure (MOEI)	15
	UAE Space Agency	14
	Ministry of Education (MOE)	15
	Central Bank	15
	Ministry of Economy (MOE)	16
	The Telecommunications Regulatory Authority (TRA)	15
	Ministry Of Climate Change and environment (MOCCAE)	15
	Ministry of Human Resources and Emiratization (MOHRE)	15
	Ministry Of Interior (MOI)	15
	Ministry of Finance (MOF)	15
	Ministry of Finance (MOF) Ministry of Community Development (MOCD)	15
	Federal Competitiveness and Statistics Authority (FCSA)	15

Table 3. Dimensions, Sub-dimensions and Number of Items in the Digital Government Maturity Model Framework		
Dimension	**Sub-dimension**	**# of Items**
Pillar 3: Organizations and Data		
API Ecosystem Management	Leadership	12
	Strategy	24
	Governance	17
	Legal	6
	Technology	11

Each of the 660 items of the DGMMF appears as shown in Figure 1. On the left-hand side, there is an identifying code for every item. For instance, LEA01 stands for the first item in the Dimension Leadership. The column in the middle presents the item statement. As will be detailed in the User's Guide for the DGMMF, the assessment process consists of considering the statements and deciding the extent to which respondents agree or disagree that the statement represents the situation in their Ministry/Authority. The right-hand column presents the scoring scale (5-point scale).

LEA01	The leadership in charge of enforcing the implementation of digital strategy in our UAE Ministry/Authority has at least two profiles. One senior official with management expertise and operational responsibilities and other with technology expertise and digital responsibilities.	5 - Strongly Agree 4 - Agree 3 - Neither Agree nor Disagree 2 - Disagree 1 - Strongly Disagree

Figure 1. Example of DGMMF Item

Digital Government Maturity Model Framework
Overview of Dimensions and Sub-Dimensions

The following tables present the nine dimensions of the Digital Government Maturity Model Framework (DGMMF). Tables 1-9 present the items included in each dimension and sub-dimension. Table A presents a summary of all the dimensions and sub-dimensions as well as the number of items in each sub-dimension and the percentage of the maturity model represented by each of the nine dimensions.

Table A.
Digital Government Maturity Model Framework

MM Pillar1: (Leadership and Policies 35%)

Dimension 1. Leadership		Weight
Sub-dimensions	**Number of Questions**	
Vision	10	
Policy	5	5%
Data	6	
Sub-total: 21		

| Dimension 2. Strategy		
Sub-dimensions	**Number of Questions**	
General	24	
Integration and Interoperability	19	10%
Data	8	
Sub-total: 51		
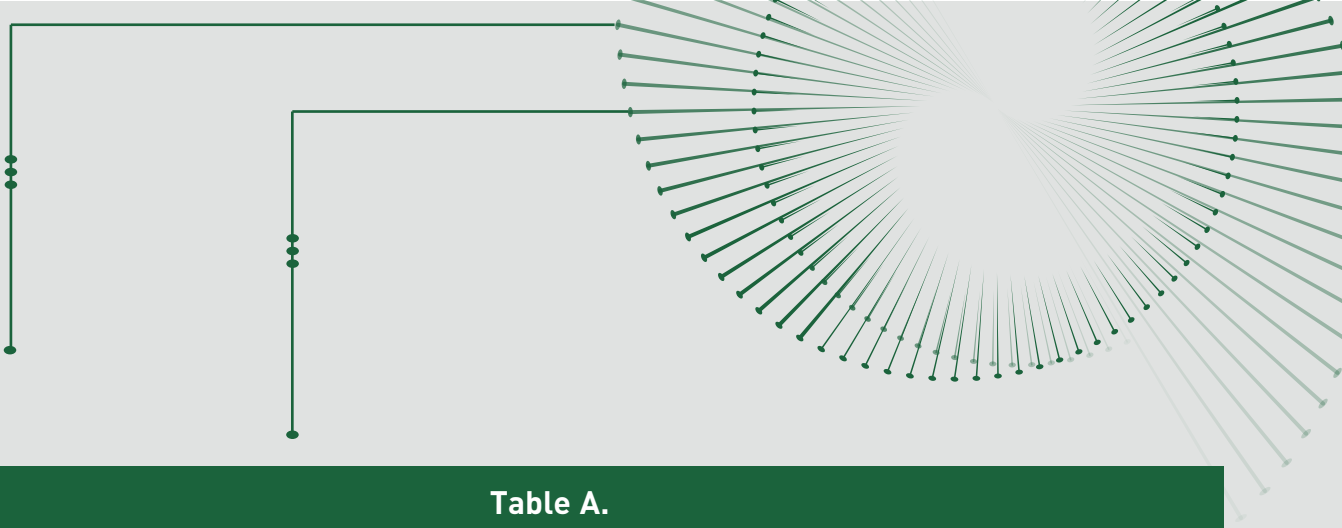
Table A.
Digital Government Maturity Model Framework

MM Pillar1: (Leadership and Policies 35%)

Dimension 3. Governance		Weight
Sub-dimensions	**Number of Questions**	
General	10	
With Citizens & Business	16	
Partnership	9	10%
Data	6	
Organization	11	
Sub-total: 52		

Dimension 4. Legal		
Sub-dimensions	**Number of Questions**	
Laws and Regulation	10	
Policies and Procedures	26	10%
Data	8	
Procurement	10	
Sub-total: 54		
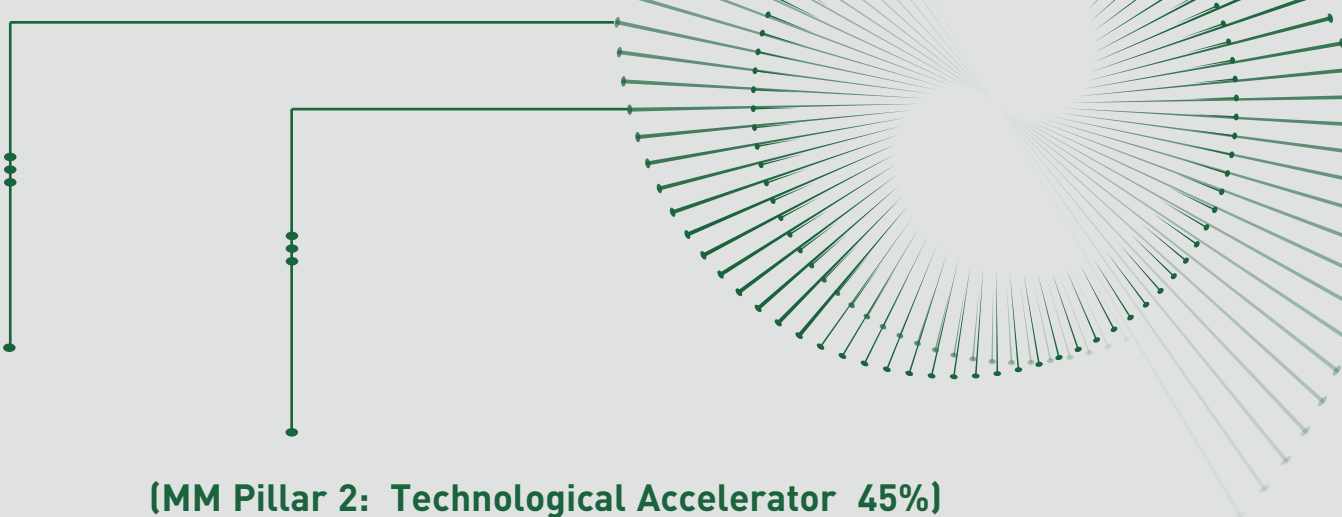
(MM Pillar 2: Technological Accelerator 45%)

Dimension 1. Technology

Sub-dimensions	Number of Questions	
General	10	
Use by Citizens & Business	16	
Use by Public Servants	9	10%
Training	6	
	Sub-total: 30	

Dimension 2. Cybersecurity

Cybersecurity	**43**	
		10%
	Sub-total: 43	

Dimension 3. Specific Technologies and New Trends

Sub-dimensions	Number of questions	
Specific Technologies – Implemented/Current Projects	20	
Specific Technologies – Exploring	11	
Work from Home/Telework	36	25%
Online Education & Workforce Development	35	
	Sub-total: 102	

MM Pillar 3: Organizations and Data 20%

Dimension 1. Ministry/Authority Specific

Sub-dimensions	Number of Questions	
15 Federal Entities	*Average = 15	10%
	197	

Dimension 2. API Ecosystem

Sub-dimensions	Number of Questions	
Leadership	12	
Strategy	24	
Governance	17	10%
Legal	6	
Technology	11	
	Sub-total: 70	
Total	**438**	**100%**