

Dar es Salaam Institute of Technology



ICT POLICY AND IMPLEMENTATION STRATEGY

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LIST OF ABBREVIATIONS AND ACRONYMS

CDN	Content Delivery Network
DIT	Dar es Salaam Institute of Technology
e-GA	e-Government Agency
GIS	Geographic Information System
GoT	Government of the United Republic of Tanzania
HLI	Higher Learning Institutions
ICTs	Information and Communication Technologies
ISP	Internet Service Provider
KPI	Key Performance Indicator
KRA	Key Result Area
M&E	Monitoring and Evaluation
MNO	Mobile Network Operator
NICTP	National ICT Policy
OAN	Open Access Network
QoS	Quality of Service
OSIM	Online Students Information System
MUSE	Financial Management System
TANEPS	Procurement Management System
CBMS	Central Budget Management System
HCMIS	Human Capital Management Information System
ERP	Enterprise Resource Planning



CHAPTER ONE: INTRODUCTION

1.1 Background

The Dar es Salaam Institute of Technology (DIT) is located in the Dar es Salaam city center, at Morogoro Road and Bibi Titi Mohamed Street junction. DIT was established in 1997 by the Act of Parliament, "the DIT Act No.6 of 1997," to replace the Dar es Salaam Technical College (DTC), which had a long history of technical training in Tanzania from 1962. The predecessor of DTC was Dar es salaam Technical Institute (DTI) which was established in 1957.

Currently, the Institute has three campuses; the main campus in Dar es Salaam city, Mwanza Campus in the Mwanza region, and Myunga Campus in Songwe Region. The Institute offers a wide range of full and part-time applied science engineering and professional training programmes leading to the awards of Ordinary Diploma, Bachelor of Engineering, Bachelor of Technology, and Master Degree programmes. Besides, the Institute offers various short-term professional training courses through the Institute Consultancy Bureau (ICB) and the India Tanzania Center of Excellency in Information Communication Technology (ITCoEICT). The Institute is running vocational skills training programmes on all campuses.

The recent trend in the knowledge economy has emphasized the importance of Information and Communications Technology (ICT) in teaching and learning service delivery in the education sector. This shift requires a well-planned investment in ICT tools, systems, and facilities, coupled with a structured maintenance plan of the same. The National five years Development plan (NFYDP) phase III (2021/2022 – 2025/2026) gears towards Nurturing Industrialization for Economic Transformation and Human Development to enhance the pace of progress towards the Tanzania Development Vision 2025. ICT plays a vital role in modern industrial development. New technologies and innovations mainly contribute to increasing the productivity of the industrial economy in the world. In addition,

Information and Communications Technology (ICT) serves as a support tool for the achievement of nearly all seventeen Sustainable Development Goals by ensuring that targets are met, especially in health, education, finance, and energy.

The establishment of ICT Policy is the important step towards ensuring that ICT will assist DIT in attaining its objectives. The ICT Policy will ensure that the ICT infrastructure and systems are implemented, utilized, and maintained effectively. Also, it will ensure that investments in ICT are aligned with the DIT's strategic objectives, National ICT Policy, National e-Government Strategy, and the e-Government Standards and Guidelines.

1.2 Vision

The vision of Dar es Salaam Institute of Technology is to become a leading technical education institution in addressing societal needs.

1.3 Mission

The mission of Dar es Salaam Institute of Technology is to provide competency-based technical education through training, research, innovation, and the development of appropriate technology.

1.4 Purpose

This document provides commitments and the strategic direction of ICT investment and implementation at the Institute. The primary purpose of this document is to ensure the Institute ICT-related investment, operations, maintenance processes, and usage is well directed. The general objective of the ICT Policy is to ensure optimum utilization of ICT-related services in supporting DIT business processes, particularly in teaching, learning, research, innovation, and consultancy.

The objectives of the ICT Policy include the following;

- i. To ensure proper acquisition, management, and maintenance of the Institute ICT infrastructure and services to enable smooth running of ICT operations;
- ii. To ensure availability and effective use of information systems to support Institute's functions and processes;
- iii. To ensure reliable, interoperable, and sustainable ICT infrastructure that supports ubiquitous Institute connectivity;
- iv. To ensure data storage, security, and ICT services continuity at all times;
- v. To ensure that ICT plays a great role in promoting and marketing the Institute and its services;
- vi. To develop ICT infrastructure-related guidelines and policies to ensure proper utilization of technology.

1.5 Rationale

The Institute needs to meet its objective of improving services and increasing productivity by leveraging new technologies. The Institute has been investing in ICT to facilitate its internal business operations to attain its strategic goals. Institute operations are increasingly dependent on ICT, making the Institute vulnerable to ICT-related risks. In this regard, it is evident that the Institute needs to develop and operationalize a comprehensive ICT Policy to direct ICT adoption and usage within the Institution. This Policy is expected to improve the quality of teaching, learning, research, consultancy, and outreach services at the Institute through proper use of modern ICT-enabled approaches. The Policy is also intended to increase the efficiency and effectiveness of the DIT's administrative operations. This Policy aligns with the Institute Corporate Strategic Plan (2017/18 – 2026/27), which advocates for the development and deployment of world-class ICT systems to support the core functions of the Institute at cost-effectiveness and competitiveness as well as providing enabling environment for the realization of teaching factory concept.

DIT is required to closely align its ICT practices to the national ICT policies and regulatory environment to have consistency. The Policy is in line with the National ICT Policy 2016, which aims at transforming Tanzania into an ICT-enabled knowledge-based economy through development, deployment and sustainable exploitation of ICT to benefit every citizen and business.

1.6 Scope

This Policy is applicable to all DIT's staff, students, and associates, all ICT equipment users owned or leased by the Institute, and all equipment connected to Institute's ICT-related infrastructure. This Policy applies to all Institutes' ICT-related resources and services across all campuses and centers.

1.7 SWOC Analysis

The main Strengths, Weaknesses, Opportunities, and Challenges of DIT in relation to ICT are analyzed based on the core functions; Teaching and Learning, Research, consultancy and Publications, and Outreach Services, Links and partnerships, Leadership and Governance, Gender equity, Finance, and Resource Mobilization, infrastructure Development and maintenance and Human Resource and Management and Student Welfare. The summary of the SWOCs are provided below;

Table 1 1: Strengths, Weaknesses, Opportunities, and Challenges of DIT Strength:

Strength: • Existence of ICT related centers with ICT facilities, • Presence of well-defined Corporate Strategic Plan 2017/18 – 2026/27. • Availability of internet connectivity. • Presence of computer laboratories for students. • Existence of various Information Systems. • Existence of qualified ICT personnel. • Institute Main Campus is strategically located along with available services. • Presence of High-Performance Computing facility.	Weaknesses: • An inadequate number of academic and supporting staff. • Inadequate ICT equipment, tools and systems for teaching and learning. • Inadequate funds to support ICT budget. • Lack of ICT Policy and Strategy. • Aging ICT infrastructures. • Lack of LAN at Myunga and Mwanza Campus.
Opportunities: • Presence of National level policies, guidelines and strategies. • Presence of the National ICT Backbone (NICTBB). • Availability of reliable fiber optic marine cable (eg. SEACOM). • Collaboration with local and international partners. • Increased demand for ICT knowledge and skills. • Increased demand for innovations. • Presence of state-of-the-art ICT related technologies. • Increased computer literacy and ICT skills among Tanzanians. • Willingness of some potential donors (Development Partners) to fund DIT in ICT related activities. • Goodwill from government, private stakeholders.	Challenges: • Inefficient maintenance of ICT infrastructure. • Ubiquitous security risks and threats. • Unreliable power supply. • High cost for Internet bandwidth. • Lack of skilled staff for emerging new technologies

CHAPTER TWO: POLICY ISSUES, OBJECTIVES, STATEMENTS, AND STRATEGIES

2.1 Policy Issue: Application of ICTs in teaching and learning

The impact ICT can bring in teaching and learning across all levels of education is very clear; besides, the rapid advancement in technology has brought innovations in educational technology that is beneficial to those who adopt. Unfortunately, DIT has not utilized this potential fully due to the lack of appropriate ICT infrastructure and lack of proper ICT skills among staff. Furthermore, the traditional teaching norms and methodologies are currently dominant in practice, so the introduction of ICT as a tool for learning and Institute management calls for a cultural change. With the Institute's strategic shift towards the implementation of the Teaching Factory Concept across all disciplines, the integration of ICT in training delivery will play a key role in ensuring the realisation of the concept through the provision of tools that will enable simulation of industrial experience in classes.

Policy Objective:

To ensure the sustainable application and integration of Information and Communication Technology in the teaching and learning process

Policy Statement:

The Institute shall:

Facilitate the integration of ICT in technical training delivery to realize the teaching factory concept.

Policy Strategies:

- i. Establish digital learning platforms.
- ii. Establish a digital content production studio.
- iii. Create digital content based on training modules.
- iv. Improve access to ICT equipment used for teaching and learning.
- v. Collaborate with leading institutions and organizations to improve the quality of online training.

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- vi. Deploy sustainable internet services at Institute campuses.
 - vii. Strengthen ICT security on digital learning platforms.
 - viii. Enhance Institute's digital presence.
 - ix. Support and encourage an innovative learning environment and continuous improvement.
 - x. Facilitate capacity-building capacity to staff on innovative teaching methodology.
 - xi. Build capacity students to on using digital learning platforms to enhance life-long learning.
 - xii. Develop tools to simulate a real industrial environment in the classroom.
 - xiii. Manage Intellectual Property (IP) rights of the created digital contents.
 - xiv. Introduce online programmes for both short and long courses.

2.2 Policy Issue: Strengthening ICT research and innovation

With the shift towards the digital economy, there is currently a great need to promote research and innovation on emerging technologies such as the Internet of Things, Artificial Intelligence, and Blockchain. Currently, research and innovation activities are being conducted on the emerging technologies, although there is a lack of formal tools which enable timely dissemination of research findings and results to the DIT community and other stockholders.

Policy Objective:

To provide conducive ICT infrastructure to facilitate research and innovation

Policy Statement:

The Institute shall:

Acquire appropriate technology to facilitate research and innovation among staff and students.

Policy Strategies:

- i. Establish innovative technology platforms for conducting, sharing, and disseminate research results.
- ii. Ensure access of Institute high-performance tools for computing and data storage resources among researchers in the country.
- iii. Foster innovation by establishing innovation hubs and makes spaces at the Institute.
- iv. Provide adequate ICT infrastructure for the smooth operation of research and innovation activities at the Institute.
- v. Build capacity of staff and students on emerging trends in technologies.

2.3 Policy Issue: Improving Institute Business Processes and Information Flow

The Institute has the vision to implement the Enterprise Business Process Management System (EBPMS), supporting business operations and optimizing available resources. Furthermore, to comply with government regulations, the Institute is required to adopt the usage of various GoT Information Systems that include Procurement Management System (TANePS), Financial Management System (MUSE), Budget preparation (CBMS), and Human Capital Management Information System (HCMIS). The Institute has implemented various applications to support operations, such as Online Students Information System (OSIM). However, these systems are usually developed without proper business process re-engineering and optimization, leading to inefficient automated processes. Inadequate access to reliable and readily available information due to unified and integrated architecture for these systems poses a challenge to establish the paperless environment for significant interoperability and scalability of the systems to improve Institute business processing and information flow.

Policy Objective:

To improve Institute business process operations and information flow through the use of appropriate information systems and technologies

Policy Statements:

The Institute shall:

Develop an integrated and automated paperless environment which is the key for improving Institute business process operations and information flow.

Policy Strategies:

- i. Re-engineer and optimize current Institute business processes for efficient provisioning of services.
- ii. Implement an Enterprise Business Process Management System to automate Institute's business processes.
- iii. Provide robust, reliable, and trusted robust, scalable, and sustainable infrastructure to support business applications and tools.
- iv. Establish an Enterprise Architecture to govern and guide the development of integrated enterprise information systems.
- v. Develop proper information systems and tools to support core business functions of the Institute.
- vi. Utilize information systems and tools for efficient information flow and effective information-driven decision-making.
- vii. Develop a platform for digital content creation to enhance research, consultancy, innovation, and community services.
- viii. Build capacity of Institute staff in utilizing ICT technologies to improve business operations.

2.4 Policy Issue: Strengthening consultancy and project management systems

The Institute executes various projects funded by the Government, Development Partners, and internally generated funds. The Institute Consultancy Bureau (ICB), India Tanzania Center of Excellence in ICT (ITCoEICT), and DIT Company LTD implement several Government projects through consultancy services. Despite having a considerable number of projects, the Institute does not have a formal mechanism for monitoring the project progress and achievements. Project implementers do not have the tools to manage projects properly. Also, the Institute lacks tools to properly

track and collect project data and disseminate the project results to various stakeholders.

Policy Objective:

To provide tools for proper management of internal projects and consultancy works.

Policy Statements:

The Institute shall:

Implement an appropriate ICT-based management system to strengthen the execution and evaluation of the Institute projects and consultancy works.

Policy Strategies:

- i. Provide tools to enable the management of internal projects and consultancy works.
- ii. Build capacity in the utilization of modern project management tools.
- iii. Ensure project data and results are timely reported using developed tools.
- iv. Facilitate dissemination of Institute project and consultancy works results.

2.5 Policy Issue: Strengthening information security

Physical and system security is vital in any organization. Currently, the Institute has implemented inadequate security measures to ensure the security and safety of assets and personnel. Some of the physical security measures that can be deployed include CCTV Cameras and access control. In addition, the current Institute effort in the implementation of ERP will pose a risk in data and information if the Institute would not invest in information security that ensures availability, confidentiality, and integrity of data and information generated from the implemented systems.

Policy Objective:

To secure critical Institute assets and resources for sustainable service delivery.

Policy Statements:

The Institute shall:

Ensure that any ICT-related initiative institutes proper security measures.

Policy Strategies:

- i. Protect Institute ICT Infrastructure and data to maintain high performance and integrity.
- ii. Verify and confirm that authorized individuals use the ICT infrastructure depending on the requirements to carry out legitimate activities.
- iii. Deploy surveillance for Institute assets and resources.
- iv. Enhance information security analytics to prevent better, detect, respond, and predict threats to Institute information systems.
- i. Create awareness of all Institute ICT Policies and disseminate any reliable ICT security procedures and guidelines.
- v. Create a culture of cybersecurity awareness among the Institute community
- vi. Develop and implement appropriate backup and recovery mechanisms for institutional data.
- vii. Ensure relevant security infrastructure is deployed and maintained accordingly.

2.6 Policy Issue: Strengthening ICT Service Management

The Institute has continued to improve its ICT services management to ensure that both internal and external users are satisfied. However, there are still gaps that need to be addressed, including the establishment of standard operating procedures and controls for each ICT service. The intermittent ICT services breakdown, which leads to frequent ICT services unavailability, calls for review and sign service level agreements with its vendors and suppliers to ensure prompt problems resolution.

Policy Objective:

To improve ICT services management for obtaining higher service availability and maximize value from ICT investment.

Policy Statement:

The Institute shall:

Ensure that all available ICT services are adequately managed and supported.

Policy Strategies:

- i. Define, develop and maintain a catalog of all ICT services offered by the Institute to internal and external customers.
- ii. Establish and operate an ICT service desk, where all requests and issues from end-users will be recorded, resolved, and escalated if need be.
- iii. Ensure that Service Level Agreements (SLA) are established for each ICT service offered by internal and external service providers.
- iv. Conduct service quality audits and produces relevant reports to establish improvements required to enhance ICT services' performance and quality from time to time.
- v. Ensure proper processes and procedures for managing vendors are in place.
- vi. Build good relationships with the business and third-party providers to ensure that ICT services continue to meet evolving institutions' business needs.
- vii. Institute an effective change management system and procedures to govern all Institutions' ICT services changes.
- viii. Institute an effective configuration management system and procedures to govern all ICT asset configurations.
- ix. Establish a capacity and performance management plan to monitor ICT resource usage and ensure ICT services availability and sustainability

2.7 Policy Issue: Strengthening gender equity and diversity

DIT as a Government institution intensely observes equal opportunity rights to women, girls, and people with special needs. DIT will continue to ensure equal access to ICT facilities and equipment for teaching and learning.

Police objective:

To ensure inclusive ICT deployment and proactively take into account gender and disadvantaged groups.

Policy statement:

The Institute shall:

Ensure that all ICT initiatives consider gender equity, diversity, and people with special needs.

Policy Strategies:

- i. Mainstream and monitor gender equity and diversity perspective in all ICT initiatives.
- ii. Provide special ICT tools that people with disabilities may need.
- iii. Ensure equal access to ICT facilities and equipment to all staff and students.

2.8 Policy Issue: ICT Infrastructure Management

The ICT infrastructures refer to the physical and logical network with all facilities which offer connectivity, computational, communication, and storage services. ICT infrastructure constitutes networking resources, computing and communication resources, facilities, and other resources or services which all users usually use. Apparently, Limited and unreliable ICT network infrastructure and services, inadequate ICT business continuity and disaster recovery plans, aging ICT facilities, slow Internet connectivity, insufficient computers, and related ICT equipment or accessories have posed a significant challenge for the Institute. Furthermore, the resources and users' ICT knowledge are very diverse, without proper use, coordination, and clearly mandated personnel for manage infrastructure. It is impossible to secure and sustain them and ensure a positive impact on the Institute.

Policy Objective:

To Enhance and manage ICT Infrastructure to ensure that the operations are optimized in order to deliver higher level service quality to support institution Business processes and Business continuity.

Policy Statement:

ICT Services shall:

Ensure availability of proper ICT Infrastructure which provide access to the Institute resources and ensure business continuity.

Policy Strategies:

- iv. Ensure that ICT infrastructure architecture is in place and in line with the Institution's current and future requirements.
- v. Provide regularly update ICT equipment and software to keep up with the changing technology environment
- vi. Provide clear documentation for operating and using the network and infrastructure in ways that do not compromise the availability of services, security, integrity, and confidentiality.
- vii. Provide regular maintenance to ICT facilities and network infrastructure in the Institute
- viii. Ensure monitor and evaluation of ICT infrastructure from time to time to meet the institute demand
- ix. Acquire sufficient ICT equipment and software for staff and students
- x. Recruit, develop, and retain highly-quality ICT personnel
- xi. Acquire and install high-capacity renewable power backups, voltage stabilizers, and smoke detectors.
- xii. Invest in institute ICT infrastructure and related networks in response to anticipate growth in voice, video, data, and other network demand.
- xiii. Adhere with Institute Business Continuity Plan for data backup and recovery procedures.

2.9 Policy Issue: Strengthening ICT Governance and Management

DIT requires good ICT leadership, planning, Strategy, control and M&E to better support the Institution's objectives. On the other hand, the Institution's ICT management functions must translate the strategic direction into actions that will eventually help the Institution achieve its strategic goals. Therefore, ICT governance and management are essential aspects of organization governance for successfully implementing ICT services. Furthermore, ICT solutions must be well aligned with business objectives. ICT risk must be analyzed to help to mitigate any potential impact on the goals of the Institute caused by an unplanned event. All risks should be identified, analyzed, and assessed to mitigate or reduce their impacts.

Policy Objective:

To strengthen Institution ICT governance and management based on acceptable standards and practices.

Policy Statement:

The Institute shall:

Establish a framework for ICT investment decisions, accountability, monitoring, and evaluation for ICT governance processes.

Policy Strategies:

- i) Establish ICT Steering Committee to guide the investment, implementation, and evaluation of ICT initiatives.
- ii) Establish an ICT Department to provide ICT management services, including overseeing ICT initiatives in the Institution.
- iii) Ensure that ICT staff with appropriate qualifications and skills are recruited to fill all established ICT positions in the ICT Department.
- iv) Motivate and retain ICT Human resources.
- v) Ensure that ICT users (internal and external) are aware of these ICT policies, guidelines and they understand and accept their responsibilities in using ICT systems.
- vi) Ensure that ICT initiatives are managed in compliance with the acts,

guidelines, and standards issued by relevant authorities such as the e-Government Authority.

- vii) Conduct self-assessment and audits on the implementation, use, and maintenance of ICT systems on a regular basis
- viii) Ensure that necessary controls are in place so that all ICT procurements are done in line with the Public Procurement Act's requirements (PPA).
- ix) Establish enterprise Architecture (EA) to ensure alignment of ICT and Institute goals.
- x) Conduct ICT risk assessments on regular basis and mitigate the risk to reduce its impacts or to resolve the matter.
- xi) Enforce proper project management of ICT projects to govern the implementation of the projects.

2.10 Policy Issue: Strengthening e-Waste management

Wastes from electronic devices are harmful to people and the environment as well. Mercury, lead, beryllium, brominated flame retardants, and cadmium contained most electronic devices can cause cancer to humans and pollute the environment. Therefore, DIT being one of the producers of electronic waste, need to carefully dispose of and manage all e-waste produced by students and staff.

Furthermore, the Institute maintains critical and confidential information and data in ICT equipment. The equipment storing the confidential information is sometimes transferred to another user or disposed off, without erasing them.

Policy Objective:

To ensure proper and efficient e-waste management and disposal.

Policy Statement:

The Institute shall:

Ensure that all e-wastes are disposed-of in a manner which is friendly to both environment and human.

Policy Strategies:

- i) Establish e-wastes collection bins.
- ii) Develop and establish an e-waste recycling technologies and plant to serve both the DIT community and the nation.
- iii) The lifecycle of all ICT resources spanning from acquisition to disposal shall be managed to conform to sound environmental norms.
- iv) Erase data or remove media storing sensitive data before disposal of the equipment.

CHAPTER THREE: IMPLEMENTATION STRATEGY

3.1 Introduction

The Institute ICT Strategic Plan provides a high-level framework for the effective management of information and technology to ensure ICT systems are controlled and maintained in line with corporate objectives and emerging trends. The ICT Services Department is responsible for the overall implementation of this Policy and the consequent achievement of its goals and objectives. The ICT-related departments and centers at the Institute play a key role in the implementation of various strategies proposed in this Policy. There is a great need for the active participation and involvement of all staff at the Institute to ensure the smooth operation of ICT-related services. There is also a need for a strong commitment on the part of the Institute leadership at all levels.

The ICT Strategic Plan will be accompanied by supporting documents and tools such as the Strategy implementation Plan, ICT policies, Strategy M&E Tool, which are key resources for effective implementation of the Strategy.

3.2 ICT Strategy Vision Statement

To provide ICT services that support the realization of the Institute's vision.

3.3 The ICT Gap and Strategy in the Institute

The DIT ICT strategy is categorized into six (6) Result Areas (KRA) that lead the Institute to paper-less management and directly impact its implementation and success. The Strategy will lead to the realization of the Institute's key objectives as well as stipulating the implementation plan. The strategies are organized under the following Institute Key Result Areas (KPA), which addresses the mentioned policy issues in chapter two:

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- KRA 1: Application of ICTs in Teaching and learning
 - KRA 2: Strengthening ICT Research and innovation
 - KRA 3: Improving Institute Business Processes and Information Flow
 - KRA 4: Strengthening consultancy and project management systems
 - KRA 5: Strengthening information security
 - KRA 6: Strengthening ICT Service Management
 - KRA 7: Strengthening ICT governance and management
 - KRA 8: Strengthening e-Waste management

The objectives and their related expected outcomes are presented alongside the strategies in the following tables.

3.3.1 KRA 1: Application of ICTs in Teaching and Learning

Objective:

To ensure the application and integration of Information and Communication Technology in the teaching and learning process

Table 3 1: Application of ICTs in Teaching and Learning

No	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,000 "	Responsible office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
1	Facilitate and make blended learning mandatory for each course	To implement digital learning platforms To establish digital content production studio	Expand accessibility of Institutes digital content	Presence of digital learning platform Presence of digital contents production studio	One Digital contents production studio established by June 2022						60	DPA RC

No	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,000 "	Responsible office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
		To develop Institute's digital programmes contents		Presence of Institute's digital programme s contents Number of courses available online	20 of digital programmes contents developed by June 2024						35	DPA RC
		Increases number of smart classrooms (Computer classes and labs)	Simplify teaching and learning process	Presence of smart classrooms	3 smart classrooms in place by June 2023						112	DPA RC
		To Promote eLearning		Presence of e-learning teaching materials	3 Modules that cover Ordinary Diploma,						51	DPA RC

No	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,000"	Responsible office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
	and learning facilities	innovative teaching methodology	teaching methodology		teaching methodology by June 2025							
		To build capacity to students on the digital learning platform	All student training on the digital learning platform	Number of training conducted	4949 students trained on using digital learning platform by 2025						7	DPA RC
3	Strengthen access to ICT equipment used for teaching and learning	Procuring of teaching ICT equipment	Improved teaching-learning environments	Number of academic department s connected to DIT intranet	7 academic departments is using ICT facilities for teaching, research and Consultancy by June 2022						297	DPA RC, ICT Services, Procurement Units

No	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,000"	Responsible office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
4	Enhance collaboration with leading institutions and organizations	To leverage partnerships to increase technological and business gains for the Institute	Partnership with leading Institution established	Number of MOU signed	4 MoU Signed with International leading Institution by June 2024						3	Legal, ILCG
5	Strengthen sustainable internet services at Institute campuses	To improve last-mile connectivity in all campuses	Accessibility of reliable services from the Institutes	Number of staff and students accessing services	380 staff have reliable access to Internet by 2023						102	ICT Services
6	Strengthen ICT security on digital learning platforms	To enhance of ICT security digital learning platforms	Digital learning platform always available	Number of unauthorized access denied to the digital learning platform	One secured digital learning platform by June 2023						7	ICT Services

No	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,000 "	Responsible office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
7	Develop tools to simulate the real industrial environment in the classroom	To design and develop tools to simulate the real industrial environment solution	High Skilled student and staff	Number of industrial simulated solution developed	3 tools for industrial environment simulation developed by June 2026						43	DPA RC
8	Manage Intellectual Property (IP) rights of the created digital contents	To identify and register Property right to appropriate Institution	Protected registered contents	Number of patented innovations	10 patented innovations by June 2024						7	DPA RC

3.1.2 KRA 2: Strengthening ICT research and innovation

Objectives:

To provide conducive ICT infrastructure to facilitate research and innovation on emerging technologies

Table 3-2: Strengthening ICT research and innovation

No	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,000"	Responsible Office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
1	Establish a platform for managing and sharing research and innovation activities	To establish a research and innovation platform	Easier accessibility of Institutes learning information and knowledge transfer	Number of researchers and innovators connected and accessing the platform	At least 20 researchers and innovators by June 2023						37	DPARC, ICT Services
		To establish emerging technologies research groups and other groups	Established emerging Technologies solutions	Number of Research groups established	At least 7 research groups by June 2024						-	DPARC

No	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,000"	Responsible Office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
		To rehabilitate and equip Innovation hubs/maker-spaces		Number of equipped innovation hubs established	One Innovation hubs/maker spaces at the Institute established by June 2024						87	DPARC, ICT Services Estate
		To provide business incubation services for students and staff	Finished product/services ready for market	Number of Products/services produced	10 products/services produced by June 2026						15	DPARC
		To build capacity to Institute staff on conducting researches	Staff with PhD and Master capacitated	Number of staff trained	At least 9 staff from departments trained by 2024						15	DPARC

No	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,000"	Responsible Office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
2	Establish Manufacturing Factory of Digital access Devices	To set up a factory, manufacturing, and assembling of digital devices	Availability of locally made digital devices	Number of digital devices produced	At least 45,200 devices made by June 2023						147	ICT Services
		To build capacity for student and staff who will assemble the digital devices	Knowledgeable student and staff to conduct assembling	Number students and staff trained	250 student and 50 staff trained by June 2022						25	DPARC, ICT Services

3.1.3 KRA 3: Improving Institute Business Processes and Information Flow

Objective:

To improve Institute business process operations and information flow through the use of information systems and technologies

Table 3-3: Improving Institute Business Processes and Information Flow

No.	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,000"	Responsible Office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
1.	Re-engineer and optimize current Institute business processes for efficient provisioning of services	To execute DIT business processes through paperless environment	Effective management of Institute resources	A number of system modules designed.	32 system modules design and deployed by June 2026.						114	DPAF Computer Studies ICT Services
		To recruit at least 12 ICT Staff	Availability of ICT Workforce	Number of ICT staff in place	At least 12 ICT Staff recruited by June 2024						5	DPAF ICT Services
		To establish Disaster Recovery Site for Business continuity	Uninterrupted ICT services in all Campuses	Number of ICT service platforms backups taken.	32 ICT service platforms have been taken						129	DPAF ICT Services

No.	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,00 0"	Responsible Office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
					backup by June 2026							
		To develop and implement a Resource Management System (RMS) Architecture to enable interoperability with Business Intelligence (BI) dashboard for decision-making	Availability of Institute Integrated System	Number of System modules integrated	32 of required RMS modules implemented by July 2026						75	DPAF ICT Services

No.	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,000"	Responsible Office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
3.	Enhance Institute ICT infrastructure and services	To build the capacity of Institute staff in utilization of ICT technologies	Reliable ICT Infrastructure and Services	Number of trained staff	13 staff trained by June 2024						9	DPAF ICT Services
4.	Provide robust, reliable, trusted, scalable, and sustainable infrastructure to support business applications and tools	To build infrastructure to ensure Institute has the ability to handle and analyze Big Data sets across diverse disciplines To foster the application of Emerging Trends and Technologies in Institute operations	Capable of providing a sophisticated solution to the Institute and community	Number of sophisticated solutions	2 sophisticated solutions by June 2026						51	DPARC, ICT Services
				Number of applications	2 Applications created by June 2026						42	DPARC, ICT Services

No.	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,000"	Responsible Office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
		To design and develop tools to increase Institute digital presence	Institute Visibility	Number of tools developed	1 Institute Website and 3 social media of different platform accounts created and updated by June 2024						2	DPARC, ICT Services

3.1.4 KRA 4: Strengthening consultancy and projects management systems

Objective:

To provide tools for proper management and dissemination of results of Institute implemented projects.

Table 3-4: Strengthening consultancy and project management

No.	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,000"	Responsible office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
1	Implement tools for consultancy and projects management	To design, develop and deploy applications to management consultancies and projects	Easier Management of projects and consultancies	A number of projects and Consultancies registered to the developed platform.	113 Projects and Consultancies registered by June 2025						36	DPARC, ICT Services
2	Build capacity in the utilization of deployed	To conduct training on deployed applications		Number of staff trained	252 staff trained by June 2025						5	DPARC, ICT Services

No.	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,00 0"	Responsible office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
	applications.											
3	Ensure project data and results are timely reported using developed tools.	To generate timely project and consultancy reports		Number of reports generated	113 Projects and consultancy reports generated by June 2026						-	DPARC, ICT Services
4	Facilitate dissemination of Institute Consultancy and	To establish project results repository and provide access	Project results shared seamlessly	Number of results disseminated and shared	365 authorized stakeholders access project results by June 2026						-	DPARC, ICT Services

No.	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,00 0"	Responsible office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
	applications.											
3	Ensure project data and results are timely reported using developed tools.	To generate timely project and consultancy reports		Number of reports generated	113 Projects and consultancy reports generated by June 2026						-	DPARC, ICT Services
4	Facilitate dissemination of Institute Consultancy and Project results	To establish project results repository and provide access	Project results shared seamlessly	Number of results disseminated and shared	365 authorized stakeholders project results by June 2026						-	DPARC, ICT Services

3.1.5 KRA 5: Strengthening information security

Objective:

To secure critical Institute assets and resources for sustainable service delivery.

Table 3-5: Strengthening information security

No.	Strategy	Project	Outcome	KPI	Target	Time frame					Budget TZS "000,00 0"	Respon sible office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
1	Enhance surveillance of Institute assets and resources	To Procure and install CCTV and Access Control systems at Institute premises	Improved security of Institute assets and resources	Presence of CCTV and access control systems	At least 30 sets of CCTV and access control systems Procured and installed by 2024						65	DPAF, ICT Services
2	Create awareness of Institute ICT	To organize a workshop to create awareness	Staff and students on Security policy and guidelines	Number of awareness training conducted	408 staff and 4949 students are aware of security						15	DPAF, ICT Services

No.	Strategy	Project	Outcome	KPI	Target	Time frame					Budget TZS "000,00 0"	Responsible office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
	Security Policy and related guidelines	to staff and student			issues by June 2023							
3	Create a culture of cybersecurity awareness among the Institute community	To organize international workshops on cybersecurity in the region	Trained cybersecurity expert in the region	Number international workshops on cybersecurity conducted	78 staff trained on cybersecurity by June 2025						53	DPARC, RAFIC
4	Ensure relevant security infrastructure deployed	To implement Physical and Digital Security	Secured environment established	Number of Secured systems	32 secured systems deployed and maintained						68	DPAF, ICT Services

No.	Strategy	Project	Outcome	KPI	Target	Time frame					Budget TZS "000,00 0"	Responsi ble office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
	Security Policy and related guidelines	to staff and student			issues by June 2023							
3	Create a culture of cybersecurity awareness among the Institute community	To organize informational workshops on cybersecurity in the region	Trained cybersecurity expert in the region	Number of international workshops on cybersecurity conducted	78 staff trained on cybersecurity by June 2025					53	DPARC, RAFIC	
4	Ensure relevant security infrastructure deployed and maintained	To implement Physical and Digital Security infrastructure	Secured environment established	Number of Secured systems	32 secured systems deployed and maintained by June 2026					68	DPAF, ICT Services	

3.1.6 KRA 6: Strengthening ICT Service Management

Objective:

To improve ICT service management to ensure their availability and maximize value from ICT investment

Table 3-6: Strengthening ICT Service Management

No.	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,000"	Responsible Office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
1.	To establish and operationalize ICT service desk	Develop and implement helpdesk system and enforce ICT service management lifecycle	Effective management of ICT services	Number of ICT services management processes supported by a helpdesk system	Seven (7) ICT service management processes implemented in ICT helpdesk systems						35	DPAF, ICT Services
		To recruit at least 4 ICT helpdesk Staff	Availability of ICT Workforce	Time to resolution of ICT Services	The average Time to the						5	DPAF, ICT Services

No.	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,000"	Responsible Office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
				related problems	resolution reached 2 hours							
		Establish Service Level Agreements (SLA) with internal and external service providers	Effective management of ICT services	Number of SLA signed	At least 2 SLA established and signed every two years						-	DPAF, ICT Services
		Perform service quality audits	Effective management of ICT services	Number of ICT services Audited	At least five services audited						-	Internal Audit, ICT Services

3.1.7 KRA 7: Strengthening ICT Governance and Management

Objective:

To strengthen Institution ICT governance and management based on acceptable standards and practices.

Table 3-7: Strengthening ICT Governance and Management

No.	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,000"	Responsible Office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
1.	To strengthen ICT Governance and Management	Establish and maintain an ICT steering Committee	Effective ICT governance	Number of ICT steering committee meetings	4 ICT steering committee meetings conducted annually						35	DPAF, ICT Services
		Prepare and implement an ICT training program	Skilled ICT workforce	Number of courses conducted	Four staff trained each year						10	DPAF, ICT Services

No.	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,000" "	Responsible Office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
				The number of ICT staff trained.								
		Conduct ICT awareness training on ICT policy. Security policy and emerging issues to DIT support staff, academic staff, and students	Effective utilization of ICT services	Number of training conducted	At least two awareness trainings conducted annually.					5		DPAF, ICT Services
		Perform ICT systems audit and assessments	Effective ICT governance	Number of systems Audited and assessed	At least two ICT system audited and					2		Internal Audit, ICT Services

No.	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,000" "	Responsible Office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
					assessed annually.							
		Establish an Enterprise Architecture for Infrastructure and Application systems	Effective ICT Investment	Requirements Design of EA document produced	EA document developed						7	

3.1.8 KRA 8: Strengthening e-Waste Management

Objective:

To ensure proper and efficient e-waste management and disposal

Table 3-8: Strengthening e-Waste and management

No.	Strategy	Project/Activity	Outcome	KPI	Target	Time frame					Budget TZS "000,000 "	Responsible Office
						2021/2022	2022/2023	2023/2024	2024/2025	2025/2026		
1.	To strengthen e-waste management	Establish and operationalize e-waste bins	Effective collection of e-waste	e-waste bin established	e-waste bin operational						35	DPAF, ICT Services
		Establish e-waste recycling plant	Effective disposal and recycling of e-waste	e-waste recycling plant established	e-waste recycling plant						300	DPAF, ICT Services

CHAPTER FOUR: REVIEWS, ENFORCEMENTS, GOVERNANCE AND MONITORING AND EVALUATION

4.1 Review and Enforcements

- i. This document shall come into operation once approved by the DIT Council and considered mandatory for all DIT business operations. It will provide a common understanding of the adoption and usage of ICT and related issues at the Institute.
- ii. DIT management will use this Policy in conjunction with ICT security policy, International Standards, DIT strategic plan, and DIT standard operating procedures as may be approved by the council to ensure that it is operated within a well-gearred ICT ecosystem and in case of change of implementation strategy, the ICT steering Committee shall approve the same.
- iii. All employees and other authorized users of DIT shall comply with the requirements of this Policy. DIT staff found to have violated this Policy may be subjected to withdrawal and or suspension of systems and network privileges or disciplinary action in accordance with rules defined by DIT or government administrative regulations.
- iv. The Head responsible for ICT administration at the Institute shall enforce compliancy by using audit trails and triggering access denial to DIT systems and networks.
- v. This document shall be reviewed from time to time whenever the business environment for DIT changes in a way that affects this Policy.

4.2 ICT Governance

In order to support the implementation of the Policy, the Institute will constitute the ICT Steering Committee with the responsibility of ensuring that the Institute complies with recommending procedures, standards, and guidelines in ICT and related policies for effective service delivery.

4.2.1 ICT Steering Committee

In order to improve ICT governance and proper alignment of ICT with the strategic and key business process of the Institute, an ICT Steering Committee needs to be established in accordance with e-Government Act (2019) section 18 and its regulations (2020). The ICT Steering Committee shall provide technical guidance on the implementation of ICT initiatives.

The ICT Steering Committee will comprise a total of seven (7) members, out of which six (6) will be from the Institute and one from Ministry with an ICT portfolio. The chairperson of the Committee will be the Institute's Accounting Officer, and the secretary will be the Head of the ICT services department. The following will be the Institute's ICT Steering Committee members:

- i Accounting Officer (Chairperson)
- ii Deputy Principal Academic, Research and Consultancy (DPARC)
- iii Deputy Principal Administration and Finance (DPAF)
- iv Head of Procurement Management Unit (PMU)
- v Head of Planning Unit
- vi Head of ICT Services Department (Secretary)
- vii One ICT Technical Expert from the Ministry responsible for Education, Science, and Technology

4.2.2 Roles and Responsibilities of Steering Committee

The ICT Steering Committee will have the following roles and responsibilities:

- i Oversee the General implementation of ICT Policy, and provide strategic direction on the utilization of ICT in order to enhance productivity by ensuring effective and efficient systems;
- ii To coordinate the establishment and review of DIT's ICT Policy and Implementation Strategy, ICT Security Policy and Business Continuity Plan;

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- iii To ensure that the ICT Strategy is aligned with DIT's Corporate Strategic Plan;
 - iv To advise the Institute in making considered decisions about the focus of ICT resources;
 - v To ensure that risks associated with ICT are managed appropriately.

4.2.3 Roles of ICT Services Department

In order to improve the efficiency and effectiveness of the responsibilities of ICT Services department, the department shall

- i Implement the Institute ICT and related policies;
- ii Formulate and review the Institute ICT and related policies;
- iii Advise Institute ICT Steering Committee on ICT issues, procedures, plans, and budgets;
- iv Develop and maintain computerized systems for efficiency of the Institute's business process;
- v Sensitize users on ICT issues and security for better utilization of Institute ICT resources;
- vi Advises ICT Steering Committee on selection, acquisition and installation of computer hardware and software;
- vii Provide user support on ICT hardware maintenance and repair to ensure service delivery;
- viii Conduct monitoring and evaluation on performance of ICT services delivery to users.

4.2.4 Monitoring and Evaluation

Monitoring and evaluation will be an integral component of the implementation of the Policy and should be factored into planning. The ICT service department will conduct M&E based on the implementation strategy activities to ensure close follow-up of the policy implementation. Relevant indicators shall be considered during M&E and be made available to enable stakeholders at all levels to monitor and assess ICT development activities on a regular basis. ICT Steering

Committee shall meet at least quarterly to monitor and evaluate the achievements in ICT initiatives against Institute ICT Policy, Strategic Plan, and Rolling Strategic Plan.