Introducing the Gartner Digital Government Maturity Model

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Analyst(s): Andrea Di Maio, Rick Howard, Glenn Archer

This research provides a framework to assist CIOs and strategic planners in all government tiers to assess the maturity level of their organization’s progress toward digital government and potential areas for improvement.

Key Findings

- Digital government is not an end but a means to accomplish affordable and sustainable government services and operations (aka smart government).
- The key to progress for digital government maturity is a singular focus on the exclusive use of data in designing and delivering government policies and services.
- The Gartner Digital Government Maturity Model defines five levels of increasing maturity: initial, developing, defined, managed and optimizing.
- In any organization, the transition to digital government will be a multiyear journey involving uncertain negotiations among multiple independent parties, thus requiring planning for agility rather than stable, detailed goals. The first level of maturity reflects the achievements and behaviors of traditional e-government programs.

Recommendations

Agency and whole-of-government CIOs in different government tiers and domains should aggressively work with other leaders to leverage the Gartner Digital Government Maturity Model to:

- Assess the organization’s ability to shift from the traditional digitization of services (which was typical of e-government) to the use of digital data, redesigning and optimizing end-to-end cross-cutting value chains, or creating new partner ecosystems facilitated by data exchange and the use and reuse of data.
- Develop high-value, outcome-oriented business use cases that reinforce the value of — and compliance with — information-centric principles and practices.
- Identify gaps in existing capabilities, and establish plans to transition to the next phase. This creates the outline for individual business cases to drive the investment, time frame and metrics to inform the progress at each phase.

- Promote and institute the leadership, governance and partnerships necessary to effectively and sustainably support digital government transformation.

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### Analysis

#### What You Need to Know

The Gartner Digital Government Maturity Model should be used as a key framework to both set and manage the direction of your digital government transformation program. It consists of five levels, ranging from an initial level, where individual organizations or entire jurisdictions could be operating within the traditional e-government paradigm, to a fully mature level, where digital transformation becomes a continuous process, capable of being sustained indefinitely. Intermediate levels bring increasing organizational recognition of — and commitment to — the value of data as a tangible business asset. At the highest levels of maturity, data orientation dwarfs service orientation in so that simplification, creation and transformation of services are primarily influenced by how data can be processed, exchanged and analyzed within and across organizational boundaries.
Irrespective of your perceived level of maturity in your own digital government program, using the Gartner Digital Government Maturity Model can confirm your current priorities are setting you and your organization on a sustainable path for long-range digital transformation.

The model is not meant to be used to support any benchmarking across different agencies or jurisdictions. Different organizations have legitimate and defensible reasons to take different approaches to digital transformation, depending on their political priorities and the context within which they operate.

Introduction

Conversations with Gartner clients show that many use e-government and digital government interchangeably. For Gartner:

**Digital government is government designed and operated to take advantage of digital data in optimizing, transforming, and creating government services.**

This definition puts the emphasis on data and on how critical it is to use data — both in real time and offline — to support the work of government and transformation to better processes and services. In contrast, e-government is more focused on making traditional government services available online (and more and more through mobile devices), and on optimizing the way constituents interact and transact with government (see "Digital Government Is a Journey Toward Digital Business").

Further, the rapid growth of the Internet of Things (IoT), combined with the number of people who communicate and coordinate through digital networks, is creating new scenarios where the quantity and source of data are dramatically different from what used to be the case with e-government. Since "things" — such as robots, smartwatches, health and fitness monitors, environmental sensors and so forth — will progressively become influencers, intermediaries and even users of and providers to government services, data orientation is the most sensible approach to prepare for their advent and rapid growth (see "Digital Government Is a Journey Toward Digital Business").

Gartner’s definition of digital government emphasizes the contribution of data to the transformation of government and the services it provides. Governments and agencies pursuing e-enabling or digitizing existing transactions are typically earlier in the maturity cycle. The remainder of this research will focus on what it means to be "fully digital."

For agency CIOs who already have a "digital government" strategy and program in place, this maturity model:

- Provides a holistic framework to critically review current digital government priorities and revise roadmaps as necessary, to ensure the strategy remains innovative and sustainable while moving toward a truly digital future state.
Provides the context to propose investment, prioritize them and to use metrics to assess your own progress — but not in comparison to others for all the reasons noted.

For agency CIOs who have not yet issued or are still working on a digital government strategy, this maturity model:

- Promotes shared understanding and vision among stakeholders, and leads to the acceptance of key digital government architectural and governance principles. It also helps identify activities that support a digital transformation program and increase organizational readiness for the IoT impact.

For whole-of-government CIOs who are responsible for developing and implementing a digital government strategy, this maturity model:

- Reinforces key digital government architectural and governance principles, as well as mechanisms to enforce compliance across agencies, without stifling the ability for individual agencies to spearhead and develop innovation programs based on new ways of using data.

The Gartner Digital Government Maturity Model

The objective of the Gartner Digital Government Maturity Model is to assist CIOs (both whole-of-government and agency CIOs), CDOs and other strategic planners in:

- Understanding the key dimensions of digital government, focusing on what is different from more traditional e-government.
- Assessing current digital government capabilities, comparing them with emerging practices, and providing a framework for assessing what needs to be done to make digital government initiatives valuable and sustainable.
- Building a shared vision of what the organization's digital government capabilities should look like.
- Creating the roadmap for the different phases of a digital government transformation, and understanding what activities and initiatives are most critical to ensure success.

The Gartner Digital Government Maturity Model has five increasing levels of maturity:

- Initial
- Developing
- Defined
- Managed
- Optimizing

This maturity model is based on the standard Gartner maturity model's nomenclature, and is aligned with other maturity models (see Figure 1).
Government CIOs are encouraged to adapt the model to their own requirements, regarding specific terms and focus, and in assessing their own organization’s digital government maturity. Different government domains and countries will have different needs and priorities, influenced by mandates, regulations, political priorities and budgetary pressures (see "2015 CIO Agenda: A Government Perspective"). Also, organizations may exhibit elements and characteristics that are at different levels of maturity. In this case, the maturity model is a useful tool for them to reflect about which aspects of their digital government initiatives are missing or need to be strengthened. CIOs are positioned to take a leadership role in shaping and executing the digital government business strategy, and the maturity model is a valuable tool to assist them in that effort.

### The Levels of Digital Government Maturity

#### Level 1 — Initial

Digital government is not really a concern. The agency or the jurisdiction is proceeding on an e-government path, measuring success in terms of number of services online, level of service integration, constituent satisfaction and so forth. This is driven by a combination of compliance with existing objectives as well as need for greater efficiency.
The main access channel is still the portal, which could be itself at different degrees of maturity, ranging from a simple entry point to online services offered by different websites to a single, integrated and multichannel platform.

The strategy implementation is driven by the CIO and/or the CTO (and these roles can significantly overlap — see "Beyond the Government CIO: Chief Data or Digital Officers?"). The most important architectural concern is to build and evolve a service-oriented architecture that facilitates the integration of services across agencies and makes the portal more useful.

There is a prevalence of traditional vendors in the e-government space, while architecture, management and monitoring are either outsourced to consulting firms or insourced depending on available skills.

Key metrics are:

- Number or percentage of services online
- Percentage of services accessible through mobile devices
- Percentage of integrated services

Action items to move to the next level:

- Start educating your business and IT colleagues on what "real" digital government is, and provide examples of the transformative implications of focusing on data.
- Use digital civic moment scenarios to illustrate these examples (see "Digital Government Will Move at the Speed of Civic Moments"). Choose scenarios that directly address high-priority business pain points to ensure executive attention.

**Level 2 — Developing**

Digital government becomes a concern, not so much because of initiatives triggered by senior or political leadership (which will still continue to confuse digital government with traditional e-government), but because of the perceived disruption coming from:

1. Increasing availability of data through more digital interfaces to people and things
2. Shifting use behaviors for both constituents and employees

At this level, the organization starts shifting its attention to the issue of openness and transparency. This is where open government programs start flourishing, and special roles like chief data officer or chief digital officer get established. Data as well as basic services exposed by several agencies constitute a platform, which is — at this stage — mostly aimed to external consumption (for example, development of mobile apps for citizens).

This stage is critical for shifting gear toward "real" digital government. On the one hand, open government initiatives can be seen as self-contained and exclusively outwardly focused. On the other hand, they can constitute the basis to start focusing on opening data among agencies, hence
extending the value of open data well beyond the use of public data (see "Moving Toward Data-Centric Government").

This also implies a different mix of skills and sourcing approaches. Traditional suppliers are not necessarily the best to support open data initiatives: This is an area where both small and nimble suppliers as well as crowdsourcing may provide good results. While it is important to engage new resources and new perspectives, there is a risk that choices made in this area are not sustainable and are looked at as a one-off (for example, hackathons, app development events).

Key metrics are:

- Number or percentage of open public data per agency
- Number of apps based on open data

Action items to move to the next level:

- Put in place or leverage an open data initiative. In doing so, immediately consider how to extend it beyond public data (within both agency and regulatory boundaries). Where appropriate, participate in the definition of local, regional or global data standards to further promote the data interoperability.
- Establish innovation contests based on data.
- Shift the EA focus from business and services to data.
- Examine in greater detail high-value digital civic moments.
- Consider how to extend the use of open data from public data to any data (as in, both public and nonpublic).

Level 3 — Defined

At this level, the focus on data becomes predominant and the approaches piloted through open public data initiative get transitioned to the use of internal data. Web APIs built around open data start supporting access rights and checking of identity credentials, allowing nonpublic data to be safely handled as open data.

This level constitutes the real inflection point in a digital government transformation. Constituent centricity remains of paramount importance, but is re-interpreted through what is possible by leveraging data. This is a clear departure from earlier approaches where the focus was on remodeling and re-engineering existing services and interaction by making them more convenient and efficient through online channels. At this level, it is not uncommon to see the appearance also on data-based services delivered by nongovernment entities.

Contrary to the common wisdom, this level implies a lot of bottom-up activity. Jurisdictionwide leadership is required to support and enforce the basic principles of data centricity and the emphasis on open data approach. However, it is up to individual business units to reflect on how they can best utilize data for service improvement and transformation.
This is a crucial point, as the instinct would be to tackle as soon as possible those digital civic moments that cut across organizational boundaries. It is important to have such moments as a "destination postcard" or a source of inspiration that supports the overarching principle of data centricity. On the other hand, it is important for the innovation process to initially take place where it does not get constrained or stopped by turf considerations as well as regulatory issues (such as the inability to use a data for a different purpose than the original one).

As more examples emerge from inside agencies, they can be socialized with different mechanisms (such as internal hackathons, serious games, internal competition) until when different agencies agree that there is value to address cross-agency use of data.

Different internal and external skills may be required at this level. While at Level 2 it is necessary to inject an external view from nontraditional vendors as well as a broader community of developers in the jurisdiction and beyond, at Level 3 knowledge of data and agency objectives is key. Therefore, a blend between those who can suggest innovative use of data and those who have experience of both existing processes and legacy IT environment is needed.

IT management starts becoming bimodal. The CIO will remain responsible for legacy processes and applications, as well as either lead or support the data-centricity principles that should drive innovation and transformation, but it is key for business people in departments and agencies to get directly involved and even take leadership for identifying innovative use of data. In some cases, having a different role, such as a data or digital officer, may be beneficial, provided there is good coordination with the CIO.

Key metrics are:

- Number or percentage of open nonpublic data per agency
- Number of new or transformed services based on open nonpublic data
- Number of external players that build services on the open data

Action items to move to the next level:

- Establish a clear bimodal IT governance model.
- Segment data coming from people (e.g., personal data), business process (e.g., the status of a case) and things (e.g., room temperature, parking slot status) for your key services, and explore whether and how the latter could be leveraged.
- Extend digital civic moments to examples where the role of data coming from things increases or becomes prevalent (this may be easier in domains like law enforcement, defense or transportation, but also IT executives in other domains should push the boundary to explore possible scenarios).
- Solidify the data architecture, and update the open data principles and Web API standards, also addressing privacy issues.
Level 4 — Managed

At this level, the jurisdiction has fully recognized the importance of a data-centric approach to transformation, and regularly pursues opportunities for innovation based on open data principles. Data is leveraged more regularly across agency boundaries, leading to easier interactions for constituents and a decisive shift from a pull to a push model. This will be accomplished by focusing on data and somewhat discovering what data exchanges make possible, as opposed to pursuing service integration like in previous incarnation of e-government. Some services are eliminated as agencies better use data that is already in their possession, and where required transactions are initiated by government based on an understanding of the constituent’s context and situation.

This leads to more effective enforcement activities as well as greater convenience for people. Some of the possible scenarios include privacy-related backlashes, as constituents are not comfortable with how agencies leverage their data. Therefore, it is very important to make sure that data use takes place within the boundaries of existing norm and regulations, and that the way APIs support this is clearly communicated and understood.

On the upside, there will be a number of value-adding services built around digital civic moments that do not exist today and will become possible thanks to data use. These range from tax advice coming from tax agencies that have a real-time view of a taxpayer's situation, to better child care services based on contextual information about candidate foster families, from preventative healthcare using data from environmental monitoring (especially for long-term care of senior citizens who live independently) to smoother and more rapid management of emergency situations based on data coming from multiple government and nongovernment sources.

Both traditional and new services will be available through a variety of channels, some of which will not be government channels at all. This is particularly through mobile services, which will receive particular attention at lower levels, leading to government apps that may well be replaced at this level by an ecosystem of nongovernment (both commercial and third-sector) apps.

Bimodal IT management is the norm, with a significant shift of emphasis on projects supporting these new services, which will gradually replace legacy processes and applications.

Data will be leveraged both across agencies and occasionally with external partners, such as banks, employers, retailers, e-commerce sites and so forth. This is likely to lead to a more nuanced approach to sourcing where the boundaries between user and supplier increasingly blur.

Key metrics are:

- Percentage of open data coming from various sources such as "things" and crowdsourced citizen data
- Number of digital civic moments supported
- Percentage of services eliminated, percentage of new services

Action items to move to the next level:
- Develop a business case template that supports the decision about eliminating or creating a new service.
- Develop a model to assess the business value of data.
- Develop a revised job description for the CIO.
- Explore the impact of machine intelligence on key business processes.

**Level 5 — Optimizing**

Digital transformation has become the norm, and the organization is able to actively pursue the identification and development of services supporting a variety of digital civic moments. At Level 5, the innovation process is predictable and repeatable.

Services and interactions will take place through a variety of touchpoints and interfaces, which would make the traditional model of a government service portal obsolete, as automation progressively replaces portal transactions.

Regulatory changes and changes to statutory services are managed giving priority to data. Questions would include: What changes are required to the data architecture? What existing data can we leverage? What changes would be necessary to Web APIs and what would be their repercussions on existing services and processes?

The CIO takes a greater and renovated role, as the master of information and data, and is in charge of prioritizing and managing the portfolio of transformation opportunities that present themselves. The challenges at this level are: (1) to make digital transformation business as usual (as in, sustainable) and (2) to prepare for the advent of smart machines in key business processes. The former will be facilitated by the stronger CIO role, and requires both effective partnerships with other players in the constituent service ecosystem and the establishment of a rigorous portfolio management process based on a business value model for data. The latter will have very different impact in different domains. While the replacement of police officers or bus drivers by smart machines is clearly beyond the time horizon for this research, their impact on call centers in areas like municipal services or human services is much closer. The required shift is from an approach where data is modeled in a way that makes new human-designed processes and application possible, to one where machines do decide which data they access for which purpose.

Key metrics are:

- Number of services replaced by improved data utilization
- Number of external data sharing protocols in place

**Gartner Recommended Reading**

*Some documents may not be available as part of your current Gartner subscription.*

"Government CIOs Need a Simple Digital Strategy to Lead Change in a Complex World"
"Digital Government Will Move at the Speed of Civic Moments"

"Digital Government Is a Journey Toward Digital Business"
GARTNER HEADQUARTERS

Corporate Headquarters
56 Top Gallant Road
Stamford, CT 06902-7700
USA
+1 203 964 0096

Regional Headquarters
AUSTRALIA
BRAZIL
JAPAN
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