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ABU DHABI DIGITAL AUTHORITY

Building the future of public-sector digital services

The invisible government

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Jad Hajj is a partner with Strategy& Middle East, part of the PwC network. Based in Abu Dhabi, he is the leader of the technology, media, telecommunications, and digital practice in the Middle East. He specializes in helping telecom operators and technology providers develop winning strategies and build distinctive digital capabilities. He has particular expertise in corporate strategy and business-to-business, as well as digitization and innovation.

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Abu Dhabi Digital Authority

His Excellency Mohamed Abdelhameed Al Askar is the Director-General of the Abu Dhabi Digital Authority. Al Askar provides direction on a diverse range of initiatives and is an experienced leader in the digital field with a demonstrated history of working in the government administration industry. He has managed several programs and projects such as the Abu Dhabi Government Services Program (TAMM), Abu Dhabi Information Security Program, Data Management Program, Smart Services Program, Enterprise Service Maturing Project, and the Government Procurement Program.

Her Excellency Aisha Al Marzooqi is the Executive Director of the Government Services Sector at the Abu Dhabi Digital Authority. Al Marzooqi specializes in government service modernization. She has led Abu Dhabi's whole-of-government digitization programs since 2017 including the document digitization and data exchange (AD-Connect) programs. Al Marzooqi has particular expertise in digital transformation.

Tarek Darwish also contributed to this report.

About the Abu Dhabi Digital Authority

The Abu Dhabi Digital Authority (ADDA) is leading the digital future of Abu Dhabi by supporting its government partners to deliver services and build ecosystems that enrich quality of life and multiply opportunities for business and personal growth. The ADDA seeks to enable, support, and deliver a digital government that is proactive, personalized, collaborative and secure. It supports Abu Dhabi's digital transformation through strategies, policies, standards, and enterprise architecture for increased government performance. In addition, the ADDA delivers digital services, platforms and channels, and implement applied intelligence, shared government, and cybersecurity solutions for government entities. The ADDA is mandated to drive Abu Dhabi's digital future to become a leading hub for digital transformation and innovation in the region.

EXECUTIVE SUMMARY

The proliferation of digital applications has revolutionized customer service. Customers need personalized service with minimal interactions. That need puts service providers, both public and private, under pressure to change their business models through digital transformation. Such changes offer major opportunities and challenges for government entities in Gulf Cooperation Council (GCC)[1] countries. What these entities must aim for is the ambitious goal of "invisible government," proactively providing services in a seamless manner that allows government to act as an enabler. Such invisible government customer service will make constituents' lives easier and allow these entities to operate more efficiently. This is a vital step as governments must now compete with each other to attract constituents and businesses as the world becomes more global and interconnected.

To achieve this transformation, government entities need strategies to intensify their efforts to digitize services. In particular, they must progress beyond the "one-stop-shop" service delivery concept. Instead, they need invisible government so that customers do not have to request a service. Rather, they benefit automatically from the services for which they are eligible, without additional interaction. For example, private companies would receive clearances and approvals while performing their daily business without filing a request. To provide such a service, government entities should build their knowledge of their customers through facilitating data exchange among themselves.

Successful transformation also requires the government to change how it develops services. It must enhance the digital platforms that enable service delivery, gradually, cumulatively, and in coordination with all government entities. In particular, all government entities must adopt new practices across the value chain of service delivery from planning to implementation. They must rapidly conceptualize and develop new, integrated services for customers. On the technology front, they must introduce platforms that allow digital services to be expanded efficiently.

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1. The GCC countries are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

A SERVICE REVOLUTION

Governments throughout the world are competing to encourage businesses to open in their countries. The ease and convenience of interaction with the relevant government is one of the crucial factors for companies in deciding where to be located. If governments wish to succeed in this contest, they should adopt the invisible government approach to providing services.

Take, for example, the GCC region where interaction with the government can be time-consuming and frustrating, deterring many companies from setting up operations. In response, government entities in the region have made great efforts in recent years to modernize and digitize their services. For example, the government of Abu Dhabi has established a one-stop-shop for all government services. It is referred to as "TAMM" and is the home of Abu Dhabi Government Services across its digital, contact, and services centers. TAMM is built on an entire ecosystem of digital capabilities and offers a growing portfolio of more than 500 digital services.

Around 98 percent of the Abu Dhabi government's citizen services are now carried out through digital channels, such as mobile apps or online. The vast majority of government service fees, some 85 percent in some jurisdictions, are also collected electronically, such as through online payment. These developments will have a positive impact for all businesses, citizens, residents, and even visitors to Abu Dhabi.

However, customers are still looking for more personalization and for governments to be more proactive. This desire from constituents should push governments to be ambitious and do more. According to a recent survey in one GCC country, around 30 percent of customers are "dissatisfied" with the complexity of the information on official websites and the amount they were required to provide. Customers seek services that are intuitive and convenient. Investors want clarity on the registration process and requirements and on investment opportunities, while drivers are looking for online training and speedier license processing and delivery.

To improve the customer experience, governments have been building unified service delivery platforms. In this more centralized model, the list of services and offerings are simplified, thus contributing to enhanced customer experience (*see Exhibit 1, page 4*).

EXHIBIT 1
Integrated customer journeys lead to improved service

TRANSPORT
Apply for a driver's license, pay traffic fines, search for and buy a car, get financing and insurance, etc.

HEALTH
Search for a doctor or hospital, book an appointment, verify medication, compare insurance policies, etc.

EDUCATION
Search for and apply to schools, request attested documents, track students' performance, etc.

COMMUNITY
Search and apply for social and financial support services offered by all government entities

HOUSING AND UTILITIES
Conduct geo-search for facilities nearby a house, subscribe to utilities and parking, and pay fines

EMPLOYMENT
Search for jobs, get career advice, post job vacancies (employers), intelligent matching, etc.

BUSINESS
Start a new business including setting up and registering a new company

TOURISM
Promote local events sponsored by different entities, provide a consolidated calendar and booking features

Source: Strategy&

However, governments need to move away from legacy bureaucracy to deal with service requests. Instead, the new vision of invisible government involves integration between various services to limit unnecessary duplication of application processes for the customer or business. It also calls for a digital engine that automatically assesses customers' eligibility for services, together with predictive analytics to analyze customer consumption of services and suggest potential services. The predictive analytics would be based on efficient data monitoring, control, and sharing within the unified government platform. Rather than the constituent requesting a service from a government entity, the government entity would provide the service to the constituent proactively.

Such a system of invisible government creates significant benefits. Customers would enjoy an improved experience as they would benefit from government services without submitting any information. They might not even notice that a necessary government service was triggered in the background to complete a private sector service. The need for fewer manual eligibility checks reduces the administrative burden on the government. All the while, the government would accumulate data about its customers to enable automatic processes and proactive suggestions. The TAMM platform has already captured a significant amount of customer data, and is steadily deepening this secure reservoir of information, enabling the analytics and insights unit to derive meaningful conclusions. The end result is a more responsive and caring government that provides customers with a seamless experience, while fostering a business-friendly environment.

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THE INVISIBLE GOVERNMENT

There are many areas in which the invisible government can provide a service to an individual or business based on certain life events without that individual or business needing to supply additional information. Several governments are applying reforms to achieve closer cooperation among government entities, and using the once-only principle for customer data entry to offer services proactively. The government can also provide these services through a partnership with private companies.

Estonia is a pioneer of invisible government initiatives. When entrepreneurs set up a new business, they already face a significant number of daily and strategic concerns, without constantly having to worry about financial statements, monthly tax declarations, and tax payments. In an example of an invisible government partnership, businesspeople can open an account with a bank that would automatically transfer information on income and expenses to the tax authorities. The authorities can then make their tax calculations, without the business being weighed down by onerous form filling.

Another example involves the automatic payment of child or maternity benefits. When a parent registers a birth and the baby's details with the relevant government entity, the system informs the social security authorities automatically. The social security authorities then dispense the benefits, eliminating the need for further time-consuming applications.

The sale of a vehicle, and the registration of the change of its ownership, normally involve two separate submissions. To unify these processes and streamline the system, the buyer and seller would confirm the details of the transaction in a government portal that will also enact the change in the entity's vehicle registry. Again, burdensome processes are eliminated, boosting customer satisfaction with government services.

In the GCC, there have been moves towards invisible government. In Abu Dhabi, automatic exemptions and actions are becoming more common when customers change status or request certain services. For example, a person diagnosed with a certain disability at a medical facility is proactively registered to benefit from a range of government services and privileges. This enables the government to better reach people of determination, the official term for those with special needs, and reduce the application burden and waiting times.

Partnership with the private sector can either eliminate the complexity of government services, or conceal those services from customers altogether. Joint government–business initiatives that offer services seamlessly to private customers or businesses are already under way.

One government partnership with a private-sector company plans to remove employees' obligation to justify sickness absence through the submission of medical reports issued by health authorities. By means of integration with government infrastructure, the company will be able to look up their medical report status electronically. This planned change promises to alleviate the burden of manually checking thousands of sickness absence notifications from employees every year.

Along with the services themselves, the technical support offered to users can also become more proactive, which is already happening in Abu Dhabi. For example, if digital platform customers receive an error message or are stuck at a particular stage, they are now contacted by a digital assistant or a well-trained support officer.
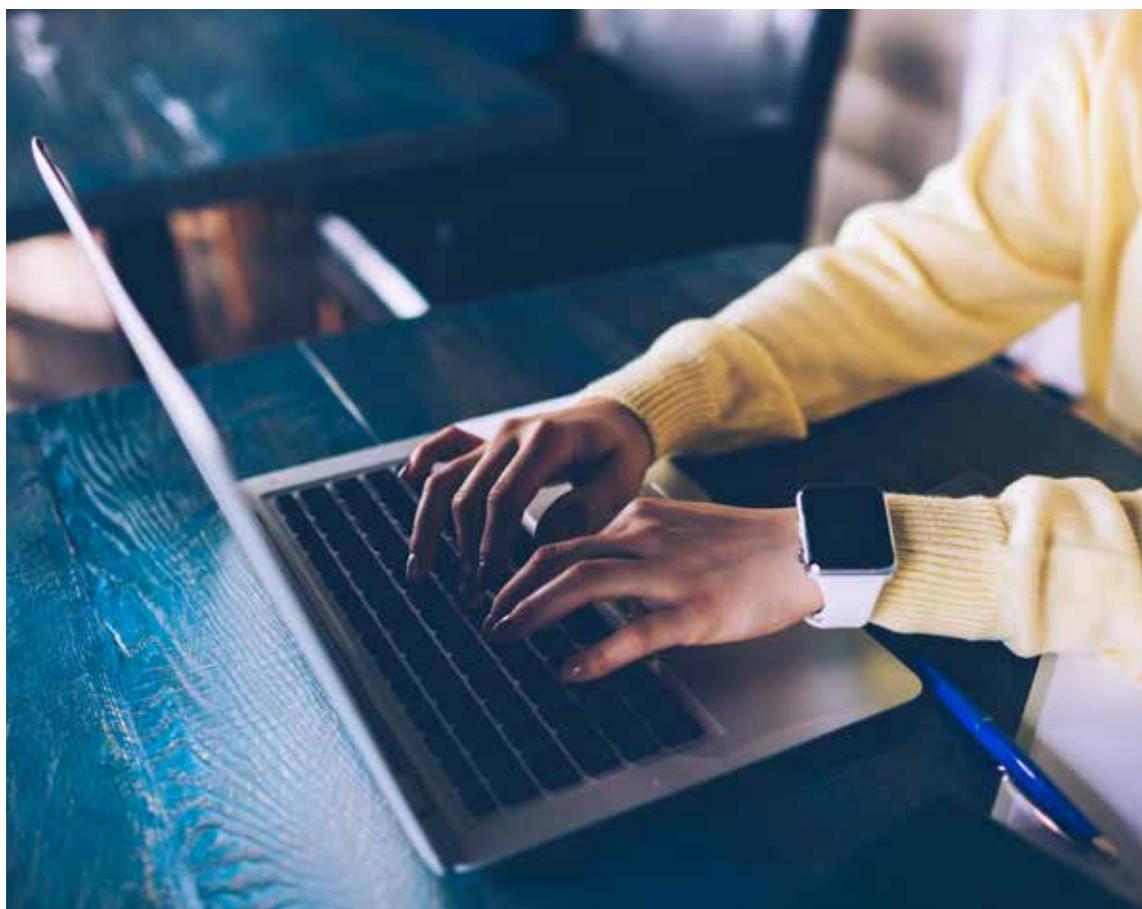
ENABLING THE TECHNOLOGY ECOSYSTEM

The appropriate legal framework, capabilities, and governance must support the essential technology to realize the ambition of invisible government.

Governments throughout the world are moving to a new level of digital maturity, with sophisticated mobile applications at the core of this development. One government in the region has already made all government services available in a single mobile application.

The current target of governments in the region is to build an online one-stop shop. This aim should also include establishing an invisible government that provides automatic services to customers, based on the principle of once-only data sharing across government entities. When individuals and businesses submit an item of public information to any government entity, or when a government entity produces a piece of public information pertinent to any customer, other entities should make use of it.

The Abu Dhabi government aims to transfer a significant proportion of its services into "zero burden services." Services will not have any requirements (zero requirements), will be easy to apply for (zero steps), and can be accessed from anywhere.

To achieve this vision, governments should build the necessary foundations to facilitate the exchange, interpretation, and reusability of non-sensitive public data.

Implementing the once-only principle at scale is challenging. Governments must develop digital platforms that are interoperable. They also should build a broad range of technological capabilities from the center (*see Exhibit 2, page 10*). These include:

1. Unified channels: All government services should be offered in one place and deliver an omnichannel experience for customers. Channels should include the most efficient footprint of physical service centers operating under one government brand, a single portal, and a single mobile application.

2. Configuration and experience management: tools developed centrally for managing customer experience and the content on the unified channels, as well as for managing flexible customer journeys. These tools are a series of interconnected services fulfilled through the best experience to deliver an outcome to customers.

3. Customer analytics: advanced customer experience management tools that monitor customer perception, while identifying and predicting customer needs through machine learning algorithms and performance visualization.

4. Open government platforms: standardized interfaces and partnership management tools that facilitate open access to government services and co-creation of services with private-sector partners.

5. Interoperability platforms: a central data catalog that stores government and user data registries to ensure reusability and eliminates requesting the same data from customers; a business events engine that allows for the flexible administration and amendment of service rules by government entities as the laws change; and a central service catalog that incorporates all the government services and their description, and their performance indicators and process steps.

6. Digital enablement platforms: a set of digital platforms that government services can utilize to improve accessibility and experience. These involve several common components, including a document locker or a meta-data store of all customer information in one place, digital identity management, a digital wallet for the government, a notification engine, and a central maps component.

7. Data exchange infrastructure: a single data exchange that mutually connects all systems of government entities, built on a whole-of-government secure network infrastructure.

8. Service and information registers: store the back-end workflows, government data, and user information data.

9. Transformation enablers: change management and agile delivery methodologies to facilitate the promotion of digital design across the government.

EXHIBIT 2
Unified channels require a range of capabilities

Unified channels	Application	Website	Contact center	Service center	Interactive channels	Transformation enablers

Central management tools

Configuration and experience management			Customer analytics		
Content management	Journey development	Experience management	Data management	AI/machine learning	Business intelligence

Platforms

Open government platforms		Interoperability platforms			Digital enablement platforms					
Interface gateway	Partnership management	Data catalog	Events engine	Service information catalog	Document locker	Maps	Digital wallet	Alerts	Digital-ID	Other

Data exchange infrastructure

Single data exchange bus   Secure networks

Service and information registers

Government service system   Government information registers   User information registers

Transformation enablers

- Strategy and policies
- Agile delivery playbook
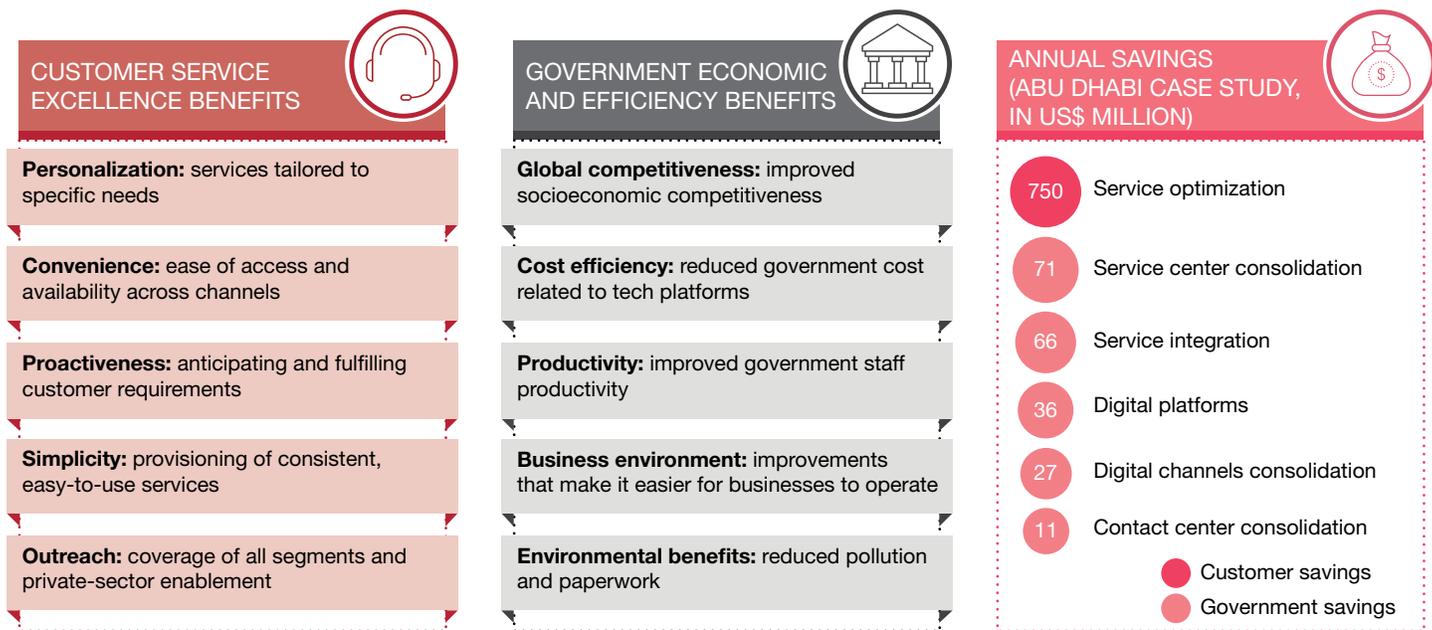- Change management
- Operations
- Security

Source: Strategy&

Rigorous governance will facilitate the development of technological capabilities. Supporting policies need to be defined and promoted across government. The identification and classification of data from all entities throughout the entire government platform should be closely monitored. Legislation should be machine-readable, which means that laws need to be written in a way that digital services can automatically access and understand them whenever there is an update. Strict application of data privacy and security laws is also essential.

The right organizational structure, culture, and change management are necessary for governance to work effectively, thereby smoothing the transition to a once-only system. It will be important to closely engage government leaders, and key stakeholders. Sponsorship from the top-level leadership team, such as through a digital board, is vital for accelerating the transition toward invisible government. Explicit definition of when escalation is necessary, and utilization of service-level agreements, will ensure fast decision-making processes and efficient conflict resolution. To maintain accountability for compliance, all responsibilities should be clearly allocated.

The longer-term advantages of the investment in capabilities makes the substantial expenditure worthwhile. There will be direct and indirect benefits for customers and the government. Customers will benefit from personalized services and a reduction in form-filling, while governments will gain from improved economic competitiveness, higher employee productivity, and technology synergies generated by the consolidation of digital channels and digital enablement platforms. Abu Dhabi has managed to generate benefits to customers estimated at around AED2.7 billion (US$750 million) and benefits to the government itself of around AED750 million ($204 million) (*see Exhibit 3*).

EXHIBIT 3
Customer and government benefits

CUSTOMER SERVICE EXCELLENCE BENEFITS	GOVERNMENT ECONOMIC AND EFFICIENCY BENEFITS	ANNUAL SAVINGS (ABU DHABI CASE STUDY, IN US$ MILLION)
Personalization: services tailored to specific needs	**Global competitiveness:** improved socioeconomic competitiveness	750 Service optimization
Convenience: ease of access and availability across channels	**Cost efficiency:** reduced government cost related to tech platforms	71 Service center consolidation
Proactiveness: anticipating and fulfilling customer requirements	**Productivity:** improved government staff productivity	66 Service integration
Simplicity: provisioning of consistent, easy-to-use services	**Business environment:** improvements that make it easier for businesses to operate	36 Digital platforms
Outreach: coverage of all segments and private-sector enablement	**Environmental benefits:** reduced pollution and paperwork	27 Digital channels consolidation
		11 Contact center consolidation

● Customer savings
● Government savings

Source: Abu Dhabi Digital Authority; Strategy&

Keeping the operating model relevant

To achieve the transformation, governments need to change the way they work. They need to adopt new practices right across their operating model, including strategy development and execution, product development, technology, planning and performance, and organization.

Managers have in the past tended to create fixed plans, containing long-term milestones but no room for adjustment. In the digital world, customer feedback can be obtained easily and economically, so assumptions can be regularly tested to ensure strategic viability and success. Governments that are implementing digital transformations should therefore introduce flexibility through short cycles of planning development, testing, calibration, and execution.

Product development capabilities should be developed centrally. Linear and rigid processes for product development in IT shared services should be replaced with more agile models that use the principles of "design thinking."

These agile models typically include ideation, agile requirements gathering, implementation sprints, and reviews. During the ideation phase, design thinking teams should involve all stakeholders, including customers, in defining a customer journey and other concepts. Teams then make use of the remaining process stages to turn short-listed ideas into prototypes that are launched and tested with the customers.

New product features need to be launched continually, enabling market feedback to be collected and products to be adjusted early on in the process. In 2020, the Abu Dhabi government launched a central innovation hub to institutionalize digital development for all government services and journeys. The center is equipped with high-quality digital development and delivery tools and practices to allow all government and private-sector entities to devise concepts for new services.

Changes to management capabilities and customer channels
Management capabilities for customer care and experience must also change. Governments have already had success in centralizing contact centers across their entities. One government in the region managed to develop its central knowledge management repositories. Issues are now resolved after the first call at a rate of 90 percent.

Customer channels should be complemented by chatbots and predictive customer experience analytics. Customer experience management and data analytics technologies should enable analysis of customer sentiment and usage across channels so that the experience can be improved. It is important that governments use artificial intelligence to track service delays and failures before clients raise these issues.

Technology and architecture
The technological component of the operating model must also be updated. This element is separate from technological capabilities. The development and operations of front-end channels and related applications should be centralized. They should be separated from complex back-end systems.
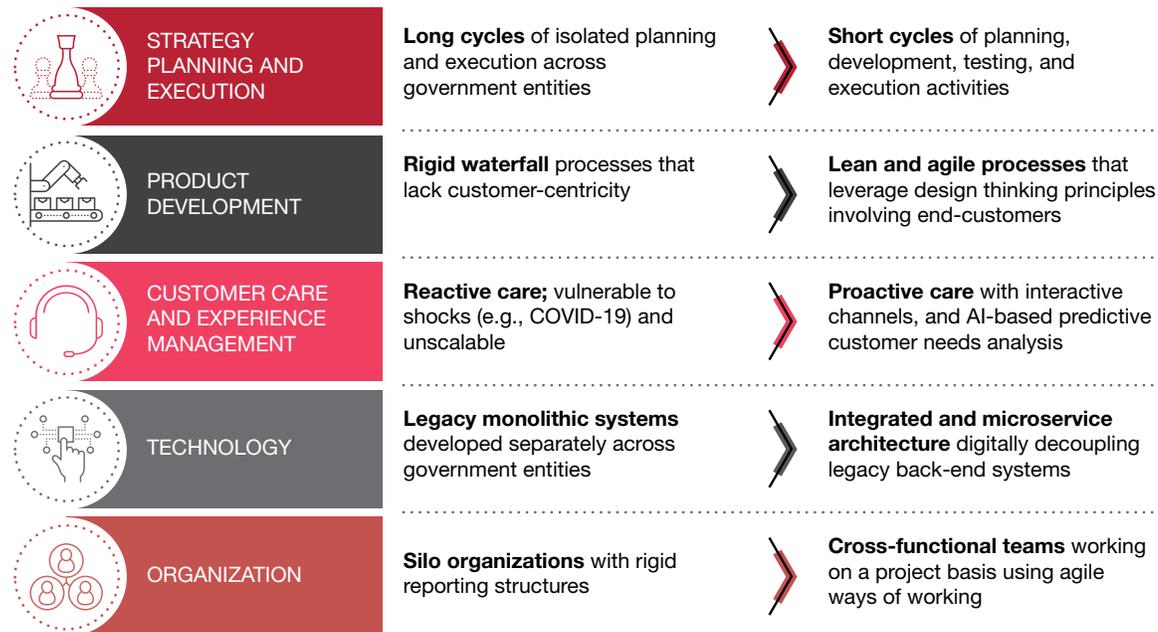
Legacy architectures with monolithic systems should change into microservice architectures, discrete units of software with a specific business purpose such as service recommendations and online payments. These should include application programing interfaces (APIs) and data that is digitally decoupled from now-outdated systems. Numerous government entities currently have traditional technology architectures with monolithic single-purpose applications that rest on large and complicated code bases. In these environments, making even trivial adjustments to business processes entails complex and time-consuming work on numerous applications. Advanced digital architectures are built around microservices.

The Abu Dhabi government designed a central platform for the development and operations of government front-end channels founded on such a microservice architecture. The platform promises to generate technology-related savings for the government as a result of synergies and efficiencies. The cost of operating the platform centrally would be around $75,000 to develop a website and $40,000 to maintain annually. On the other hand, it costs on average $150,000 to develop for each separate entity, and $70,000 to operate separately each year.

Organizational changes
On the organizational side, rigid silos should be replaced with cross-functional teams from different entities working on a project basis. While the central innovation hub is responsible for conducting this cross-functional exercise, government entities continue to be the business owners of the new services and journeys specific to their sectors (*see Exhibit 4, page 14*)

EXHIBIT 4
Operating model shift

STRATEGY PLANNING AND EXECUTION	**Long cycles** of isolated planning and execution across government entities	**Short cycles** of planning, development, testing, and execution activities
PRODUCT DEVELOPMENT	**Rigid waterfall** processes that lack customer-centricity	**Lean and agile processes** that leverage design thinking principles involving end-customers
CUSTOMER CARE AND EXPERIENCE MANAGEMENT	**Reactive care;** vulnerable to shocks (e.g., COVID-19) and unscalable	**Proactive care** with interactive channels, and AI-based predictive customer needs analysis
TECHNOLOGY	**Legacy monolithic systems** developed separately across government entities	**Integrated and microservice architecture** digitally decoupling legacy back-end systems
ORGANIZATION	**Silo organizations** with rigid reporting structures	**Cross-functional teams** working on a project basis using agile ways of working

Source: Strategy&

An effective cross-functional team would include, for example, a representative from the government entity, a product manager, business analysts, an experience designer, solution and system architects, project managers, developers, and testers. Such a team would undertake one project at a time, and work in an agile and iterative manner. The team would focus on one or a few products to build expertise and develop specialization, thus boosting efficiency in their tasks and projects.

The transition toward the new operating model can take three to five years. Incremental successes along the journey are vital in maintaining commitment to the transformation and the new governance structure.

THE ROAD MAP: TAKING STEPS TO PROGRESS

The process toward invisible government begins by laying the foundations, which include creating a nationwide digital government strategy and infrastructure for data exchange. Document digitization should be expedited, and selected customer-centric journeys should be launched on the unified government digital channels to create momentum (*see Exhibit 5*).

EXHIBIT 5
The road map to better service

CUSTOMER SERVICE EXCELLENCE
AND GOVERNMENT EFFICIENCY

INVISIBLE
GOVERNMENT

DIGITAL
FOUNDATIONS

EXPERIENCE
EXCELLENCE

- Interoperability platforms (data catalog and events engine)
- Proactive government services
- Predictive customer journeys
- Government as a platform (GaaP)

- One-stop-shop channels
- Digital enablement platforms
- Select citizen-centric customer journeys
- Data exchange policies

- Digital government strategy and governance
- Unified government channels
- Service information catalog
- Data exchange infrastructure

Build the foundations → Establish the "one-stop shop" → Develop the "no-stop shop"

Source: Strategy&

After building the foundations, governments should incorporate the most-used government services into the new system in order to bolster the unified channels. Services need to be bundled around customer journeys or life events. Designing services around life events has proved to be the most effective way of reducing customer touchpoints in government services.

Introducing invisible government involves mature data interoperability, which follows the once-only principle and uses data analytics to offer proactive government services and predictive and dynamic journeys. Ultimately, governments would be able to open the platform to private-sector companies and government entities to develop their own integrated services by using government services through an open API cloud platform.

CONCLUSION

The invisible government is an ambitious, attainable, and necessary. Governments should transform their services toward invisible government by taking advantage of advances in digital technology. They must strengthen their digital service platforms in a coordinated, incremental manner; start new practices across the value chain of service delivery from planning to implementation; and quickly conceptualize and develop new, integrated services. They must also introduce platforms that lead to the cost-efficient scaling up of digital services. By taking these steps, governments can provide quality services in a manner that enables their customers and attracts international business and investment to their country.

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