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Tawakkalna

The future of public-sector digital services

Achieving intelligent, cost-neutral service delivery

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Tawakkalna

Saleh Mosaibah is the chief executive officer (CEO) of Tawakkalna (which means *We trust*). He was previously the founding CEO of Ezditek, Saudi Arabia's leading data center provider. Before that he was the founder CEO of stc pay, the digital wallet of Saudi Arabia's largest telecom provider stc. He also served in stc's technology arm, STC Solutions, as vice president, marketing planning and alliances, and as cloud services vice president.

About Tawakkalna and SDAIA

Tawakkalna, created by the Saudi Data and Artificial Intelligence Authority (SDAIA), is a super-app that consolidates a wide range of government services into a single platform, simplifying access to services, information, documents, and communications. Aligned with the goals of Saudi Vision 2030, Tawakkalna aims to improve the quality of life in Saudi Arabia by enhancing service delivery and user experience. Initially launched as a COVID-19 tracking app to manage the pandemic, it provided services like digital health passes. However, as its broader potential was realized, Tawakkalna evolved into a comprehensive national super-app. Today, it integrates a variety of government services, from e-government functions to digital IDs, making it a central element of Saudi Arabia's digital transformation strategy.

SDAIA is the competent authority in Saudi Arabia concerned with data and artificial intelligence (AI), including big data. SDAIA is also the national reference in all matters related to the organization, development, and handling of data and AI; in addition, it has the original competence in all matters related to operation, research, and innovation in the field of data and AI.

EXECUTIVE SUMMARY

A key problem facing government service digitization today is the fragmentation produced by multiple, siloed applications that feature separate log-ins, inconsistent user interfaces, and redundant data submissions. This lack of integration results in operational inefficiencies, service delivery delays, and a disjointed experience that diminishes public trust in digital services at a time of rising expectations for seamless, intuitive, and personalized digital interactions—such as those offered by leading private-sector platforms.

For these reasons, efforts are being made to transform the delivery of government services into a single-access, seamless, and virtual constituent experience via one-stop digital channels in the Gulf Cooperation Council (GCC) countries.[1] One-stop digital channels offer a host of benefits, including enhanced customer engagement and experience, automated service delivery, proactive services, enhanced decision-making, and more efficient fraud detection and prevention.

However, they also demand significant investment in IT infrastructure, interoperability frameworks, cybersecurity, user experience design, and such emerging technologies as artificial intelligence (AI) and blockchain. Additionally, the creation of one-stop digital channels requires governments to digitize and modernize legacy systems, as well as automate existing processes. Thus, the challenge now facing GCC governments is to accelerate initiative time lines and continue to raise the level of digital service delivery in a cost-neutral manner. To meet this challenge, GCC governments should:

- Seek the consolidation of public services and establish a foundation for one-stop digital channels
- Centralize digital services in a manner that improves the citizen experience and benefits all participating government entities
- Adopt an open platform for service development that enables third parties to list existing services and co-create new services
- Exploit AI to improve service delivery across the service value chain and optimize software service development
- Use a cost-neutral approach to underwrite investments in one-stop digital channels through new revenue generation opportunities and public–private partnerships (PPPs) that bring market-driven approaches to service delivery and resource management

ONE-STOP DIGITAL CHANNELS ARE TRANSFORMING GOVERNMENT SERVICE DELIVERY

Governments around the world are seeking to transform the delivery of services through one-stop digital channels. These initiatives are driven by a number of factors, including the needs to better serve constituents, achieve digitization mandates, reduce costs, enhance global competitiveness, bolster interagency collaboration, and speed crisis response. One-stop digital channels deliver numerous benefits. They can:

- Help governments meet the growing expectations among constituents for a seamless, convenient, and efficient customer experience—one that rivals the customer experience standards being set in the private sector. Singapore's LifeSG, for example, provides citizens with a single point of entry to over 100 government services from over 100 government agencies, for its 1.5 million users.[2]

- Help governments meet their digitization mandates to modernize delivery, reduce bureaucracy, and increase transparency. TAMM, the Abu Dhabi government's one-stop shop, with more than 700 digital services across government entities, is supporting the emirate's digital transformation through central oversight of government service delivery.[3]

- Reduce costs and eliminate redundancies through shared infrastructure, optimized development effort, and unified processes. In the United Kingdom, the GOV.UK initiative replaced hundreds of separate government websites with a single unified platform, generating £61.5 million (US$74.3 million) in savings in hosting and infrastructure costs alone in just one year.[4]

- Enhance a country's global competitiveness, attracting investors, businesses, and talent. The Rwanda Development Board contributed to Rwanda's rise in the World Bank's Ease of Doing Business rankings with its one-stop platform for businesses, in which, for example, new business registration can be completed in less than six hours.[5]

- Bolster interagency collaboration by breaking down barriers between different agencies and enhancing data sharing. India's DigiLocker, for example, provides secure access to digital documents issued by various agencies, such as driving licenses, education certificates, and property records, enabling agencies to access and verify such documents instantly.[6]

- Enable timely crisis response and management. Saudi Arabia's Tawakkalna, a national super-app that now offers its over 33 million registered users more than 1,100 services provided by over 80 government entities, was first used for movement permits during the COVID-19 shutdown. Within a year, the app was being used to issue health passports and Umrah (minor pilgrimage) permits, and to schedule COVID-19 tests and vaccine appointments (*see Exhibit 1*).[7]

EXHIBIT 1

One-stop digital channels in Saudi Arabia offer a wide range of services

(Saudi Arabia's government apps and Tawakkalna metrics)

90+ government apps

- **Municipalities and housing (17)**
- **Education (8)**
- **Justice (4)**
- **Health (15)**
- **Environment, water, and agriculture (6)**
- **Tourism (3)**
- **Security (11)**
- **Commerce (4)**
- **Transport and logistics (3)**
- **Human resources and community development (10)**
- **Finance and economy (4)**
- **Others (13)**

One national super-app

33+ million
registered users

1 million
daily active users

1,100+
services

1,000+
services targeted by 2026

80+
government entities offering services

100+
government entities offering services by 2026

200+
digital cards

12+
Core Tawakkalna products

Source: Tawakkalna, Strategy&

Governments can capture these benefits in a cost-neutral manner by adopting a hybrid delivery model, putting AI in a variety of applications, and underwriting their investments by generating revenue from existing and new services and public–private partnerships (PPPs).

A BALANCED APPROACH TO DEVELOPING ONE-STOP DIGITAL CHANNELS

Centralization is a key element in the design of one-stop digital channels, and it can be pursued across the service delivery stack. Typically, governments centralize one or more of the following components: delivery channels, front-end applications, and back-end platforms. Simultaneously, one-stop digital channels need to be sufficiently decentralized to easily integrate non-shared services from government entities and private-sector service providers and offer them the flexibility needed to differentiate and customize their services.

Governments that involve a smaller set of services and a controlled number of entities may benefit from a more centralized model. Conversely, the breadth and depth of services in a country such as Saudi Arabia necessitates a more scalable solution. In the latter case, a hybrid approach is key to fulfilling the one-stop-shop vision. To do so, Tawakkalna (which means *We trust*) adopted a mini-app approach that is typical of super-apps.

In this model, the delivery channel is highly centralized, and the front-end and back-end platforms are moderately centralized to accommodate both shared services and stand-alone services developed and controlled by government entities and private-sector providers (*see Exhibit 2*).

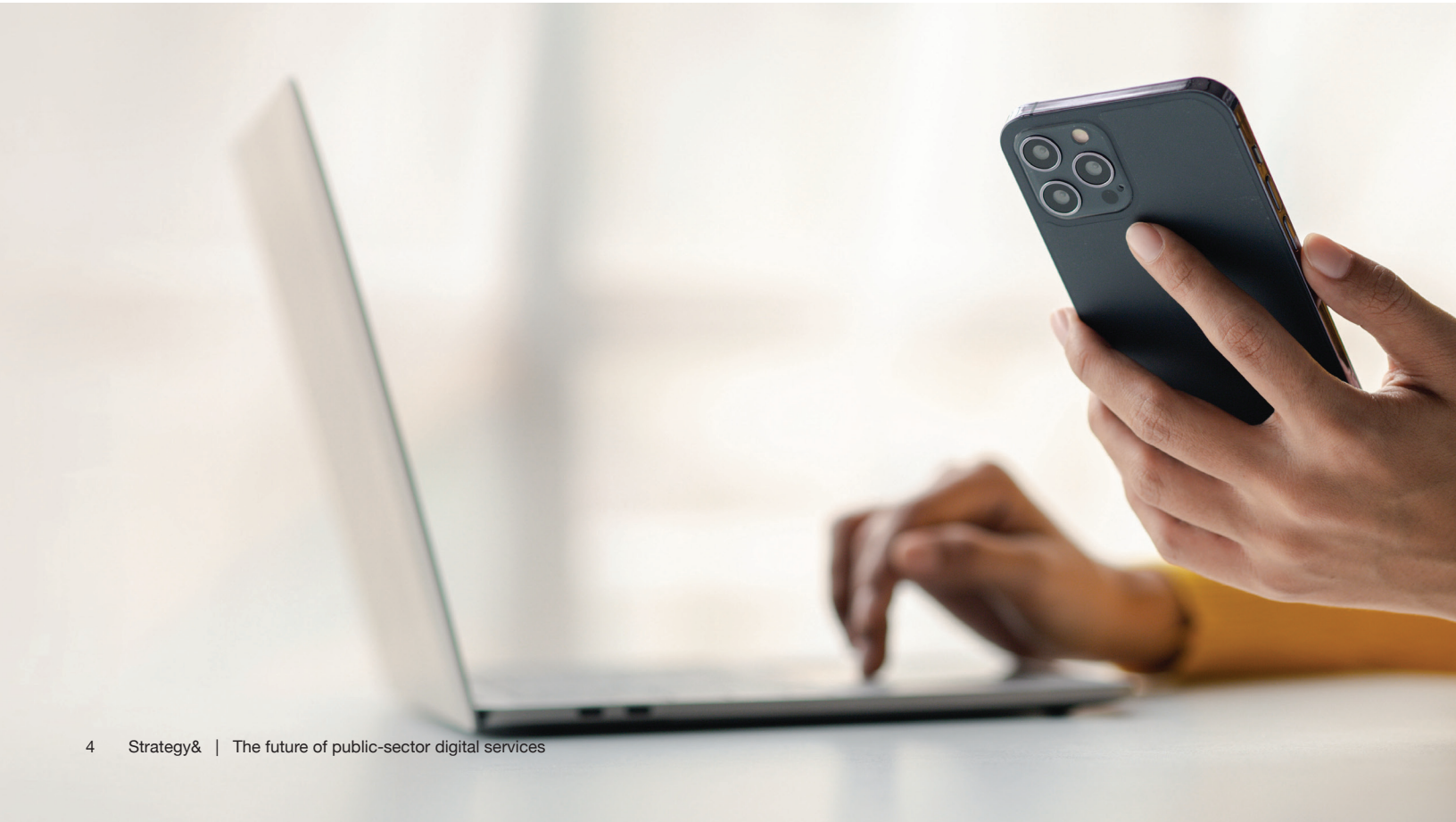
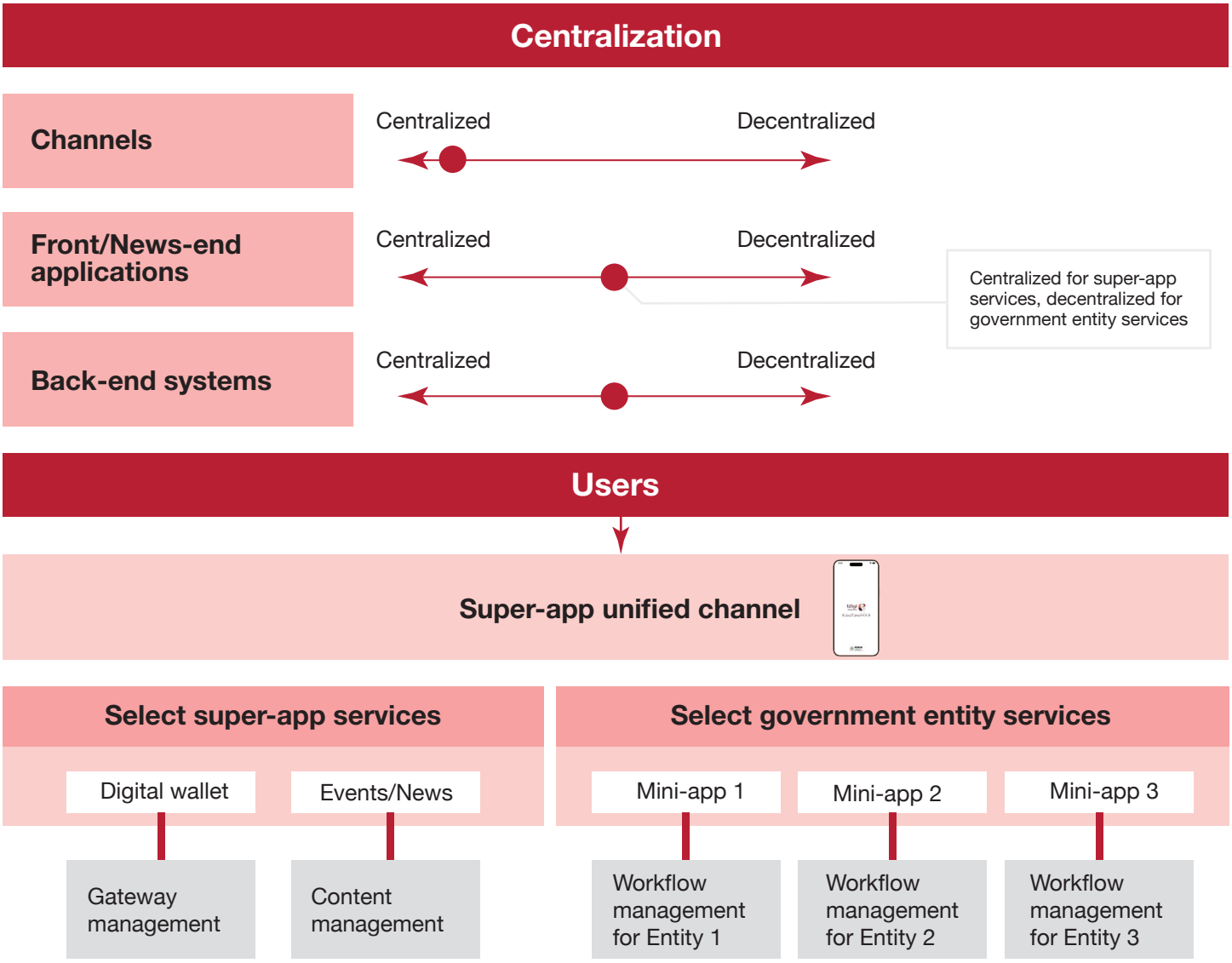


EXHIBIT 2

A balanced approach to developing the one-stop digital channel



Source: Strategy&

This mini-app model enables the decentralization of development effort, granting government entities the control they need over the provision of their services. It thus offers greater agility in development and integration, while also ensuring scalability thanks to the ease of adding and integrating a variety of services within the app.

To enable such a model, Tawakkalna has established its platform by offering a holistic software development framework and developer's kit that together allow third parties to access and utilize existing services, as well as to develop new services. Tawakkalna's open platform promotes collaboration and co-creation. The open platform has accelerated public service innovation to a rate of two or three new services launched every day.

AI POWERS ONE-STOP DIGITAL CHANNELS

The continuing development of AI offers governments the technologies and tools needed to raise the performance of one-stop digital channels to new levels.

Whereas one-stop digital channels were previously focused on providing a single point of access to services and accelerating data exchange in order to deliver services that did not require a significant level of manual intervention (such as permits and licenses), now, customers can simply ask generative AI (GenAI) for what they need.

Moreover, government entities can put AI to work across the delivery value chain and beyond the one-step digital channel (*see Exhibit 3*). They can use AI to derive insights from their services to identify delivery changes that can improve the experience of constituents, streamline access to services, heighten service delivery, and expand the number of proactive services offered to constituents. AI also enhances decision-making, and mitigates fraud and misuse of services.

“ The continuing development of AI offers governments the technologies and tools needed to raise the performance of one-stop digital channels to new levels.

EXHIBIT 3

Artificial intelligence use cases for the government

Products

Reports/insights | Dashboard | Applications | Tools | Web interfaces | Model | APIs | Software plugins

Select use cases and support operations

Sectoral use cases

Security and safety
- Automated fines processing
- Surveillance and video analytics

Tourism
- Tourism marketing spend optimization
- Chatbot assistant for tourists

Agriculture
- AI-based pest management
- Livestock tracking

Economy and finance
- Business licensing automation
- Economic monitoring and insights

Education
- AI agent for student assistance
- Personalized learning and development

Housing/real estate
- Affordable housing allocation and fraud detection
- Demand/supply prediction

Healthcare
- Risk profiling
- Personalized support and interventions

Transport
- Traffic management
- Road planning

Energy
- Smart grid optimization
- Demand predictions

Social sector
- Vulnerable citizens identification
- Behavioral insights

Support operations

Customer care
- Automated case routing
- Contact center automation

Procurement
- Contract generation
- Spend analytics

Human resources
- Job matching
- Learning and development advisor

Knowledge management
- Digital assistant
- Document processing

DevSecOps
- Code generation
- Test case generation

Select technologies

- Machine learning
- Deep learning
- Natural language processing
- Speech recognition
- Computer vision
- Generative models

Enablers

Data | Resources | Infrastructure | Budget | ...

Note: API=Application Programming Interface, DecSecOps=development, security, and operations.
Source: Strategy&

Customer engagement and experience

AI can significantly improve customers' online journey by making it more personalized, efficient, and user-friendly. Smart and virtual assistants, for instance, improve accessibility. Furthermore, GenAI can be used to streamline interaction channels within the one-stop digital channel. In the future, GenAI is likely to gradually become the new user interface/experience for all kinds of services. Thus, the need to develop digital journeys to guide users is already being reduced and will continue to diminish (*see Exhibit 4*).

EXHIBIT 4
The impact of GenAI-powered customer engagement

Source: Strategy&

Tawakkalna is currently developing a smart assistant named Shamel that uses GenAI to elevate the constituent experience. Among other things, it will answer service inquiries, apply for services, book tickets on behalf of users, offer personalized recommendations and reminders, and provide a consolidated view on all payments and fees owed to government (*see Exhibit 5*).

EXHIBIT 5
Tawakkalna's smart assistant building blocks

Features and products			
Services inquiry	**Service application**	**Calendar integration**	**Personalized recommendations**
Ticketing	**Reporting to relevant authorities**	**Emergency assistant**	**...**

Interface in input channels		
Conversations (chats)	**Voice commands**	**Other commands**

Digital assistant		
Natural-language understanding (NLU)	**Speech and audio analysis tools**	**Managing dialogue, context, and procedures**
User input interpretation Entity recognition Intention setting	Speech recognition Text-to-speech conversion	Dialogue management Context management Procedures management

Knowledge base and data model	
Knowledge base	**Large language models (LLMs)**
Customer database (360-degree view) Information base to answer questions Public database of government services, policies, and operations	Training the model in Arabic A specialized linguistic model

Source: Strategy&

Service delivery automation

AI enables the automation and simplification of the various government service processes within one-stop digital channels (*see Exhibit 6*). This can streamline service processes, reduce administrative tasks, and eliminate bottlenecks. New innovations are being researched to enable decentralized systems to integrate their services seamlessly within Tawakkalna.

EXHIBIT 6
State of government service automation potential

	Output types	Examples	Automation potential
1	**Authentication and certification**	Issue birth certificates, issue health certificate	**High potential for automation**
2	**Information and reports**	Request for agricultural instructions, information on medications	**High potential for automation**
3	**Inspections**	Site inspection request, building completion inspection	**Cannot be fully automated today**
4	**Licenses and permits**	Issue parking permits, issue business licenses	**High potential for automation**
5	**Procedural services**	Lease registration, business contract registration	**High potential for automation**
6	**Professional services**	Request to file an appeal	**High potential for automation**
7	**Physical services**	Request physical support	**Cannot be fully automated today**
8	**Support services**	Financial and social support services, donations to NGOs	**Cannot be fully automated today**
9	**Violation and fee payments**	Parking fines, tax payments	**High potential for automation**

Automation potential	
High potential for automation—current technologies are sufficient to automate the majority of services	70%-80% of transactions can be easily automated
Cannot be fully automated today with mainstream technologies—potential for future automation as technologies advance	20%-30% of transactions are difficult to automate (e.g., physicalinspections, physical services, etc.)

Note: NGO=Nongovernmental organization.
Source: Strategy&

Proactive services

AI systems can be trained with all historical data, and can understand the events that usually trigger the need for specific services for each individual or business. Leveraging AI this way will create a highly proactive system that can learn the behavior of the public. Such a dynamic system will be able to suggest, or immediately provide, services to individuals in a smart way without the need for hard coding. If new legislation is approved, the system will automatically learn based on new behaviors and adjust its suggestions of services accordingly. The final observable result is to analyze a constituent's data and use it to provide more relevant and tailored information and services, such as notifying citizens about public programs, tax benefits applicable to them, and healthcare services that are most relevant to their situations. Such services significantly improve the customer experience. Proactive services include three broad categories: renewals of licenses and other permits; automatic subscriptions to relevant programs on the basis of predefined eligibility criteria; and "trigger services," which provide customers with a range of new services and offers upon completing a service dynamically. Some examples of the more common proactive services are proactively issuing a passport for a newborn, enrolling the parents in relevant social support programs, and planning enrollment in preschool upon a baby's birth or birth registration.

Tawakkalna is planning to offer proactive services that will be enabled by access to the vast amount of citizen data that the government holds. Such services could include renewal notifications for expiring IDs and official documents, automated registration for eligible social services, and digital healthcare and preventive alerts.

"Tawakkalna is planning to offer proactive services that will be enabled by access to the vast amount of citizen data that the government holds.

Data-driven decision making

Using AI to derive insights from one-stop digital channel usage patterns and behavior patterns supports policymaking. AI can analyze large data sets in such areas as population demographics, economic trends, public health information, and behavioral data from users, to help leaders make informed decisions on services and the allocation of resources. Training AI models on such massive data sets can unleash insights beyond the questions that decision-makers might ask. We expect decision-makers to elevate their questions and analytical needs beyond the traditional business intelligence systems when they start interacting with AI models trained on such data. Using AI models, data, and predictive modeling to simulate various policy outcomes enables the design of more effective, evidence-based policies that can produce superior service outcomes.

Fraud detection and prevention

AI can significantly improve the ability of government agencies to detect and prevent fraudulent activities, reducing waste and improving the integrity of services. AI algorithms can analyze vast amounts of data to detect patterns or behaviors that may indicate fraud in social welfare programs, tax filings, public procurement, and other areas. AI models can also predict the potential for fraud by identifying certain risk factors, patterns, and behaviors—allowing governments to prevent or reduce losses.

For example, Tawakkalna, taking advantage of its central positioning in the government, could identify cases in which citizens are receiving welfare from different government entities that they might not be eligible for.

Digital service development enhancement

AI promises to revolutionize the software development industry. Along the development value chain, AI can be used to significantly shorten development times and improve the quality of products. Tawakkalna's developers have used AI smart assistants (agents) across the software development life cycle:

- Service Designer: The developers launched an automated user interface generator to enable service designers in government entities to design end-to-end mini-app services.
- Code Developer: The developers created a GenAI agent to support coders in the mini-app development process, helping them navigate different technologies and tools.
- Quality Officer: The developers are using AI to generate and execute quality assurance test cases for all the codes being developed.
- Artificial Intelligence for IT Operations (AIOps): The operations engineers and developers have launched an initiative to entirely automate Tawakkalna's software operations by 2026.

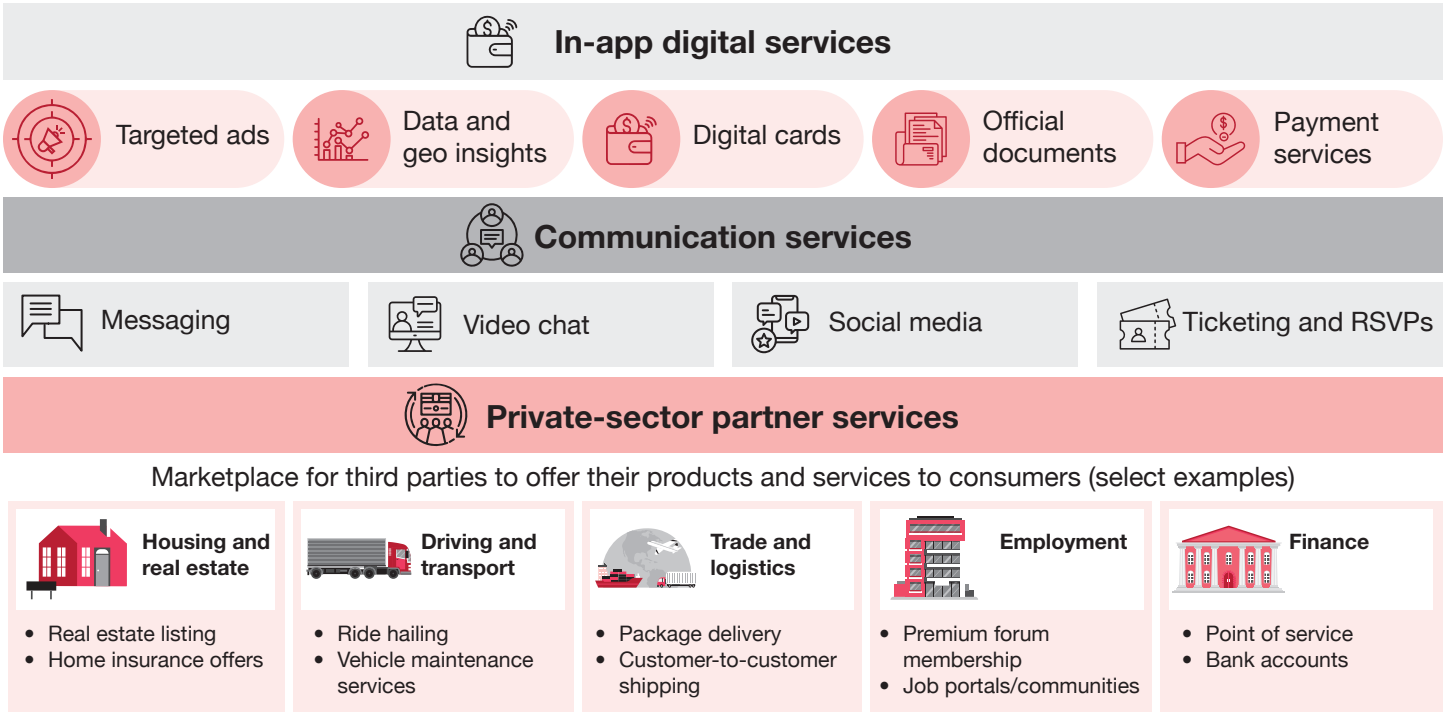
ACHIEVING COST-NEUTRAL SERVICE DELIVERY

One-stop digital channels require substantial investment, but these investments can potentially be offset through revenue generation opportunities created by the one-stop digital channel services and private-sector participation.

Revenue generation

One-stop digital channels offer a variety of monetization opportunities (*see Exhibit 7*). Governments can generate commissions by allowing private-sector players to integrate their services on the one-stop digital channel. They also can offer ancillary services to businesses (such as communication, cloud, and collaboration services), access to users via targeted advertising and surveys, and access to data and insights in a governed way that does not impinge on the image of the government super-app.

EXHIBIT 7
Monetization products and services in super-apps



Source: Strategy&

Private-sector participation

PPPs enable governments to access private-sector capital, expertise, and innovation for their digital channel initiatives. They can ease the financial burden of channel development and maintenance, as well as tap into market-driven approaches to service delivery and resource management.

PPPs can be employed to codevelop new products by owning or sponsoring the development of certain market segments. For example, private-sector property developers might be interested in owning and developing the housing-related aspect of a digital channel, integrating their services with public-sector services, and creating new value-added products.

Cost neutrality enablers

Achieving a cost-neutral approach to developing and maintaining one-stop digital channels for government service delivery requires enablers in the form of operating models, legal structures, and risk management.

***Operating model enablers*:** Conventional government operating models can significantly hinder the development of new monetizable products and advanced PPPs. To enable these new efforts, the entities responsible for the development of one-stop digital channels need to consider:

- **Pursuing operating model reinvention.** One-stop digital channels need the same level of flexibility in hiring, funding, sourcing, and experimentation that startups enjoy. Moreover, these efforts require agile sourcing models to attract talent and procure the tools needed for software development. The need to reinvent operating models is likely to present the greatest challenge to government entities attempting to create leading-edge one-stop digital channels.

- **Building commercial and go-to-market capabilities.** One-stop digital channels need to develop market-facing and commercial capabilities that are not typical of a government entity. These efforts, in turn, require hiring and retaining talented product management and business development professionals.

- **Defining clear monetization strategies.** One-stop digital channels need clearly defined business strategies including revenue strategies (e.g., revenue-sharing agreements) and pricing strategies (e.g., subscription, one-time fee). These strategies need to be formulated for each product and will depend on different factors, including the nature of the products and targeted segments.

***Legal structure enablers*:** Governments need to adopt innovative legal setups that allow them to monetize services while simultaneously fulfilling their mandate to achieve financial sustainability, operational efficiency, and public accountability. The legal structure they adopt will depend on the level of independence granted to the entity managing these services. The options include a:

- Government entity with limited commercial operations
- Government entity with authority to monetize offerings and services
- Commercial entity under government oversight
- Fully independent commercial entity

These models differ from each other in the extent of government control and restriction, allowance for revenue generation, financial and operational risks, operational agility, procurement and talent acquisition, alignment with government policies, and the ability to adapt, innovate, and scale. By selecting the right model, governments can strategically monetize their services, optimize financial performance, and drive long-term sustainability while ensuring that public-sector objectives are met.

***Risk management enablers*:** Generating revenue via digital services and partnerships with private-sector players comes with risks that governments do not typically face. The leaders of one-stop digital channels will need to manage and mitigate the following risks:

- **Public trust.** Even when monetization targets businesses rather than citizens, the public may perceive it as government overreach, privatization, or favoritism toward corporations, leading to skepticism and opposition. To mitigate this risk, one-stop digital channels can provide transparency through clear communication regarding how funds will be used for public benefit, engage stakeholders early, and implement accountability measures that build trust.
- **Revenue and market uncertainties.** Projected revenue from monetization strategies may not materialize due to economic downturns, policy shifts, or lower-than-expected demand. To mitigate these risks, one-stop digital channels can conduct thorough market feasibility studies, use conservative revenue projections, and diversify their revenue streams to reduce dependency on a single source.
- **Legal and regulatory hurdles.** Certain assets or services may face legal barriers to monetization, and complex regulatory approvals can slow or prevent implementation. To mitigate these risks, one-stop digital channels can engage legal experts early in the planning process, ensure alignment with existing laws, and work with policymakers to create clear regulatory frameworks.
- **Service quality and accessibility.** Monetization could prioritize profit over public welfare, potentially reducing service quality and making essential services less accessible. To mitigate these risks, one-stop digital channels can establish strong service quality regulations, enforce public service obligations for private operators, and implement oversight mechanisms to maintain accessibility.

CONCLUSION

One-stop digital channels are essential to government efforts to improve customer experience, global competitiveness, transparency, and service delivery efficiency. These efforts are particularly important in the GCC countries, which aim to become leaders in the digital economy and digital development. Now, advances in technology make such one-stop digital channels even more valuable because they create the opportunity to drive public service innovation and generate new revenue. Through the deft use of AI and proceeding in a cost-neutral manner, GCC countries can reimagine one-stop digital channels and place themselves in the top ranks of governments around the world for service delivery.

ENDNOTES

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

2. “LifeSG: Being There for Your Every Milestone,” GovTech Singapore (https://tinyurl.com/y7uyrya9); GovTech Singapore (https://www.tech.gov.sg/).

3. TAMM, Abu Dhabi Government (https://www.tamm.abudhabi/).

4. Stephen Foreshew-Cain, “How Digital and Technology Transformation Saved £1.7bn Last Year,” Government Digital Service, October 23, 2015 (https://tinyurl.com/yckf8sz7).

5. Office of Registrar General, Rwanda Development Board (https://org.rdb.rw/business-registration/).

6. DigiLocker (https://www.digilocker.gov.in/).

7. Tawakkalna (https://ta.sdaia.gov.sa/index-en.html).

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