E - Government Strategy & Implementation Roadmap

(E-gov Strategy 2025-2029)

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GLOSSARY

AI	Artificial Intelligence
BOT	Build-Operate-Transfer
BPO	Business Process Outsourcing
CIO	Chief Information Officer
CSC	Common Services Centers
CSF	Critical Success Factors
CTI	Computer Telephony Integration
EGDI	E-Government Development Index
EPART	E-Participation Index
FGS	Federal Government of Somalia
G2B	Government to Business
G2C	Government to Consumer
GIS	Geographic Information System
HR	Human Resources
ICT	Information and Communication Technology
IoB	Internet of Bodies
IoT	Internet of Things
iTV	Interactive Television
IVR	Interactive Voice Response
KPI	Key Performance Indicator
KYC	Know Your Customer
MDA	Ministry Department Agency
MoCT	Ministry Communications & Technology
NCA	National Communications Authority
NCC	National Coordination Committee
NTP	National Transformation Plan
OECD	Organization for Economic Co-operation and Development
OGP	Open Government Plan
PFI	Private Finance Initiatives
PKI	Public Key Infrastructure
PIAP	Public Internet Access Points
PPP	Public-Private Partnerships
QR	Quick Reference
R&D	Research and Development
RTI	Right To Information
SEO	Search Engine Optimization
SLA	Service Level Agreement
SoS	System of Systems
SWOT	Strength Weaknesses Opportunities Threats
UN	United Nations
USSD	Unstructured Supplementary Service Data
WGA	Whole-of-Government Approach

EXECUTIVE SUMMARY

Technology has revolutionized and transformed the way we interact and live, with the demand for transformation and change also affecting governments. In response to the ever-growing demand for governments to reduce administrative costs, improve services, save time, and increase effectiveness and efficiency in the public sector, public administrators are turning to technology in order to drive the transformation in government, due to the new possibilities ICT brings, as it accords people multiple flexible means to deal with their needs in simpler, easier, and faster ways. Technology also presents new opportunities for governments to speed up organizational change, providing solutions that help in optimizing their services to citizens.

e-Government is the innovative use of information and communications technologies by government agencies who are responsible for transforming information between people, businesses, and all other government stakeholders to transform government operations, by improving effectiveness, efficiency, service delivery, and promoting openness and transparency to achieve better government.

The Somalia National ICT Policy of 2019-2024 aims at facilitating Somalia's digital transformation to a knowledge-based and inclusive society, accelerating socio-economic development toward fulfilling the Sustainable Development Goals. To this end, the policy identifies six priority areas of intervention meant to support the development of ICT sector to help meet the overall socio-economic development goals, with e-Gov being one of the key broad areas of focus, aimed at addressing three thematic areas namely; government interconnection, open data, and public e-services (e-government, e-health, e-agriculture and e-education).

In formulating this strategy, a situational analysis was undertaken to assess and understand the current state of e-Government implementation in Somalia. A number of Ministries, Departments and Agencies (MDAs) were consulted to gain a clearer understanding of strategic, institutional and legal framework for e-Government, existing E-Systems, shared services and infrastructure, and e-services delivery, identifying enablers, challenges, and constraints to e-government.

Desk research and focus group discussions helped in gaining a clear understanding of the concerns, practical challenges and lessons learned when utilizing ICT to offer enhanced portfolio of public services to citizens in an efficient, transparent and cost-effective manner. Through this assessment and gap analysis, a range of significant issues which impeded successful implementation of e-Government in Somalia were identified.

This e-Government strategy aims at providing a clear road map towards digital transformation of public services in Somalia by implementation of a number of e-Government initiatives that will lead to the attainment of four strategic thrusts namely; end-to-end automation, user adoption and digitally-enabled society, increased government efficiency, and affirming open government.

1. INTRODUCTION

1.1 Purpose

The purpose of this e-Government strategy is to guide digital transformation of public service in Somalia, with the aim of attaining an inclusive digital society and economy through provision of quality public service. This can only be achieved through successful implementation of e-Government initiatives.

Successful implementation of e-government programs requires clear and attainable goals and objectives. Implementors also need to navigate through and overcome the wide range of challenges and barriers that hamper successful implementation of e-Government initiatives broadly categorized as; technical (ICT infrastructure, privacy, security), organizational (top management support, resistance to change, lack of skills), social (digital divide, culture), and financial i.e., high costs.

Having sound e-Government institutions is also key in the success of e-Government reform, and there are several strategic issues that need to be addressed including: institutional arrangements needed to integrate e-government with the country's development strategy and state modernization; to tap the synergies between e-government, telecommunications infrastructure, ICT literacy and human resources, ICT as a sector or core competency, and ICT as an enabler or productivity driver for all sectors of the economy, institutional leadership and networks are vital; cohesion between e-government components; degree of decentralization; and how to build e-government institutions and capabilities to fit with a country's political culture and institutional structures, or even transform them.

The Somalia e-Government strategy 2025 addresses all the aforementioned issues by providing direction detailing how the government will mobilize and employ its resources (skills, people, knowledge, finances etc.) to achieve its overall e-governance mission, vision, and overall objectives, identifying initiatives to be undertaken to meet identified strategic thrusts, institutional mechanisms and key enablers required to overcome challenges, mechanisms for monitoring, evaluation, and learning, and a clearly timed roadmap to guide in implementation.

The Strategy aligns with the Somalia National ICT Policy & Strategy (2019-2024)[1]. In addition, the strategy's implementation approach is anchored on and guided by four strategic thrusts that contribute substantially to each of the four pillars and objectives of the Somalia National Transformation Plan, 2025-2029[2].

[1] https://mptt.gov.so/en/wp-content/uploads/2019/11/National-ICT-Policy-Strategy-2019-2024.pdf
[2] https://mop.gov.so/wp-content/uploads/2019/12/NDP-9-2020-2024.pdf

Table 1: e-Government contribution to Somalia National Development Plan

Somalia e-Government contribution to Somalia NDP		
Somalia NTP 2025 to 2029		**Somalia e-Government will:**
Inclusive Politics (Pillar 1)	• Revenue-sharing and fiscal federalism • Intergovernmental Relations • Somali governance structure • Electoral system and voter registration	• Ensure citizen participation in government policy and scheme design • Ensure greater awareness by citizens on government services and schemes • Promote causes of e-citizen and e-democracy;
Security & Rule of Law (Pillar 2)	**Cyber crime** • Invest in cyber security • Employing modern information technology (MIT) • Effective national cyber security and cyber resilience institutions	• Provide a unique identity-based login to individuals for accessing the various electronic channels of government • Provide PKI based identification
Economic Development (Pillar 3)	• Sound economic management • Responsible exploitation of national economic resources e.g., agriculture, transport, energy, finance, infrastructure, manpower, and trade • Sustainable economic diversification • Promoting growth of micro, small and medium-sized enterprises	• Encourage participation of the private sector and deployment of its resources, entrepreneurship and competence. • Improve business climate • Spur growth of ICT entrepreneurship/industry
Social Development (Pillar 4)	• Gender and social inclusion • Social care and protection • Durable Solutions for the Displaced • A sound social structure • Governance	• Lead to improved turnaround time for service delivery • Lead to a citizen-centric and accountable government • Lead to a more integrated, joined-up and collaborative government • Increased accessibility of government services • Lead to customer satisfaction • Lead to increased digital-literacy

The Strategy's implementation will necessitate coordinated efforts from all government agencies. The four strategic thrusts were created to help integrate efforts and focus on the most important issues. A thorough timetable of initiatives and projects underpins each thrust.

1.2 Somalia e-Government context

The potential for the Information Communication Technologies (ICT) revolution to modernize government organizations, strengthen their operations, and make them more responsive to the needs of their population is one of the many promises of digitally driven public sector transformation. Many countries have implemented so-called e-government programs, which embrace ICT and use it to modify a variety of aspects of their operations. Some of these programs have experienced failure because care was not taken to address country context critical success and failure factors. Approach used to understand country context and critical success and failure factors are highlighted in section 1.3 of this strategy, i.e., situational analysis.

In execution of e-Government program initiatives to meet the overall e-governance strategic goals, the implementation of the strategy must be cognizant of country context, borrowing from international best practices and using this to model best fit approaches that respond to specific country reform needs.

E-Government in Somalia should be devoted to delivering services to individuals across society, regardless of area, monetary status, education, or ICT capacity, and should move away from department-centric (automation and digitization of some existing processes and enabling access via the internet) to citizen-centric (transforming and re-conceptualization of the services offered by governments, with citizens' expectations at the center of the re-conceptualization).

To this end, e-Government mission ought to be to oversee change within the government and center on the satisfaction of the recipients of government services, accomplishing this through delivery of the services via different channels using modern technology, knowledge management, recruitment of experienced and qualified staff to execute the e-Government program. The initiatives and activities also have to be simple and satisfactory to citizens in Somalia. In quintessence, the e-Government program ought to contribute effectively to develop and administrate the transformation of the Government of Somalia.

The Somalia e-Government Strategy 2025 is expected to go hand in hand with the right architecture for the use of data, an appropriate governance infrastructure to guide and integrate the use of digital technologies, and a valid monitoring and evaluation framework to assess the government’s progress in becoming fully digital, open and responsive to the citizens’ needs.

Within the Somalia context, it is imperative to consider e-readiness as an important partner in e-government implementation process as the quality of the country's ICT infrastructure and the ability of its consumers, business and government to use ICT to their benefit will be key determinants of success of e-Government initiatives. E-readiness therefore is going to be a prerequisite to the creation and implementation of e-Government as the application of ICT to usher in transform in public services requires a country to be e-ready in terms of infrastructure, equal access, and inclusion for all for all citizens.

All these issues well-thought-out under the country context, provide the contextual framework used to prepare the e-Government strategy 2025, which aims at providing a guided approach that

will deliver an e-government program that is attendant and responsive to Somalia's public sector reform needs, delivering e-government initiatives that are comprehensive, integrated, ubiquitous, transparent, easy to use, accessible, secure, reengineered, and interoperable.

1.3 Situational analysis

The Federal Government of Somalia has long recognized ICT as a major enabler to enhanced service delivery. This is evidenced by the fact that ICT is recognized as a pivotal and key tactical driver in meeting various government strategic development policy goals.

The National Development Plan (2017-19) identifies ICT as tool to aid in the achievement of the socio-economic development goals of the plan, and proposes development of critical ICT ecosystem components needed to empower Somalia's citizens with ICTs to open up the potential for new business opportunities.

The Somali Infrastructure Strategic Plan (2019-2063) aims at ensuring the country achieves full mobile coverage and correct disparities in access and affordability to ICT infrastructure and services both within and beyond the urban centers, including deployment of required ICT infrastructure in all the Regional States.

As of January 2025, Somalia had a population of 16.12 million, with 50.1% being female and 49.9% of its population being male. Urban to rural population distribution is at 46.4% to 53.6% respectfully. Internet penetration stands at 12.1%, translating to 1.95 million internet users, being an increase of 329 thousand (+20%) between 2020 and 2025. The number of social media users stands at 13.0% of the population, being an increase of +31% between 2020 and 2025, translating to 500 thousand new social media users, with 99.6% of users accessing via mobile devices. Between January 2020 and January 2025, the number of mobile connections in Somalia increased by 351 thousand (+5.1%), accounting for 45.3 percent of the population at 7.30 million[3].

Table 2: Key indicators of annual digital growth 2020 - 2025

Indicator	Number	% Of Population	Increase	% Increase
Population	16,200,000	-	457,000	2.9%
Mobile Connections	7,300,000	45.3%	351,000	5.1%
Internet Users	1,950,000	12.1%	329,000	20.2%
Active Social Media Users	2,100,00	13.0%	500,000	31.1%

Despite the commendable annual digital growth, Somalia still ranks poorly on the UN E-Government Development Index, having an EGDI of 0.1293 ranking at 191 out of 193 in 2020 with an E-Participation (EPART) of 0.3571, ranking at 142 out of 193[4]. This is a clear indication that the

[3] https://datareportal.com/reports/digital-2021-somalia

[4] Interactive e-Government Knowledgebase (UNeGovKB), United Nations, accessed 26 August 2021, https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/158-Somalia

state of e-Government development in Somalia is dire, and there is need to put in place interventions that will address issues that pose the greatest challenges to the EGDI dimensions of e-government namely; provision of online services, telecommunication connectivity and human capacity, and EPART dimensions i.e., e-information sharing, e-consultation, and e-decision making.

Somalia holds a lot of potential for technology adoption based on annual digital growth indicators. The low EGDI and EPART also come with a silver lining as they present an opportunity for growth and innovation by building sound e-Government programs and initiatives grounded on a strong foundation starting on a clean slate with lessons learned from other jurisdictions, and supported by a vision founded on long term goals as espoused in Somalia's NDP and other related strategy and policy documents.

As Somalia strategizes to integrate and use digital technologies to achieve a fully mature digital government, there are pertinent policy dimensions that are based on the OECD digital government framework that were considered, and if fully implemented, will create a digital environment well equipped to meet Somalia's digital society and economy needs. The dimensions include:

- *From the digitization of existing processes to **digital by design**:* Government should think about successful and long-term transformation from the start, taking into account the full potential of digital technologies and data in order to rethink, re-engineer, and simplify government to deliver an efficient, sustainable, and citizen-driven public sector, regardless of the user's preferred channel.
- *From an information-centered government to a **data-driven** public sector*: Data is recognized by the government as a strategic asset and a core enabler for the public sector to collaborate, and it is used to forecast demands, shape delivery, understand performance, and respond to change.
- *From closed processes and data to **open by default***: In accordance with the ideals of transparency, honesty, and accountability, the government is committed to providing data in open formats, cooperating across organizational barriers, and involving those outside of government.
- *From a government-led to a **user-driven** administration, that is, one that is focused on user needs and citizens' expectations*: Citizens and businesses should be able to voice their requirements to the government, and the government should involve and be guided by them when establishing policies and public services.
- *From government as a service provider to **government as a platform** for public value co-creation*: Governments provide supporting ecosystems that enable public employees to craft effective policies and provide high-quality services.
- *From reactive to **proactive** policy making and service delivery*: Government to anticipate, and rapidly respond to, the needs of their citizens before a request is made.

1.4 Stakeholders' analysis

The private sector, non-state actors, citizens, politicians, public servants, MDAs, Information Technology providers, development partners, and other governments are all possible stakeholders in Somalia's e-government.

Many e-government projects are primarily focused on the public administration's ideas and knowledge. This leads to isolation of key stakeholders and denying them participation in the creation process and not adequately informing them about the projects' purpose and idea, leading to skepticism of new electronic applications.

Given that the goals of public e-service development include both citizen needs and wishes, as well as increased government efficiency and effectiveness, it is critical that project management responsible for public e-service development be able to broaden their perspective to include all of these actors.

It's also crucial to think about involving all the stakeholders in various ways in the development and delivery of the public e-service. This necessitates a humanistic as well as a technical perspective on involvement. Respecting stakeholders' interests can lead to enhanced e-government initiatives that improve the government's reliability and political credibility, but it necessitates the use of proper tools to characterize and assess stakeholder interests.

The analysis revealed that all the stakeholders want greater participation in the political decision-making process through the use of ICT. Participation will help to strengthen the mutual trust between politics, public administration, citizens and businesses. This will ensure that results are broadly accepted and innovative solutions can be developed through transparent and open decision making.

It's worth emphasizing that public e-services frequently have an impact on both external and internal stakeholders who have legitimate claims about the e-service. These stakeholders are likely to have differing perspectives on the e-service, and it is unlikely that all of their viewpoints and objectives will be fully respected. As a result, in order to determine which stakeholder involvement strategies to implement, stakeholder interests must be analyzed and prioritized. Consequently, the quality of the e-service should improve.

1.5 International best practices for benchmarking

E-government and e-governance are unquestionably the future. Governments all across the world are implementing electronic infrastructure and network functionality. Growing public expectations, as well as the promise of economic, administrative, and political benefits ranging from cheaper costs to greater coordination, are driving this adoption.

To achieve e-government efforts, a tiered strategy to infrastructure development must be used, which transforms an initial e-government project into the ultimate desired service. E governments all across the world have diverse goals and use different approaches to e government

development. The benefit of a phased approach is that the success of each e-government project can be calculated, and the initiative's potential faults and risks may be mitigated.

Recognizing that e-governance is an evolutionary model, the United Nations has developed a five-stage e-Government model that is used to measure various UN member states' maturity in terms of their current stage of e-governance progress/development.

The five stages of the UN e-government model are defined as follows:

- **Stage 1 (Emerging):** An online presence is established through official website. Information is basic, static and limited.
- **Stage2 (Enhanced):** Government sites increase content, become more dynamic. The content is updated more frequently.
- **Stage 3 (Interactive):** Users can interact with department through a set of forms, and email.
- **Stage 4 (Transactional):** Users can actually avail government services by making payment on website.
- **Stage 5 (Seamless):** There is full integration of e-services across administrative and departmental boundaries.

eGovSpace, a portal dedicated to drive e-Governance best practices and analysis bringing together e-governance enthusiasts, practitioners, and consultants, conducted a study to look at factors that contribute to the success of each stage of the e-government model. The study looked at the each of the stages of the e-governance evolutionary process in order to understand if they are linked to each other, or if they co-exist and continue to grow parallelly.

The study examined data from the main cities in the world's top 100 "most wired" countries from 2003 to 2016 and the study's findings are provided as follows[5]:

[5] Stages of e-governance and Factors that accelerate its evolution, eGovSpace, accessed 28 August 2021, https://www.egovspace.co.in/stages-of-e-governance-and-factors-that-accelerate-its-evolution/

a. External Factors

I. **Socio-economic factors of local citizen body such as education, wealth and technology access**: Wherever individuals are tech-savvy and governments are more inclined to provide e-services, there is a desire for more participatory tech-enabled governance.

II. **Environmental factors**: Governments play the role of supplier. Technology plays an enabler role in situations where the population is high with the demand for innovations on distribution and service, thus accelerating e-governance adoption

b. Internal Factors

I. **Political factors** such as the role of elected official. The leadership of an organization, as well as their technological orientation, is critical in adopting a futuristic strategy to e-governance deployment.

II. **Financial resources and Gross Domestic Product (GDP)**: Wealthier governments are able to honor financial investments for operations and sustainability as demanded by major processes and technical upgrades and are always ready to incur expenses related to technology investments and execute e-governance plans well.

c. Institutional Factors

I. **Regional competitiveness**: Due to the high expectation citizens have towards their government for leadership in the region, having neighboring countries who are technologically advanced, and rank high on e-governance positively influences governance landscape

II. **Vibrant democracy**: E-governance flourishes in vibrant democratic countries which allow people to demand from their leadership their rightful and just standards of living and governments are assessed by citizens based on its effectiveness and efficiency.

This 12-year longitudinal study of Global Cities further revealed that in smaller countries, the greater emphasis may be on a different stage, but the growth of e-governance is still consistent with factors identified as above.

Benchmarking of Somalia's e-government initiatives against the UN e-Government Maturity Model with detailed consideration of the success factors attendant to each stage of the model resulted in an e-Government maturity classification of level 1 – emerging. The ultimate vision for e-governance transformation in Somalia should aim for achieving maturity level 5 – seamless. This will require a well-coordinated and structured implementation of e-government initiatives guided by an e-government best practice model founded on a country context adoptable strategic framework.

A best practice is defined as an improvement in the system's efficiency for disseminating information, providing services, and assisting in public decision-making. A best practice is a defined methodology, method, or procedure that has demonstrated its ability to complete tasks over time[6].

A best practice occurs as a result of successful collaboration between public and private institutions, and it is socially and culturally self-contained. Governments all across the world are attempting to provide high-quality services using known best practices in both the public and private sectors.

In implementing various e-government initiatives, the Ministry of Information Technology, Government of India identified six similarities among best practices as listed below[7]:

- Constant focus on improvement in quality costs and delivery of the e government services.
- Closer interaction with the citizens
- Closer interaction within the service providers
- Increased and effective use of technology.
- Greater flexibility and less hierarchical organization
- Promoting continuous learning, teamwork, participation and flexibility

Strategic Framework of e-Government

The framework adopted for use in implementation of e-Government activities in Somalia was proposed by Abdelbaset Rabaiah and Eddy Vandijck in 2009[8] and is based on best practices in e-government, formulated with the study of e-government strategies of 20 countries (Australia; Belgium; Denmark; Austria; Japan; Finland; France; Canada; Germany; Korea; Singapore; Jordan; Egypt; UK; India; New Zealand; USA; Malaysia; Brazil and The Netherlands) and European Union. The choice of countries was diverse and representative covering, countries from all continents, developing countries, and countries that topped the score of e-government maturity, thus providing a generalized perspective of the strategies studied.

The study looked at commonalities among different strategies used by governments for realizing their e-government programs despite the varying goals. Certain common trends in e-government were identified with these commonalities resulting from best practices occasioned by governments' tendency to learn from each other.

Strategic framework of e-government is generic and can be adopted by any e-government strategy, will act as a bridge between the various levels of government, and unlike other frameworks, it is best practice based. It incorporates very important elements and principles with desirable characteristics and features that can add value to the e-government strategy. In crafting

[6] Sami M. Alhomod and Mohd Mudasir Shafi "Best Practices in E government: A review of Some Innovative Models Proposed in Different Countries" International Journal of Electrical & Computer Sciences IJECS-IJENS Vol: 12 No: 01
[7] Ibid
[8] Abdelbaset Rabaiah and Eddy Vandijck "A Strategic Framework of e-Government: Generic and Best Practice"

the framework, consideration was placed on commonalities, trends, best practices, and relevant work of other scholars. The framework provides a generic a generic abstraction and guidelines for conceptualizing and writing an e-government strategy and incorporates all the necessary basic elements for a successful development.

The framework proposes that there can be strategies developed for individual services to be provided to the citizens. It is divided into 2 parts, with each part having modules representing the component of an e government as listed below:

- **Front Office**
  - Vision
  - Strategic objectives
  - Users
  - Delivery modes
  - Guiding principles
  - Channels
- **Back Office**
  - Priority area
  - Major initiatives
  - Infrastructure
  - Organization
  - Guidelines

The modular design of the framework allows for flexibility in that it is easy to add modules to the framework and update certain modules without messing up the whole framework thus making it fully extensible and customizable, and has been incorporated into and provides the building blocks for the drafting of the Somalia e-Government Strategy 2025.

2. LEGISLATIVE, OPERATIONAL, AND REGULATORY ENVIRONMENT

Article 18 of the Federal Republic of Somalia's Provisional Constitution of 2012 guarantees freedom of expression and opinion, freedom of speech, and freedom of the press, including all kinds of electronic and web-based media[9].

National Communications Law of 2017 provides a framework for regulating the ICT sector, including the establishment of a new ICT regulator – the National Communications Authority (NCA). Articles 3(1) and 41(1) of the National Communications Law vests the NCA with powers to regulate not only telecommunication but also internet and broadcast services, and will also ensure fair competition in the industry to allow growth. The law will also help the government's security operations because it will provide a legal foundation for terror financing regulation.

Operationalization of the NCA is ongoing including continued work on interconnection and the establishment of CERT (Cybersecurity Emergency Response Team) that can mitigate, detect and respond to cybersecurity incidents. The NCA is also developing a number of regulations[10] in an effort to implement the National Communications Act, 2017.

Some of the legislative, operational and regulatory changes that are currently on going and will have a direct impact on implementation of e-government initiatives include:

a. The Unified Licensing Framework (ULF)

The Unified Licensing Framework (ULF) offers a flexible, simplified technology and service neutral form of licensing enabling licensing of operators and service providers under a market structure consisting of broad market segments namely; Communications Infrastructure Provider (CIP), Application Service Provider (ASP) and Communications Infrastructure and Services Provider (CISP). This allows operators to use the most cost-effective technologies for their service offerings without exceeding the scope of their license. Simplification and streamlining of the licensing process reduce administrative costs for the NCA while lowering or containing levies on operators for licenses and other fees.

b. Numbering Regulation

The Federal Republic of Somalia National Communication Authority Numbering Regulation 2020 provides a regulatory framework for the control, planning, administration, management and assignment of number resources pursuant to the National Communication Act. The regulation provides for; the right to numbering resources, eligibility for allocation of numbering resources used for electronic communications, numbering policy based on the E.164 number structure, Short Codes used for voice, SMS text messaging and related communication services, standards for numbers, numbering plans, transitional arrangements, numbering register, customers' dialing procedures, application process for allocation of numbering resources, notification, confidentiality, withdrawal, appeals, protection, freeing numbers, fees, and assignments.

[9] See the provisional constitution: http://hrlibrary.umn.edu/research/Somalia-Constitution2012.pdf
[10] See the list of regulations: https://nca.gov.so/features/regulations/

c. Policy development by Ministry Communications and Technology

The ministry prepared a new five-year ICT Policy which was adopted by the Cabinet on 28 November 2019, with an information infrastructure risk assessment carried out in the first and second quarter of 2020 expected to provide findings that will enable the development of related policies. The ministry is currently receiving support to further engage in legal and policy work on digital inclusion, e-government and cybersecurity.

d. Repatriation of the .so domain and installation of an IXP

Management and responsibility of ***.SO*** (DotSO), which is the internet country code top-level domain (ccTLD) for Somalia was transferred to the Somalia Network Information Center (SONIC). In May 2018, an any-cast name-server and internet exchange point (IXP) was installed at Mogadishu International Airport's cable landing station, and is currently fully operational. These interventions have helped boost local traffic, reducing costs associated with international transit.

e. Establishing a framework for SIM card registration

Commendable progress has been made towards establishing a framework for SIM card registration with some analytical work on SIM-card registration and digital ID completed. Findings from the studies carried out under the analytical work has greatly informed the operational digital ID work currently ongoing with the approval of the NCA board, including the adoption of a new ID Policy, aligned with international best practice. The NCA is currently a member of a central ID Task Team, which is tasked with ensuring that the new ID system meets SIM-card registration standards.

f. Connectivity in higher education sector

There has been backing from development partners who have supported the connectivity in higher education sector by funding Somali Research and Education Network's (SomaliREN) membership of the UbuntuNet alliance and procured bandwidth for universities across Somalia under a 15-year Indefeasible Rights of Use (IRU) contract, supplying some 155 Mbit/s of internet capacity to the university sector via an STM-1 cable, including a point of presence (PoP) in Mogadishu.

g. Extending communications rooms in key ministries across all economic zones

Communications rooms - The scheme had a successful first phase and was extended to more government offices across Mogadishu and in Federal Member States, with a total of some 29 communication rooms established in Mogadishu, Galmudug, Somaliland, South West, Jubbaland, Puntland, and Hirshabelle.

Government backbone network - In 2017, a 48-kilometer fiber optic loop in Mogadishu was completed and became fully operational, supporting 25 ministries including the Central Bank. An IRU contract for 155 Mbit/s of international bandwidth has been secured for a 20-year period to provide connectivity to major government offices in Mogadishu. After the initial 155 Mbit/s capacity was expended, and the bandwidth was increased to 620 Mbit/s.

3. PROBLEM STATEMENT

The Federal Government of Somalia is facing many challenges to deliver quality services to its citizens and efficiently manage its internal operations. Information and Communication Technology today has become an indispensable part of our lives, gaining wide application in human activities, and as such provides an opportunity for the government to use ICTs as a tool for reform in public service as its use is less expensive, more secure, and allows for speedy information transmission and access.

Attempts to automate government services have been made, with a couple of back-end and management information systems that have been established or are being built to serve fundamental public operations, and include; Human Resources Management System, One Stop Shop (OSS) for business registration, Aid Information Management System (AIMS), Education Information Management System, Central Bank of Somalia (CBS) core banking system, Somalia Transaction Automation and Reporting System (STARS), National Payments Switch, digital social registry, and electronic documents management system.

Despite the transformative public service benefits e-government projects promise, there are still challenges in delivery of sustainable e-government services. Challenges in implementing e-government services in Somalia are majorly due to, lack of appropriate technology, digital divide amongst the people, and limitations in budgets and human resources.

Somalia has a 5-year (2019 -2023) ICT policy that aims to address existing ICT infrastructure and ecosystem gaps, and focusses on accelerating amongst many other issues development in the key areas of; policy, legal, and regulatory frameworks, universal access, consumer protection and privacy, digital services and content, e-commerce, e-health, e-education, and e-governance. In spite of this, there is still great need to expand the government's digital capabilities, by addressing challenges ranging from low internet uptake, lack of business continuity due to disruptions by COVID-19 pandemic, and lack of remote working options to expand government's e-service offerings, coupled by the fact that Somalia is currently ranked at the bottom of global e-government rankings.

An assessment of the current state of e-Governance in the public sector and its impact on service delivery based on interview/discussion sessions and data collected from key stakeholders[11] identified several challenges that impacted negatively on the progress of e-Government in Somalia. Some of these challenges include:

- Lack of a strategy document that captures the overall vision for e-government and an effective strategic and institutional set-up for spearheading a whole-of-government approach to related initiatives.

[11] Stakeholders include: Ministry of Communication, and Technology (MoCT), National Coordination Committee, Ministry of Planning, Ministry of Finance, Ministry of Interior and Federal Affairs, Ministry of information, Central Bank, NCA, The Office of Prime Minister, Relevant MDAs, Project Coordination Unit (PCU), World Bank Project Task Team Leaders.

- FGS sill does not have an enterprise architecture or interoperability framework which has led to fragmentation of digital government initiatives with each implementation operating in silos and as such the government does not reap the benefits of integrated services; e.g., integration of Integrated Financial Management and Information System (IFMIS) with the banking systems, enabling gradual scale-up of government digital payments such as mobile government-to-person (G2P) payments already piloted for civil servants and emergency payments.
- Lack of a legal basis for safely expanding the collection and use of data, as well as digital transactions, including regulations and provisions for data protection, privacy, cybersecurity, e-transaction etc.
- There are currently no shared digital services and infrastructure that can aid in reaping maximum benefits and impacts of systems introduced and support further expansion.
- Lack of guidelines on shared and secure data hosting and management solutions leading to different institutions saving government data on individual servers, and sensitive personal and government data is not being shared and stored securely, illustrating that there are still large gaps to fill on the back-end of e-government and in terms of government adoption of technology.
- Despite there being a government backbone network serving 25 ministries and the CBS, supply of connectivity still outstrips demand and many MDAs still lack the IT equipment, hardware and software that they need. Meanwhile, IT resources and technical capacity for the implementation of e-government projects remains weak.
- There are also no sufficient foundational platforms and service needed to support gradual movement towards increased front-facing secure transactional service delivery. To this end, FGS does not offer trust services such as Public Key Infrastructure to enable encryption and electronic certificates, there is no digitally enabled identification system, but the country has taken initial steps to support the introduction of a foundational digital ID system, through the adoption of a National ID policy in 2019.

With the FGS keen on expanding its digital capabilities and leveraging increased uptake of mobile communication services to increase digital access to public services, it is critical that they develop a strategic guide on e-government initiative implementation, which can only be done through an e-government strategy document that will:

- articulate a high-level e-Government vision;
- provide a strategy contextualized to the challenges facing Somalia;
- reflect best practice, in relation to its approach and principles, favoring integration, transparency, resources efficiency, security and heavy end-user focus;
- support the FGS in improving the performance of key government functions;
- support greater interoperability of government systems as well as movement towards a whole-of-government approach, where data can be easily and securely shared and access to e-services is offered under a single umbrella framework;
- prioritize the use of shared systems and services, and re-usable public goods;

- support the gradual expansion of e-services over the coming five-year period, supporting movement from one-way informational e-services to more sophisticated transactional e-services;
- be grounded in the management of life-cycle events.

4. VISION AND MISSION

4.1 Vision

"To make the government effective by providing innovative public service delivery through digitization, making the government open and citizen centric, efficient in delivery of services, thus spurring socio-economic growth".

4.2 Mission

The mission of this strategy aims to optimize government service delivery through provision of quality public service geared towards improved accessibility, responsiveness, and efficiency, delivering government information and services anytime and anywhere through the use of ICTs while transforming Somalia into an inclusive digital society and economy.

5. STRATEGIC OBJECTIVES

The overall goal of e-Government is to make the Government more accessible, responsive, efficient, result oriented, and citizen-centered, making every information of the government available to all in the public interest. E-Government should enable citizens, businesses and other public sector stakeholders to access Government Services and Information as efficiently and as effectively as possible through the use of ICT.

The specific objectives of the e-Government framework are to:

- Enable digital transformation through harmonization of the policy environment and legislative framework
- Establish institutional mechanisms that will provide leadership and facilitate co-ordination, collaboration, steering the operationalization and management of e-Government services and administration in accordance with internationally acceptable standards and best practices
- Ensure convenient and easy access to quality public service and government information for all Somalis at any given place and time
- Reduce the cost of public administration by cutting down government spending on information and services in Somalia;
- Establish a main national citizen and business portal integrating electronic services across government agencies through a one-stop-shop service model
- Establishment of common service centers to providing citizens physical facilities that enable delivery of government e-services to rural and remote locations lacking access to computers and internet
- Use common service centers as a change agent to promote rural entrepreneurship, enable community participation and effect collective action for social improvement
- Increasing the government's reach in delivering much-needed public goods and services thus improving the quality of life for disadvantaged communities and supporting digital inclusion
- Broaden public participation and strengthening good governance by promoting transparency and accountability in government, thus reducing the opportunities of corruption
- Strengthen oversight and coordination across the government and its partners by improving the productivity and efficiency of government agencies, enhancing productivity and knowledge sharing.
- Take advantage of emerging and available technological innovations (e.g., cloud computing, AI, blockchain, bigdata, smart cities, robotics, IoT, IoB, quantum computing, virtual reality, augmented reality, and others) to provide integrated, secure and innovative solutions to enable high quality service delivery and drive successful digitization of government

    - Create a better business environment and conditions that attract investors/investment by streamlining the interaction and improving the interface between government and business, reducing duplication of efforts and emphasizing immediate and efficient delivery of services and effectiveness of resource utilization
    - Develop frameworks to address training, capacity building, and skills development that will ensure sufficient service delivery
    - Improve the Somalia's information and communication technology and electronic media, with the aim of strengthening the country's economy by keeping the government, people and businesses in tune with the modern world.
- Encourage international and regional cooperation and confidence and security in the use of ICTs
- Develop monitoring and evaluation framework for e-Government services with clear indicators for measuring success, impact of failure and learning outcomes

6. GUIDING PRINCIPLES

The following seven principles act as guidelines for developing and implementing e-Government initiatives and services under the future strategic implementation plan.

6.1 Services and information tailored to the target audience

Applications, digital information, and services to be implemented and provided to the citizens and businesses by the government shall be as people-centered, user-friendly, audience-appropriate, standardized and resource-saving as possible. This requires providing solutions that are customized to match realities, with managers of e-government projects demanding for designs that meet government's unique realities and country context needs.

Vendor selection criterion for e-government implementations must focus on 'customized' not 'off-the-shelf'; 'adapt' not just 'adopt' with demonstrable willingness and ability to understand client contextual realities and to customize e-government systems accordingly. This will also incumbent upon the government to build and strengthen national and/or sectoral and/or in-house e-government development capacities.

When digitalizing public services, the government should ensure that the content and linguistics used is consistent and comprehensible, while focusing on user needs and complying with usability and accessibility requirements.

In order to drive uptake and use of e-services by the citizenry, e-government implementors should ensure that the content of e-government services platforms and applications are written in Somali language. This will enable the Somali people to incorporate and apply ICTs on their own terms, including the right to create and share cultural content in their own language, allowing them to practice and revitalize their own cultural traditions customs and knowledge.

The adoption of indigenous languages in ICT applications will make the solutions more appropriate and place the applications under the control of the indigenous people, as the technology will be supportive of their language and culture while also opening doors and career opportunities through honing of ICT skills and knowledge.

6.2 Standardization and interoperability

All e-government implementations shall use standardized solutions and open interfaces, where Government ICT systems during implementation or access will be able to exchange and make use of information, at present or in future without any restrictions. Using the concept of System of Systems (SoS), various heterogeneous e-government systems at government agency level will be able to communicate and work harmoniously while owning and maintaining their operational and managerial autonomy.

Seamless transaction services through architected sharing and exchange of electronic messages and documents, collaborative applications, and distributed data processing will ensure consistent

transfer of data between authorities at all levels of government leading to sustainable and cost-effective digitalization of public services, thus facilitating the joint, orderly management of all government information with eventual realization of adaptability, guaranteed data cohesion, and increase in productivity.

The interoperability principle will ensure that newly implemented systems leverage existing system and align to government guidelines and standards set, which will be based on; minimum compatibility of systems, standardizing the content of the information being exchanged, and the harmonization of objectives and business and IT architectures.

It will also ensure that core digital rights and obligations are respected including:

- Right for citizens not having to provide the same data or information (e.g., address data) to the public sector more than once
- Business' right not to provide the same information to the public sector more than once
- A public authority right to require digital communication from other parts of the public sector

6.3 Security and privacy

When implementing e-government applications, safeguards must be put in place to ensure that electronic documents, data and ICT systems are protected from unauthorized access, malicious code and denial of services. The security and privacy mechanisms enforced ensure proper use and handling of personal information and transactions.

Citizens and businesses consuming digital government services will only have confidence in the electronic government systems if they are assured that the applications, they are accessing are safe and are guaranteed of security, legality, protection of privacy, prevention of intrusion, and that the they are able to detect attempts of unauthorized access, recover, and correct all aspects of aspects of security. All e-government implementations will also be expected to have provision for security to ICT at all levels namely; physical, people, infrastructure, and application or information.

The government will support e-identity by striving to ensure that every Somali, irrespective of their location, has a state issued digital identity, which will enable the government to authenticate its people without physical contact. Every citizen will be issued with an ID card, Mobile-ID or Smart-ID through which they will be able to provide their digital signatures in order to safely identify themselves and use e-services.

6.4 Promoting innovation

The government shall promote research and development and monitor technological developments and weigh their efficacy in use for the digitization of the administrative process while supporting innovative projects for use of new and emerging technologies.

The government can support innovations by running digital government innovation competitions or awards and establishing a government-wide program specifically for digital government innovation competitions or awards. There should be funding from state budget to hold annual TECHFEST for start-ups in which winners receive seed money to develop their ideas and also foster healthy competition amongst government agencies by publishing an annual report listing top performing MDAs in e-government.

The government should put aside resources in identifying and supporting innovative solutions that can help in improving their operational processes and positively impact the government's relationship with the public, with incremental implementation small-scale use supported by risk analysis allowing for innovative solutions to be refined and optimized for use in public administrations.

6.5 Private public partnership and outsourcing

Engendering a collaborative environment where the private sector can assist the government in implementing e-Government solutions, while at the same time building internal technical ICT capacity for sustainability of e-government projects.

The government is encouraged to build strategic partnerships with the private sector in order to leverage on the skills, expertise and resources of the private sector, while bringing about cost savings by transferring associated operating and maintenance costs to the private sector, who are always willing to optimize capital expenditures by introducing new technologies and reducing wastage, through supply of capital induced by profit motive.

Telecommunication infrastructure which due to strategic importance has traditionally been state-owned and operated, is continually faced by implications for government ownership with the emerging trends tilting towards deregulation, privatization and liberalization of telecommunications infrastructure and markets.

With telecommunications projects requiring significant upfront and ongoing capital investment, coupled by the risk of redundancy as networks become outdated or overtaken by new technologies, PPPs address challenges of economic viability of private investment in the cost of constructing and operating new telecommunications infrastructure by allowing government together with the private sector to jointly contribute financially to the development of key telecommunications infrastructure, thus providing the government some degree of control while leveraging on private sector capital, technology and expertise.

6.6 Benefit realization for government, citizens and businesses

Benefits derived from utilizing e-Government services should greatly outweigh those resulting from visiting government offices in person. To this end, the government must make concerted efforts to eliminate any barriers to increasing number of services that are mandatory online by improving on infrastructure, ensuring users have adequate ICT skills, ensuring service delivery is mature and of sufficient quality, and that e-Government services aligned to client expectations and address pertinent needs.

All services offered by the public sector should be well defined and centrally available in a list (e.g., a database, repository or a framework). The government should also maintain a searchable repository of all ICT contracts in the government and maintain a central database to make previous ICT supplier performance evaluations in the government available as a reference for future ICT procurement decisions.

There should also be models available for measuring financial benefits of ICT projects in the central government, citizens, and businesses including follow-up mechanisms to the realization of direct financial benefits of e-Government implementations to these stakeholders.

Some of the benefits to citizens and businesses include; reduced cost of compliance, improved accessibility and quality of services, readily available information, and convenience.

Benefits to government will include; transparency and accountability, revenue growth, increased efficiency and reduced operational costs, improved compliance, reduced redundancy/duplication

6.7 Digital Inclusion

The government must aspire to ensure that all citizens are accorded equal opportunity to participate and benefit from the use of ICT systems without regard to race, gender, religion, age, disability, language, or any other distinguishing factors.

With only 12.1%[12] of the population in Somalia having access to the internet, there still exists a large segment of the population that is greatly disadvantaged, and continued lack of access to internet and other crucial ICT infrastructure will further hamper any effort on e-government initiatives.

Efforts should be made to address factors contributing to the digital divide including availability of infrastructure, infrastructure investment, income/socioeconomic status, ownership of smart devices, skills and experience, geography/rural-urban location, education/literacy, age, cost of access, culture, language, speed and quality of service.

There are other themes that if not keenly considered contribute to digital exclusion namely; appropriate content (not irrelevant or confusing content), compatibility (not being able to access information at remotely due to incompatibility issues), clarity (need clear instructions and structure

[12] https://datareportal.com/reports/digital-2021-somalia

to online content for it to be effective), and IT support[13]. To this end, there is need to formulate, institute and implement a digital inclusion policy summarizing how this policy supports other national and sectoral development plans, key digital inclusion challenges faced, opportunities identified, and policy commitments which need to be made to address these challenges.

[13] Baylie Hart Clarida,Milena Bobeva, Maggie Hutchings and Jacqui Taylor. (2016) Strategies for Digital Inclusion: *Towards a Pedagogy for Embracing and Sustaining Student Diversity and Engagement with Online Learning*, 84-797. Technologies & Education Special Edition. The IAFOR Journal of Education

7. CHANNELS OF E-GOVERNMENT SERVICES

In order to encourage adoption and ensure inclusion, the government will provide e-government services through multiple communication channels. In so doing, the government should ensure that the channels available are those that take into account the citizen's perspective and best provide quality of service so as to improve the way the government and citizens interact.

As the government moves towards the provision of services via electronic means, it should be cognizant of the fact that e-services can only be beneficial if they facilitate convenient access to services at any place and time. In order to identify the best channels to use, the government should employ an evaluation strategy that looks at the different characteristics for each e-services delivery channel, the requirements of the user community, and the objectives of the organization providing the service[14], with the critical success factor tilted towards user preferred channels. Customer preferred channels will be identified based on the following characteristics[15]:

- **Directness**: This feature determines whether the interaction between the user and the administration can take place synchronously (direct interaction as occurs in front desk or telephone contacts) or asynchronously (indirect interaction as occurs in an exchange of letters, e-mail, SMS). The degree of directness may be influenced by the way the channel is implemented and operated.
- **Accessibility & inclusion**: Accessibility may be measured in terms of physical as well as in psychological distance. When services can only be obtained through traditional offline service provision and service delivery points (e.g., post office), the distance to the nearest delivery point should not be too long.
- **Speed**: This feature determines the time required for delivering a service. A user who needs to act or react fast will use a channel that instantaneously fulfils his need. For example, if an important payment is due by tomorrow, he may use transfer money by telephone. In a less urgent situation he may send a cheque by ordinary mail.
- **Security & privacy**: This feature determines whether the user and the service provider accept a particular channel for specific interactions. Interactions that involve sensitive information or the transfer of money obviously require more stringent security measures than general information services. If users, or certain segments of the population, do not trust a channel, they will not use it, or they will only use it for less sensitive services.
- **Availability**: This feature refers to the "opening hours" of a channel. If the channel involves direct contact (e.g., face-to-face, by telephone or talking to a call center agent), the opening hours are usually the same as regular office hours. Services that are provided through this kind of channel therefore have a limited availability.
- **Media richness**: Several theories exist that describe differences between media. The most well-known is media richness theory, which proposes that media have a certain degree of "richness," based on their capacities of immediate feedback, the number of cues used, the

[14] An evaluation approach for multi-channel e-Government services, https://www.researchgate.net/publication/289641224

[15] Europeancommission (2004) Multi-channel delivery of government services. *http://www.egov.pku.edu.cn/download/fw.pdf, [Accessed 18 August 2021].* Interchange of Data between Administrations Programme Amsterdam, The Netherlands, Enterprise DG.

level of personalization, and the language variety. Face to face communication possess all these characteristics, making it the richest media, followed by the phone. Web sites can be seen as moderate rich Emphasis should be made on the above-mentioned characteristics when selecting the appropriate channels to use and mechanisms put in place to ensure that all citizens are given equal opportunity to enjoy the benefits of using e-Government services, which should be publicly accessible with multiple options for interaction with offices, and allows collaborating at nearly any time, place, and manner.

The government will adopt the multi-channeling strategy which gives the public an array of options in terms of channels that they can use to consume and pay for government services[16]. Consequently, the main national citizen and business portal shall be made available to the public at any time through the following channels:

i. Internet

The government will establish a national e-government portal that will offer direct and convenient citizen access to government services online. The government portal will all host all ministry sub-sites, which will use a single template with multiple themes within the template. The template will ensure that all the portal sub-site generally look similar in layout while the theme will allow each ministry to customize is site with its colors and logos where appropriate. All the e-services will be expected to be available online through the internet 24/7 365 days are year.

ii. Mobile

All government services will be expected to be available and accessible via mobile phones and other portable devices. Since mobile phones are the readily available internet ready devices that can be easily accessed and used by a large majority of the population, the national e-government portal, other administrative portals and government websites will be expected to be mobile-optimized. This will greatly benefit users as they will have improved user experience, increased average time spent on the site, faster website load speed, integration with offline media (QR Codes), with improved SEO making it easy to search and retrieve information on the government and services using search engines. Access to the services should also be available via other mobile phone channels:

- ***M-services***
- ***SMS services***
- ***Mobile apps***
- ***USSD***
- ***Chat Bots***

[16] Pieterson, W. & Dijk, J. V. (2002) Governmental service channel positioning: History and strategies for the future. Analysis and Design of eServices, 53 - 60.

iii. Call center

The government will set up an e-government services call center which will offer on-call support services, offering personalized experience by executing in-bound and out-bound communication to consumers of government services. The call center shall perform the following functions:

- Technical support to citizens and business consuming government services using the national e-government portal
- Dissemination of information regarding e-government services and other public interest information
- Handling of voice contacts (e.g., telephone), internet contacts (e.g., chat, e-mail), written contacts (e.g., faxes, regular mail)
- Delivery of services ranging from simple general information requests (e.g., self-service through Interactive Voice Response systems (IVR) to complex transaction services (e.g., in direct contact with a human agent)
- Use of Computer Telephony Integration (all in one solution with chatbot, social media, voice, ticketing, email & customizable IVR) to enable it be a one-stop-shop
- Document and report on citizen's feedback to improve the end-user experience

iv. Interactive Digital TV

The government will work through the NCA to help in the implementation of iTV set-top boxes to ensure that government services are available on demand via the set-top boxes while taking into account its high potential for including until now excluded social groups.

More detailed assessments, mapping, and SWOT analysis will have to be done to identify specific public services and information that may be suitably accessed via iTV so as to make it a complementary service platform while at the same time building national technical standards and addressing issues that contribute to the low penetration rate.

v. Instant messaging

The government will set up an instant messaging service that will be used by the public seeking to prompt answers for urgent and brief queries as it is much faster than e-mail. Safeguards must be put in place to ensure that queries are responded to and communicated in clear and unambiguous manner to avoid the danger of misunderstanding due to brevity of messages.

vi. Interactive Voice Response systems

The government will offer IVR channel for accessing simple services and information requests. Citizens will be able to access e-government IVR using their phone lines with the services being available 24 hours, 7 days a week. Even though this channel is seen by many as user-unfriendly, phones with visual readouts may remedy this.

vii. Public Internet Access Points (PIAP)

The government will set up PIAP and where possible partner with private internet cafés targeting users who have no access to the internet at home. The PIAPs will be located in public places with dedicated staff available to assist users. In setting up the PIAP, the government will have to identify and mitigate potential barriers including physical distance and security.

viii. E-mail

The government will set up email services for two-way communication by consumers of e-government services. Email will be organized using the following models:

- **Automated response**: This will be suitable for simple services that don't require personal contact and will be available on a 24/7 basis
- **Manual response**: This will be suitable for complex information and communication services that require personal contact. It is less formal than regular mail but will be expensive to operate as it will require personnel who will have to be readily available to respond to user queries

Visually impaired persons may be assisted by automated attendants, and efforts must be made to ensure that end users have devices that allow them access and spam may also discredit the channel.

ix. Counter

The government through MDAs will set up counter services for walk-in customers in order to provide direct and personal contact services. This channel will be suitable for complex services that cannot be provided over self-service channels. This channel will have potential barriers including; costs as it will be expensive to operate, physical distance and limited opening hours, and security.

x. Common Service Centers

The government will set up common services centers (CSC) which will be physical facilities for delivering FGS e-services to rural and remote locations where availability of computers and internet are negligible or absent.

The CSCs will be expected to perform the following functions:

- **G2C Communication** – The CSCs will be used as formal channels for G2C Communication providing public interest information on; Health, Education, Agriculture, Human Resource Development, Employment, Fundamental Rights, Disaster Warnings, RTI, etc.
- **Information dissemination** – The CSC will provide information dissemination services including; Interactive kiosks, voice & Local Language Interface, and web browsing
- **Edutainment** – The CSCs will act as multi-functional spaces for group interaction, entertainment, training and empowerment

- **E-Governance & e-Services** – The public will be able to access services offered by the MDAs
- **C2G Kiosk** – The CSCs will have G2C kiosks where the public will be able to present their grievances, complaints, requests and suggestions.
- **Financial Inclusion** – The CSCs will be used as collection centers for financial payouts made by the government e.g., wages for temporary work, cash for work initiatives, social security pension, handicapped, vulnerable, and old age pension etc.
- **Healthcare** – CSCs will also have extended functionalities including; telemedicine & remote health camps, e-health records
- Agriculture
- **Rural BPO**: The government can outsource some of the support services for e-government and allow village level entrepreneurs to start Rural BPO centers and use the CSC to train the BPO center teams on handling customers, calls and data entry. The teams will also perform surveys to get feedback from customers on various government services.

8. NATIONAL E-GOVERNMENT STRATEGIC INITIATIVES IMPLEMENTATION APPROACH

E-Government strategic implementation approach will not only focus on technology or automating systems, but will also ensure that there is improved provision of public sector services, thus offering alternative and complementary approach to government administration and service delivery, as well as a means to redefine the way it interacts with citizens and the private sector.

In order to keep in tandem with the overall strategic objectives and address any challenges to the proposed implementation aimed at realizing the national e-Government strategic goals, the government will concentrate on the following four key focus areas[17]:

i. Broadening the vision of the public sector

This will be done by maintaining focus on efficiency and effectiveness by enabling citizens to better access services by improving service delivery. The government will also define a roadmap that translates the overall e-Government vision into action by setting implementation timeframes and expected outcomes, and integrating e-Government as a core component of other government programs and ensuring that it plays in the successful delivery of public sector goals.

ii. Reinforcing the organization of the public sector

The government will ensure that it sustains an integrated and coherent e-government implementation within and across levels of government by reinforcing a joint-approach through the strengthening of the existing cross-governmental collaboration and coordination structures e.g., NCC and its sub-bodies, with strong institutional frameworks and mechanisms, which should be empowered with the necessary mandate and financial resources, and adopting a joint-collaboration approach to e-Government projects across all levels of government.

iii. Enhancing capacities within the public sector

The government will ensure standardization in the use and flow of public sector information within and across levels of government clearly defining the primary holder of core data and the condition for access or reuse by multiple parties (in and outside government). The government will also ensure that it develops the core capabilities, skills, and competencies in the public sector in order to meet and support the growing demand in ICT projects due to advances and modernization. All e-Government initiatives and projects will be required to have a compelling business case and ensure that there is a firm M&E framework to facilitate strong monitoring and follow-up of the projects' implementation to ensure that benefits are reaped and valuable lessons are learnt for improved project programing in future.

iv. Strengthening citizens and businesses' engagement

[17] OECD e-Government Studies. Efficient e-Government for Smarter Public Service Delivery, Denmark 2010.

The government will motivate and increase the use of existing e-government services through public awareness initiatives driven by targeted promotion and marketing. The government will also develop a strong and effective channel-management strategy to support e-government initiatives across the whole public sector. To promote ownership, the government will incorporate citizens' and businesses' views in public service design and delivery, so that e-Government implementations reflect their needs, which will in turn raise the services' increased effectiveness, quality, and responsiveness.

The following four strategic thrusts of the National e-Government Strategy and Roadmap are aligned with the Somalia National ICT Policy & Strategy's policy goals and key priorities[18], and are the required prerequisites for successful implementation of e-Government initiatives that will propel the nation to the next level of achievement and excellence in e-Government.

Each of the e-Government strategic thrusts will be supported by a comprehensive schedule of programs and project through the roadmap and include;

8.1 Strategic Thrust 1: Offer End-to-End Automated Processes & e-Services

Automating government processes end-to-end will greatly contribute towards e-Government service transformation. The ultimate goal for this thrust will be to ensure that users, through an online environment, are able to complete transactions ("end-to-end"), without having to go through several interactions on different channels to complete a single transaction.

Automated and end-to-end processes speed up processing for both administration and users, reducing the time it takes to get a service, and making it easier for the public to communicate with government agencies. Uptake of e-services will further be boosted by the provision of services and information through a variety of digital channels.

The outcome of the first strategic thrust is that government services are fully completed electronically without customers having to physically go to the government entity.

8.2 Strategic Thrust 2: Drive User Adoption and Engender a Digitally-Enabled Society

This strategic thrust focuses on increasing demand for e-Services and supporting inclusion by ensuring access to technology infrastructure and adopting customer-centric approach. Uptake of –Services can be enhanced through promotions and user education by building trust and confidence that they can transact securely, and making them appreciate the benefits of accessing services online.

Users can also be encouraged to adopt e-services by providing them the right incentives e.g., making online transactions cheaper and faster, and making the benefits vivid e.g., users being able to track status of applications. Users must also be assured that the information they provide

[18] Ibid., 1

in transactions processed end-to-end are secure and handled with defined privacy and security principles, and are only accessed by authorized agents so as to build trust.

The government must also ensure that there is access to ICT infrastructure to guarantee connectivity, content provided and services available are relevant to the people, multiple channels of access, and that people have the requisite skills and knowledge to utilize ICT (digital literacy), and costs of access are not prohibitive.

8.3 Strategic Thrust 3: Increase Government Efficiency

This strategic thrust focuses on enhancing e-governance by increasing efficiency in government operations. The government should use ICT to make its operations more efficient by minimizing transaction costs, streamlining its bureaucratic procedures, and freeing up resources that enable them to deliver services in a better-organized and economical manner.

With increased efficiency, the government will be more effective and be able to achieve better results and meet development goals by using ICT to increase the relevancy of the policy formulation process through increased participation, improving the process of resource allocation, responding to citizen's needs in a timely manner, and increasing coverage and quality of their services.

The efficiency will be achieved by supporting government agencies in implementing and developing online services by providing middleware components to be utilized by various applications developed at government agency level, and supporting acceleration of government's digital transformation through shared government ICT infrastructure, increasing access channels to individuals and businesses, and establishing institutional mechanisms to drive e-Government.

8.4 Strategic Thrust 4: Affirm Open Government

This strategic thrust will focus on sustaining the notion that citizens have the right to access the documents and proceedings of the government to allow for effective public oversight. The government will work together with and engage in dialogue with its constituents, whether individuals or as part of business, when it comes to development and implementation of government policy and services.

In its operations and service provision to its citizens, the government will espouse the doctrine of open government where citizens will be accorded the rights to access documents and proceedings of the government to allow for effective public oversight, guided by the principal of transparency, accountability, participation and collaboration.

Government will use new and emerging technologies as a tool for making the government more efficient and effective leading to benefits including; increased transparency and accountability, increased trust, credibility and reputation leading to improved public service as citizens freely give feedback to government ministries on quality of service, promotion of progress and innovation

since availing data to the public enables the creativity of a wider group to come up with insights, and encouragement of public education and community engagement.

Open government policy will lead to improved civic engagement as citizens will be cognizant of how their taxes are spent and the government will gain because of increased civic trust which leads to greater efficiency, and enhanced delivery of services or systems functions.

The indorsed strategic thrusts will be achieved through various initiatives that will address the strategic outcomes clustered in four main themes: end-to-end automated services, user adoption and digitally-enabled society, government efficiency, and open government.

9. MAJOR INITIATIVES ON E-GOVERNMENT SERVICES

The process of e-Transformation in Somalia for the next five years (2025-2029) will primarily focused on launch and implementation of major strategic initiatives with a deliberate focus on improving multi-channel shared services, activating and developing key enablers, and implementing national projects through initiatives that will lead to e-transformation by end-to-end automation of government operations, encouraging user adoption and fostering a digitally-enabled society, ensuring government efficiency, and open government.

The strategic mission of optimization of government service delivery will be achieved through development, deployment and use of ICT to improve the livelihood of Somalis and optimize its contribution for the development of the country. The FGS will undertake a number of e-Government initiatives to improve the internal efficiencies within the government organizations and to improve the access to government services for the general public by integrating these initiatives to provide a strategic direction for e-Government implementation in the country through this e-Government strategy, with the ultimate goal of facilitating effective delivery of government services to customers (residents, businesses and visitors). The figure below captures the strategic thrusts that will guide the action plan for implementation of various e-Government initiatives that will lead to the realization of outcomes of the vision strategic components.

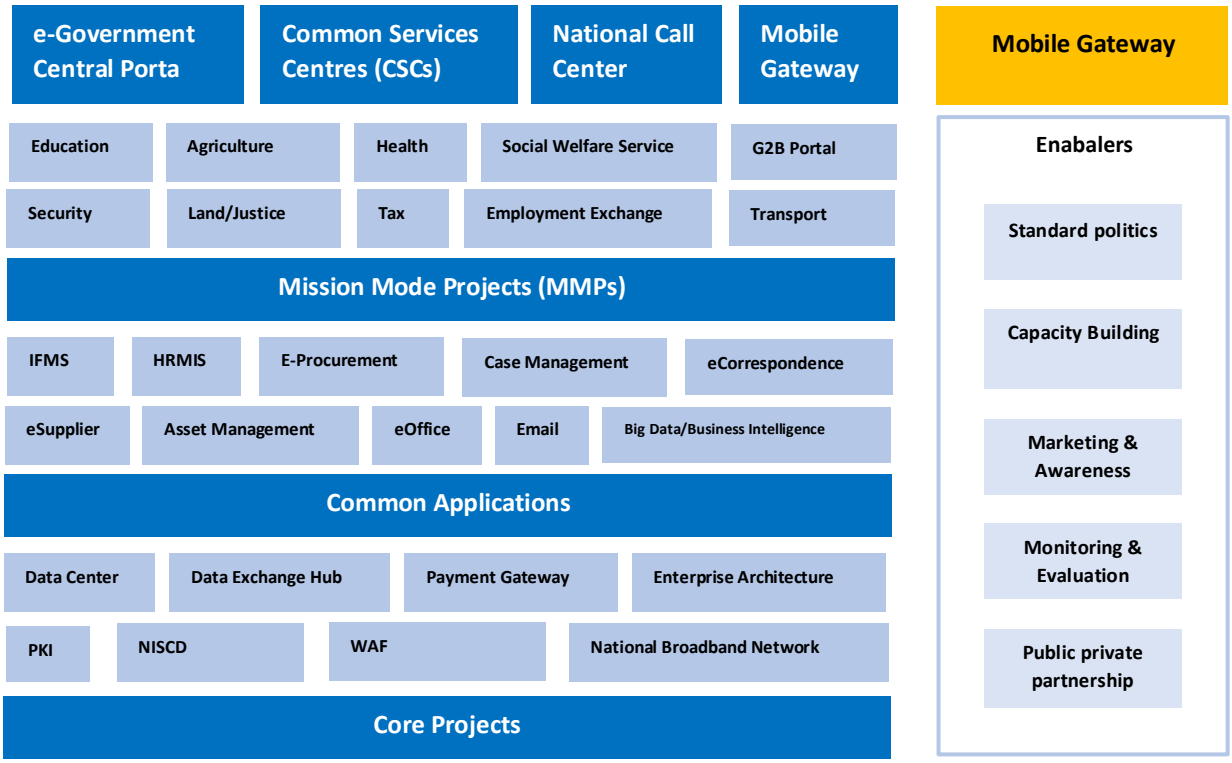


Figure 1: Strategic dimensions

Guided by the recommended e-Government strategic thrusts, initiatives on e-Government services will be actioned as follows:

a. End-to-end automated services

i. Establishing the National e-Government Central Portal

The government will establish a National e-Government Central Portal that will be the main residents, business, and visitors' gateway and portal for government services. All government transactions will be performed via the central portal and will offer both transactional and informational services. The portal will provide public-facing services as end-to-end online services except where tasks cannot be completely done electronically.

The portal will be built using the following guidelines:

- Simple and intuitive making it easy to find data using a search engine and easy to use navigation
- Be available in both English and Somali for greater reach
- Responsive design and maximizing the use of mobile technology in providing simple and easy services.
- Must be accessible to people with disabilities
- Should give citizens and opportunity to give feedback and suggest potential new e-services

ii. e-Services development initiative

The initiative will push for government entities to ensure that all (100%) of their services are online with at least 80% as end-to-end services. To achieve this, each e-government entity will be required to develop an e-services implementation plan based on their prevailing state of e-service delivery, outlining which services will be available online, the timing for implementation, and technology solutions to be used.

Each entity will also be expected to manage their e-services deployment projects, end-to-end services design and implementation, and review and update any policies and procedures required to support the e-services in order to eliminate any barriers to e-Government development.

Some priority services have been identified based on the services that every citizen have a right to get and popular citizen centric services and are listed below:

- **Education**: This project will be undertaken under the ownership of the Ministry of Education and will oversee implementation of innovative ICT in education projects including e-education, e-higher learning etc.
- **Agriculture**: This project will implement e-agriculture which will provide solutions for the agricultural services in Somalia. Some e-agriculture solutions will include; Report on statistics on fresh produce markets, Report on monthly food security bulletin, Report on crops and markets, issuance of agriculture related permits, facilitate export of animals, animal censors etc.
- **e-Health**: The project aims at creating an integrated health management solution for hospitals and clinics to be implemented on identified districts. This project would be undertaken under the ownership of Ministry of Health.
- **Passport/Visa services**: This project will see to the automation of services relating to application and issuance of passports and visa and would include application/renewal /replacement of passport, and visa processing. This project will be undertaken by the Ministry of Foreign Affairs and International Cooperation.
- **G2B portal**: One Stop Shop (OSS) for business registration anchored within Ministry of Commerce and Industrialization currently in use and is in phase 2 of implementation
- **Security**: Under the stewardship of the Ministry of Interior National security, the project will oversee the implementation of ICT solutions in the security sector including; e-prison - Automate the previously manual way of capturing admissions, rehabilitation and Release of Prisoners, National Police Security Management Information System, National ID system etc.
- **e-Justice**: This project will be undertaken under the Ministry of Justice and Judiciary Affairs and will utilize ICT to deliver services provided by the judiciary.
- **Tax**: Implementation of the NDP will require a lot of resources and efficient tax collection and revenue management systems will make it easy for the government to mobilize these resources. This project will aim at reducing the cost of compliance to tax obligations thus

enhancing tax collection. The project will be undertaken under the ownership of Inland Revenue under the Ministry of Finance.

- **Transport**: Owned by the Ministry of Transportation and Civil Aviation, the project will digitize services provided by the ministry including drivers license, vehicle registration, and other high volume and high impact services with the aim of improving service experience for a large number of people.
- **Employment**: This project will aim at ensuring there is adequate employment opportunities for the citizens of Somalia by ensuring there is adequate information available for the unemployed and providing a forum for companies and individuals to interact, thus aiding businesses to find qualified people. This project would be undertaken under the ownership of the Ministry of Labor.

iii. Mobile-first initiative

Since most users have access to mobile phones, government entities will be compelled to adopt the mobile first model for select client facing e-services in order to give them a wider range of channels and greater convenience as they can be accessed at any place and time.

The entities will be expected to have at least one service fully deployed in a mobile app but will be required to conduct adequate research to identify which particular service(s) will be suitable for mobile app deployment based on simplicity of the service and target audience.

iv. Develop guidelines for e-Services delivery

The government will have to develop guidelines that will aid government entities to deliver their e-services projects. These guidelines include:

- E-services framework – defining services that will be implemented as shared/common services and those that are standalone entity services
- Process re-design guidelines – rules on process reengineering to make them more efficient and adoptable to the end-to-end environment
- User experience and design guidelines – defining standards and rules to be followed to ensure that resulting systems are usable, easy to use and follow a standard look and feel

b. User adoption and digitally-enabled society

i. User education and promotion program

This will be a drive to create awareness on services that can be accessed online and will also be used to educate citizens on the benefits of e-services. The government will also push for increased adoption by making services readily available, simple, secure and easy to use, and allowing users to access the services using their preferred channels.

ii. Digital literacy program

CSCs will be used as digital literacy and digital skills acquisition centers in rural areas, providing platforms like chatbots where citizens will be able to request and receive digital literacy services and resources (course modules) via mobile chat services like WhatsApp, thus bridging the digital divide and spurring rural entrepreneurship.

iii. Data privacy policy

Drafting and implementing a policy statement that providing guidelines on government e-services platforms will collect, handle and process customer data i.e., whether that information is kept confidential, or is shared with or sold to third parties. When users are aware of how their data is used and are sure that it is not compromised, they will have more trust in e-Services leading to increased adoption.

iv. National digital communications policy

The National digital communication policy will seek to promote and protect fair competition across the communications and digital economy sector. This will enable the economy and citizens to derive the full potential of its digital communications sector. The objective of the communications policy is to prepare the country and its citizens for the future as the government adopts digital communication channels like email and SMS with increasing uptake of end-to-end online transactions by providing guidelines that will set out the terms of government to user communication.

c. Government efficiency

i. e-Services interoperability initiative

This initiative will entail developing the middleware components that will facilitate communication and data exchange between systems deployed by government entities and allow for sharing of centrally deployed common services and resources to avoid duplication of systems.

The following solutions will be provided under the interoperability and shared resources program:

- **National Integrated Authentication Framework (NIAF)**: This solution will simplify user registration and login for access as users will use the same authentication details to access

all government services regardless of which e-Service they want to consume using the single-sign-on authentication model.

- **National payment gateway**: This solution will allow for payment of all government services using a single platform. The system will allow for payment using an array of channels including mobile money, card payments, wallets, and bank integrations.
- **Data exchange hub**: This will be a centralized interoperable interface that will act as the National data set to provide point-to-point data exchange services allowing for the different e-Services platforms implemented by government agencies to exchange data and share information. The hub will provide commonly used data elements across ministries, that can be used by all inter-ministerial applications as well as e-services delivery channels.

ii. Multi-channel access program

In order to make e-services accessible and adoptable, there is need to ensure that users are able to access the services using easily available and preferable channels. This will lead to increased number of transactions done online due to the wider user reach.

In order to improve access to government services, the following projects will be implemented:

- **Common Services Centers**: The CSCs will act as access points for delivering essential public utility services, social welfare schemes, healthcare, financial, education and agriculture services, and host G2C and G2B services to populations in rural and remote areas of Somalia.
- **SMS channel**: Operationalization of the SMS channel will ensure that the government can communicate with citizens at any time and they can be able to get important information like new services and status update on application for services.
- **Digitized offline credentials**: In order to reduce costs and make end-to-end services more convenient, information or details frequently requested in physical format will be accepted in digital format. Through the data exchange hub, scanned documents provided by a user will be accessible across government agencies and they will not be required to enter them more than once. Licenses issued in digital format will also be admissible with digital means for verification implemented.

iii. Shared e-Government ICT infrastructure

This will have to be in line with one of the mandates of the NCC as per the National ICT Policy and Strategy[19] which is to facilitate interconnection, co-location and infrastructure sharing across the government.

Projects that will be used to create the common e-Government ICT infrastructure include:

- Consolidated data entry for all government entities
- Disaster recovery for all the shared services data center
- **National data Centre**: Cloud infrastructure for all government services. A proposed Somalia National Data Center (SNDC) that will consolidate services, applications and infrastructure to provide space and hosting environment that meets the standards for reliability, availability, scalability, security and serviceability. This will provide efficient electronic delivery of G2G, G2C and G2B services.
- Rollout of the national broadband network and continuous improvement of the government network
- **National Enterprise Service Bus (NESB):** Integration of all government shared services via a platform that enables seamless integration of ministry / agency applications and database at the backend.

iv. Whole-of-government approach (WGA) initiative

The government will employ WGA by adopting a joint activity approach where diverse ministries, public administrations and public agencies will seek to provide a common solution by pooling their resources together in development and implementation of e-Services creating a community across government entities and reducing costs, while fostering coherence in the decision-making process of public administrations.

WGA initiative will be actualized through the following projects:

- Establishment of shared support services, SLA, and call center
- Joint application development for shared services for delivery of WGA applications including:
    - Financial Management (IFMIS)
    - Human Resources (HRMIS)
    - eProcurement
    - e-Correspondence
    - Case Management
    - e-Supplier, and
    - Asset Management.

[19] Ibid. 1, p 21

- **E-office**: Office automation by digitizing government agency internal workflows to facilitate end-to-end application processing, thus eliminating the paper-based interactions within government and across different agencies by using a single solution.
- **Email Management System**: Inter-office and intra-office communication can be facilitated with the usage of email. Because the email system will be shared across departments, it will be possible to use it with the standardization of email addresses.
- Support evidence-based policy making by utilizing **big data** and **business intelligence**
- Employing WGA in procurement by ensuring standardized procurement procedures and enjoying the economies of scale that accrue from centralized procurement including common policies, staffing, shared business functions, and cost savings.

v. National Enterprise Architecture

The government will adopt an architecture-driven e-Government development approach where all e-Government applications will follow a common enterprise architecture. This will enable the government as an enterprise, be able to organize its resources – its services, processes, information, applications, and technology infrastructure – and establishing technical choices and a supporting set of policies which help achieve desired business outcomes, technical standardization and integration[20].

There will be need to develop an e-Government Application Architecture document defining the Standards and Technical Guidelines.

vi. Public key infrastructure

Development of guidelines provision of PKI based identification including roles, policies, hardware, software and procedures needed to create, manage, distribute, use, store and revoke digital certificates and manage public-key encryption for online transactions related to the e-Government projects in Somalia. Implementation to begin after guidelines are completed.

d. Open government

i. Electronic participation (e-Participation)

The government will use ICT to support citizen participation in administration, service delivery, decision making and policy making. This will be achieved by use of various channels including:

- **Online discussion forums** where citizens can be able to provide their opinions on various governance related issues for redress by the government
- **Wikis** where citizens can participate collaboratively online with others and contribute to topics that they are knowledgeable and share with those who want to learn

[20] Queensland Government Enterprise Architecture 2.0, Australia

- **Social networking services** such as popular media platforms (Facebook, Twitter, etc.) and blogs where the government can be able to participate and interact with citizens.

Open data portal

Government datasets that are on demand will be made available through a publicly accessible online portal in a timely and in a usable format. The open data portal will provide a number of datasets including budget and expenditure data, health care, school facilities etc., with the release of public data online expected to create a platform supporting the development of third-party applications (i.e., innovative applications, tools and visualizations that repurpose and enrich public data), enabling a vehicle for expanded public outreach and engagement.

ii. Open government policies and plans

The government will develop open government policies which will encourage greater citizen participation and transparency in government ensuring that there is guaranteed privacy and security of the information provided or shared.

All government agencies will be expected to have Open Government Plans and will be compelled through directives from a yearly memorandum regarding government MDA' open government plans to develop and publish biennial Open Government Plans (OGP) to serve as a public roadmap to detail agency progress in integrating the open government principles of transparency, participation, and collaboration into their work. The memo will assist government MDAs as they prepare to launch their annual Open Government Plans.

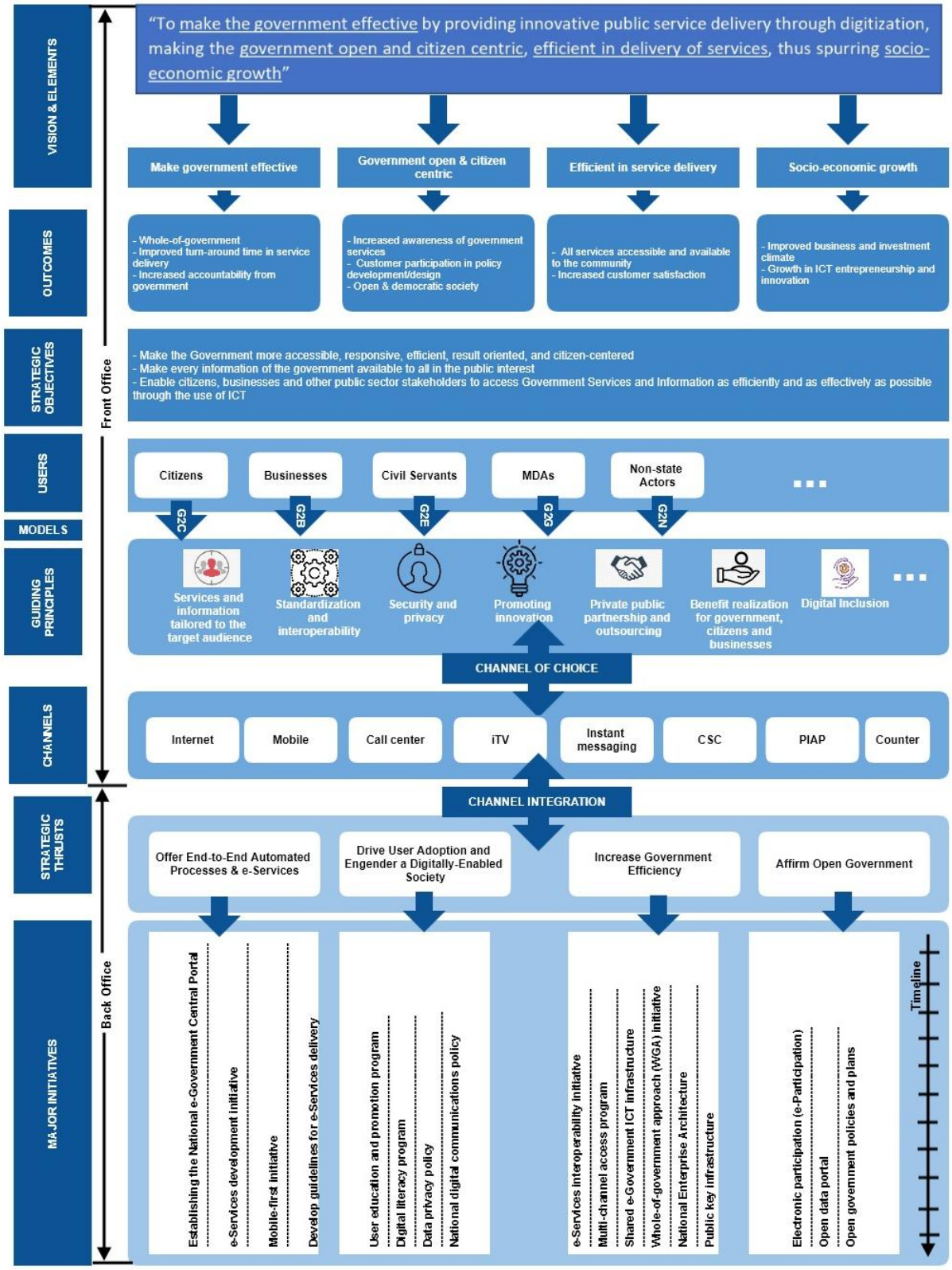


Figure 2: The proposed strategic framework of e-government

10. THE E-GOVERNMENT INSTITUTIONAL MECHANISMS

10.1 Governance model

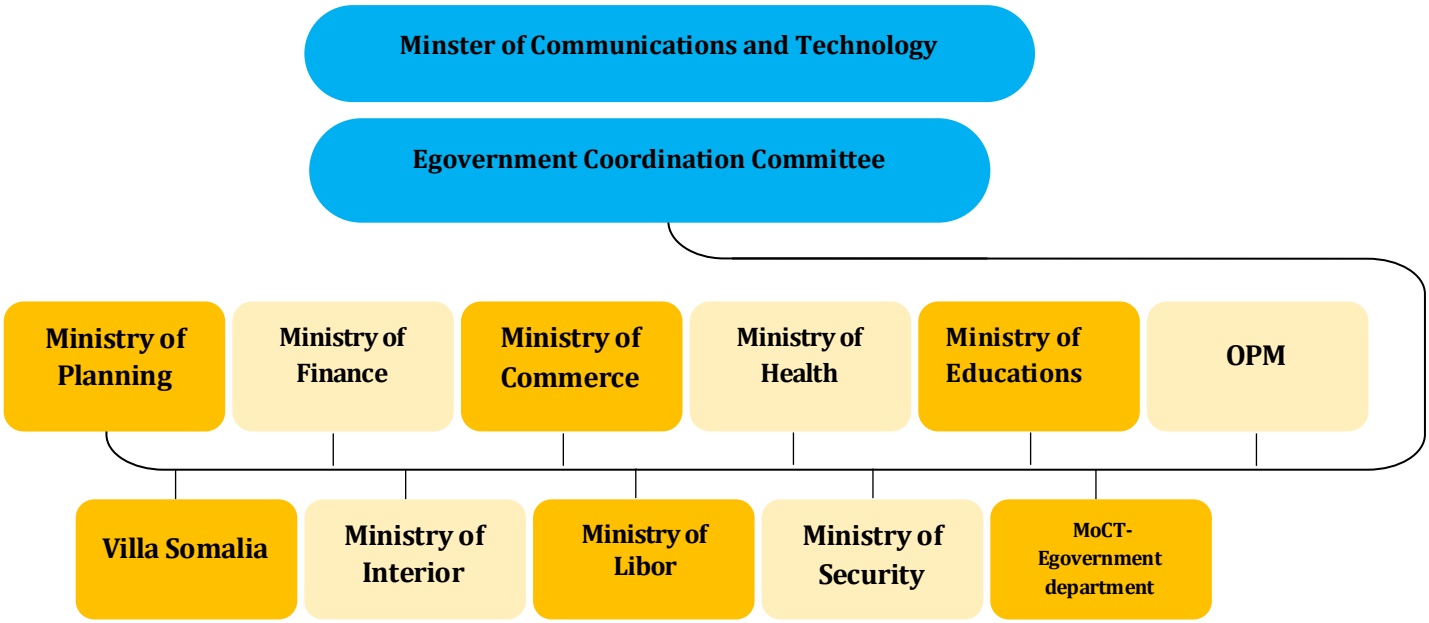
The institutional framework for e-Government will be based on a multi-stakeholder partnership approach, which will be the best approach to lead the E-government agenda and fulfill the key functions of strategy and policy making, governance and coordination, and facilitation of implementation of the various initiatives envisioned in this strategy.

In designing the e-Government structure, lessons have been drawn from approaches used in other countries to ensure that any attempts to deliver e-government programs are successful, avoiding any risk of failure occasioned by lack of adequate institutional mechanisms for the programs' creative design, effective implementation, objective evaluation, and continual adaption[21].

Due to the weak state capacity that is heavily reliant on donor funding, and bearing in mind that e-Government implementation is not a one-off project but rather a continuous process of policy development, investment planning, innovation, learning, and change management, caution has been taken to avoid the temptation of creating a project implementation unit which in most cases due to its transient nature, lacks institutional capabilities required for sustainable development.

The institutional model used to create the national institutional framework to lead the e-Government agenda is a hybrid model that fulfills the key functions of strategy and policy making, governance and coordination, and facilitation of implementation.

The following governance model will guide the implementation of the National e-Government Strategy and Roadmap.



[21] Schware, Robert, ed. 2005.E-development: From Excitement to Effectiveness. Washington, DC: World Bank

Figure 3: National e-Government Governance Model

10.2 Institutional mechanisms

i. The Minister of Communications and Technology

The minister will be responsible for legislation, policy, and investment coordination taking ultimate responsibility for the Somalia e-Government 2025 strategy. The MoCT minister will also have direct control over funds required to implement e-government and will help integrate e-government with the overall economic management.

ii. The National e-Government Coordination Committee

After the appointment of the institutions listed below as members of the committee and the official nomination by the Minister of Communications and Technology, the committee will be responsible for setting the standards for modernizing government services, administration, coordination, and establishing the benchmarks for digital governance in Somalia 2025.

The Committee will Provide various services to public institutions including; systems, applications, shared infrastructure, standards, guidelines, frameworks, consultancy, advice and technical support

MoCT/ e-Government Department (eGA)

- Ensure that specialized technical staff are available to address ICT issues by developing ICT human resource capacity
- Work together with SMO to review existing government entity services business procedures and workflows and develop technical requirements, service charters and timelines for automation of the same based on defined business cases
- Develop and review policy, legislative and any other recommendations on the implementation of e-Government initiatives
- ICT commissioning and development of a procurement framework as a critical element for the effective and agile development of digital government
- Developing key e-government enablers including:
    - **Interoperability frameworks:** alignment of ICT initiatives to business goals and objectives, improve coordination, reuse and sharing of assets among agencies and systems, avoid duplications and maximize savings, reduce departmental silos and realize integrated service delivery, Identification & prioritization of ICT programs and projects, Standardization & integration of ICT systems and infrastructures
    - **Enterprise architecture**
    - **Data architecture:** Dictionaries, Metadata, Common Data - People, Vehicle, Business, Land, GIS
    - **Policy & Strategy Architecture:** Gross National Happiness Pillars & Visions, Policies, Final Year Project Docs, National Key Result Areas

- **Business Architecture:** Business Areas, Functions, Services, Processes, Catalogs, & Taxonomies
- **Application Architecture:** Application Building Blocks, Application Portfolio, Common Systems, Capabilities
- **Technology Architecture:** Networks, Equipment/Infrastructure, Standards, Specifications
- **Architecture Governance & Management:** Dashboards, KPIs, Governance Structures
- **Data centers, digital identity etc.**

- Develop regulatory frameworks to enable coherent, safe, balanced and sustainable adoption of digital government key enablers
- Improve e-Government advisory, technical support and consultancy services
- Improve sharing of ICT resources within public service by better coordination of existing ICT resources in public institutions

iii. Ministries, departments and Agencies

MDAs will be responsible for the delivery of e-Government programs and for ongoing operations.

11. FUNDING FOR E-GOVERNMENT SERVICES

The government must structure e-government projects in a manner that addresses challenges of risks, lack of technical expertise, and mitigation of strategic error for preventing loss of investments. This can be achieved by not only employing traditional finance approach but combining with carefully crafted strategy-driven, innovative financing approaches under the PPP model, that can facilitate flexible decision making, building core capabilities, managing and sharing project risks, providing funds needed for growth and innovation, and customizing tailor-made project governance strategy[22].

When planning, budgeting and financing e-government projects, there are four relevant e-government funding issues[23] that apply to the local Somalia context and the e-government implementation experts and planners will have to consider as they source for funding to implement e-Government projects. The e-government funding issues include:

- **Project planning and cost overruns**: Poor project planning and cost overruns are common in e-government projects and in order for the government to make the best out of e-government projects and save costs, it should focus its strategies on control, performance and efficient use of human capital, as well as best practice in order to promote a higher level of transparency in government operations.
- **Cost versus savings of push towards e-government:** When implementing e-government initiatives, the government will have to address the question of costs in terms of cost of introducing e-government against the financial savings and the time framework for recovering such costs. Before any e-government implementation, a cost benefit analysis will be conducted in order to align information technology with the business of government enabling e-government implementors to adopt cost mitigation mechanisms like avoiding emerging technologies whose performance is poorly tested and their interoperability capabilities might turn out to be limited, and outsourcing with the aim of saving costs.
- **Reducing transaction costs and corruption in government procurement**: Public procurement laws[24] and implementation of electronic procurement systems is streamlining the procurement process in government, reducing transaction costs and helping to root out corruption. Proper procurement processes also ensure that contracts are awarded to vendors who offer the best technical response with reasonable costs (at times lowest bidder).

[22] Shashank Ojhaa,I.M. Pandey. (2017) *Management and financing of e-Government projects in India: Does financing strategy add value?* IIMB Management Review. Volume 29, Issue 2, June 2017, Pages 90-108
[23] Michael G. Mimicopoulos (2004). E-government funding activities and strategies. United Nations, New York.
[24] Federal Republic of Somalia, Public Procurement, Concessions and Disposals Act, 2015: https://www.mof.gov.so/sites/default/files/2018-09/Public%20Procurement%2C%20Concession%20and%20Disposal%20Act%202015.pdf

- **Governmental management / funding structure is a consideration**: The structural and organizational complexities of the federal government can come in the way of funding successful e-government. The various federal member states may need to coordinate their efforts, with the same required of MDAs which they do not always practice as a matter of course, as successful e-government involves not only technological and funding issues, but also organizational issues.

Since e-government projects incur large upfront expenditures, the government will have to treat the projects as capital expenditures and not as normal operating expenditures so as to avoid the risk of poorly financed projects. This approach will enable the government to secure long-term financing instruments which offer long term investments and allows the government to treat ICT projects as long-term capital investments enabling proper accounting for future revenue or saving streams through ICT investments.

In financing e-Government projects, the FGS will use the following sources:

i. Public-private partnerships to fund e-government

The government will be able to finance e-government projects by sourcing funds from the private sector to improve on the capital investments injected from public funding. In so doing, they will not only benefit from the capital injection, but the private sector will also bring in skills and know-how, enhanced efficiency of service delivery, insulation of upcoming operations from political intervention, and make the project responsive to the public needs and preferences.

Through Private Finance Initiatives (PFI), the government will be able to run e-government projects exclusively funded by private capital, and have a timed/leased contract between the government and a private consortium laying down standards of provision for a specific service, in return for guaranteed payments over the life of the contract in a build-operate-transfer (BOT) model.

ii. Other innovative new e-government financing methods

The government will implement other innovative and self-sustaining revenue generation methods for financing e-government implementations in order to make them sustainable. Below are some of the methods that will be used, and are not mutually exclusive:

- **User/Premium Fees**: Pricing services with public good features at marginal costs. Services that provide benefits only to small groups of business users can be used to partly cross-subsidize other services and be made available at above-cost premium rates.
- **Premium rate services**: Revenues can be raised through charges raised from users accessing premium rate services like SMS and USSD sessions.
- **Advertising**: E-government services can be co-financed through advertisements as government portals consistently rank as the most popular and most frequently visited portals

In-leu of the above-mentioned sources of funding, e-government planners and implementers must be cognizant of the fact that e-government projects in Somalia will be closely associated with principles of good governance in public sector reform as a precondition for economic development. As such, these projects will be better anchored under the principles of development cooperation as expressed in the Monterrey Consensus on Financing for Development[25], and will therefore qualify for priority consideration in development assistance.

The FGS should however take caution not to establish this as their primary source for financing e-government projects as it is not a long-term sustainable source.

Implementation of this Strategy will require additional funding and as such an e-Government Investment Framework should be developed. To this end, a dedicated e-Government budget vote informed by the proposed e-Government Investment Framework must be established, and should be centralized to ensure compliance and monitoring as well as to prioritize e-services program.

25 https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_CONF.198_11.pdf

12. CRITICAL SUCCESS FACTORS, RISKS, & MONITORING AND EVALUATION

In order for e-Government initiatives to succeed, there needs to be high levels of coordination, persistent demand for tangible results, proactive leadership and strong management. Attention also needs to be paid to any risks that abound, mitigation to avert the risks and clear models for monitoring and evaluation.

This section highlights some of the CSFs in e-government implementation, risks and mitigations, and monitoring and evaluation, three key elements in understanding success and failure of e-government projects.

12.1 Critical success factors

This strategy has identified the following themes[26] and factors as key CSFs for the successful implementation of e-Government initiatives.

Critical success factors	Requirements
Client-centric government	• Public administrators have to understand the citizens' needs and expectations in order to transform their service delivery successfully • User stakeholder involvement • Good system usability • Citizen satisfaction • Awareness • Support interoperability • Implementation of solutions that cater for all stakeholder groups putting into consideration, age, gender, disability, literacy levels and other factors • Customization to much realities • Systems to be accessible via several channels • Any change must be citizen and business-focus driven
Change management	• Assess and understand the need and the impact of change. • Align resources within the business to support the change. • Manage the diverse cost of change. • Reduce the time needed to implement change. • Support staff and help them understand the change process.

[26] Mark Alpern, (2020). Critical Success Factors for E-Government Web Services. Walden University, 78-92. Retrieved from https://scholarworks.waldenu.edu/

	• Gradual implementation • Managing the people on the project and managing expectations as you move forward • A change management strategy with the following key elements; impact assessment, a communications strategy, a training strategy and plan, a performance support strategy, and an integrated roadmap to manage the change • Willingness to change • Reward and recognition • Trust
Management support	• Strong management support for the duration of the e-government project • Empowered and dedicated senior manager • Strong management support to bridge the divide with other government departments during the e-government implementation • Providing strong management support include building collaboration within the team and between government departments and having practical change management skills • Strong leadership • Good Governance • Good coordination between all project participants • Good Planning • Good partnership with other institution • Monitoring and evaluation • Good project management • Legal framework • Supportive government policy • Guidelines for e-Government Development
Client engagement	• Building advisory groups or focus groups of citizens • Client feedback loops • Prototype • Engaging citizens in service co-design • Continuous Improvement • Creativity & Innovation • Citizen relationship management • Deal with bureaucratic processes • Supportive cultural environment • Good service quality • Good system quality • User/citizen computer/internet literacy • Supportive ICT Infrastructure/service availability • System security • Best practice consideration

	• Sustainable service and content development
External Expert Augmentation	• Engaging external resources intended to augment, rather than replace government employees • Government employees to develop new expertise by tapping into private sector resources who bring experience and best practices • Government to use consultants for the sole purpose of internalizing their knowledge as they leverage external and internal knowledge learning concurrently • Government to develop plan to ensure transfer of external skills and abilities in-house through knowledge transfer • Public-private partnership
Financial resources	• User/Premium Fees • Self-Sustainable Revenue • Enough Funding • International support
Political will, support and commitment	• Political support and stability • Prioritization of e-Government

12.2 Risk analysis and mitigations

The strategy has identified some key risks that if not addressed can be great impediments to the success of e-Government implementations. Mitigating factors to overcome these risks have also been highlighted.

Risk	Impact	Mitigation
Donor dependance	High	• Government budget and funding • Public-private partnerships
Privacy and security	High	• Implement Security measures • Effective policies, rules and regulations • National ID for KYC purposes • E-identity services
Obsolescence of technology	High	• End of life policies for technology used • Internal capacity building through continuous training

		• Investment in R&D to support innovation
Technical failure	Low	• Disaster recovery plan • Business recovery plan
Resistance to change	High	• Change management • Implement based on country context and address local realities • Stakeholder involvement • Awareness creation
Technology vendor dependance	High	• Knowledge transfer • Internal capacity building • Client-vendor relationship management
Availability of resources & project cost overruns	Medium	• Self-sustainable revenue models • E-procurement & project management • Government funding • PPP arrangements
Low uptake and adoption	High	• Digital inclusion strategy • Solutions tailored to target audience • Reduce transaction costs • Multi-channel access options • Proof-of-concept implementation approach

12.3 Monitoring and evaluation

There is currently no centralized and structured method for identification, justification, execution, and implementation of e-government projects leading to various MDAs implementing projects in silos based on their internal business needs, goals, and initiatives. This leads to duplication of efforts and wastage of resources which could otherwise be put into better use if there was a better coordinated process, with a shared common vision and strategy across various players in the public sector, and a synchronized approach to the implementation of e-Government within the Public Service.

The government through the mandated e-government mandated governing institutions will develop a monitoring and evaluation framework with clearly spelled out objectives, outcomes, outputs, and indicators for tracking progress, successes, failures, and learning from e-Government projects implemented across the government. This will aid the government in addressing critical issues faced in the application of e-Government which are usually not just technical problems, but more to the management of systems and people awareness.

The monitoring and evaluation framework indicators developed will be used as tools for measure impact of Somalia e-Government Strategy and Roadmap and through a learning framework help in identifying what needs to change while developing and implementing projects helping Somalia to improve its global rankings on advancing digital transformation of government services.

13. HIGH LEVEL NATIONAL E-GOVERNMENT STRATEGIC INITIATIVES ROADMAP

The four strategic thrusts indicated in this Strategy logically follow from the overarching e-Government vision and strategic objectives, and are backed up by a complete set of project charters. The completion of these projects will take a long time and a lot of coordination; tackling them all will necessitate the participation and assistance of all government agencies.

The e-Government projects will be implemented on a phased approach grouped in three waves:

- **Wave 1: Improve service offering** - reforming processes and setting up a conducive environment for e-services to thrive
- **Wave 2: Drive uptake** - This will entail expansion and growth of e-services offered and improving on overall rate of adoption
- **Wave 3: Foster collaboration** - Focusing on improving internal government processes in order to realize government efficiency

	2025 - 2026	2026 - 2027	2027 - 2029
	Wave 1 Improve service offering	**Wave 2 Drive uptake**	**Wave 3 Foster collaboration**
1. Offer End-to-End Automated Processes & e-Services	1.1 Establishing the National e-Government Central Portal	1.2 e-Services development phase 2	1.2 e-Services development phase 3
	1.2 e-Services development initiative	1.3 Mobile-first initiative phase 2	1.3 Mobile-first initiative phase 3
	1.3 Mobile-first initiative		
	1.4 Develop guidelines for e-Services delivery		
2. Drive User Adoption and Engender a Digitally-Enabled Society	2.1 User education and promotion program	2.1 Continued user education and promotion	2.1 Continued user education and promotion
	2.2 Digital literacy program		
	2.3 Data privacy policy		
	2.4 National digital communications policy		
3. Increase Government Efficiency	3.1 e-Services interoperability initiative	3.2 multi-channel access program	3.4 Whole-of-government approach (WGA) initiative phase 2

	3.3 Shared e-Government ICT infrastructure	3.3 Shared e-Government ICT infrastructure	
		3.4 Whole-of-government approach (WGA) initiative	
	3.5 National Enterprise Architecture	3.6Public key infrastructure	
4. Affirm Open Government	4.1 Electronic participation (e-Participation)	4.2 Open data portal	
	4.3 Open government policies and plans		

Development of an e-Government Strategy and Implementation Roadmap for the Federal Republic of Somalia (FGS)

(eGovernment Strategy 2025-2029)

https://Moct.gov.so/