THE UNITED REPUBLIC OF TANZANIA

PRESIDENT'S OFFICE,
PUBLIC SERVICE MANAGEMENT AND GOOD GOVERNANCE

e-GOVERNMENT AUTHORITY

ISO 9001:2015 Certified

Document Title

e-Service Sustainability Framework

Document Number

eGA/EXT/BSA/006

APPROVAL	Name	Job Title/ Role	Signature	Date
Approved by	Eng. Benedict B. Ndomba	Director General		14/05/2024

PREFACE

Changing technology and increased constituent demand for Government services derive the need for Governmental responsiveness. Public Institutions are under increased pressure to change their bureaucratic systems to be able to respond rapidly to changing and increasing requirements and rapid technology advancements. Government today is fighting a strong battle to provide efficient and cost-effective services and solutions to citizens.

Some improvements in Governments' processes can be made simply by swapping out old technology for the newer versions. But, to do so without critically reviewing and challenging current processes would not lead to full potential.

As Public Institutions transform their operations and services through ICT, electronic means has become an effective way for delivering public services to the citizens, and sustainability of these services is of greater importance. The standardization of ICT processes normally tends to improve reliability, predictability, agility, and increase flexibility in application development.

In order to implement sustainable applications, there is a need to establish the right environment for its implementation and to ensure that the people who are using, managing and developing these applications receive the proper guidance so that implementation meets expectations.

Eng. Benedict B. Ndomba

DIRECTOR GENERAL

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1. INTRODUCTION

1.1 Overview

The e-Government Authority (e-GA) is a public institution established by e-Government Act No. 10 of 2019 with the mandate to coordinate, oversee, promote e-Government initiatives and enforce e-Government related policies, laws, regulations, standards and guidelines to public institutions.

1.2 Rationale

Public institutions have been facing difficulties in finding a proper direction for implementation of viable e-services that are reliable. This has led to e-services that are not sustainable. This framework will assist Public Institutions to achieve the goal of having sustainable e-services.

1.3 Purpose

The purpose of e-Service sustainability framework is to ensure that e-Services are sustainable and fulfil Public Institutions' objectives and goals by providing sustainability aspects aligned to e-Government standards and guidelines.

1.4 Scope

This document will provide a framework for ensuring sustainability of all e-Services provided by Public Institutions. The aspects that affect e-Service delivery will include technology, social, institutional and finance aspects.

2. e-SERVICE SUSTAINABILITY FRAMEWORK

The evolving nature of Government operations and the evolution of new technology bring alternative ways for Government to serve its citizens. Currently many Government Institutions are in a transition state of changing human-based services into electronic services, the e-Services are referred to as e-Government, which is the

use of ICT in a Government to improve and support the business processes, information flow and service delivery. The emerging technologies in ICT lead to a dramatic evolution in areas such as economic, health, education, and agricultural etc. Sustainability of e-Services has increasingly become an important issue for the Government due to its importance in improving public service delivery.

There are a number of aspects for sustainability of e-Services in Public Sector needs to be considered which are derived from analysis of key factors affecting e-Services. These aspects include technology, social, culture, institutional, and finance aspect.

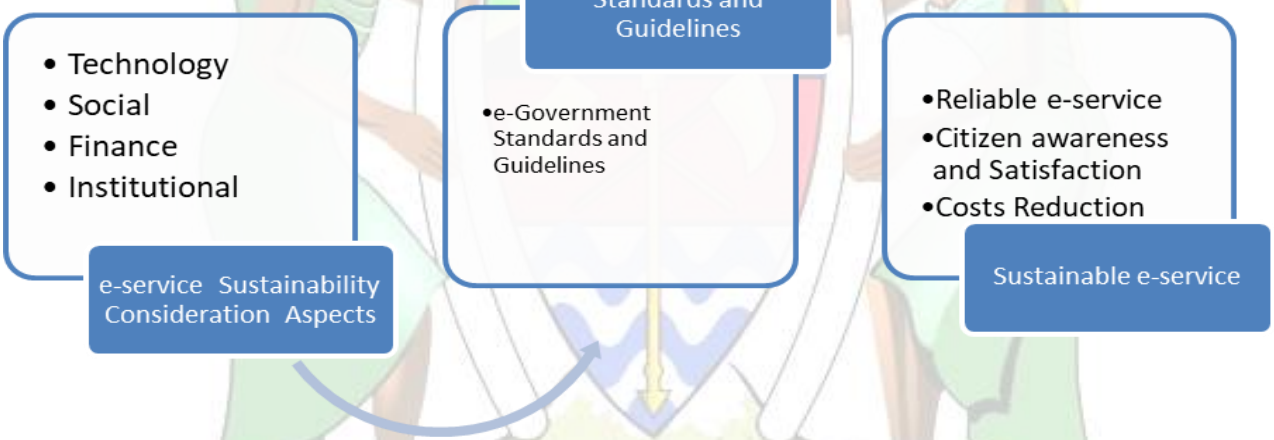


Figure 1: e-Service Sustainability Framework

2.1 Technology Aspect

Considerations of sustainability of e-Services involves the underlying built in technology of applications and ICT infrastructures therefore this aspect point out some of the technological sustainable aspects to ensure e-Services are well maintained and sustainable.

2.1.1 Technology roadmap

Provide Public Institutions with key information to assist in making better decisions around ICT investments. A technology roadmap is a high-level, visual plan that communicates an organization's technology strategy. Technology roadmaps help internal teams make strategic decisions around their technical infrastructure. There are several kinds of technology roadmaps such as Internal ICT roadmap, Infrastructure roadmap, Architecture Roadmap, Software Roadmap, Internal Systems Roadmap, Hardware Procurement Roadmap etc.

Implications:

i. Ensuring the proper allocation of resources to ICT systems hence safeguarding the sustainability of e-Services
ii. Plan to reach short-term and long-term goals with technology solutions
iii. Ensuring the proper ICT investment hence reduces the risk of starting projects, which are not sustainable.
iv. Determine which technologies to pursue, as well as the plan and timeline to implement the new systems
v. Technology and infrastructure investments will meet the short-term and long-term goals of the organization as well as the entire product portfolio.

2.1.2 Reliable Power Supply

Reliable power supply is the key aspect for provision of sustainable e-Services. Currently, most tools used in development as well as monitoring and provision of e-services require a reliable supply of power to enable efficient running of the operation.

Implications:

i. Ensures availability and reliability of e-Services;
ii. Increases confidence and trust on the use of e-Service that service will continually be available; and
iii. Reduces customer/e-services users complains.

2.1.3 e-Service Support

e-service support ensures that there are skilled personnel for providing comprehensive and progressive level one (L1) or level two (L2) support of end user

computing environments (hardware and software) are available. If a service is managed by a third part, then SLA and contracts should reflect mutual benefits and responsibilities to each party.

Implications:

i. ICT systems are operated more effectively with skilled personnel;
ii. Promoting quick resolution of technical issues to end users;
iii. Improved customer satisfaction and rise institution reputation; and
iv. Enhancement of knowledge and capacity to internal ICT team.

2.1.4 Common Application Documentation

Presence of documentation helps to keep tracking of all aspects of an application and provide descriptions for the function, architecture, and design of software as well as project documentation. All software development products, whether created by a small team or a large corporation, require related documentation.

Implications:

i. Making the information easily accessible and help new internal ICT team members learn and refer quickly;
ii. Ensuring that developers and stakeholders are headed in the same direction to accomplish the objectives of the project;
iii. Ensuring the existing situation is well explained and documented that explains the current business, technical issues, reason for seeking the solution and the way forward to obtain the solution;
iv. To serve a symbolic role to show the project sponsor how serious the contractor is about meeting the project's needs;
v. Ensuring the communication and information to its audience and instil knowledge of the system it describes;
vi. Documentation is very helpful in managing change in application in order to ensure that there is a formal way for managing changes; and
vii. Improving reuse or refactoring in the development/maintenance in the application.

2.1.5 ICT Security

Ensures information assets are protected in all types of threats that includes the development and implementation of security countermeasures for example availability of disaster recovery, backups etc.

Implications:

i. ICT applications and infrastructures are protected hence e-Services are well sustained;
ii. Ensuring right individuals are accessing right resources at the right times and right reasons; and
iii. Ensuring continuity of business hence e-Service are sustained.

2.1.6 Information Systems Assessment

It is evident that the use ICT in service provision offers tremendous opportunities to improve service delivery and to increase the efficiency of Government operations. However, there are also risks associated with it or usage issues. Therefore, evaluations of ICT applications are absolutely necessary to identify areas that need improvement and when rectified will ensure improvement in effectiveness and performance of these applications.

Implications:

i. Assurance that ICT systems are adequately protected and properly managed to achieve the overall business goals;
ii. Reduce the risk of data loss, leakage and service disruption; and
iii. Faults of applications and infrastructures are identified in a timely manner.

2.1.7 Application and Infrastructure Maintenance

The results obtained from the application and infrastructure evaluation process help to make application or infrastructure more effective and efficient, a constant maintenance ensure application or infrastructure faults are avoided, corrected or performance is improved.

Implications:

i. Reduce the likelihood of service downtime or performance issues;
ii. Prolong the life of ICT hardware by ensuring that they are in good condition;
iii. Optimization of reliability of equipment and hardware;
iv. Improved performance of ICT systems; and
v. ICT systems are updated with the current trend of technology.

2.2 Financial Aspect

Proper financial planning and adequate funds allocation are the key components of e-Services sustainability. It has become increasingly important for service delivery, and thereby e-Service, to look at the life cycle cost of services. Life cycle cost is the measurement of the combined cost in economic terms during the total lifespan of an application that deliver e-Service from the time it is conceived until it is phased out and no longer supported.

2.2.1 ICT Financial Planning

Having an effective and efficient e-Service is a continuous cost centre, therefore it needs to have a proper financial planning in order to oversee expenditure for various operational needs and new investments.

Implications:

i. Ensuring visibility of expenditure and re-investment of e-Services;
ii. Helps to foresee the financial resources required; and
iii. It helps to priorities and control the investment and expenditure of e-Services.

2.2.2 Reliable Sources of Funds

The provisions of predictable and sustainable funding to match current and future costs are the key issues to enable effective operationalization of financial planning.

Implications:

i. Ensuring successful implementation of IT plans; and

ii. Ensures continuity and improvement of e-Services.

2.3 Social and culture Aspect

This dimension considers social and cultural context in which an e-Service is in use. Users (citizens) should be aware of the e-government service being provided and involved by being able to provide feedback. The feedback given by the users (citizens) are important for the improvement of the service.

2.3.1 Users Demand and Expectation

The effectiveness of e-Services can be influenced by the citizen's view on providing their demands and expectations from service provided.

Implications:

i. Enhanced satisfaction of citizens by e-Services;
ii. Improved quality of e-Service to citizens;
iii. Improved Government to citizens relationship (G2C); and
iv. Improved decision making on e-Services investment.

2.3.2 Citizen Awareness

Citizen Awareness and satisfaction is a critical and essential factor for persistent use of e-Services as it can substantially influence the usage of e-Service.

Implications:

i. Increases acceptance and usage of e-Service to citizen;
ii. Enhanced the exposure on e-Services to citizen; and
iii. Improved communication between citizen and Government.

2.4 Institutional Aspect

Institutional based e-Service sustainability is achieved when prevailing structures and processes have the capacity to perform their functions over a long term; furthermore, ICT strategies should be well aligned with the institutional long-term

strategic plan. Also, ICT should be presented on the management level. It also ensures proper decision making on investments and improvement of e-Services.

Implications:

i. Ensuring proper planning of e-Service initiatives;
ii. Ensuring adhere to organizational strategic plan, guidelines, standards and procedures;
iii. Monitoring and control of the e-Services; and
iv. Efficient and effective communication and decisions on ICT operations and investments.

2.5 e-Government Standards and Guidelines

e-Service sustainability framework considers well-defined ICT management documents which adheres to e-Government standards and guidelines. The internal ICT department has the responsibilities to monitor and control each e-Service provided by their institutions and adhering to e-Government standards and guidelines.

Having proper guidance during the designing, development, implementation and maintenance of e-Service as well as standardization of ICT processes normally tend to improve reliability, predictability, agility, and increase flexibility in application development thus quality of e-Services.

Implications:

i. Improved the quality of e-Services;
ii. Ensures secure availability, reliability, predictability, agility of e-Services;
iii. Optimize resource utilization; and
iv. Secure and usable e-Services.

The e-Government standards and guidelines may be found via the link https://www.ega.go.tz/standards/standards-and-guidelines

3. IMPLEMENTATION, REVIEW AND ENFORCEMENT

3.1. Effective upon being reviewed by e-GA Management and signed by the Director General on its first page;

3.2. Subjected to review at least once every three years or whenever necessary changes are needed; and

3.3. Consistently complied with, any exceptions to its application must duly be authorized by the Director General.

4. GLOSSARY AND ACRONYMS

4.1 Glossary

e-GA	Authority responsible for e-Government established under the e-Government Act No. 10 of 2019
e-Service	Is a service which is characterized by being delivered via Internet; being web-based not requiring person-to-person communication but still interactive in nature

4.2 Acronyms

FAQ	Frequently Asked Questions
G2C	Government to Citizen
ICT	Information and Communication Technology
SLA	Service Level Agreement

5. RELATED DOCUMENTS

5.1. e-Government Act, 2019

5.2. e-Government General Regulations, 2020

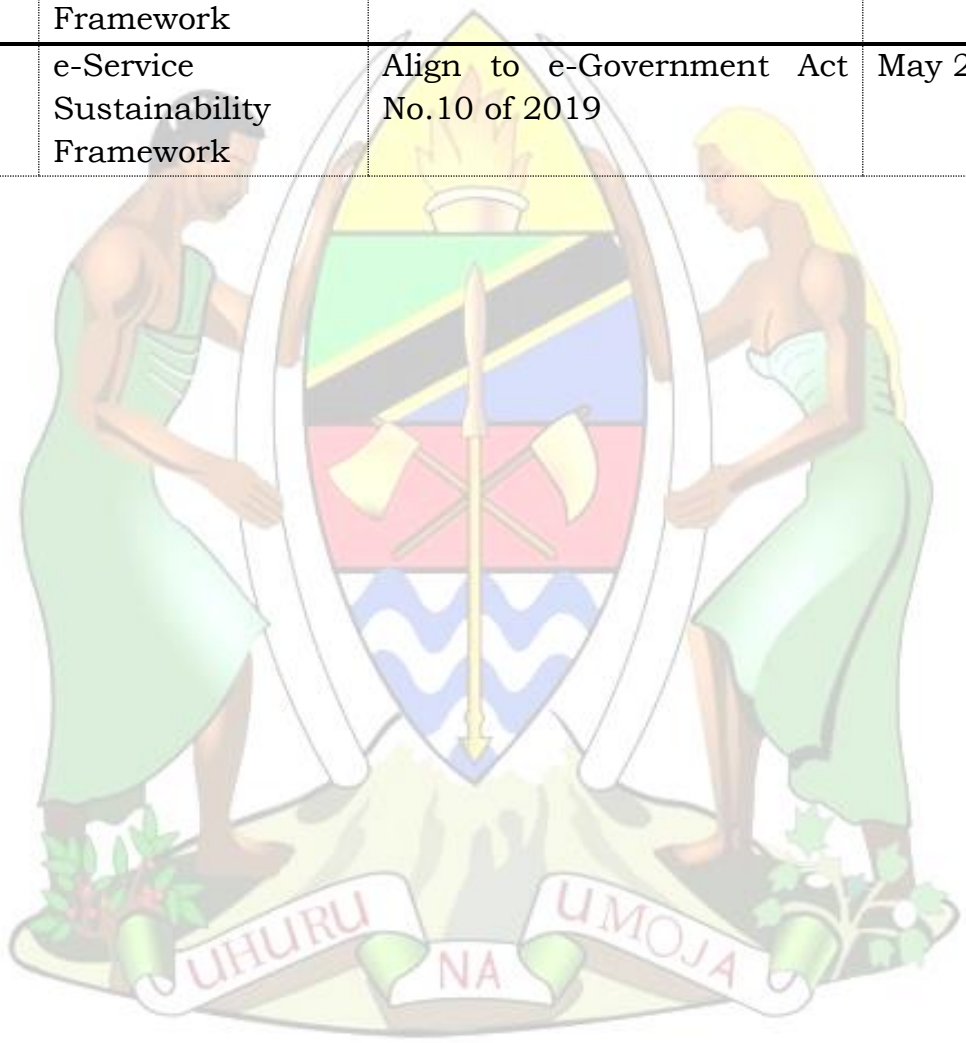
5.3. Tanzania e-Government Strategy 2022

5.4. Government Cybersecurity Strategy 2022

5.5. e-Government Business Architecture – Standards and Technical Guidelines (eGA/EXT/BSA/001)

6. DOCUMENT CONTROL

Version	Name	Comment	Date
Ver. 1.0	e-Service Sustainability Framework	Creation of document	July 2019
Ver 1.1	e-Service Sustainability Framework	Align to e-Government Act No.10 of 2019	May 2024



APPENDIX

e-Service Sustainability Compliance Checklist

Name of the Application:					
e-Service Provided:					
		Yes	**No**	**NA**	**Remarks**
	A. TECHNOLOGY				
1.	*Is there a technology roadmap for application?*				
2.	*Is there a technology roadmap for infrastructure?*				
3.	*Is the technology road map aligned to your institutional strategic plan?*				
4.	*Is the application ready for integration with other systems?*				
5.	*Does the application exchange data with other institutions?*				
6.	*Are there skilled personnel for providing technical support?*				
7.	*Is there SLAs for the technical support provided?*				

8.	*Has the evaluation of performance and efficiency for technical support been done?*				
9.	*Are there incident management and problem management procedures?*				
10.	*Are there a technical support procedure for the e-Service provided?*				
11.	*Is there updated documentation for application from the conceptualization stage to operationalization?*				
12.	*Is there a documented mechanism to routinely check event logs?*				
13.	*Is there a documented mechanism to routinely analyze traffic?*				
14.	*Is there a documented mechanism to routinely check system logs?*				
15.	*Is there a mechanism to monitor backups?*				
16.	*Is there a mechanism to monitor restore logs?*				
17.	*Is there a disaster recovery plan?*				
18.	*Is the information system assessment performed regular?*				

19.	*Is there a maintenance plan for the application?*				
20.	*Is there a maintenance plan for the IT infrastructure?*				
21.	*Is there formal mechanism to track changes during maintenance?*				
22.	*Is there mechanism for checking updates and upgrades?*				
23.	*Are all changes, improvement and fixes properly documented?*				
24.	*Is the system hosted in-house?*				
25.	*Is the system hosted by a service provider?*				
26.	*If the system hosted in-house, is there a UPS for power backup?*				
27.	*If the system is hosted in-house, is there a standby electric power generator to support?*				
28.	*If the system is hosted by a service provider, is there a redundant electric power source?*				
B. Finance		**Yes**	**No**	**NA**	**Remarks**

1.	*Is there annual budget set for ICT maintenance costs?*				
2.	*Is there annual budget set for ICT support costs?*				
3.	*Is there annual budget set for ICT license costs (if applicable)?*				
4.	*Is there annual budget set for ICT development of new ICT resources?*				
5.	*Is your organization utilizing any ICT resource (s) that are under Government centralized funding program? If yes indicate*				
6.	*Is ICT budget embedded into programme, project or broader organizational budget as appropriate?*				
7.	*Is ICT budget embedded into programme as appropriate?*				
8.	*Is ICT budget embedded into broader organizational budget as appropriate?*				
9.	*Is ICT training integrated into the operating budget of the organization?*				
10.	*Is the Government main funding source? If no indicate the other source*				
C. Social and Culture		**Yes**	**No**	**NA**	**Remarks**

1.	*Is there a mechanism for a user to provide their feedback on the service offered?*				
2.	*Is there a mechanism for reporting feedback to the users?*				
3.	*Has the service taken into consideration accessibility to users with disabilities?*				
4.	*Are users/citizen given training on use of the application?*				
5.	*Does the system have the updated for the common asked question (FAQ)?*				
D. Institutional		**Yes**	**No**	**NA**	**Remarks**
1.	*Is there an Institutional ICT Steering Committee?*				
2.	*Is there independent ICT department unit/section?*				
3.	*Does Head of ICT report to accounting officer?*				
4.	*Does Head of ICT sit on management meetings?*				
5.	*Is there ICT strategy that is aligned with organization objectives?*				