



SYSTEM REQUIREMENTS SPECIFICATIONS (SRS) FOR THE FAIR COMPETITION COMMISSION

Submitted by:

Kalen Limited
10th Floor, PSSSF Commercial Complex Sam Nujoma Road,
Dar es Salaam Tanzania
Email: info@kalen.co.tz Mob: +255 748 000 081
http://www.kalen.co.tz

May 2024

Version 1.1

Document Control

Ownership

Name	Designation	Signature	Date

Approval

Name	Designation	Signature	Date

Amendment History

Version	Date	Description
1.0	21 st April 2024	Document creation
1.1	22 nd May 2024	Final Document after Validation

Comments or Queries regarding this document should be forwarded to Team Leader

Definition of Terms

Application roles	Used to enable access to specific data to only those users who connect through a particular application
Authentication	The process of verifying the identity of a user or devices before granting access to a system
Authorization	A process of verifying users' privileges before granting access to system resources or services
Customer	A person or entity who buys goods or services from business
Importer	A person or organization that brings goods or services into a country from abroad for sale.
Functional requirement	A requirement that describes in detail tangible needs and/or requested behaviours of the proposed system. Specifically define business requirements and how users interact with the proposed system.
Standard	Something used as a measure, norm, or model in comparative evaluations
Non-functional requirement	A requirement that describes qualitative attributes of the proposed system.
FCC Officer	For the purpose of this document FCC Officer means any internal FCC user accessing the system
Trader	A person or entity who buys and sells goods, currency, or shares.
User	A person who utilizes the system

List of Abbreviations and Acronyms

API	Application Program Interface	
DG	Director General	
EDI	Electronic Data Interchange	
FIMS	FCC Information Management System	
GePG	Government electronic Payment Gateway	
HTTPS	Hypertext Transfer Protocol Secure	
I&A	Identification and Authentication	
ICT	Information and Communications Technology	
IS	Integrated System	
LGA	Local Government Authority	
NIDA	National Identification Authority	
NIN	National Identification Number	
OTP	One Time Password	
OGDs	Other Government Departments	
PKI	Public Key Infrastructure	
QAO	Quality Assurance Officer	
RDBMS	Relational Database Management System	
SSL	Secured Socket Layer	
SOA	Service Oriented Architecture	
SMS	Short Message Service	
SOAP	Simple Object Access Protocol	
SRS System Requirements Specifications		
TRA Tanzania Revenue Authority		
TIN	Taxpayer Identification Number	
TMA	TradeMark Africa	
USM	User Management	
VRN	VAT Registration Number	
DRTP	Director of Restrictive Trade Practices	
DCS	Director of Corporate Services	
DRMA	Director of Research, Mergers and Advocacy	
DAC	Director of Anti-Counterfeits	
LA Lead Auditor		
IA Internal Auditor		
CIA Chief Internal Auditor		
PR Public Relation		
PMU Procurement Management Unit		
HRA	Human Resource and Administration	
PMEM	Planning, Monitoring & Evaluation Manager	
XBRL	eXtensible Business Reporting Language	

Contents

Do	cume	ent C	Control	ii
De	efinitio	on of	f Terms	iii
Lis	st of A	٩bbr	eviations and Acronyms	iv
1	Int	rodu	iction	1
	1.1	Bac	kground	1
	1.2	Pur	pose	1
	1.3		pe	
2	Sys		Overview	
	2.1		scription:	
	2.2	FIM	IS System Architecture:	
	2.2	.1	FIMS Microservices Architecture:	
	2.2	.2	User Interface Considerations:	4
3			asses	
4	Fur		nal Requirements	
	4.1	Use	er Management Microservice	
	4.1	.1	User Management	
	4.1	.2	User Roles Management	41
	4.1	.3	Authentication and Authorization	41
	4.1	.4	User Sessions Management	41
	4.1	.5	Audit Trails	42
	4.2	Hur	man Resource and Administration Management Microservice	42
	4.2	.1	Administration Management	42
	4.2	.2	Employee Management	43
	4.2	.3	Scheme of Service (Job Description)	47
	4.3	Con	nmission Management Microservice	49
	4.3	.1	Commission Management	49
	4.3	.2	Commissioners Management	49
	4.3	.3	Legal Services	49
	4.3	.4	Committees Management	51
	4.4	Fina	ance and Accounting Microservice	
	4.4		Fee Management	

	4.4.2	Billing Management	54
	4.4.3	Payments Management	55
	4.4.4	Imprest Management	57
	4.4.5	Retirement Management	57
	4.4.6	Revenue Management	58
	4.4.7	Petty Cash Management	59
4	.5 D	ocument Management Microservice	59
	4.5.1	Document Management	59
	4.5.2	Report Management	62
4	.6 T	ask Management Microservices	62
	4.6.1	Task Creation	62
	4.6.2	Task Assignment	63
	4.6.3	Task Budget	63
	4.6.4	Tracking	64
	4.6.5	Task Prioritization	64
	4.6.6	Task Reminders	64
	4.6.7	Task Comments	65
	4.6.8	Task Collaboration	65
	4.6.9	Task Filtering and Searching	65
	4.6.10	Task Reporting and Analytics	66
	4.6.1	1 Polling (Voting)	66
	4.6.12		69
	4.6.13	3 Vetting requirements	70
4	.7 P	lanning, Budgeting, Monitoring and Evaluation (PBME) Microservice	
	4.7.1	Planning and Budgeting	71
	4.7.2	Monitoring and Evaluation	73
4	.8 P	rocurement Management Microservice	
	4.8.1	Annual Procurement Plan	74
	4.8.2	Goods Delivery	74
	4.8.3	Goods Issue Note	75
4	.9 P	ublication Relations and Communication Microservice	76
	491	Publications Management	76

	4.9.2	Event Management	77
4.	10	Audit Microservice	78
4.	11	Risk and Quality Assurance Microservice	81
	4.11.1	Risk Management	81
	4.11.2	Risk Champions	82
	4.11.3	Risk Profiling	82
	4.11.4	Quality Assurance Management	83
4.	12	ICT Microservices	84
	4.12.1	Services and Maintenance	84
	4.12.2	Change Management Request	84
	4.12.3	Support and Services	84
	4.12.4	Training and Awareness	85
	4.12.5	Library Management	85
4.	13	Asset Management Microservice	86
	4.13.1	Asset Management	86
	4.13.2	Fleet Management	87
	4.13.3	ICT Asset Equipment Management	89
4.	14	Applicant Management Microservice	90
	4.14.1	Company Applicants Management	90
	4.14.2	Individual Applicant Management	90
	4.14.3	Complainants Management	90
	4.14.4	Anonymous Applicants Management	91
	4.14.5	Respondents Management	91
4.	15	Research, Mergers and Exemptions Microservice	92
	4.15.1	Merger Applications Clearance	92
	4.15.2	Monitoring Mergers	102
	4.15.3	Deliberation of the Management	103
	4.15.4	Deliberation of the Commission	103
	4.15.5	Issuance of Compliance Notice	103
	4.15.6	Issuance of Notice of Apparent Breach	103
	4.15.7	Response to Notice of Apparent Breach	104
	4.15.8	Application for Settlement	104

	4.1	5.9	Exemptions Applications Management	104
	4.1	5.10	Opinion Management	111
	4.1	5.11	Research	112
	4.1	5.12	Advocacy	113
	4.16	Со	nsumer Protection Microservice	115
	4.1	6.1	Consumer Contracts Management	115
	4.1	6.2	Consumer and Business Community Awareness	117
	4.1	6.3	Complaints and Case Management	118
	4.17	An	ti-Counterfeits Control Microservice	137
	4.1	7.1	Anti-Counterfeits Surveillance Management	137
	4.1	7.2	Anti-Counterfeits Enforcement Management	140
	4.1	7.3	Warehouse Management Service	151
	4.18	No	tification Management Microservices	154
	4.19	Int	tegration with Third-Party APIs through ESB	155
5	No	n-Fun	nctional Requirements	156
	5.1		ormance Requirements:	
	5.2	Secu	ırity Requirements:	157
	5.3		ability Requirements:	
	5.4	Scala	ability Requirements:	158
	5.5		r Handling:	
	5.6		pility Requirements:	
	5.7		tainability Requirements:	
6			vices Architecture	
	6.1		view:	
	6.2		oservices Technology Stack:	
	6.2		Programming Languages:	
	6.2		Frameworks:	
	6.2		Containerization:	
	6.2		API Gateway:	
	6.2		Message Brokers:	
	6.2	.6 1	Database:	161
	6.3	Bene	efits of Microservices:	161

	6.4	Communication Protocols:	162				
7	Cle	ean Architecture and Test-Driven Development	162				
	7.1	Clean Architecture Overview	162				
	7.2	Test Driven Development (TDD) Overview:	163				
	7.3	Implementation Guidelines:	163				
	7.4	Testing Frameworks:	164				
8	De	evOps Implementation for FIMS	165				
	8.1	Introduction to DevOps	165				
	8.2	DevOps Tools and Technologies:	165				
	8.3	Continuous Integration and Continuous Deployment (CI/CD) Pipeline:	166				
	8.4	Monitoring and Logging:	166				
	8.5	Disaster Recovery and Backup Strategies:	166				
9	Sy	stem Constraints	167				
1() <i>A</i>	Assumptions and Dependencies	170				
1	1 I	ICT Unit Organization and Management	173				
	11.1	Roles and Responsibilities:	174				
	11.2	ICT Unit Structure	174				
	11.3	Capacity Building:	175				
	11.4	Equipments	176				
12	2 (Conclusion:	177				
13	3 Appendices						
	13 1	Rusiness Process Document	178				

1 Introduction

1.1 Background

The Fair Competition Commission (FCC) is a Public Institution established by virtue of section 62(1) of the Fair Competition Act, No.8 of 2003 (FCA) with the aim of promoting and protecting effective competition in trade and commerce in Tanzania and protecting consumer from unfair and misleading market conduct. The ultimate goal is to increase efficiency in the production, distribution and supply of goods and services. Establishment of FCC is a significant step in Tanzania effort to establish a market economy.

1.2 Purpose

The Software Requirements Specification (SRS) serves as a foundational document outlining the requirements, functionalities, and constraints of system developed and utilized by the FCC. The primary purpose of the SRS is to establish a clear understanding among stakeholders, including the FCC management and staff, developers, and end-users, regarding the software's requirements and objectives.

Software Requirements Specification (SRS) plays a critical role in ensuring the successful development, deployment, and utilization of software systems within the Fair Competition Commission (FCC) in Tanzania. It serves as a vital tool for aligning software development efforts with the commission's mission, objectives, and regulatory requirements, ultimately contributing to the promotion of fair competition and consumer welfare in Tanzania's marketplace.

1.3 Scope

This section defining the boundaries of the project covered by the FCC System Requirements Specification (SRS) is essential for ensuring a clear understanding of what the system will entail. Here are the boundaries typically defined within the SRS for an FCC project:

- Scope of the System: The SRS clearly outlines the scope of the system project, including
 the specific functionalities, features, and capabilities that the system will encompass.
 This involves core business and support functions relevant to the FCC's mandate.
- Stakeholders: The SRS identifies the stakeholders who will be directly involved or affected by the system project. This may include FCC staff members, regulatory authorities, legal experts, economists, investigators, and administrative personnel, as

- well as external stakeholders such as businesses, consumers, and other governmental agencies.
- Functional Requirements: The SRS details the functional requirements for each microservice that the system must fulfill to support the FCC's activities effectively. This includes specifying the features, operations, and behaviors of the software, such as core and support operations services, tasks management and workflows, notifications management, reporting functionalities and document management tools
- Non-Functional Requirements: The SRS also addresses the non-functional requirements governing the performance, reliability, security, usability, and scalability of the software system. These requirements ensure that the system meets the FCC's standards for efficiency, effectiveness, and data integrity.
- System Architecture and Technology: The SRS involves detailing the architectural design principles, components, and technologies that will be utilized to develop the system. This section of the SRS focuses on defining how the system will be structured and the technologies that will be employed to support its functionalities and operations.

2 System Overview

2.1 Description:

The Fair Competition Commission Information Management System (FIMS) is a comprehensive platform designed to streamline and automate core and supporting functions related to the Fair Competition Commission (FCC). FIMS serves as a centralized hub for collecting, analyzing, and disseminating information crucial to the Fair Competition Act (FCA), the Merchandise Marks Act (MMA), FCC policies, regulatory compliance, and enforcement activities.

FIMS is engineered to enhance service delivery by the automation of FCC business processes and leveraging integration with systems from other institutions. Through seamless integration, FIMS facilitates the exchange and processing of data and information across multiple platforms, enabling more effective and efficient stakeholder collaboration. By automating manual processes and streamlining workflows, FIMS empowers the FCC to expedite operations, make well-informed decisions, enforce regulations, and ensure fair play in the economy.

2.2 FIMS System Architecture:

FIMS's system architecture is based on a modern Microservices Architecture, which leverages the benefits of scalability, modularity, and flexibility. It is designed to accommodate the complex and evolving requirements of the FCC while ensuring high performance and reliability.

2.2.1 FIMS Microservices Architecture:

The Microservices Architecture of FIMS comprises a collection of loosely coupled and independently deployable services, each responsible for specific functional domains or business capabilities. These microservices interact with each other through lightweight protocols, facilitating seamless communication and system flow.

The system architecture as shown in diagram 1 below identifies the microservices that will make up the (FIMS), It will consist of an API gateway that will act as the single point of entry interacting with FCC Internal systems, FCC Applicants as well as External Stakeholders' (TIRA, NIDA, SINGLE WINDOW TeSWS, BRELA, GePG, EWURA, PURA, LATRA, TBS, TRA, BOT, etc.) systems via ESB. Dynamic service discovery and asynchronous communication between the microservices will be achieved through the service registry and message broker respectively. Furthermore, each microservice will have its own database to ensure isolation between microservices, minimizing the risk for cascading failures.

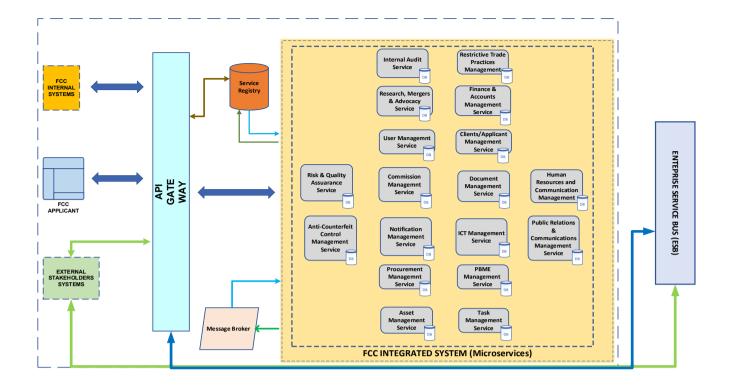


Figure 1: FIMS System Architecture (Microservice) diagram

2.2.1.1 Communication Protocols:

Inter-service communication is facilitated through RESTful APIs, allowing for asynchronous and stateless interactions between microservices.

2.2.1.2 System Flow:

The flow of data and control within the Microservices Architecture is orchestrated through service endpoints, event-driven messaging, and choreography patterns.

2.2.2 User Interface Considerations:

While FIMS primarily focuses on backend functionality and data processing, user interface considerations are crucial in ensuring usability and user adoption. FIMS is intended to be a Progressive Web Application (PWA), providing users with a seamless and engaging experience across various devices and platforms.

2.2.2.1 Progressive Web Application (PWA):

FIMS is developed as a PWA, leveraging modern web technologies to deliver a native applike experience to users through standard web browsers. PWAs offer advantages such as offline access, push notifications, and quick loading times, enhancing user engagement and satisfaction.

2.2.2.2 Intuitive Design:

The user interface is designed to be intuitive, with clear navigation, consistent layouts, and contextual cues to guide users through the system's functionalities.

2.2.2.3 Accessibility:

Considerations are made to ensure that the user interface is accessible to users with diverse needs, including support for assistive technologies and compliance with accessibility standards.

2.2.2.4 Responsive Design:

The user interface is responsive and adaptive, providing an optimal viewing experience across various devices and screen sizes. FIMS dynamically adjusts its layout and content to accommodate different viewport dimensions, ensuring usability on desktops, tablets, and mobile devices.

2.2.2.5 Offline Functionality:

As a PWA, FIMS offers offline functionality, allowing users to access certain features and data even when not connected to the internet. This ensures uninterrupted access to critical information and functionalities, enhancing productivity and user satisfaction.

2.2.2.6 Push Notifications:

FIMS utilizes push notifications to inform users about important updates, notifications, and alerts. Users receive real-time notifications directly on their devices, improving communication and engagement with the system.

3 User Classes

The user classes table below serves as a comprehensive overview of the distinct categories of users within the FIMS system. Each class delineates specific requirements and roles tailored to accommodate diverse user needs and responsibilities. By defining user classes, we ensure efficient personalized user experiences, and streamlined management of system resources. This table is instrumental in facilitating clear communication and effective operation across the platform.

User Class Name	Description	Requirements	Roles/Activities
Commission	Decision-making body responsible for approving the final draft budget and monitoring and evaluation reports	- Members appointed by the Minister of Industry and Trade.	 Deliberate and approve the final draft budget and monitoring and evaluation reports. Review and consider Merger Analysis Report Approve or prohibit Merger Application Issue Merger Clearance Certificate or Notice of Prohibition of Merger Review and approve the Risk Based Annual Internal Audit Plan (RBIAP) Provide guidance and oversight to internal audit activities. Participate in the review and approval of audit plans and reports. Make decisions regarding audit priorities, resource allocation, and corrective actions. Communicate audit findings, recommendations, and progress updates to stakeholders.

User Class Name	Description	Requirements	Roles/Activities
			 Develop and update policies, procedures, and frameworks related to internal audit activities.
Chairperson of the Committee	Individual leading the hearing committee	- Appointed by The President of the United Republic of Tanzania	- Call a meeting with committee members to schedule the hearing
Director General / Chief Inspector	The Director General is the Chief Executive of the Commission and responsible for the day-to-day operations of the Commission subject to the directions of the Commission, is also the Chief Inspector under the Merchandise Marks Act, 1963 as amended and also responsible for insuring a sound management of FCC Finances and Human Resources.	- Holder of Master Degree in Management, Law, Economics, Finance or equivalent Qualification form recognized Institutions. Master Degree must be related to his Bachelor Degree. (As per Scheme of Service) In Service Entry Qualifications (As per Scheme of Service)	 Approve leave applications, training requests, etc. Preview complaints with supporting documents. Approve or reject responses for declined complaints. Sign and approve Stop Orders Approve or dismiss claims. Review and approve various letters and reports. Providing directives for legal processes Reviewing case initiating documents Approving responses and rejoinders Decision-making Reviewing and approving internal audit memos and reports. Providing support and resources for audit activities.

User Class Name	Description	Requirements	Roles/Activities
Director of Corporate Services	Will be responsible for the management of the internal affairs of the Commission specifically on accounting, finance, planning, and budgeting, human resources, and administration.	- Holder of Master Degree in one of the following fields: Human Resources Management, Public Administration, Accountancy, Finance, Economics, Statistics, Planning, Project Planning and Management, Finance and Investment Planning or Business Administration	 Fill leave application forms, training request forms, official safari application forms Approve leave applications, training requests, official safari applications, and fleet management requests. Fill leave application forms, training request forms, official safari application forms. Reviews, Approves and recommends to the Director General internal payments.
		majoring in Accountancy, Finance or Human Resources Management or equivalent qualifications. (As per Scheme of Service) In Service Entry Qualifications (As per Scheme of Service)	

User Class Name	Description	Requirements	Roles/Activities
Director of Anti- Counterfeits	Will be responsible of advising the Director General on matters related to anti-counterfeit and surveillance and ensuring that all matters concerning investigations and enforcement of counterfeits are carried out.	Holder of Master Degree in Law or its equivalent from any recognized Institution who has passed a recognized practical legal training or undergone internship program recognized by the Attorney General. The candidate must be registered as Advocate. (As per Scheme of Service) In Service Entry Qualifications (As per Scheme of Service)	 Receive complaints assigned by Chief Inspector Fill leave application forms, training request forms, official safari application forms. Provide directives to Counterfeits Surveillance Manager, and other relevant actors. Review anti-counterfeits complaints and applications. Review responses for declined complaints. Review filled Stop Orders - Review signed letter for raid operations. Review Order of Detention of Goods Review Raid Reports Submit to Chief Inspector for further steps. Reviews and Approves Warehouse processes.
Director of Restrictive Trade Practices	Will be responsible for reviewing competition and consumer complaints filled by the Commission and advising on appropriate course of action, as well as	- Holder of Master Degree in one of the following fields: Law, Economics, Statistics, Finance or equivalent qualifications form recognized Institutions.	 Assign tasks and review documents related to the standard form contract review Assign tasks and review documents related to the standard form contract review

User Class Name	Description	Requirements	Roles/Activities
	carrying out investigation in the market and substantiate their effects to competition and consumer welfare.	Qualification in Law must have passed a recognized practical legal training or undergone internship program recognized by the Attorney General and a registered Advocate. (As per Scheme of Service). - In Service Entry Qualifications (As per Scheme of Service)	 Review and submit Legal Opinions Review and submit filled Notification on Complaint Filed with the Commission Receive directives from Director General and assign tasks to Consumer Protection Manager Review prepared draft rejection letter (if applicable) Review and submit draft Investigation Plan and Cost Review and submit draft Investigation Report Assign Investigation Report to Director of Restrictive Trade Practices for further steps. Review and sign letters. Review and sign letters. Review and submit reports. Fill leave application forms, training request forms, official safari application forms
Director of Research, Merger and Advocacy	Will be responsible in advising the Director General on matters related to competition research, mergers, exemptions and	- Holder of Master Degree in one of the following fields: Law, Economics, Statistics, Finance or equivalent qualifications from	 Assign Merger and Exemptions Manager to initiate investigation of merger application. Review and approve Merger Analysis Report

User Class Name	Description	Requirements	Roles/Activities
	advocacy and ensuring that competition research and public inquiries into matters relating to competition are conducted.	recognized institutions. The Master Degree must be related to his Bachelor Degree. (As per Scheme of Service). - In Service Entry Qualifications (As per Scheme of Service)	 Submit approved report or stopping the counting of 30 days extension order to Secretary to the Commission for transmission to management. Improve returned Merger Analysis Report or stopping the counting of 30 days extension order as per directives given by the Commission. Receive Merger Clearance Certificate or Notice of Prohibition of Merger and reasons for decision from Secretary to the Commission Direct Merger and Exemptions Manager to monitor merging firms' implementation of the Merger approval condition(s) Review and submit monitoring report to Director General for approval. Assign decision of the Commission and final research study report to Advocacy Manager Review proposal for conducting public awareness Review public awareness session report Review policy, bills, or legislation for competition and consumer welfare effects

User Class Name	Description	Requirements	Roles/Activities
			 Recommend decision to Director General based on analysis report Prepare and submit a draft Board Paper to the Management on the reasons for revoking the Certificate of Exemption Consider management comments and resubmit Board Paper to Secretary to the Commission if necessary Assign records officer to dispatch opinion Assign submitted Application for Exemption of Agreement (FCC-3) Form and related documents to Division of Corporate Affairs for payment assessment Review completeness of filed documents Sign and issue Notice of Material Incompleteness or Provision of Information on Specific Exemption Sought Recommend issuance of Notice of Complete Filing to Director General Effect corrections if needed and issue Notice of Complete Filing to Parties Fill leave application forms, training request forms, official safari application forms

User Class Name	Description	Requirements	Roles/Activities
HRA Manager	- The Human Resource and Administration Manager will be responsible for the management of the Human Resources and Administrative functions of the Commission and advising the Director of Corporate Services on human resources management and administrative.	- Holder of Master Degree in one of the following fields: Public Administration, Human Resources Management, Human Resources Planning and Management, Industrial Relations, Business Administration majoring in Human Resources Management or equivalent qualification form recognized Institution. The candidate must have passed Qualifying Law Examination for Administrative Officers Proficiency Examination for Human Resource Officers. The Master Degree must be related to his Bachelor Degree. (As per Scheme of Service). - In Service Entry Qualifications (As per Scheme of Service)	 Review leaves applications, training requests, official safari applications, and fleet management requests Fill leave application forms, training request forms, official safari application forms

User Class Name	Description	Requirements	Roles/Activities
Planning, Monitoring & Evaluation Manager (PMEM)	- Will be responsible for the overall planning process of the Commission's programmes and budgets, advising the Director on matters related to planning and coordinate preparation, implementation and review of Commission's Strategic Plan and Action Plans.	- Holder of Master Degree in Economics, Statistics, Economics and Statistics, Planning, Project Planning and Management, Policy Planning, Monitoring and Evaluation, Investment Planning, Development Finance and Investment or equivalent qualifications from recognized institutions. (As per Scheme of Service) In Service Entry Qualifications (As per Scheme of Service)	 Prepare monitoring and evaluation plan, assign monitoring and evaluation team, Collect and analyze data, Prepare draft monitoring/evaluation reports, Review and submit draft reports, Present final draft to various committees and stakeholders for deliberation and approval Fill leave application forms, training request forms, official safari application forms
Consumer Protection Manager	Manager responsible for consumer protection activities	- Holder Of Master Degree in one of the following fields: Law, Economics, Finance, Commerce, Marketing, Business Administration, Statistics, Consumer Protection or equivalent qualifications from recognized Institutions. (As per Scheme of Service).	 Review and provide recommendations on the standard form contract Review and provide recommendations on the standard form contract Review and crosscheck certification documents for the approved contract Review Legal Opinions and filled Notification on Complaint Filed with the Commission Review and submit prepared draft rejection letter (if applicable) Review and submit draft Investigation Plan and Cost

User Class Name	Description	Requirements	Roles/Activities
		- In Service Entry Qualifications (As per Scheme of Service)	 Review and submit draft Investigation Report Review and submit Settlement Analyze Settlement Plan Review Analysis Report Assign tasks to subordinates Review and sign letters Review and submit reports Fill leave application forms, training request forms, official safari application forms
Anti-counterfeits Surveillance Manager	Will be responsible for managing and controlling anti-counterfeits campaigns and monitoring counterfeits at entry points and inland markets.	- Holder of Master Degree in one of the following fields: Law, Economics, Statistics, Intellectual Property Rights or equivalent qualifications from recognized Institutions. Must have passed a recognized practical legal training or undergone internship program recognized by the Attorney General and registered as an Advocate. Masters must be related to the Bachelor Degree. (As per Scheme of Service).	

User Class Name	Description	Requirements	Roles/Activities
		- In Service Entry Qualifications (As per Scheme of Service)	
Anti-Counterfeits Enforcement Manager	Will be responsible for the enforcement or Merchandise Marks Act, 1963 as amended.	Holder of Master Degree in Law or its equivalent from any recognized Institution who has passed a recognized practical legal training or undergone internship program recognized by the Attorney General. Must be a registered Advocate. (As per Scheme of Service). - In Service Entry Qualifications (As per Scheme of Service)	 Review and approve list of counterfeits goods to be disposed Review and approve stock taking report Fill leave application forms, training request forms, official safari application forms

User Class Name	Description	Requirements	Roles/Activities
Merger and Exemptions Manager	Will be responsible for carrying out analyses on mergers and acquisitions.	Holder of Master Degree in one of the following fields: Law, Economics, Finance, Statistics or equivalent qualifications from recognized Institutions. The Masters Degree should be related to the Bachelor Degree. (As per Scheme of Service) In Service Entry Qualifications (As per Scheme of Service)	 Review completeness of filed documents. Recommend issuance of Notice of Complete or Incomplete Filing Assign merger application to Merger Analyst(s) for investigation Review and submit Merger Analysis Report Assign Merger Analyst(s) to monitor Conditional Approved Merger Review submitted plan and/or program of monitoring - Recommend improvements or sanctions for immediate implementation of the monitoring plan Review proposal for conducting public awareness Review public awareness session report Review policy, bills, or legislation for competition and consumer welfare effects Review request for opinion and assign to merger analyst Fill leave application forms, training request forms, official safari application forms

User Class Name	Description	Requirements	Roles/Activities
Counterfeit Surveillance Officer	Officer responsible for implementing anticounterfeits measures, conducting surveillance, and handling complaints	Holder of a Bachelor Degree in one of the following fields: Law, Law Enforcement, Arts and Social Sciences, Science, Consumer Protection, Commerce, Business Administration, Economics, Economics and Finance, Industrial Relations, Engineering or equivalent qualifications from recognized Institutions. (As per Scheme of Service) In Service Entry Qualifications (As per Scheme of Service)	 Conduct due diligence on complaints with the help of complainants Prepare responses for declined complaints Conduct product identification training sessions - Fill Stop Orders for goods at customs custody Perform product verifications Fill daily inspection forms Issue notices of seizure Collect and mark sampled counterfeit goods Prepare inspection reports Participate in offloading process at ports Prepare offloading reports Equip the culprit on legal knowledge and options for settlement Perform screening of submitted documents Issue orders of compoundment and control numbers Prepare various letters (e.g., release letter, offloading letter, close investigation file letter) Fill leave application forms, training request forms, official safari application forms

User Class Name	Description	Requirements	Roles/Activities
Enforcement Officer	Officer responsible for enforcement activities	Holder of a Bachelor Degree in one of the following fields: Law, Law Enforcement, Arts and Social Sciences, Science, Consumer Protection, Commerce, Business Administration, Economics, Economics and Finance, Industrial Relations, Engineering or equivalent qualifications from recognized Institutions. (As per Scheme of Service) In Service Entry Qualifications (As per Scheme of Service)	 Prepare Disposal Order Inform Service Provider, Brand Owner, Police Force about Disposal Order Prepare Destruction Report or Donation Report Fill leave application forms, training request forms, official safari application forms

User Class Name	Description	Requirements	Roles/Activities
Consumer Protection Officer	Responsible for investigating misleading, deceptive market conducts and unfair business practices and assisting the Manager in the enforcement of relevant parts of the FCA.	Holder of a Bachelor in one of the following fields: Law, Consumer Protection, Commerce, Business Administration, Food Science, Marketing, Economics, Economics and Finance, Engineering or equivalent qualifications from recognized Institutions. (As per Scheme of Service). - In Service Entry Qualifications (As per Scheme of Service)	 Screen the submitted standard form contract and related documents for completeness. Conduct consultations with the applicant regarding the review process. Determine if complaints are consumer protection related. Prepare Legal Opinions and demand letters. Conduct mediation sessions. Document details of complaints and approved legal opinions in Complaints Register Prepare draft rejection letter (if applicable) Request complaint number from Registry Office Prepare draft Investigation Plan and Cost Conduct investigation. Prepare draft Investigation Report Fill leave application forms, training request forms, official safari application forms
Record Officers	Responsible for receiving, recording, and dispatching internal and external documents	Holder of Bachelor Degree in one of the following fields: Records Management, Archives, Archives and	 Receive internal or external documents Record date and stamp received documents Fill incoming register form

User Class Name	Description	Requirements	Roles/Activities
		Documentation, Records and Information Management or Equivalent qualifications. Candidate must be computer Literate. (As per Scheme of Service) In Service Entry Qualifications (As per Scheme of Service)	 Scan and upload received documents Send documents to relevant stakeholders Date and stamp signed documents Fill outgoing register form Scan and upload signed documents Dispatch documents to external stakeholders Fill leave application forms, training request forms, official safari application forms
Accountant	To be custodian of all accounting schedules.	Holder of Bachelor Degree or Advanced Diploma in one of the following fields: Accountancy or Finance or equivalent qualifications form recognized Institutions plus either CPA (T), ACCA, ACA, CIMA or equivalent professional qualification recognized by the NBAA. (As per Scheme of Service) In Service Entry Qualifications (As per Scheme of Service)	 Crosscheck payments made by complainants Issue payment receipts Crosscheck payments made by complainants Issue payment receipts Assist in preparing financial documents for merger application Fill leave application forms, training request forms, official safari application forms
Inspector	Officer responsible for inspection and supervision	- Any FCC Officer Appointed and Gazetted.	 Organize and document training sessions on product identification.

User Class Name	Description	Requirements	Roles/Activities
			 Organize and document training sessions on product identification. Handover counterfeits goods to Warehouse Supervisor Verify goods details against Notice of Seizure Prepare Release Order Prepare Handover Note Receive issued non-offending goods from Warehouse Supervisor Prepare Handover Note narrating list of non-offending goods to be released Countersign Handover Note with Responsible Party Return non-offending goods to Responsible Party Prepare Return of Goods Report
HRA Officer	Verifies and processes leave applications, training requests, official safari applications, and fleet management requests	Holder of Bachelor Degree in one of the following fields: Public Administration, Human Resources Management, Human Resources Planning and Management, Industrial Relations, Business Administration or Commerce majoring in Human Resources Management, Manpower	 Verify and forward leave applications, training requests, official safari applications, and fleet management requests for further processing Fill leave application forms, training request forms, official safari application forms

User Class Name	Description	Requirements	Roles/Activities
		management or equivalent. (As per Scheme of Service) In Service Entry Qualifications (As per Scheme of Service)	
Line Manager	Supervises and approves leave applications, training requests, official safari applications, and fleet management requests within their units	-	- Review, sign, and forward leave applications, training requests, official safari applications, and fleet management requests for approval
Finance Management Officer	Processes payments related to approved leave, training, official safari, and fleet management requests	Holder of Bachelor Degree or Advanced Diploma in one of the following fields: Accountancy, Finance, Business Administration or Commerce majoring in Accountancy or Finance, Economics, Agricultural Economics and Agribusiness, Economics and Finance equivalent qualification from recognized institutions. (As per Scheme of Service).	 Confirm payment entitlement and process payments for approved requests Fill leave application forms, training request forms, official safari application forms

User Class Name	Description	Requirements	Roles/Activities
		- In Service Entry Qualifications (As per Scheme of Service)	
Administrative Officer	Reviews and forwards fleet maintenance/service/replace ment requests for further processing	-	 Review and forward fleet maintenance/service/replacement requests Fill leave application forms, training request forms, official safari application forms
Complainant	Individual lodging anti- counterfeits complaints	-	 Fill out and submit Complaints Form (SFC-2) Receives notification about the status of their complaint
Claimant	Party challenging the seizure		- Fill and submit Statement of Claim
FCC Drivers	Initiate fleet maintenance/service/replace ment requests	Holder of Certificate of Secondary Education Examination (CSEE) having a valid Driving License Class C or E and Basic Driving Course. (As per Scheme of Service) In Service Entry Qualifications (As per Scheme of Service)	 Fill fleet maintenance/service/replacement forms Fill leave application forms, training request forms, official safari application forms
Finance Officer	Processes payments related to fleet	Holder of Bachelor Degree or Advanced Diploma in one of	- Process payments through MUSE for approved fleet

User Class Name	Description	Requirements	Roles/Activities
	maintenance/service/replace ment requests	the following fields: Accountancy, Finance, Business Administration or Commerce majoring in Accountancy or Finance, Economics, Agricultural Economics and Agribusiness, Economics and Finance equivalent qualifications from recognized institutions. (As per Scheme of Service) In Service Entry Qualifications (As per Scheme of Service)	maintenance/service/replacement requests - Fill leave application forms, training request forms, official safari application forms
Budget Officers	Officers responsible for providing budget priorities and estimates		- Provide budget priorities and estimates
Budget Committee	Committee responsible for reviewing current year's plans, performance, and submitted budget priorities and estimates		 Review current year's plans and performance Review submitted budget priorities and estimates Set targets for the following year
Audit Committee	Committee responsible for reviewing and endorsing the final draft budget and monitoring and evaluation reports	N/A	- Deliberate and endorse the final draft budget and monitoring and evaluation reports

User Class Name	Description	Requirements	Roles/Activities
Action Officers	Officers responsible for acting on received documents	N/A	- Act on received documents
External Stakeholders	Entities outside the FCC that receive documents from the Record Management Office	N/A	- Receive dispatched documents
TRA Officer	Officer responsible for providing verification lists	 Provide product verification lists 	- Provide product verification lists
Clearing and Forwarding Agents	Individuals involved in clearing and forwarding goods	- Receive copies of notices of seizure	- Receive copies of notices of seizure
Members of the Committee	Individuals participating in the hearing committee		- Participate in the hearing proceedings
Secretary to the Commission / Legal Services Manager		Holder of Master Degree in Law (LL.M) or its equivalent from any recognized Institution who has passed a recognized practical legal training or undergone internship program recognized by the Attorney General. The candidate must be an advocate. The Master Degree must be related to his Bachelor Degree (As per Scheme of Service).	 Receiving documents, preparing notices, transmitting documents, preparing minutes, sharing information with management. Reviewing cases, assigning tasks to legal officers, providing legal advice, preparing legal documents. Screen the submitted standard form contract and related documents for completeness Conduct consultations with the applicant regarding the review process

User Class Name	Description	Requirements	Roles/Activities
		- In Service Entry Qualifications (As per Scheme of Service)	 Determine if complaints are consumer protection related Prepare Legal Opinions and demand letters Conduct mediation sessions Document details of complaints and approved legal opinions in Complaints Register Prepare draft rejection letter (if applicable) Request complaint number from Registry Office Prepare draft Investigation Plan and Cost Conduct investigation. Prepare draft Investigation Report Assign Tasks to subordinates. Fill leave application forms, training request forms, official safari application forms
Legal Officer	Legal professionals responsible for handling legal documents and representing FCC in legal matters.	- Holder of Bachelor Degree in Law (LL.B) from any recognized Institution who passed Law School or undergone internship program recognized by the Attorney General. Must be a registered Advocate of the	 Reviewing case documents, drafting responses, representing FCC in court hearings.

User Class Name	Description	Requirements	Roles/Activities
		High Court of Tanzania (As per Scheme of Service) In Service Entry Qualifications (As per Scheme of Service)	
Respondent	Party responding to the consumer complaint		 Submit written feedback to the Commission. Attend mediation sessions as required Review and respond to Settlement Plan Sign Settlement Compliance Agreement Receive notifications and communications. Receive and respond to orders and notices Submitting responses to legal claims made by FCC Attending court hearings as necessary
Information Communication Technology Manager	System Administrator Oversees ICT-related processes within FCC.	- Holder of Master Degree in one of the following fields: Computer Science, Computer Engineering, Information Technology, Information System and Networking Engineering, Information and Communication Technology, Electronics and Communication Engineering, Information and	 System Admin Rights Review requests, recommend, and assign tasks. Assign tasks, review decisions. Assign System User Roles Add and Remove User Permissions Assign Tasks to subordinates.

User Class Name	Description	Requirements	Roles/Activities
		Communication Management or equivalent computer qualification from recognized institutions. The Master must be related to his Bachelor Degree. (As per Scheme of Service). - In Service Entry Qualifications (As per Scheme of Service)	
Information Communication Technology Officer	Executes ICT-related tasks as assigned by the ICT Manager.	- Holder of Bachelor Degree in one of the following fields: Computer Science, Computer Engineering, Information Technology, Information System and Networking Engineering, Information and Communication Technology, Software Engineering, Database Administration, Computer System Analysis, Computer System Security, Network Administration, Information and Communication Systems Management or equivalent	- Prepare requirements, register purchased items, update registers. Register decisions, organize physical copies.

User Class Name	Description	Requirements	Roles/Activities
		computer qualification from recognized institutions. (As per Scheme of Service) In Service Entry Qualifications (As per Scheme of Service)	
PMU	Project Management Unit responsible for managing projects within FCC.		- Participate in procurement process.
FCC Staff	Employees of the FCC involved in the request and use of library materials.		Submit requests, receive materials.Assign Tasks to subordinates.
Heads of Zones	Heads of geographical zones or regions within FCC.		- Identify region-specific risks, propose mitigation measures.
Risk Champions	Individuals responsible for facilitating risk management activities within their respective units or zones.	- Selected FCC Staff from any Unit or Directorate.	- Facilitate risk identification, record identified risks.
Manager of Procurement	Oversees the planning and implementation of FCC's annual procurement plan.	- Holder of Master Degree in one of the following fields: Procurement and Supplies Management, Material Management, Business Administration majoring in Procurement and Logistics Management, Logistics	 Initiate procurement processes through NeST for approved fleet maintenance/service/replacement requests. Prepare draft annual procurement plan, Review plan and submit for review, Approve plan, Upload approved plan in PlanRep.

User Class Name	Description	Requirements	Roles/Activities
		Management or equivalent qualifications from recognized institutions. Must also be a holder of Certified Procurement and Supplies Professional (CPSP) or equivalent and is registered by PSPTB in the Category of Approved Procurement and Supplies Professional. The Master Degree must be related to his Bachelor Degree. (As per Scheme of Service). - In Service Entry Qualifications (As per Scheme of Service)	 Review and approve Procurement Requisition Form for publication of Public Notice Assign Tasks to subordinates.
Procurement Officer	Responsible for preparing, receiving, and processing procurement-related documents and activities.	- Holder of Bachelor Degree in one of the following fields: Procurement and Supplies Management, Material Management, Business Administration majoring in Procurement and Logistics Management, Logistics Management or equivalent	- Receive goods and delivery note, Notify Procurement Manager, Notify DG on delivered goods, Provide recommendation of inspection team, Provide feedback/acceptance certificate to the supplier.

User Class Name	Description	Requirements	Roles/Activities
		qualifications from recognized institutions or Professional Level III offered by PSPTB. The candidate must be registered by Procurement and Supplies Professionals and Technician Board as Graduate Procurement and Supplies Professional. (As per Scheme of Service) In Service Entry Qualifications (As per Scheme of Service)	
User Department Officer	Requests and receives goods from the procurement department.	Goods already delivered and in storage.	- Fill Good Issue Note form, Countersign Good Issue Note form, Receive and record goods.
Head of PR and Communication Unit	Oversees the production of the Commission's newsletter and other PR activities.		 Collect, consolidate, and review news/stories, Submit to Editorial Board, Review and approve draft newsletter, follow procurement lifecycle for printing and online publishing, Assign Printed Newsletter to Records Officer, Respond to inquiries or invitations. Review and approve prepared Public Notice for publication Assign Tasks to subordinates.

User Class Name	Description	Requirements	Roles/Activities
PR Officer	Responsible for advising the Director General on external communications and carrying out media relations with media houses with the aim of developing good rapport.	- Holder of Bachelor Degree in one of the following fields: Advertising and Public Relations, Mass Communication, Journalism, Public Relations and Marketing, International Relations, Business Communication or equivalent qualifications in social sciences with a major in communication from recognized institutions. (As per Scheme of Service) In Service Entry Qualifications (As per Scheme of Service)	- Collect, consolidate, and submit information/stories, Prepare draft PR writing, Prepare draft event plan, Review and process inquiries or invitations, Prepare response letters and necessary documents, Draft response letter, Provide recommendations, Submit to Head of PR and Communication unit.
Chief Internal Auditor (CIA)	Executive overseeing the internal audit function within FCC.	Audit expertise, knowledge of FCC operations.	 Initiating the preparation of the Risk Based Annual Internal Audit Plan (RBIAP) Reviewing and approving the Audit RBIAP Reviewing and approving internal audit memos and reports Overseeing audit engagements and conducting entry and exit meetings Assign Tasks to subordinates.

User Class Name	Description	Requirements	Roles/Activities
Lead Auditor (LA)	Experienced auditors responsible for leading audit engagements, preparing audit plans, and coordinating audit activities.	- Appointed Internal Auditor (IA)	 Appointing audit teams and conducting entry meetings - Preparing audit engagement plans and checklists Reviewing audit evidence and preparing draft audit reports
Internal Auditor (IA)	Staff responsible for assisting in the preparation of the audit plan.	- Holder of Bachelor Degree or Advanced Diploma in one of the following fields: Accountancy, Finance, Business Administration majoring in Accountancy or Finance or equivalent qualification from recognized institutions plus either CPA(T), ACCA, ACA, CIA or equivalent professional qualification recognized by the NBAA. (As per Scheme of Service) In Service Entry Qualifications (As per Scheme of Service)	 Identifying audit universe and conducting risk assessments Conducting internal audits and preparing audit reports Reviewing audit evidence and preparing working papers Participating in entry and exit meetings with auditees.
Audit Committee	Committee responsible for reviewing and approving audit plans.	-	 Reviewing and approving the Risk Based Annual Internal Audit Plan (RBIAP) Reviewing and approving internal audit memos and reports

User Class Name	Description	Requirements	Roles/Activities
			- Providing guidance on audit matters and recommending improvements
Advocacy Manager	The Advocacy Manager will have the responsibility for carrying out advocacy functions to instil competition culture in the economy and conduct consumer awareness campaigns.	- Holder of Master Degree in one of the following fields: Law, Economics, Statistics, Economics and Statistics, Economic and Finance, Commerce, Business Administration, Consumer Protection, Mass Communication, Social Sciences or equivalent qualifications from recognized Institutions. The Master Degree must be related to his Bachelor Degree. (As per Scheme of Service) In Service Entry Qualifications (As per Scheme of Service)	 Review proposal for conducting public awareness. Review public awareness session report. Review analysis report for policy, bills, or legislation. Assign Tasks to subordinates.
Advocacy Officer		- Economists - Statisticians	 Prepare proposal for conducting public awareness. Conduct public awareness sessions. Collect desk search information for policy, bills, or legislation review.

User Class Name	Description	Requirements	Roles/Activities
Merger Analyst	Analyst responsible for	_	 Analyse collected information and prepare analysis report Prepare draft invitation letter for stakeholders Conduct public awareness session using approved presentation material. Review completeness of submitted
(Economist/Legal Services Officer)	investigating merger applications		 Review completeness of submitted application for merger clearance Recommend issuance of Notice of Complete or Incomplete Filing Investigate merger application Prepare Merger Analysis Report Perform monitoring of Conditional Approved Merger - Receive progress implementation report from merging firm(s) Review policy, bills, or legislation for competition and consumer welfare effects Review and request additional information from applicant if necessary. Prepare draft opinion and submit to Merger and Exemptions Manager
Applicant	Party		 Fill provisional declaration of merger fees form. Submit Application for Merger Clearance Form

User Class Name	Description	Requirements	Roles/Activities
			 Make payment and submit proof of payment Request for a control number Request for an opinion to the FCC Initiating legal action against FCC (submitting case initiating documents) Responding to legal claims made by FCC (submitting responses) Attending court hearings as necessary Submit the standard form contract and related documents for review. Prepare and submit Settlement Plan Sign Settlement Compliance Agreement
Law Firm	Legal entity representing merging firms	 Assist in preparing and submitting merger application 	 Assist in preparing and submitting merger application
Stakeholders	Parties with vested interest in the merger application	- Submit Notice of Intention to Participate - Provide input during stakeholder engagement	 Submit Notice of Intention to Participate Provide input during stakeholder engagement
Secretary to the Commission / Legal Services Manager	Officer responsible for administrative tasks within the Commission	Holder of Master Degree in Law (LL.M) or its equivalent from any recognized Institution who has passed a recognized practical legal training or undergone internship program	 Receive Report of Application for Exemption of Agreement submitted by Director of Research, Merger and Advocacy Transmit reviewed Report of Application for Exemption of Agreement to Director of

User Class Name	Description	Requirements	Roles/Activities
		recognized by the Attorney General. The candidate must be an advocate. The Master Degree must be related to his Bachelor Degree (As per Scheme of Service) In Service Entry Qualifications (As per Scheme of Service)	Research, Merger and Advocacy for improvement if needed Transmit adopted Report of Application for Exemption of Agreement to the Commission for decision Transmit directives from the Commission to Management or Director of Research, Merger and Advocacy Document details of the Application for Exemption of Agreement in Exemption of Agreement Register Transmit Merger Analysis Report or stopping the counting of 30 days extension order between Commission and Management Document details of cleared Merger Applications in Merger Clearance Register Transmit Merger Clearance Certificate or Notice of Prohibition of Merger and reasons for decision between Commission and Management Transmit monitoring report with Commission's directives between Commission and Management
Management	Upper-level management team of the Commission		 Review submitted Report of Application for Exemption of Agreement and adopt or recommend for improvement

User Class Name	Description	Requirements	Roles/Activities
			 Transmit adopted Report of Application for Exemption of Agreement to the Commission for decision Transmit directives from the Commission to Secretary to the Commission Receive directives from Secretary to the Commission - Review submitted monitoring report and adopt or recommend for improvements Review and approve the mini study intention and strategy paper Assign teams to conduct research studies Review submitted Board Paper and adopt or recommend for improvement Transmit adopted Board Paper to the Commission for decision Receive directives from the Commission Review submitted monitoring report and adopt or recommend for improvements Review and provide recommendations on the draft audit plan
Parties	Entities applying for exemption of agreement		 Submit Application for Exemption of Agreement Receive Exemption Certificate or Notice of Refusal to Grant Exemption and reasons for decision. Receive directives from the Commission

User Class Name	Description	Requirements	Roles/Activities
Warehouse Supervisor	Supervisor responsible for warehouse operations		 Receive information from Inspector. Verify goods details against Notice of Seizure Accept counterfeits goods and prepare Goods Received Note Record details of received goods into Warehouse Ledger Arrange received goods in proper storage equipment. Prepare list of goods to be disposed. Submit list of goods to be disposed to Anti-Counterfeits Enforcement Manager Maintain storage status of rejected goods. Receive signed Release Order or Disposal Order Prepare Issue Note for release or disposal. Perform stock taking Prepare stock taking report
Research Manager	Manager responsible for overseeing research activities within the Commission	- Prepare intention to conduct a mini study - Review mini study report - Review and approve strategy paper - Review final study report	 Prepare intention to conduct a mini study. Review mini study report. Review and approve strategy paper. Review final study report Assign Tasks to subordinates.

4 Functional Requirements

4.1 User Management Microservice

4.1.1 User Management

- 1. The system shall be able to create employee user accounts.
- 2. The system shall be able to create individual applicant user accounts.
- 3. The system shall be able to create user accounts for the contact and authorized person representing applicants registered as firms.
- 4. The system shall enable users to edit their user accounts.
- 5. The system shall enable the administrator to activate and deactivate user accounts.
- 6. The system shall enable users to view their user accounts.

4.1.2 User Roles Management

- 1. The system shall be able to create default roles.
- 2. The system shall enable authorized users to create custom roles.
- 3. The system shall enable the authorized user to assign and revoke roles to other users.
- 4. The system shall be able to create permissions associated with a particular role.
- 5. The system shall be able to add and remove permissions to roles.
- 6. The system shall be able to view roles and their permissions.

4.1.3 Authentication and Authorization

- 1. The system shall provide secure user authentication mechanisms, including username/password authentication and multi-factor authentication (MFA) options.
- 2. The system shall authenticate all users attempting to access restricted information or perform privileged actions, verifying their identity before granting access.
- 3. The system shall implement role-based access control (RBAC) to ensure that only authorized users with appropriate roles and permissions can access specific resources and perform authorized actions.

4.1.4 User Sessions Management

1. The system shall manage user sessions securely, maintaining session tokens and tracking user activity during active sessions.

- 2. The system shall implement session timeouts and automatic logout mechanisms to prevent unauthorized access in case of inactivity or session expiration.
- 3. The system shall provide functionality for users to manually log out of their sessions to ensure the security of their accounts and sensitive information.

4.1.5 Audit Trails

- 1. The system shall maintain detailed audit trails of user activities and system events, including user logins, account modifications, role assignments, and permission changes.
- 2. The system shall record relevant metadata for each audit event, such as timestamps, user IDs, IP addresses, and action descriptions, for accountability and traceability purposes.
- 3. The system shall provide authorized users, such as administrators or auditors, with access to audit logs for monitoring, compliance, and forensic analysis purposes.
- 4. The system shall ensure the integrity and confidentiality of audit trail data, implementing secure storage and access controls to prevent unauthorized tampering or disclosure.

4.2 Human Resource and Administration Management Microservice

4.2.1 Administration Management

4.2.1.1.1 Organization Structure Set Up

- 1. The system shall enable the authorized user to register directorates.
- 2. The system shall enable the authorized user to modify directorate information.
- 3. The system shall enable the authorized user to assign, change and remove the directorate director.
- 4. The system shall enable the authorized user to register sections.
- 5. The system shall enable the authorized user to modify section information.
- 6. The system shall enable the authorized user to assign, change and remove the section's manager.
- 7. The system shall enable the authorized user to add, modify and remove directorate sections.

- 8. The system shall enable the authorized user to register units.
- 9. The system shall enable the authorized user to modify unit information.
- 10. The system shall enable the authorized user to assign, change and remove the unit's manager.

4.2.1.1.2 Office Management

- 1. The system shall enable the authorized user to register a new FCC office.
- 2. The system shall enable the authorized user to assign an office in charge.
- 3. The system shall be able to view all office resources, such as personnel, assets, etc.

4.2.2 Employee Management

4.2.2.1 Employee Enrollment

1. The system shall enable authorized users to enroll employees on the system.

4.2.2.2 Employee Allocation

- 1. The system shall enable the authorized user to allocate employees to a working station.
- 2. The system shall enable the authorized user to allocate a new section or unit to the employee.
- 3. The system shall enable the authorized user to allocate designation to an employee.

4.2.2.3 Employee Leave Management

- 1. The system shall maintain a central repository for tracking employee leave allowances and schedules, including leave rosters.
- 2. The system shall be configurable to accommodate different types of leave, such as annual leave, sick leave, and personal leave, as per organizational policies and regulations.
- 3. The system shall enable employees to create and submit their leave schedules for vetting.
- 4. The system shall enable employees to request leave through an intuitive user interface.
- 5. The system shall automatically track leave balances for each employee based on approved leave requests and taken leaves.
- 6. The system shall provide a user-friendly interface for HR Managers to review and assign leave requests for verification.

- 7. The system shall allow HRA Officers to verify and review leave requests submitted by employees.
- 8. The system shall facilitate the review and approval process by Line Managers (Unit Managers/Heads) for leave requests submitted by their respective teams.
- 9. The system shall enable Directors/DCS to approve leave requests forwarded by Line Managers (Unit Managers/Heads) based on organizational policies and regulations.
- 10. The system shall support the validation of leave requests by checking against employee leave balances and entitlements.
- 11. The system shall integrate with the Finance and Accounting Microservice to confirm entitlements for paid leave requests.
- 12. The system shall notify employees and relevant stakeholders at each stage of the leave approval process to ensure timely action and communication.
- 13. The system shall maintain an audit trail of actions taken on leave requests, including approvals, rejections, and any comments added during the process.
- 14. The system shall allow employees to view the status of their leave requests and leave balances in real time.
- 15. The system shall generate reports summarizing leave utilization, including the number of approved leaves, leave balances, and trends over time, to support HR decision-making processes.

4.2.2.4 Employee Training Management

- The system shall enable employees to fill out the training request form with personal particulars, including names, gender, age, designation, date of employment, and academic/professional qualifications.
- 2. The system shall allow employees to specify the training program details, including the proposed training to attend, expected training institution, training duration, and proposed training date.
- 3. The system shall facilitate the inclusion of training fees, per diem allowances, and local/fair allowances in the training request form.

- 4. The system shall provide a user-friendly interface for managers/supervisors to review and approve training requests submitted by their staff.
- 5. The system shall enable Human Resource Manager to review and verify training applications, including checking for training needs and verifying financial aspects such as training fees and allowances.
- 6. The system shall allow for the routing of training requests to the appropriate stakeholders, including the HR Manager and HRA Office, for further review and verification.
- 7. The system shall facilitate the confirmation and verification of training requests by the Human Resource Manager before forwarding them to the Director General/DCS for final approval.
- 8. The system shall support the processing of approved training requests by forwarding them to the Finance and Accounts Manager for entitlement and payment processing.
- 9. The system shall maintain a record of all training requests, including both approved and rejected ones, for tracking and reporting purposes.
- 10. The system shall generate notifications to relevant stakeholders at each stage of the training approval process to ensure timely action and communication.
- 11. The system shall provide feedback to employees regarding the status of their training requests and any necessary actions required.
- 12. The system shall integrate with other relevant modules, such as finance and accounting, to ensure accurate recording and tracking of training-related expenses and payments.
- 13. The system shall generate reports summarizing the number of approved trainings, training expenses, and trends over time to support decision-making and budgeting processes within the organization.

4.2.2.5 Employee Safari Management

1. The system shall enable employees to fill in the application form for official Safari trips, including details such as trip purpose, destination, dates, and estimated expenses.

- 2. The system shall provide a user-friendly interface for employees to submit their official Safari application forms electronically.
- 3. The system shall allow line managers (Unit Managers/Heads) to review, sign, and submit the application forms to the Director for approval.
- 4. If the application is for a unit, the system shall route the filled form to the Director General (DG) for approval.
- 5. The system shall facilitate the approval process by notifying the relevant approvers (Director or DG) when a new application is submitted.
- 6. Upon approval, the system shall notify the Director of Corporate Services (DCS) for payment processing.
- 7. The system shall assign the Finance and Accounts Manager (FAM) to process the payment for the approved official Safari.
- 8. The system shall integrate with the finance module to process safari payments through the MUSE system.
- 9. The system shall maintain a record of approved official safaris for tracking and reporting purposes.
- 10. The system shall notify the Human Resource Manager (HRM) of the approved safari for record-keeping and coordination with staff.
- 11. The system shall enable the HRM to send a copy of the approval to the staff for travel permit processing.
- 12. The system shall generate reports summarizing the number of approved official safaris, associated expenses, and trends over time to support decision-making and budgeting processes within the organization.

4.2.2.6 Employees' Loans management

- 1. The system shall enable employee to apply for loan online from lending authorities/firms (Banks, SACCOS, ect).
- 2. The system shall check automatically eligibility based on predefined criteria
- 3. The system shall check for one third policy before proceed with loan application.

- 4. The system shall automatically perform loan calculations (amount, interest and repayment schedule), the formulas should be configurable.
- 5. The system shall allow approvers to review and approve employee loans
- 6. The system shall allow loan applicant to view and print approved loan application document
- 7. The system shall be able to send deduction of loan installments to government central payroll system
- 8. The system shall be able to monitor repayments and provides outstanding balances
- 9. The system shall be able to send notification though email for application status, approval, disbursement and repayment reminders

4.2.3 Scheme of Service (Job Description)

- 1. The system shall enable the authorized user to add new salary scales, specifying details such as scale name, minimum salary, maximum salary, and any applicable allowances.
- 2. The system shall allow authorized users to edit existing salary scales, facilitating modifications to scale details such as name, minimum salary, maximum salary, and allowances.
- 3. The system shall allow authorized users to view all salary scales within the commission, including their respective details and configurations.
- 4. The system shall allow authorized users to set yearly increments for salary scales, allowing for the definition of annual salary adjustments based on predetermined criteria.
- 5. The system shall allow authorized users to add new salary benefits, such as bonuses, incentives, or allowances etc.
- 6. The system shall enable authorized users to edit existing salary benefits, facilitating modifications to benefit details and eligibility criteria.
- 7. The system shall enable authorized users to delete obsolete or unused salary benefits from the system, ensuring data integrity and accuracy.
- 8. The system shall enable authorized users to remove outdated or unused salary scales from the system when necessary.

- 9. The system shall enable authorized users to add new job positions within the organization, capturing details such as job title, description, and required qualifications.
- 10. The system shall allow authorized users to edit existing job positions, facilitating modifications to job details, responsibilities, and qualifications.
- 11. The system shall allow authorized users to view individual job positions within the commission, including their respective details and configurations.
- 12. The system shall enable authorized users to assign salary scales to each job position, specifying the appropriate scale for salary determination.
- 13. The system shall enable authorized users to define required qualifications for job positions.
- 14. The system shall enable authorized users to modify details of existing job qualifications.
- 15. The system shall enable authorized users to view details of defined qualifications.
- 16. The system shall enable authorized users to define specific job requirements for positions.
- 17. The system shall enable authorized users to modify details of existing job requirements.
- 18. The system shall enable authorized users to view details of defined job requirements.
- 19. The system shall enable authorized users to define the key responsibilities associated with a job position.
- 20. The system shall enable authorized users to view the responsibilities associated with a job position.
- 21. The system shall enable authorized users to designate a supervisor for a specific job position.
- 22. The system shall enable authorized users to update the supervisor assigned to a job position.
- 23. The system shall enable authorized users to remove the supervisor

4.3 Commission Management Microservice

4.3.1 Commission Management

- 1. The system shall be able to manage all commission documents.
- 2. The system shall be able to manage all commission meetings.
- 3. The system shall be able to manage all commissions directives.
- 4. The system shall be able to

4.3.2 Commissioners Management

- 1. The system shall enable the LSM to register commissioners into the system.
- 2. The system shall enable commissioners to review and provide feedback on various documents.
- 3. The system shall track and manage document vetting processes, capturing comments and revisions.
- 4. The system shall enable commissioners to receive notifications regarding new documents, meeting schedules, and directive updates.
- 5. The system shall allow commissioners to manage their notification preferences.
- 6. The system shall enable commissioners to vet various documents.
- 7. The system shall enable commissioners to create directives addressing commission matters.
- 8. The system shall provide visibility into the status and implementation progress of directives for commissioners.
- 9. The system shall maintain a history of all commissioners of the FCC.
- 10. The system shall publish the current and old commissioners on the website.

4.3.3 Legal Services

4.3.3.1 Determination(s) by the Commission

- 1. The system shall enable the Author (Directorate/Unit) to submit documents for determination to the Secretary to the Commission.
- 2. The system shall facilitate the Secretary's preparation of notices to the Commission and their submission to management for discussion and recommendation(s).

- 3. The system shall enable the Secretary to transmit the document back to the Author for revision if management recommends improvement.
- 4. The system shall assist the Secretary in preparing notices for the commission meeting and submitting the documents to the Commission if management adopts the report.
- 5. The system shall allow the Commission to determine the presented matters.
- 6. If necessary, the system shall enable the Secretary to prepare specific documents for the Commission's signature.
- 7. The system shall facilitate the preparation of meeting minutes and share any matters arising with management.
- 8. The system shall support the preparation of a public register for decisions made by the commission.

4.3.3.2 Representation in Cases

4.3.3.2.1 Legal Representation Process

- 1. The system shall enable the Plaintiff/Applicant to submit case initiating documents (Plaint, chamber summons) to the FCC.
- 2. The system shall assist the Record Officer in receiving and assigning reference/file numbers to case initiating documents.
- 3. The system shall allow the Director General to preview and assign case initiating documents to the Legal Services Manager for action.
- 4. The system shall enable the Legal Services Manager to review and assign a Legal Officer to handle the case.
- 5. The system shall facilitate the Legal Officer's review and preparation of responses or opinions, submitting them to the Legal Services Manager for review.
- 6. The system shall enable the Legal Services Manager to review and submit the response to the Director General for approval.
- 7. Upon approval, the system shall assist in signing, attesting, and filing the response in court and serving it to the Plaintiff/Applicant.
- 8. The system shall support the Legal Officer or Manager in representing the FCC in hearings and preparing case reports as necessary.

- 9. The system shall enable the Legal Services Manager to advise the Director General on further actions in case of an unfavorable outcome.
- 10. The system shall facilitate the preparation of necessary documents for appeals if directed by the Director General.

4.3.3.2.2 Legal Action Initiation Process

- 1. The system shall allow respective directorates/units to report breaches to the Director General for review.
- 2. The system shall enable the Director General to submit breach matters to the Legal Services Manager for advice.
- 3. The system shall facilitate the Legal Services Manager's submission of matters to the Legal Officer for opinions or advice.
- 4. The system shall assist the Legal Officer in preparing legal documents for initiating legal actions.
- 5. The system shall enable the Legal Services Manager to review and submit advice to the Director General for determination.
- 6. Upon approval, the system shall support the preparation, signing, attesting, and filing of legal documents in court and serving them to respondents.

4.3.3.2.3 Legal Documents Preparation Process

- 1. The system shall enable the Legal Services Manager to instruct the Legal Officer to prepare necessary legal documents for court applications.
- 2. The system shall assist the Legal Officer in drafting legal documents such as Chamber Summons, affidavits, etc., and submitting them to the Legal Services Manager for review.
- 3. Upon review and approval, the system shall facilitate the signing, attesting, filing, and serving of legal documents to parties involved in the court application.

4.3.4 Committees Management

4.3.4.1 Committee Setup

1. The system shall enable the user to create a new committee record.

- 2. The system shall allow the user to define the purpose, scope, and responsibilities of a committee.
- 3. The system shall enable the user to specify the governance structure of a committee (e.g., chair, vice-chair, secretary).

4.3.4.2 Membership Management

- 1. The system shall enable the user to assign members to a committee.
- 2. The system shall allow the user to define member roles within a committee (e.g., voting member, observer).
- 3. The system shall track the membership history of a committee.
- 4. The system shall enable the user to manage committee member terms and expiration dates.

4.3.4.3 Meeting Management

- 1. The system shall enable the user to schedule committee meetings.
- 2. The system shall allow the user to create meeting agendas.
- 3. The system shall enable the user to record meeting minutes.
- 4. The system shall allow the user to track action items arising from meetings.
- 5. The system shall provide a mechanism to distribute meeting materials (agendas, minutes, reports) to committee members.

4.3.4.4 Document Management

- 1. The system shall provide a secure repository for committee-related documents.
- 2. The system shall support document versioning and revision history.
- 3. The system shall enable the user to control access to committee documents based on member roles.

4.3.4.5 Reporting

- 1. The system shall enable the user to generate reports on committee membership.
- 2. The system shall enable the user to generate reports on meeting attendance.
- 3. The system shall allow the user to track the status of action items across committees.

4.3.4.6 Subcommittee Management

1. The system shall enable the user to create a subcommittee under a parent committee.

- 2. The system shall allow the user to assign a clear mandate and scope to a subcommittee.
- 3. The system shall enable the user to manage subcommittee membership separately from the parent committee.

4.3.4.7 Proposal/Initiative Management

- 1. The system shall enable the user to submit a new proposal for a committee's consideration.
- 2. The system shall provide a workflow for reviewing, discussing, and voting on proposals.
- 3. The system shall track the status of proposals (e.g., draft, under review, approved, rejected).

4.3.4.8 Budgeting & Resource Management

- 1. The system shall enable the user to create a budget request for a committee.
- 2. The system shall provide a workflow for the approval of committee budget requests.
- 3. The system shall allow the user to track expenses against an approved committee budget.

4.3.4.9 Task & Project Management

- 1. The system shall enable the user to create tasks or projects associated with a committee.
- 2. The system shall allow the user to assign tasks to committee members.
- 3. The system shall provide a mechanism to track the progress and completion of tasks.

4.3.4.10 Additional Considerations

Workflows: Implement workflows for approvals of meeting minutes, document revisions, etc.

Notifications: The system could include automated notifications for upcoming meetings, deadlines, and task assignments.

Integration: Consider integration with calendaring tools and document management systems.

4.4 Finance and Accounting Microservice

4.4.1 Fee Management

1. The system shall enable authorized users to view existing fee structures.

- 2. The system shall enable authorized users to add new fee structures or fee categories as needed, specifying relevant details such as fee names, amounts, and payment terms.
- 3. The system shall validate new fee additions to ensure consistency and compliance with organizational policies and regulatory requirements.
- 4. The system shall enable authorized users to edit existing fee structures or fee categories, allowing adjustments to fee amounts, payment due dates, or other attributes as necessary.
- 5. The system shall maintain a log of fee edits, recording details such as the user who made the edit, timestamp, and reason for the change.
- 6. The system shall provide functionality for users to search for specific fees based on criteria such as fee names, fee categories, or payment amounts.
- 7. The system shall allow users to filter search results and sort fees based on predefined criteria to facilitate navigation and exploration of fee structures.
- 8. The system shall support vetting processes for fee additions and edits, allowing designated approvers to review and approve or reject fee changes based on predefined criteria.
- 9. The system shall provide approvers with access to detailed fee information and historical data to facilitate informed decision-making during the vetting process.
- 10. The system shall integrate with GEPG and MUSE to facilitate fee collection and payment reconciliation.
- 11. The system shall support seamless data exchange between the finance and accounting microservice and the MUSE and GEPG system, ensuring accurate recording and tracking of fee transactions.

4.4.2 Billing Management

4.4.2.1 Bill Generation

- 1. The system shall enable authorized users to generate bills for services provided by the FCC.
- 2. The system shall capture relevant billing details, including customer information, invoice items, quantities, rates, and due dates.

- 3. The system shall automatically calculate the total amount due based on the provided billing information.
- 4. The system shall enable authorized users to search for specific bills based on criteria such as bill number, customer name, or date range.
- 5. The system shall allow users to view detailed information for each bill, including line items, totals, and payment status.
- 6. The system shall enable users to print bills in a standardized format.
- 7. The system shall allow user to request for a bill with partial amount and allow payment by installments

4.4.2.2 Bill Vetting (Approval and Rejections)

- 1. The system shall allow designated approvers to review and approve bills before they are finalized and sent to applicants.
- 2. The system shall provide functionality for approvers to reject bills if discrepancies or errors are identified, with the option to add comments explaining the rejection.
- 3. The system shall maintain an audit trail of bill approval and rejection actions, including timestamps, approver IDs, and reasons for rejection.

4.4.3 Payments Management

4.4.3.1 Internal Payments

- 1. The system shall enable officers to initiate internal payment requests by submitting a payment requisition request.
- 2. The system shall route the payment requisition request through a predefined approval workflow involving the Director General/DCS, Directors, Heads/Managers, and Finance Manager, facilitating electronic approvals or rejections.
- 3. The system shall integrate with the MUSE system to process approved internal payments.

4.4.3.2 External Payments

1. The system shall facilitate submitting external payment requests by suppliers/vendors through an invoice submission process.

- 2. The system shall route invoices through an approval workflow involving the Director General, DCS, and Finance Manager, enabling electronic approvals or rejections.
- 3. The system shall support electronic approvals or rejections of external payment requests based on predefined procurement rules and regulations.
- 4. The MUSE system shall accurately record approved external payment transactions for accounting and auditing purposes.

4.4.3.3 External Payment for Utilities

- 1. The system shall streamline the approval process for external payments related to utility bills, such as water, electricity, and telephone bills.
- 2. The system shall enable suppliers to submit invoices directly to designated personnel within the organization for review and approval, with electronic approvals or rejections facilitated.
- 3. The system shall record approved utility bill payments accurately in the MUSE system for accounting and auditing purposes.

4.4.3.4 Extra Duty

- 1. The system shall streamline the approval process for staff applying for extra duty payments through extra duty requests.
- 2. The system shall route extra duty requests through an approval workflow involving the Line Manager, DCS, and FAM, allowing for electronic approvals or rejections.
- 3. The system shall seamlessly integrate approved extra duty payments into the MUSE system for financial tracking and reporting.

4.4.3.5 Salary Advance

- 1. The system shall provide a user-friendly interface for staff to apply for salary advances by filling out digital salary advance forms.
- 2. The system shall route salary advance requests through an approval workflow involving HR Officers, HR Manager, Director of Corporate Services, Finance and Accounting Manager, and Finance Officer, enabling electronic approvals or rejections.
- 3. The system shall verify outstanding balances and eligibility criteria before processing salary advance payments.

4. The system shall generate salary advance transactions and record them accurately in the MUSE system upon approval.

4.4.3.6 Leave Allowance

- 1. The system shall enable employees to apply for leave allowance through a digital submission process.
- 2. The system shall route leave allowance requests through an approval workflow involving Line Managers, HR Officers, HR Manager, and Finance and Accounting Manager, allowing for electronic approvals or rejections.
- 3. The system shall verify employee eligibility and available leave balances before processing leave allowance payments.
- 4. The system shall generate leave allowance transactions and accurately record them in the MUSE system upon approval.

4.4.4 Imprest Management

- 1. The system shall enable authorized users to manage imprest accounts, including adding, editing, and removing imprest accounts as needed.
- 2. The system shall capture relevant imprest details, including account holders, account balances, transaction histories, and purpose of funds.
- 3. The system shall support vetting processes for imprest transactions, allowing designated approvers to review and approve or reject fund disbursements or replenishments.

4.4.5 Retirement Management

- 1. The system shall facilitate staff requests for retirement of internal payments by providing a digital retirement form submission process.
- 2. The system shall route retirement requests through a predefined approval workflow involving managers, Finance Officer, Finance and Accounting Manager, and Director of Corporate Services.
- 3. The system shall support the verification of retirement documents and outstanding balances before processing retirement payments.

4. The system shall generate retirement payment transactions and record them accurately in the MUSE system upon approval.

4.4.6 Revenue Management

- 1. The system shall enable authorized users to manage revenue streams, including adding, editing, and removing revenue sources.
- 2. The system shall capture relevant revenue details, including revenue types, sources, amounts, and collection dates.
- 3. The system shall support vetting processes for revenue transactions, allowing designated approvers to review and approve or reject revenue recognition and allocation.
- 4. The system shall enable an accounting officer to add new revenue sources.
- 5. The system shall enable the FAM, DCS and DG to approve or reject addition or revenue sources.
- 6. The system shall be able to track transactions related to each revenue source.

4.4.6.1 Revenue Collection Process

- 1. The system shall provide a seamless process for issuing control numbers to customers requesting revenue collection services.
- 2. The system shall enable officers to issue control numbers to customers and track payments made against those control numbers.
- 3. The system shall facilitate the submission of payment evidence by customers and generate GePG receipts upon successful payment verification.
- 4. The system shall integrate GePG receipts with the MUSE system for accurate revenue recording and reporting.

4.4.6.2 Revenue Collection from Fines

- 1. The system shall streamline the process for collecting revenue from fines by providing a digital issuance of control numbers.
- 2. The system shall enable officers to issue control numbers to customers for fine payments and track payments made against those control numbers.

- 3. The system shall facilitate the submission of payment evidence by customers and generate GePG receipts upon successful payment verification.
- 4. The system shall integrate GePG receipts with the MUSE system for accurate revenue recording and reporting.

4.4.7 Petty Cash Management

- 1. The system shall enable officers to request petty cash by submitting petty cash requisition requests.
- 2. The system shall route petty cash requisitions through an approval workflow involving the Line Manager, DCS, and FAM, facilitating electronic approvals or rejections.
- 3. The system shall accurately record approved petty cash disbursements in the MUSE system for accountability and reconciliation.

4.5 Document Management Microservice

4.5.1 Document Management

4.5.1.1 Document Creation

- 1. The system shall automatically generate and assign a unique reference number to each new document created.
- 2. The system shall enable users to create custom documents tailored to their specific needs.
- 3. The system shall support the creation of system-generated documents for various applications or complaints.
- 4. The system shall facilitate the creation of internal application documents such as payment requests and salary advance forms.

4.5.1.2 Document Editing

- 1. The system shall enable the user to edit their documents seamlessly.
- 2. The system shall track changes made to the document.
- 3. The system shall restrict editing access to documents once they are closed to maintain version control and prevent unauthorized modifications.

4.5.1.3 Document Searching and Filtering

- 1. The system shall provide users with robust search functionality to easily locate documents based on various criteria such as title, content, tags, or metadata.
- 2. The system shall allow users to apply filters to refine search results and quickly find the desired documents.

4.5.1.4 Document Signing

- 1. The system shall enable users to digitally sign documents to authenticate their identity and approve their contents securely.
- 2. The system shall allow users to specify the placement of their digital signatures within the document.

4.5.1.5 Document QR Code Generation

1. The system shall be able to generate QR codes and embed them on documents such as bills, invoices, certificates, notices, etc.

4.5.1.6 Document Downloading

- The system shall allow users to download documents in multiple formats, including PDF, DOCX, XLSX, and TXT, to ensure compatibility with different devices and applications.
- 2. The system shall maintain document integrity and formatting consistency during the downloading process.

4.5.1.7 Document Formatting

- 1. The system shall provide users with formatting tools to customize the layout, font styles, and colors of documents according to their preferences.
- 2. The system shall support standard formatting features such as bold, italic, underline, font size, alignment, and bullet points.
- 3. The system shall preserve document formatting consistency across different viewing and editing environments.

4.5.1.8 Document Extension Type

- 1. The system shall support a wide range of document file extensions, including .doc, .docx, .pdf, .xls, .xlsx, .txt, .csv, .ppt, .pptx, .jpeg, .png, .gif, etc., to accommodate diverse document types and formats.
- 2. The system shall validate document extension types upon upload to ensure compatibility and prevent potential file format errors or inconsistencies.

4.5.1.9 Document Commenting and Text Highlighting

- 1. The system shall enable users to add comments and annotations to specific document sections or elements to provide feedback, clarification, or context.
- 2. The system shall support text highlighting functionality, allowing users to emphasize or mark important information within documents for better visibility and comprehension.
- 3. The system shall maintain a revision history of document comments and text highlights to track changes and facilitate user collaboration.
- 4. The system shall allow users to reply to comments and engage in threaded discussions within documents to effectively address feedback or resolve issues.

4.5.1.10 Document Vetting

1. The system shall enable the user to submit a document for vetting.

4.5.1.10.1.1 Document Approval

1. The system shall allow authorized users to approve documents submitted for vetting, indicating their acceptance and authorization.

4.5.1.10.1.2 Document Rejection

- 1. The system shall allow authorized users to reject documents submitted for vetting, providing comments or reasons for rejection.
- 2. The system shall enable users to add comments and annotations directly on the rejected document to provide feedback or suggestions for revision.

4.5.1.10.1.3 Management Vetting Workflows

- 1. The system shall enable the management to approve or reject a document submitted for vetting using the polls service.
- 2. The system shall enable each management member to vet a document independently.
- 3. The system shall aggregate management polling results or individual approvals to determine the final disposition of the document.

4.5.1.10.1.4 Commission Vetting Workflows

- 1. The system shall enable the commission to approve or reject a document submitted for vetting using the polls service.
- 2. The system shall enable each commissioner to independently review and approve or reject documents.
- 3. The system shall consolidate commission polling results or individual approvals to determine the final decision on document approval or rejection.

4.5.2 Report Management

- 1. The system shall allow users to generate printable report documents in standard formats such as PDF or Excel.
- 2. The system shall provide customizable report templates to meet specific reporting requirements.
- 3. The system shall be able to generate scheduled reports such as monthly, quarterly and yearly reports.
- 4. The system shall be able to send notifications to responsible users after the report is generated.

4.6 Task Management Microservices

4.6.1 Task Creation

- 1. The system shall be able to create unique identification for each task created.
- 2. The system shall allow users to attach files, documents, or task links for reference or additional context.

- 3. The system shall be able to create tasks based on predefined rules or triggers from other services. (e.g., merger application submission triggers a merger review task).
- 4. The system shall enable users to manually create their own tasks according to their requirements.
- 5. The system shall be able to create scheduled tasks, such as data backup.
- 6. The system shall notify the system admin when the system task is created.
- 7. The system shall notify the system admin when the system task is completed.
- 8. The system shall notify the system admin when the task encounters any error.

4.6.2 Task Assignment

1. The system shall notify the assigned user about their new task.

4.6.2.1 Auto-Tasks Assignment

- 1. The system shall be able to assign to the responsible director.
- 2. The system shall be able to assign the responsible manager.

4.6.2.2 Manual-Tasks Assignment

- 1. The system shall enable the task creator to assign their subordinate to perform the task.
- 2. The system shall notify the task assignee of their new task.

4.6.3 Task Budget

- 1. The system shall retrieve budget allocation data from the PBME Microservice for each task.
- 2. The system shall display the allocated budget amount for each task.
- 3. The system shall allow users to view the remaining budget amount for each task.
- 4. The system shall track expenditures related to each task and update the budget accordingly.
- 5. The system shall provide budget reports and analytics to track task spending and budget utilization.
- 6. The system shall integrate with the Finance and Accounts Microservice to reconcile task expenditures with overall financial records.
- 7. The system shall notify users when the allocated budget for a task is close to depletion.

8. The system shall provide budget variance analysis to compare actual expenditures against budgeted amounts for each task.

4.6.4 Tracking

4.6.4.1 Track time spent

- 1. The system shall be able to calculate the time spent on a particular task.
- 2. The system shall enable the task creator to set a time limit on a task.

4.6.4.2 Track status

- 1. The system shall be able to keep track of the task status.
- 2. The system shall calculate the time spent on each status

4.6.4.3 Track Deadline Tracking

- 1. The system shall enable the task creator to set a deadline.
- 2. The system shall enable the task creator to reset a deadline for the task.
- 3. The system shall remind the task creator when the deadline is close.
- 4. The system shall remind the task creator on deadline day.
- 5. The system shall update the task status to "Overdue" after the deadline date.

4.6.5 Task Prioritization

- 1. The system shall enable users to prioritize tasks with levels (e.g., High, Medium, Low).
- 2. The system shall visually differentiate tasks based on their priority status, with highpriority tasks highlighted prominently.
- 3. The system shall enable users to filter tasks based on their priority levels for better task management.

4.6.6 Task Reminders

- 1. The system shall notify relevant users about task updates (assignments, comments, deadlines).
- 2. The system shall allow users to choose the timing of reminders, including specific dates and times or intervals before the task deadline.
- 3. The system shall send reminder notifications to users.
- 4. The system shall allow users to snooze or dismiss reminders as needed.

5. The system shall log the history of reminder notifications for each task to track user interactions.

4.6.7 Task Comments

- 1. The system shall enable users to add comments to individual tasks to provide updates, ask questions, or share relevant information.
- 2. The system shall support threaded comments to facilitate discussions and replies within the task context.
- 3. The system shall display timestamps for each comment to track the timeline of interactions.
- 4. The system shall allow users to mention specific team members in comments to notify them directly.
- 5. The system shall provide the ability to attach files or links to comments for additional context or reference.

4.6.8 Task Collaboration

- 1. The system shall enable the task creator to invite other staff to collaborate.
- 2. The system shall enable users to accept or decline collaboration invitations.
- 3. The system shall allow multiple users to collaborate on a task simultaneously.
- 4. The system shall provide real-time updates to all collaborators when changes are made to the task details, such as status or due date.
- 5. The system shall support user mentions and notifications to keep collaborators informed of relevant updates or discussions.
- 6. The system shall maintain a history of changes and user actions for each task, allowing users to track modifications made by collaborators.
- 7. The system shall enable users to assign subtasks or delegate specific responsibilities to collaborators within a task.

4.6.9 Task Filtering and Searching

1. The system shall enable users to filter and search tasks based on various criteria (e.g., board, assignee, status, due date, quarter, financial year).

- 2. The system shall provide keyword search functionality to enable users to quickly locate specific tasks or relevant information within task descriptions or comments.
- 3. The system shall support saved filters or custom views to allow users to save frequently used filter configurations for easy access.
- 4. The system shall allow users to combine multiple filters to refine search results further.
- 5. The system shall display search results in a clear and organized manner, with relevant tasks listed based on the search criteria.

4.6.10 Task Reporting and Analytics

4.6.10.1 Task Reporting

- 1. The system shall provide reports on task completion rates, time spent, and user activity.
- 2. The system shall enable users to generate daily, weekly, monthly, quarterly, and yearly task reports.
- 3. The system shall enable the manager to generate task reports for their sections or units.
- 4. The system shall enable the director to generate task reports for their directorate.
- 5. The system shall be able to generate scheduled task reports.
- 6. The system shall be able to generate downloadable and printable task reports.

4.6.10.2 Task Analytics

- 1. The system shall offer analytics dashboards to visualize task trends and performance metrics.
- 2. The system shall allow users to customize and filter analytics dashboards based on their preferences.
- 3. The system shall enable users to drill down into specific task metrics for detailed analysis and insights.

4.6.11 Polling (Voting)

4.6.11.1 Commissions Deliberations Polls

1. The system shall enable the creation of polls for commission deliberations to gather opinions and votes from commission members.

- 2. The system shall allow the administrator to define the scope, options, and duration of each commission deliberation poll.
- 3. The system shall notify commission members about the availability of new polls and provide access to participate.
- 4. The system shall ensure the anonymity and confidentiality of votes cast in commission deliberation polls.
- 5. The system shall calculate and display real-time results of commission deliberation polls to all authorized members.
- 6. The system shall close commission deliberation polls automatically upon reaching the specified end date and time.
- 7. The system shall archive poll results and voting history for future reference and analysis by authorized users.

4.6.11.2 Management Polls

- The system shall facilitate the creation of polls by management for decision-making purposes, such as competition case decisions or merger application clearance, policy changes.
- 2. The system shall allow management to customize poll questions, options, and settings according to the specific needs of each poll.
- 3. The system shall distribute poll invitations to the management for participation.
- 4. The system shall provide a user-friendly interface for stakeholders to cast their votes or provide feedback in management polls.
- 5. The system shall ensure the security and integrity of voting processes in management polls to prevent tampering or unauthorized access.
- 6. The system shall generate detailed reports and analytics summarizing the results of management polls for review and consideration.
- 7. The system shall archive past management polls and associated data for historical reference and compliance purposes.

4.6.11.3 Staffs Polls

- 1. The system shall support the creation of polls by staff members to gather feedback, opinions, or preferences from other staff.
- 2. The system shall allow staff to design polls with multiple-choice questions, openended questions, or rating scales to suit different purposes.
- 3. The system shall distribute poll notifications to all staff members and provide a centralized platform for participation.
- 4. The system shall ensure the anonymity of responses in staff polls to encourage honest feedback and opinions.
- 5. The system shall display poll results in a transparent and accessible manner to all staff members, fostering a culture of engagement and collaboration.
- 6. The system shall allow staff to comment on poll results and engage in discussions to further explore topics raised in polls.
- 7. The system shall periodically analyze staff poll data to identify trends, areas for improvement, or employee satisfaction levels.

4.6.11.4 Research Studies Polls

- 1. The system shall facilitate the creation of polls for research studies or academic purposes, allowing researchers to gather data from participants.
- 2. The system shall support various types of research polls, including surveys, questionnaires, or experimental designs, based on study requirements.
- 3. The system shall provide researchers with tools to design and customize poll questions, formats, and response options.
- 4. The system shall recruit participants for research polls through targeted invitations, advertising, or recruitment drives.
- 5. The system shall ensure the privacy and confidentiality of participant responses in research polls, adhering to ethical guidelines and data protection regulations.
- 6. The system shall generate comprehensive reports and statistical analyses of research poll data to support findings and conclusions.

7. The system shall maintain data integrity and security measures to prevent unauthorized access or misuse of research poll data.

4.6.12 Scheduling

4.6.12.1 System Schedules Management

- 1. The system shall enable administrators to create, modify, and delete system-wide schedules for automated tasks or events.
- 2. The system shall provide functionality to define system schedules' frequency, timing, and recurrence patterns.
- 3. The system shall allow administrators to assign specific actions or tasks to be executed according to the defined system schedules.
- 4. The system shall log and maintain a record of all system schedule activities, including execution status and errors encountered.
- 5. The system shall notify administrators of any deviations or failures in system schedule execution.

4.6.12.2 User-Defined Schedules Management

- 1. The system shall enable users to create, edit, and delete their own schedules for personal tasks, reminders, or events.
- 2. The system shall allow users to specify the date, time, duration, and recurrence settings for user-defined schedules.
- 3. The system shall provide options for users to set reminders or notifications for upcoming user-defined schedule events.
- 4. The system shall support the customization of user-defined schedules, including color-coding, labels, or tags for better organization.
- 5. The system shall allow users to share their user-defined schedules with other users or groups if desired.

4.6.12.3 Tasks Schedules Management

1. The system shall integrate with the Task Management Microservice to enable the scheduling of tasks and assignments.

- 2. The system shall allow users to schedule tasks by specifying due dates, deadlines, or priority levels.
- 3. The system shall provide options for users to set recurring schedules for repetitive tasks, such as daily, weekly, or monthly.
- 4. The system shall automatically update task statuses and send notifications to relevant users when tasks are scheduled to be completed or have reached their deadlines.
- 5. The system shall support synchronization of task schedules across multiple devices or platforms for seamless task management.

4.6.13 Vetting requirements

- 1. The system shall allow FCC users to upload documents in various formats (e.g., PDF, Word, text) and submit for vetting.
- 2. The system shall allow FCC user to prepare document and submit for vetting before approvals
- 3. The system shall be able to validates document formats and size limitations during submission.
- 4. The system shall allow manual vetting by human experts (manager, supervisor, head, etc) for deeper analysis before submit for approval
- 5. The system shall be able to perform automated checks on documents based on predefined rules (e.g., grammar, formatting, etc).
- 6. The system shall allow FCC users to download vetted documents with feedback annotations or reports
- 7. The system shall allow a user who is doing vetting to return back document with reasons to the author for corrections and resubmission
- 8. The system shall be able to offer different vetting levels (e.g., basic, comprehensive) with varying functionalities and allow users to select the desired vetting level for each document
- 9. The system shall be able to generate reports highlighting issues identified during the vetting process. The Reports can include details like error types, inconsistencies, and potential improvements.
- 10. The system shall enable users to download vetting reports and annotated documents for further action

4.7 Planning, Budgeting, Monitoring and Evaluation (PBME) Microservice

4.7.1 Planning and Budgeting

- 1. The system shall enable the PMEM to prepare the plan and budget circular electronically.
- 2. The system shall allow the DCS to review the plan and budget circular prepared by the PMEM and recommend it to the DG electronically.
- 3. The system shall facilitate the review of the plan and budget circular by the DG and provide a mechanism for approval electronically.
- 4. The system shall enable the issuance of the Plan and Budget Circular to all Directorates, Units/Zones electronically.
- 5. The system shall allow Directorates, Units, and zones to provide budget priorities and estimates electronically.
- 6. The system shall enable the DCS to present the budget priorities and estimates to the FCC Budget Committee electronically.
- 7. The system shall facilitate the review of the current year's plans, performance, and submitted budget priorities and estimates by the Budget Committee and set targets for the following year electronically.
- 8. The system shall allow the DG to appoint the Budget preparation committee for the preparation of the draft budget electronically.
- 9. The system shall enable the Budget preparation committee to submit the draft budget to the DCS for ownership electronically.
- 10. The system shall facilitate the presentation of the final draft budget to the Management Team (Budget Committee) for discussion, corrective action, and submission to the DG electronically.
- 11. The system shall allow the DG to present the final draft budget to the Workers Council for deliberation and endorsement electronically.
- 12. The system shall enable the DG to present the final draft budget to the Audit committee for deliberation and endorsement electronically.

- 13. The system shall facilitate the presentation of the final draft budget to the Commission for deliberation and approval by the Audit committee chairperson electronically.
- 14. The system shall allow the DG to submit the Budget to the Treasury Registrar for final approval electronically.
- 15. The system shall enable the DG to assign the DCS to prepare an action plan for the implementation of the plan and budget electronically.
- 16. The system shall facilitate the review of the action plan by the DCS and assignment of PMEM to prepare the action plan electronically.
- 17. The system shall allow the PMEM to prepare the action plan for implementation of the plan and budget and submit it to the DCS for review electronically.
- 18. The system shall enable the DCS to review the action plan and submit it to management for approval electronically.
- 19. The system shall facilitate the approval of the action plan by management electronically.
- 20. The system shall allow the creation of FCC strategic plan with corporate goals and objectives
- 21. The system shall facilitate the approval of FCC corporate strategic plan by management electronically
- 22. The system shall enable the review of goals and objectives of FCC corporate strategic plan periodically

4.7.1.1 Planning

The system shall enable the authorized user to create an annual plan and submit it for vetting.

The system shall enable the authorized user to create an action plan and submit it for vetting.

4.7.1.2 Budgeting

The system shall enable the authorized user to create an annual budget and submit it for vetting

4.7.2 Monitoring and Evaluation

- 1. The system shall enable the PMEM to prepare the monitoring and evaluation plan electronically.
- 2. The system shall allow the Director of Corporate Services to review the monitoring and evaluation plan prepared by the PMEM and recommend it to the DG electronically.
- 3. The system shall facilitate the approval of the monitoring and evaluation plan by the DG electronically.
- 4. The system shall enable the DCS to implement the approved monitoring and evaluation plan electronically.
- 5. The system shall allow the DCS to assign the PMEM for the implementation of the monitoring and evaluation plan electronically.
- 6. The system shall enable the PMEM to assign tasks to the Monitoring and Evaluation team electronically.
- 7. The system shall facilitate data collection from directorates and units by the Monitoring and Evaluation team electronically.
- 8. The system shall allow the Monitoring and Evaluation team to analyze collected data electronically.
- 9. The system shall enable the Monitoring and Evaluation team to prepare draft monitoring/evaluation reports electronically.
- 10. The system shall allow the PMEM to review and submit draft reports to the DCS electronically.
- 11. The system shall facilitate the review of draft reports by the DCS and recommend them to management for review and deliberation electronically.
- 12. The system shall allow the DG to present the final draft monitoring and evaluation report to the Audit committee for deliberation and endorsement electronically.
- 13. The system shall enable the Audit Committee chairperson to submit the draft report to the Commission for approval electronically.
- 14. The system shall facilitate the approval of the monitoring and evaluation report by the Commission electronically.

4.7.2.1 Monitoring

The system shall enable the PMEM to prepare the monitoring plan for tracking the implementation of the annual plan and budget.

4.7.2.2 Evaluation

The system shall be able to generate the evaluation report based on the monitoring and evaluation findings.

4.8 Procurement Management Microservice

4.8.1 Annual Procurement Plan

- 1. The system shall enable the Procurement Officer to prepare a draft annual procurement plan.
- 2. The system shall enable the Procurement Manager to review and approve the draft annual procurement plan.
- 3. The system shall enable the DG to review and recommend changes to the annual procurement plan.
- 4. The system shall enable the Secretary to the Commission to submit the annual procurement plan to Management for review and comments.
- 5. The system shall enable Management to review and make recommendations on the annual procurement plan.
- 6. The system shall enable the Commission to review, deliberate, and approve or recommend improvements to the annual procurement plan.
- 7. The system shall enable the Procurement Manager to receive the approved annual procurement plan for implementation.
- 8. The system shall enable the Procurement Manager to upload the approved annual procurement plan into PlanRep.

4.8.2 Goods Delivery

- 1. The system shall enable the Procurement Officer to receive goods and the goods delivery note from the supplier.
- 2. The system shall enable the Procurement Manager to notify the DG about the delivered goods and recommend an inspection team.

- 3. The system shall enable the DG to appoint an inspection team upon recommendation by the Procurement Manager.
- 4. The system shall enable the Procurement Manager to notify the inspection team members about the inspection activity.
- 5. The system shall enable the inspection team to conduct an inspection of the delivered goods and submit a report to the DG.
- 6. The system shall enable the DG to determine the acceptance or rejection of delivered goods and sign the acceptance certificate if accepted.
- 7. The system shall enable the DG to notify the Procurement Manager if goods are rejected for further action.
- 8. The system shall enable the Procurement Manager to instruct the Procurement Officer to provide feedback or acceptance certificate to the supplier.
- 9. The system shall enable the Procurement Officer to provide feedback or acceptance certificate to the supplier.

4.8.3 Goods Issue Note

- 1. The system shall enable the User Department officer to fill out the Goods Issue Note form and submit it to the Manager of Procurement.
- 2. The system shall enable the Manager of Procurement to review the Goods Issue Note form and assign a Procurement Officer for processing.
- 3. The system shall enable the Procurement Officer to fetch the required goods, sign the form, and notify the User Department Officer to countersign it.
- 4. The system shall enable the User Department Officer to receive the goods, countersign the form, and submit it back to the Procurement Officer.
- 5. The system shall enable the Procurement Officer to record the transaction in the goods register and notify the Manager of Procurement for notation.

4.9 Publication Relations and Communication Microservice

4.9.1 Publications Management

4.9.1.1 Production of the Commission's Newsletter

- The system shall enable the PR Officer to collect, consolidate, and submit information/developed stories to the Head of PR and Communication unit electronically.
- 2. The system shall facilitate the review and approval process by allowing the Head of PR and Communication unit to review and submit the newsletter draft to the Editorial Board electronically.
- 3. The system shall provide a platform for the Editorial Board to review and edit the newsletter draft electronically.
- 4. The system shall enable the Director General to electronically approve the final newsletter draft for dissemination.
- 5. The system shall support procurement lifecycle management for printing and online publishing of the newsletter.
- 6. The system shall enable the Records Officer to manage dispatch of the printed newsletter to stakeholders electronically.

4.9.1.2 Preparation of Public Relations Writings

- 1. The system shall enable the PR Officer to prepare draft PR writings electronically.
- 2. The system shall facilitate the review and approval process by allowing the Head of PR and Communication unit to review and approve PR writings electronically.
- 3. The system shall enable the Director General to electronically approve the final PR writings.
- 4. The system shall support procurement lifecycle management for dissemination of PR writings if required.
- 5. The system shall allow for electronic dispatch of approved PR writings to stakeholders by the Records Officer.

4.9.1.3 Review of Print and Electronic Media

- 1. The system shall enable the PR Officer to review print and electronic media and prepare summaries electronically.
- 2. The system shall facilitate the review process by allowing the Head of PR and Communication unit to review and make recommendations on the summaries electronically.
- 3. The system shall enable the Director General to provide guidance and decisions on the summaries electronically.

4.9.2 Event Management

4.9.2.1 Preparation of PR Events

- 1. The system shall enable the PR Officer to prepare draft event plans electronically.
- 2. The system shall facilitate the review and approval process by allowing the Head of PR and Communication unit to review and approve event plans electronically.
- 3. The system shall enable the Director General to electronically approve the final event plans.
- 4. If the event involves procurement, the system shall support procurement lifecycle management.
- 5. The system shall enable electronic dispatch of approved event plans to stakeholders by the Records Officer.

4.9.2.2 Inquiry/Invitation Processing

- 1. The system shall enable stakeholders to submit inquiries/invitations electronically.
- 2. The system shall assign reference numbers to submitted inquiries/invitations and issue copies electronically.
- 3. The system shall facilitate the preview and assignment process by allowing the Director General to review and assign inquiries/invitations electronically.
- 4. The system shall enable the Head of the PR and Communication unit to review and electronically assign inquiries/invitations to relevant personnel.
- 5. The system shall support the review and approval process by allowing the Director General to review and approve response letters electronically.

6. The system shall enable the Records Officer to electronically dispatch response letters and associated documents.

4.10 Audit Microservice

4.10.1.1 Audit Plan Management

- 1. The system shall enable the Chief Internal Auditor (CIA) to initiate the process of preparing the Risk-Based Internal Audit annual plan by instructing auditors to start preparation of the plan.
- 2. The system shall facilitate the drafting of the annual Risk-Based Internal Audit Plan (RBIA) by Internal Auditors (IA) and its submission to the CIA for review.
- 3. The system shall allow the CIA to review the draft annual risk-based internal audit plan and submit it to the Management for further review and comments.
- 4. The system shall support the review of the RBIA plan by the Management and provide recommendations.
- 5. If the Management adopts the RBIA plan, the system shall enable the CIA to submit the plan to the Audit Committee for review, deliberation, and approval.
- 6. The system shall facilitate the review and determination of the RBIA plan by the Audit Committee.
- 7. If the Audit Committee recommends improvements, the system shall allow the CIA to make necessary improvements and resubmit the plan for determination.
- 8. The system shall enable the Audit Committee to approve the plan and assign the CIA for implementation.
- 9. The system shall generate the Approved Annual Risk-Based Internal Audit Plan (RBIA) as an output of the process.

4.10.1.2 Audit Engagement

- The system shall enable the CIA to appoint a Lead Auditor (LA) and audit team for approved audit assignments as per the Engagements Schedule from the Risk-Based Internal Audit Plan (RBIAP) to prepare the Internal Audit Memo.
- 2. The system shall support the preparation of an Internal Audit Memo by the Lead Auditor (LA), identifying and submitting it to the CIA for review and recommendation.

- 3. The system shall allow the CIA to review the Internal Audit Memo and submit it to the Director General (DG) for approval.
- 4. The system shall facilitate the review and approval of the Internal Audit Memo by the DG.
- 5. Upon approval, the system shall enable the CIA to transmit the approved Internal Audit Memo to the Lead Auditor to initiate pre-audit preparation.
- 6. The system shall support the Lead Auditor in preparing the audit engagement plan, checklists, and other necessary documentation for the audit process.
- 7. The system shall allow the audit team members to review the audit plan, checklists, and other documentation and sign the declaration of Independence/Conflict of interest Form prior to participation in audit activities.
- 8. The system shall assist the Lead Auditor in contacting the auditable area to ensure all necessary arrangements are in place for the audit process.
- 9. The system shall generate the Approved Internal Audit Memo and Signed Declaration of Independence/Conflict of interest Form as outputs of the process.

4.10.1.3 Audit Survey

- 1. The system shall facilitate the conduct of a preliminary survey by the Audit Team, including the conduct of Fraud Risk Assessment.
- 2. The system shall support Audit Team Members in reviewing the adequacy of process controls and developing effectiveness tests for detailed testing during fieldwork.
- 3. If controls are found inadequate, the system shall allow Audit Team Members to include them as audit findings and design tests to assess their impact in the process.
- 4. The system shall enable the Lead Auditor (LA) to develop a Risk and Control Matrix, prioritize auditable process areas, and prepare a draft audit program.
- 5. The system shall support the review and approval of the draft audit program by the Internal Auditor (IA) and CIA.
- 6. Upon approval, the system shall facilitate the preparation of the Engagement Notification (EN) by the Lead Auditor.

- 7. The system shall enable the review and approval of the Engagement Notification by the CIA or designated authority.
- 8. The system shall generate the Approved Engagement Notification as an output of the process.

4.10.1.4 Audit Implementation

- 1. The system shall facilitate the arrangement and conduct of an entry meeting by the Lead Auditor (LA) with the designated contact personnel of the auditee and audit team members.
- 2. The system shall support Audit Team Members in performing tests to evaluate the effectiveness of controls and documenting the results of fieldwork.
- 3. The system shall enable the Lead Auditor to review the evidence gathered by audit team members and arrange a pre-exit meeting with the auditee.
- 4. The system shall support the conduct of pre-exit meetings for clarification and communication of audit results.
- 5. The system shall allow the Audit Committee to prepare working paper forms (audit findings, results, and observations) and submit them to the Lead Auditor for review.
- 6. The system shall facilitate the review and approval of working paper forms by the CIA.
- 7. Upon approval, the system shall enable the Lead Auditor to arrange and conduct an audit team meeting prior to the exit meeting with auditee management.
- 8. The system shall support the documentation of the exit meeting minutes and attendance sheet.
- 9. The system shall assist the Lead Auditor in preparing the draft Internal Audit Report and incorporating written responses from the auditee.
- 10. The system shall enable the review and approval of the draft report by the Internal Auditor and CIA.
- 11. Upon approval, the system shall facilitate the arrangement of printing, preparation of submittal letter, and distribution of the final audit report to relevant parties.
- 12. The system shall generate the Approved Internal Audit Report, Signed Declaration of Independence/Conflict of interest Form, and distribute them to stakeholders.

4.11 Risk and Quality Assurance Microservice

4.11.1 Risk Management

- The system shall enable the Risk Management and Quality Assurance Unit (RMQAU)
 to conduct awareness sessions for Risk Champions, Risk Owners, and staff on Risk
 Management Principles and processes, including risk identification.
- 2. The system shall enable the initiation of the risk identification process by engaging Risk Champions.
- 3. The system shall support Risk Champions in conducting brainstorming sessions, workshops, interviews, and surveys to identify potential areas prone to risks.
- 4. The system shall facilitate the review of historical data, lessons learned, internal and external audit reports, and industry best practices to identify risks and weaknesses in controls.
- 5. The system shall enable Risk Owners, through Risk Champions, to record all identified risks in the Risk Assessment Sheet.
- 6. The system shall facilitate the analysis and evaluation of identified risks by Risk Champions to determine the level of risk severity.
- 7. When the level of residual risks exceeds a predefined threshold, the system shall enable Risk Champions, in collaboration with Risk Owners, to develop mitigation measures through the Risk Treatment Action Plan Template.
- 8. Upon receiving recommendations from Risk Owners, the system shall allow Risk Champions to submit the risk register and risk treatment action plan to RMQAU for review and updating.
- 9. The system shall organize workshops with all risk champions to discuss and incorporate mitigation measures into the consolidated risk register.
- 10. The system shall enable RMQAU to review the Risk Register and Risk Treatment Action Plan before submitting them to Management for discussion.
- 11. RMQAU shall incorporate Management comments into the Risk Register and submit them to the Audit Committee for review and recommendation to the Commission for approval.

- 12. Upon Commission approval, the system shall enable RMQAU to submit the Risk Register and Risk Treatment Action Plan to respective Directorates/Sections/Units/Zones through Risk Champions for implementation.
- 13. The system shall facilitate the monitoring of the implementation of agreed action plans by RMQAU and prepare a quarterly report on the implementation status.
- 14. The system shall generate the Quarterly Risk Management Implementation Report for submission to the Audit Committee and Internal Auditor General Office (IAGO).

4.11.2 Risk Champions

- 1. The system shall allow administrators to create the role of a risk champion.
- 2. The system shall provide options to define the responsibilities and permissions associated with the risk champion role.
- 3. The system shall enable authorized users to recommend individuals for the role of risk champion.
- 4. The recommendation process shall include capturing relevant details such as the nominee's qualifications and experience.
- 5. The system shall facilitate the approval of recommended risk champions by authorized users.
- 6. Approval actions shall trigger the assignment of the risk champion role to the nominated individual.

4.11.3 Risk Profiling

- 1. The system shall allow risk champions to register potential risks associated with the commission from their respective sections or units.
- 2. Risk registration shall involve providing detailed information about the identified risks, including their nature, impact, and likelihood.
- 3. The system shall enable the Risk Management Quality Assurance Manager (RMQAM) to review and approve registered risks.
- 4. RMQAM approval shall signify validation of the identified risks and their inclusion in the commission's risk register.

4.11.4 Quality Assurance Management

- 1. The system shall enable RMQAU to develop the Audit Program and Audit Plan for each quality assurance audit engagement.
- 2. RMQAU shall establish Audit Objectives and the scope of the audit, including areas or processes within the Quality Management System (QMS) to be assessed.
- 3. The system shall support the selection of a qualified Audit Team with expertise in relevant areas of the OMS.
- 4. RMQAU, through the Lead Auditor, shall develop an Audit Plan outlining the audit scope, objectives, criteria, methodology, schedule, and resources needed for the audit.
- 5. The system shall facilitate the conduct of Pre-Audit Preparation by the selected Audit Team, including the review of relevant documentation to familiarize themselves with QMS requirements and processes.
- 6. The system shall allow the QMS Coordinator to convene meetings with key personnel to discuss the audit process and expectations.
- 7. The system shall enable the Lead Auditor to conduct an Opening Meeting with auditees to introduce the audit team, review the audit objectives and scope, and discuss the audit process.
- 8. The system shall enable Quality Auditors to conduct QMS audits as per the Quality Audit Plan and checklists prepared.
- 9. Upon completion of the quality audit exercise, Quality Auditors shall prepare the Quality Audit Report and submit it to RMQAU for review and recommendations.
- 10. In case of recommendations, the system shall allow the Lead Auditor to incorporate them and resubmit the report to RMQAU.
- 11. RMQAU shall present the Quality Audit Report findings (Non-Conformances) and proposed action plans to Management.
- 12. Upon Management discussion, the system shall enable RMQAU to present the report to the Audit Committee for deliberations and recommendation to the Commission for adoption.

- 13. RMQAU, through the Strategic Risk Management Office (SRMO), shall incorporate all directives from the Commission and forward the findings to respective Directorates/Sections/Units/Zones for implementation.
- 14. RMQAU, through SRMO, shall monitor the closure status of corrective actions monthly and report to the Commission quarterly.

4.12 ICT Microservices

4.12.1 Services and Maintenance

- 1. The system shall enable FCC staff to submit service requests to the ICTM.
- 2. The system shall enable the ICTM to assign service requests to an ICTO for analysis and processing.
- 3. The system shall facilitate the preparation and delivery of requested services by the ICTO.
- 4. The system shall track the status of service requests and provide updates to FCC staff accordingly.
- 5. The system shall be integrated with eGA's helpdesk.

4.12.2 Change Management Request

- 1. The system shall enable FCC staff to submit change management requests to the ICTM.
- 2. The system shall enable the ICTM to assign change management requests to an ICTO for analysis and recommendation.
- 3. The system shall facilitate the review and approval process for change management requests by the DG and ICTM.
- 4. The system shall track the implementation of approved change requests and notify relevant stakeholders.

4.12.3 Support and Services

- 1. The system shall enable FCC staff to submit issues and requests for support to the ICT team via a Helpdesk platform.
- 2. The system shall enable the ICTO to receive and log reported issues, categorizing them as service requests, inquiries, or incidents.

- 3. The system shall facilitate the resolution of reported issues and requests, including hardware/software provisioning and procurement processes.
- 4. The system shall track the status of reported issues and requests, providing updates to FCC staff and management.

4.12.4 Training and Awareness

- 1. The system shall enable the ICTM to assess training needs and gaps in ICT knowledge.
- 2. The system shall enable the ICTM to propose and organize training programs and awareness creation sessions.
- 3. The system shall facilitate the attendance of FCC staff and ICT personnel in training programs.
- 4. The system shall track attendance and participation in training programs, generating reports on knowledge gained and understanding of ICT systems.

4.12.5 Library Management

4.12.5.1 Request for new Library books, reports and regulations

- 1. The system shall enable FCC staff to submit requests for new library books, reports, and regulations.
- 2. The system shall enable the Information Communication Technology Manager (ICTM) to review and assign an Information Communication Technology Officer (ICTO) to prepare requirements for requested items.
- 3. The system shall enable the ICTO to prepare requirements and submit them to the ICTM for review and recommendation.
- 4. The system shall enable the ICTM to review, recommend, and submit the request to the Director General (DG) for review and approval.
- 5. The system shall enable the DG to review and approve the request, assigning the ICTM for further processing.
- 6. The system shall enable the ICTM to submit the approved request to the Manager of Procurement for procurement processing.

- 7. The system shall enable the Manager of Procurement to follow the procurement process lifecycle for processing requested items.
- 8. Once completed, the system shall ensure that purchased items are delivered to the ICTM.
- 9. The system shall enable the ICTM to assign the ICTO to register purchased items in the library book register and upload soft copies in the Institutional Repository/database.

4.12.5.2 Update and maintain library register book (Institutional Public Register)

- 1. The system shall enable the Secretary of the Commission to submit decisions of the Commission/Management to the ICTM.
- 2. The system shall enable the ICTM to assign Commission/Management decisions to an ICTO for registration and storage.
- 3. The system shall enable the ICTO to organize physical copies on library shelves and proceed with registration of bibliographic information.
- 4. The system shall enable the ICTO to upload soft copies in the Institutional Repository/database.

4.12.5.3 Dissemination Process (Borrowing and Return)

- 1. The system shall enable FCC staff to submit requests for borrowing materials from the library.
- 2. The system shall enable the ICTO to receive and review requests for borrowing materials.
- 3. The system shall facilitate the lending process for FCC staff and verify borrowers' particulars for non-FCC staff.
- 4. The system shall track the borrowing and return process, updating the library register book accordingly.

4.13 Asset Management Microservice

4.13.1 Asset Management

1. The system shall enable the user to create a new asset record.

- 2. The system shall enable the user to view existing asset records.
- 3. The system shall enable the user to modify existing asset details (excluding valuation).
- 4. The system shall track the complete history of changes to an asset record.
- 5. The system shall allow the user to categorize assets according to a predefined taxonomy.
- 6. The system shall allow the user to search for assets using various criteria (e.g., name, type, custodian, location).

4.13.1.1 Asset Custodian Assignment

- 1. The system shall enable the user to assign a custodian to an asset.
- 2. The system shall maintain a list of authorized custodians.
- 3. The system shall enable the user to change the custodian of an asset.
- 4. The system shall track the history of custodian assignments for an asset.

4.13.1.2 Asset Maintenance

- 1. The system shall enable the user to schedule maintenance activities for an asset.
- 2. The system shall allow the user to record the completion of maintenance activities.
- 3. The system shall track the maintenance history of an asset.
- 4. The system shall generate alerts for upcoming or overdue maintenance tasks.

4.13.1.3 Asset Valuation

- 1. The system shall provide an interface to update the current valuation of an asset.
- 2. The system shall allow the user to specify the valuation method (e.g., market value, replacement cost, depreciated cost).
- 3. The system shall store the historical valuations of an asset.
- 4. The system shall enable the user to generate valuation reports over a specified time range.

4.13.2 Fleet Management

- 1. The system shall enable FCC Drivers to fill in the application form for fleet maintenance/service/replacement.
- 2. The system shall allow Administrative Officers to review the filled application form for fleet maintenance/service/replacement.

- 3. The system shall enable HRA Managers to check and review the application form for fleet maintenance/service/replacement submitted by the Administrative Officer.
- 4. The system shall provide functionality for HRA Managers to recommend the reviewed application form for approval to the Director of Corporate Services (DCS).
- 5. The system shall enable the DCS to approve the reviewed application form for fleet maintenance/service/replacement.
- 6. The system shall facilitate the submission of the approved application form to the Procurement Management Unit (PMU) for procurement processes.
- 7. The system shall integrate with NeST to initiate procurement processes for fleet maintenance/service/replacement based on the approved application form.
- 8. The system shall maintain a record of approved fleet maintenance/service/replacement applications, including details such as the applicant, approval status, and procurement progress.
- 9. The system shall provide notifications to relevant stakeholders at each stage of the fleet maintenance/service/replacement process to ensure timely action and communication.
- 10. The system shall allow authorized users to track the progress of fleet maintenance/service/replacement applications and procurement activities in real-time.
- 11. The system shall support the generation of reports summarizing fleet maintenance/service/replacement activities, including the number of applications received, approved, and processed within a specified period.
- 12. The system shall facilitate communication between stakeholders involved in fleet maintenance/service/replacement processes, allowing for collaboration and resolution of any issues or queries.
- 13. The system shall ensure compliance with financial regulations and internal staff rules and regulations throughout the fleet maintenance/service/replacement process.
- 14. The system shall maintain an audit trail of actions taken on fleet maintenance/service/replacement applications, including timestamps, user IDs, and reasons for decisions.

15. The system shall provide a secure and accessible repository for storing documentation related to fleet maintenance/service/replacement applications, ensuring data integrity and confidentiality.

4.13.3 ICT Asset Equipment Management

4.13.3.1 Asset Acquisition

- 1. The system shall enable the user to create a purchase request for a new ICT asset.
- 2. The system shall provide a workflow for approval of purchase requests.
- 3. The system shall track the status of purchase orders.
- 4. The system shall enable the user to record the receipt of an ICT asset.

4.13.3.2 Asset Deployment

- 1. The system shall enable the user to track the physical location of an ICT asset.
- 2. The system shall allow the user to record the assignment of an ICT asset to a specific user or department.
- 3. The system shall track the configuration details of an ICT asset (e.g., installed software, IP address, network settings).

4.13.3.3 Asset Disposal

- 1. The system shall enable the user to initiate the disposal process for an ICT asset.
- 2. The system shall provide a workflow for the approval of asset disposal.
- 3. The system shall allow the user to select an appropriate disposal method (e.g., sale, recycling, destruction).
- 4. The system shall enable the user to record the final disposition of the asset.

4.13.3.4 Reporting and Analytics

- 1. The system shall enable the user to generate reports on ICT asset inventory, by type, location, age, etc.
- 2. The system shall enable the user to generate reports on ICT asset utilization.
- 3. The system shall allow the user to track trends in ICT asset acquisition and disposal.

4.14 Applicant Management Microservice

4.14.1 Company Applicants Management

- 1. The system shall enable administrators to register new company applicants by capturing relevant information such as company name, registration number, contact details, and industry sector.
- 2. The system shall allow administrators to update company applicant information, including changes in contact persons, address, or company profile.
- 3. The system shall provide search and filtering capabilities to allow users to quickly locate specific company applicants based on various criteria.
- 4. The system shall maintain a complete audit trail of all activities related to company applicant management, including registrations, updates, and deletions.
- 5. The system shall allow administrators to assign permissions and access levels to users responsible for managing company applicants' information.

4.14.2 Individual Applicant Management

- The system shall enable users to create profiles for individual applicants, capturing personal information such as name, contact details, identification documents, and employment history.
- 2. The system shall allow individual applicants to update their profiles, including uploading new documents, updating contact information, or adding qualifications.
- 3. The system shall provide secure authentication mechanisms to ensure the privacy and security of individual applicant information.
- 4. The system shall allow administrators to review and verify the authenticity of documents submitted by individual applicants during the registration process.
- 5. The system shall facilitate communication between individual applicants and administrators, allowing for inquiries, status updates, and notifications.

4.14.3 Complainants Management

1. The system shall enable users to register complainants who raise concerns or complaints regarding specific issues, products, or services.

- 2. The system shall capture complainants' contact information, complaint details, related documents, and any other relevant information necessary for investigation and resolution.
- 3. The system shall allow administrators to categorize and prioritize complaints based on severity, urgency, or impact on stakeholders.
- 4. The system shall facilitate communication between complainants and relevant stakeholders, including updates on complaint status and resolution efforts.
- 5. The system shall track the status and progress of complaints, including recording actions taken, correspondence exchanged, and resolution outcomes.

4.14.4 Anonymous Applicants Management

- 1. The system shall allow anonymous users to submit applications or requests without requiring them to provide personal identifying information.
- 2. The system shall provide options for anonymous applicants to communicate securely and anonymously with administrators or designated personnel.
- 3. The system shall ensure the confidentiality and privacy of information submitted by anonymous applicants, including protecting their identity and contact details.
- 4. The system shall enable administrators to review and process applications submitted anonymously, including verifying the authenticity and validity of requests.
- 5. The system shall provide mechanisms for anonymous applicants to receive updates, notifications, and responses regarding their submissions without compromising their anonymity.

4.14.5 Respondents Management

- 1. The system shall enable administrators to manage a database of respondents who participate in surveys, interviews, or feedback collection processes.
- 2. The system shall capture respondent information such as name, contact details, demographic data, and survey responses.
- 3. The system shall allow administrators to send invitations, reminders, and follow-up communications to respondents to encourage participation.

- 4. The system shall provide reporting and analytics tools to analyze respondent data, including response rates, trends, and feedback insights.
- 5. The system shall maintain respondent confidentiality and privacy, ensuring that respondent information is securely stored and only accessible to authorized personnel.
- 6. The system shall be able to retrieve respondent signature from NIDA by entering NIN once needed to sign any document before submission

4.15 Research, Mergers and Exemptions Microservice

4.15.1 Merger Applications Clearance

4.15.1.1 Submission of Merger Clearance Application

- 1. The system shall allow the merger applicant to complete and submit a Merger Clearance Application.
- 2. The system shall verify and validate the merger clearance application.
- 3. The system shall create a reference number and assign it to the new merger clearance application if valid.
- 4. The system shall store the new merger clearance application and notify the merger application upon completion.
- 5. The system shall send an acknowledgement email to the merger applicant.
- 6. The system shall create a new task for the merger application.
- 7. The system shall send the merger application task registered for preview, directives and comments to the DG and DRMA.
- 8. The system shall assign the merger application to the MEM.
- 9. The system shall enable the MEM to preview the merger application, review and add directives and comments.
- 10. The system shall enable the MEM to assign the merger application to the merger analyst available.
- 11. The system shall allow applicant to request for extension of time incase deadline to submit certain application reached

4.15.1.2 Valuation of Merger Application

- 1. The system shall assign the merger application to the action officer responsible for merger applications valuation.
- 2. The system shall enable the action officer to access the financial statements of the acquiring and target firm(s) and other non-confidential sections of the merger application.
- 3. The system shall enable the action officer to evaluate the merger applicant's self-assessment to verify the merger fee paid.
- 4. If the fee paid is valid, the system shall enable the action officer to mark the merger applicant's self-assessment as valid.
- 5. If not, the system shall enable the action officer to mark the merger applicant's self-assessment as invalid.
- 6. The system shall update the status of the merger application as "Incomplete" and will notify the merger analyst assigned.

4.15.1.3 Review of Merger Application

- 1. The system shall enable the merger analyst to access the merger application.
- 2. The system shall enable merger analysts to review the merger application for completeness.
- 3. The system shall enable merger analysts to add notes on several sections of the merger application.

4.15.1.3.1 Issuance of Notice of Complete Filling

- 1. The system shall enable the merger analyst within 5 days from the receipt of the merger application to initiate and submit for vetting issuance of notice of complete incorporated with notes for why the notice should be issued.
- 2. The system shall notify the merger analyst after the vetting process of the initiated notice of complete filling is completed.
- 3. The system shall enable the DRMA to sign and issue notice of complete filling.
- 4. The system shall update the status of the merger application as "Complete".
- 5. The system shall send the notice of complete filling to the merger applicant.

6. The system shall notify the merger applicant, DG, DRMA, MEM and merger analyst once the notice of complete filling has been issued.

4.15.1.3.2 Issuance of Notice of Incomplete Filling

- 1. The system shall enable the merger analyst to initiate and submit for vetting issuance of incomplete filling incorporated with notes for why the notice should be issued.
- 2. The system shall notify the merger analyst after the vetting process of the initiated notice of complete or issuance of incomplete filling is completed.
- 3. The system shall enable the DRMA to sign and issue the notice of incomplete filling.
- 4. The system shall send the notice of complete filling to the merger applicant.
- 5. The system shall notify the DG, DRMA, MEM and merger analyst once the notice of incomplete filling has been issued.

4.15.1.3.3 Merger Applicant's Response to Notice of Incomplete Filing

- 1. The system shall enable the merger applicant to receive and acknowledge receipt of the Notice of Incomplete Filing promptly upon its submission by the Commission.
- 2. The system shall notify the merger applicant within five working days of receiving the Notice of Incomplete Filing, providing details of the incomplete filing and any associated requirements.
- 3. The system shall provide a user-friendly interface for the merger applicant to review the Notice of Incomplete Filing and understand the specific requirements that need to be addressed.
- 4. The system shall facilitate the merger applicant in gathering and preparing the necessary documentation and information required to address the incomplete filing.
- 5. The system shall enable the merger applicant to submit a formal request to the Commission within five working days to refer the matter for an order setting aside any requirement outlined in the Notice of Incomplete Filing.
- 6. The system shall timestamp and archive the merger applicant's request for referral to the Commission, ensuring accurate tracking of timelines and actions taken.

- 7. Upon receiving the referral request, the system shall promptly notify the Commission and relevant stakeholders involved in the merger review process.
- 8. The system shall provide a secure platform for communication between the merger applicant and the Commission regarding the referral request and any subsequent actions taken.
- 9. The system shall ensure that all communication and correspondence related to the referral request are logged and documented for audit and transparency purposes.
- 10. The system shall enable the Commission to review the referral request and make a decision within a reasonable timeframe.
- 11. Upon reaching a decision, the system shall generate an official order document outlining the Commission's decision regarding the referral request.
- 12. The system shall notify the merger applicant of the Commission's decision and any actions required on their part based on the decision.
- 13. The system shall update the status of the Notice of Incomplete Filing and the merger review process based on the Commission's decision and any subsequent actions taken.

4.15.1.3.4 Abandonment of Merger Application

4.15.1.3.4.1 Auto Abandonment of Merger Application

- 1. The system shall notify the filing firm promptly if any required information or documents are missing from their merger application, as specified by the Commission.
- 2. The system shall provide clear instructions to the filing firm regarding the missing information or documents required to complete the merger application.
- 3. The system shall track the stipulated time frame within which the filing firm must provide the missing information or documents to the Commission.
- 4. The system shall send automated reminders to the filing firm as the deadline for providing missing information or documents approaches, ensuring timely action.
- 5. The system shall enable the filing firm to upload and submit the missing information or documents directly through a secure online portal.
- 6. The system shall timestamp and archive all submissions made by the filing firm, providing a comprehensive record of the merger application process.

- 7. If the filing firm neglects to provide the missing information or documents within the stipulated time frame, the system shall trigger an alert to notify the Commission of the lapse.
- 8. Upon receiving notification of the lapse, the system shall automatically initiate the abandonment process for the merger application in accordance with Rule 45(2).
- 9. The system shall generate an official abandonment notice, citing the relevant rule and indicating that the merger application is considered abandoned.
- 10. The system shall notify all relevant parties, including the filing firm and any affected stakeholders, of the abandonment of the merger application.
- 11. The system shall update the status of the merger application to reflect its abandoned status, ensuring accuracy in the tracking and reporting of application statuses.
- 12. The system shall archive all relevant documentation and correspondence related to the abandoned merger application for future reference and audit purposes.

4.15.1.3.4.2 Self-Abandonment of Merger Application

- 1. The system shall enable the merger applicant to initiate the abandonment process for their merger application if they decide to withdraw from the merger review process.
- 2. Upon accessing their merger application dashboard, the system shall provide the merger applicant with an option to abandon the application.
- 3. The system shall require the merger applicant to provide a reason for abandoning their merger application, which will be recorded for internal reference.
- 4. Once the abandonment process is initiated, the system shall prompt the merger applicant to confirm their decision to abandon the application.
- 5. If the merger applicant confirms their decision, the system shall generate an official abandonment notice, indicating the withdrawal of the merger application.
- 6. The system shall notify the Commission of the merger applicant's decision to abandon the application, triggering the abandonment process as per regulatory requirements.
- 7. Upon abandonment, the system shall update the status of the merger application to reflect its abandoned status in the application dashboard and relevant records.

- 8. The system shall archive all documentation and correspondence related to the abandoned merger application for future reference and audit purposes.
- 9. If the merger applicant changes their mind after initiating the abandonment process but before final confirmation, the system shall allow them to cancel the abandonment request.
- 10. The system shall provide clear instructions to the merger applicant regarding any implications or consequences of abandoning their merger application, including any applicable fees or penalties.
- 11. The system shall track and record all actions taken by the merger applicant during the abandonment process, maintaining a comprehensive audit trail.
- 12. The system shall ensure that the abandonment process adheres to all relevant regulatory requirements and internal policies governing merger application withdrawals

4.15.1.3.5 No Objection of Merger Application

- 1. The system shall enable merger analysts to initiate and submit for vetting issuance of No Objection within 7 days from the issuance of the notice of complete filing.
- 2. The system shall notify the merger analyst after the vetting process has been completed.
- 3. The system shall enable the DRMA to sign and issue notice of No Objection.
- 4. The system shall update the merger application's status to "No Objection".
- 5. The system shall stop the count of the merger application.
- 6. The system shall notify the DG, DRMA, MEM and merger analyst about the changes made to the merger application.
- 7. The system shall send the notice of No Objection to the merger applicant.

4.15.1.3.6 Issuance of Public Notice

1. The system shall enable the merger analyst to initiate and submit for vetting procurement requisition request/form of the public notice of the merger application.

- 2. The system shall notify the merger analyst after the vetting process of the procurement requisition request/form of the public notice of the merger application is completed.
- 3. The system shall send the vetted public notice for publication to the Publication Relations and Communication Microservice.
- 4. The system shall notify the merger applicant, DG, DRMA, MEM and merger analyst once the public notice has been published.

4.15.1.3.7 Receipt of Notice of Intention to Participate

- 1. The system shall be able to receive notice of intention to participate through the website as the interested party comments on the public notice of the merger application.
- 2. The system shall enable interested stakeholder to fill in and submit notice of intention to participate.
- 3. The system shall notify the DG, DRMA, MEM and merger analyst upon submission of the notice of intention to participate.
- 4. The system shall enable the DG, DRMA, MEM and merger analyst to view the notice(s) of intention to participate.
- 5. The system shall enable the merger analyst to review and analyze the submitted notice(s) of intention to participate.

4.15.1.3.8 Request of Additional Information

- 1. The system shall enable the merger analyst to initiate and submit for vetting the request for additional information.
- 2. The system shall notify the merger analyst once the vetting of request for additional information is completed.
- 3. The system shall enable the DRMA to sign and issue requests for additional information.
- 4. The system shall notify the merger applicant, DG, DRMA, MEM and merger analyst once the request for additional information has been issued.

4.15.1.3.9 Receipt of Additional Information

- 1. The system shall enable the merger applicant to receive and view requests for additional information.
- 2. The system shall enable the merger applicant to submit requested additional information and attach any supporting documents.
- 3. The system shall send an acknowledgement to the merger applicant upon the receipt of the additional information.
- 4. The system shall notify the DG, DRMA, MEM and merger analyst once the additional information request has been received.

4.15.1.4 Issuance of Notice of Examination (90 Days Prohibition Notice)

- 1. The system shall enable the merger analyst to initiate notice of examination and submit it for vetting.
- 2. The system shall notify the merger analyst once the vetting process is complete.
- 3. The system shall enable the DRMA to sign and issue notice of examination.
- 4. The system shall start a 90 days countdown for the examination of the merger application.
- 5. The system shall update the status of the merger application to "Under Examination".
- 6. The system shall notify the DG, DRMA, MEM and merger analyst after the changes have been made to the merger application.
- 7. The system shall send the notice of examination to the merger applicant.
- 8. The system shall stop 90 days count on the 90th date from the issuance date.

4.15.1.5 Issuance of 30 Days Extension Certificate

- 1. The system shall enable the merger analyst to initiate a 30 days extension period and submit it for vetting.
- 2. The system shall notify the merger analyst once the vetting process is complete.
- 3. The system shall enable the DRMA to sign and issue Extension Certificates.
- 4. The system shall start a 30 days countdown for the examination extension period of the merger application on a working day following the date on which the ninety days period expires.

- 5. The system shall update the status of the merger application to "Under Examination".
- 6. The system shall notify the DG, DRMA, MEM and merger analyst after the changes have been made to the merger application.
- 7. The system shall send the notice of examination to the merger applicant.
- 8. The system shall stop 30 days count on the 30th date from the issuance date.

4.15.1.6 Request for Stop Count of Merger Examination Period

- 1. The system shall enable the merger analyst to initiate the stop count of the merger application examination period and submit for vetting.
- 2. The system shall notify the merger analyst when the vetting process is complete.
- 3. The system shall enable the DRMA to stop the count of the merger examination period.

4.15.1.7 Submission of Merger Application Analysis Report

- 1. The system shall enable the merger analyst to compose and submit their merger analysis report for vetting.
- 2. The system shall notify the merger analyst once the vetting process has been completed.

4.15.1.8 Deliberations of the Management

- 1. The system shall enable the DRMA to submit the merger analysis report to the management for deliberation.
- 2. The system shall enable the Secretary to the commission to schedule a management meeting.
- 3. The system shall notify the management about the scheduled meeting.
- 4. The system shall circulate the merger analysis report to the management.
- 5. The system shall enable the Secretary to The Commission to initiate a polling to get the management's deliberations on the merger application.

4.15.1.9 Deliberations of the Commission

- The system shall enable the Secretary to the Commission to schedule a commission's meeting for deliberations.
- 2. The system shall notify the commissioners.

- 3. The system shall circulate the merger analysis and management's deliberation to the commissioners.
- 4. The system shall enable the Secretary to the Commission to initiate a polling to get the Commission's deliberations on the merger application.

4.15.1.10 Issuance of Notice of Prohibition of Merger

- 1. The system shall enable the DRMA to initiate the Notice of Prohibition of Merger and submit it for commission's signature.
- 2. The system shall circulate the Notice of Prohibition of Merger to all commissioners so that they may sign the certificate.
- 3. The system shall notify the DG, DRMA, MEM and merger analyst once the certificate has been signed by all commissioners.
- 4. The system shall update the status of the merger application to either "Certified" or "Certified with conditions" based on the commission's deliberations.
- 5. The system shall enable the DRMA to issue the Notice of Prohibition of Merger.

4.15.1.11 Issuance of Merger Clearance Certificate

- 1. The system shall enable the DRMA to initiate the Merger Clearance Certificate and submit it for commission's signature.
- 2. The system shall circulate the Merger Clearance Certificate to all commissioners so that they may sign the certificate.
- 3. The system shall notify the DG, DRMA, MEM and merger analyst once the certificate has been signed by all commissioners.
- 4. The system shall update the status of the merger application to either "Certified" or "Certified with conditions" based on the commission's deliberations.
- 5. The system shall enable the DRMA to issue the Merger Clearance Certificate.

4.15.1.12 Issuance of Notice of Revocation of Merger Decision

- 1. The system shall enable the DRMA to initiate the Notice of Revocation of Merger Decision of Merger and submit it for commission's signature.
- 2. The system shall circulate the Notice of Revocation of Merger Decision of Merger to all commissioners so that they may sign the certificate.

- 3. The system shall notify the DG, DRMA, MEM and merger analyst once the certificate has been signed by all commissioners.
- 4. The system shall update the status of the merger application to either "Revoked" based on the commission's deliberations.
- 5. The system shall enable the DRMA to issue the Notice of Revocation of Merger Decision of Merger.

4.15.2 Monitoring Mergers

4.15.2.1 Creation of Monitoring Plan

- 1. The system shall enable the merger analyst to create a monitoring plan for the merger application approved with conditions.
- 2. The system shall enable the merger analyst to submit the monitoring plan for vetting.
- 3. The system shall notify the merger analyst after the vetting process is complete.
- 4. The system shall enable the DRMA to send a monitoring plan that requires merger applicant's input to the merger applicant.

4.15.2.2 Implementation of Monitoring Plan

- 1. The system shall enable the merger applicant of the monitored merger application to view the conditions set by the commission.
- 2. The system shall enable the merger applicant to view the monitoring plan.
- 3. The system shall enable the merger applicant to submit progress implementation progress.
- 4. The system shall enable the DG, DRMA, MEM and merger analyst to view the submitted progress implementation report.

4.15.2.3 Monitoring Plan Report

4.15.2.3.1 Creation of Monitoring Report

- 1. The system shall enable the merger analyst to create a monitoring report for the monitored merger.
- 2. The system shall notify the merger analyst once the vetting process is complete.
- 3. The system shall enable the DRMA to submit the monitoring report to the management for deliberations.

4.15.3 Deliberation of the Management

- 1. The system shall enable the Secretary to the Commission to schedule a management meeting.
- 2. The system shall enable the Secretary to the Commission to circulate the monitoring report to the management.
- 3. The system shall enable the Secretary to the Commission to initiate a polling for the management's deliberation.

4.15.4 Deliberation of the Commission

- 1. The system shall enable the Secretary to the Commission to schedule a management meeting.
- 2. The system shall enable the Secretary to the Commission to circulate the monitoring report to the management.
- 3. The system shall enable the Secretary to the Commission to initiate a polling for the management's deliberation.

4.15.5 Issuance of Compliance Notice

- 1. The system shall enable the DRMA to sign and issue notice of compliance (an administrative letter) to merger applicants for their compliance.
- 2. The system shall enable the merger applicant to receive and view notice of compliance.
- 3. The system shall notify the DG, DRMA, MEM and merger analyst once the notice has been issued.

4.15.6 Issuance of Notice of Apparent Breach

- 1. The system shall enable the DRMA to initiate the Notice of Apparent Breach and submit it for commission's signature.
- 2. The system shall circulate the Notice of Apparent Breach to all commissioners so that they may sign the certificate.
- 3. The system shall notify the DG, DRMA, MEM and merger analyst once the certificate has been signed by all commissioners.
- 4. The system shall update the status of the merger application to either "Revoked Breached" based on the commission's deliberations.

5. The system shall enable the DRMA to issue the Notice of Apparent Breach.

4.15.7 Response to Notice of Apparent Breach

- 1. The system shall enable the merger applicant to receive and view notice of apparent breach.
- 2. The system shall enable the merger applicant within 10 days from the issuance of notice of apparent breach to submit their response along with any supporting documents as attachments.
- 3. The system shall send an acknowledgement to the merger applicant upon the receipt of the additional information.
- 4. The system shall notify the DG, DRMA, MEM and merger analyst once the response to notice of apparent breach has been received.

4.15.8 Application for Settlement

- 1. The system shall allow the merger applicant to apply for settlement within 10 days after the receipt of notice of apparent breach.
- 2. The system shall notify the merger applicant after the settlement application has been received.
- 3. The system shall notify the DG, DRMA, MEM and merger analyst once the application for settlement has been received.
- 4. The system shall enable the DRMA to submit the application for settlement to the management and then the commission for deliberation

4.15.9 Exemptions Applications Management

4.15.9.1 Application for Exemption of Agreement

- 1. The system shall allow the exemption applicant to fill out and submit an application for exemption of agreement.
- 2. The system shall verify and validate the application for exemption of agreement.
- 3. The system shall create a reference number and assign it to the new application for exemption of agreement if valid.
- 4. The system shall store the new application for exemption of agreement and notify the merger application upon completion.

- 5. The system shall send an acknowledgement email to the merger applicant.
- 6. The system shall create a new task for the application for exemption of agreement.
- 7. The system shall send the merger application task registered for preview, directives and comments to the DG and DRMA.
- 8. The system shall assign the merger application to the MEM.
- 9. The system shall enable the MEM to preview the application for exemption of agreement, review and add directives and comments.
- 10. The system shall enable the MEM to assign the application for exemption of agreement to the merger analyst available.

4.15.9.2 Review of Application for Exemption Agreement

- The system shall enable the merger analyst to access the application for exemption of agreement.
- 2. The system shall enable merger analysts to review the application for exemption of agreement for completeness.
- 3. The system shall enable merger analysts to add notes on several sections of the application for exemption of agreement.

4.15.9.2.1 Issuance of Notice of Complete Filing

- 1. The system shall enable the merger analyst to initiate and submit for vetting issuance of notice of complete filling incorporated with notes for why the notice should be issued.
- 2. The system shall notify the merger analyst after the vetting process of the initiated notice of complete filling is completed.
- 3. The system shall enable the DRMA to sign and issue notice of complete filling.
- 4. The system shall update the status of the application for exemption of agreement as "Complete".
- 5. The system shall send the notice of complete filling to the merger applicant.
- 6. The system shall notify the merger applicant, DG, DRMA, MEM and merger analyst once the notice of complete filling has been issued.

4.15.9.2.2 Issuance of Notice of Material Incompleteness

- 1. The system shall enable the merger analyst to initiate and submit for vetting issuance of notice of material incompleteness incorporated with notes for why the notice should be issued.
- 2. The system shall notify the merger analyst after the vetting process of the initiated notice of material incompleteness is completed.
- 3. The system shall enable the DRMA to sign and issue notice of material incompleteness.
- 4. The system shall update the status of the application for exemption of agreement as "Incomplete".
- 5. The system shall send the notice of material incompleteness to the exemption applicant.
- 6. The system shall notify the exemption applicant, DG, DRMA, MEM and merger analyst once the notice of complete filling has been issued.

4.15.9.2.3 Exemptions Applicant's Response to Notice of Material Incompleteness

 The system shall enable the merger applicant within 30 working days after receiving the Notice of Incomplete Filing to refer the matter to the commission for an order setting aside any requirement

4.15.9.2.4 Request for Provision of Information on Specific Exemption Sought

- 1. The system shall enable the merger analyst to initiate and submit for vetting the request for provision of information on specific exemption sought.
- 2. The system shall notify the merger analyst once the vetting of request for additional information is completed.
- 3. The system shall enable the DRMA to sign and issue requests for additional information.
- 4. The system shall notify the merger applicant, DG, DRMA, MEM and merger analyst once the request for provision of information on specific exemption sought has been issued.

4.15.9.2.5 Exemptions Applicant's Response to Notice of Material Incompleteness

- 1. The system shall enable the exemption applicant to receive and view notice of material incompleteness.
- 2. The system shall enable the exemption applicant to respond within 30 working days after receiving the notice of material incompleteness.
- 3. The system shall enable the submit their response along with any supporting documents as attachments.
- 4. The system shall send an acknowledgement to the exemption applicant upon the receipt of the response to notice of material incompleteness.
- 5. The system shall notify the DG, DRMA, MEM and merger analyst once the exemption applicant submits their response.

4.15.9.2.6 Receipt of Provision of Information on Specific Exemption Sought

- 1. The system shall enable the exemption applicant to receive and view requests for provision of information on specific exemption sought.
- 2. The system shall enable the exemption applicant within 30 working days to submit requested provision of information on specific exemption sought and attach any supporting documents.
- 3. The system shall send an acknowledgement to the exemption applicant upon the receipt of the provision of information on specific exemption sought.
- 4. The system shall notify the DG, DRMA, MEM and merger analyst once the additional information request has been received.

4.15.9.3 Investigation of Application for Exemption Agreement

- 1. The system shall enable the DRMA to initiate the investigation of the application for exemption of agreement.
- 2. The system shall notify the DG, DRMA, MEM and merger analyst after the initiation of the investigation of the application for exemption of agreement.

4.15.9.3.1 Issuance of Public Notice

- The system shall enable the merger analyst to initiate and submit for vetting procurement requisition request/form of the public notice of the application for exemption of agreement.
- 2. The system shall notify the merger analyst after the vetting process of the procurement requisition request/form of the public notice of the application for exemption of agreement is completed.
- 3. The system shall send the vetted public notice for publication to the Publication Relations and Communication Microservice.
- 4. The system shall notify the merger applicant, DG, DRMA, MEM and merger analyst once the public notice has been published.

4.15.9.3.2 Receipt of Notice of Intention to Participate

- 1. The system shall be able to receive notice of intention to participate through the website as the interested party comments on the public notice of the application for exemption of agreement.
- 2. The system shall enable interested stakeholder to fill in and submit notice of intention to participate.
- 3. The system shall notify the DG, DRMA, MEM and merger analyst upon submission of the notice of intention to participate.
- 4. The system shall enable the DG, DRMA, MEM and merger analyst to view the notice(s) of intention to participate.
- 5. The system shall enable the merger analyst to review and analyze the submitted notice(s) of intention to participate.

4.15.9.3.3 Request of Additional Information

- 1. The system shall enable the merger analyst to initiate and submit for vetting the request for additional information.
- 2. The system shall notify the merger analyst once the vetting of request for additional information is completed.

- 3. The system shall enable the DRMA to sign and issue requests for additional information.
- 4. The system shall notify the exemption applicant, DG, DRMA, MEM and merger analyst once the request for additional information has been issued.

4.15.9.3.4 Receipt of Additional Information

- 1. The system shall enable the exemption applicant to receive and view requests for additional information.
- 2. The system shall enable the exemption applicant to submit requested additional information and attach any supporting documents.
- 3. The system shall send an acknowledgement to the exemption applicant upon the receipt of the additional information.
- 4. The system shall notify the DG, DRMA, MEM and merger analyst once the additional information request has been received.

4.15.9.3.5 Submission of Analysis Report

- 1 The system shall enable the merger analyst to compose and submit their merger analysis report for vetting.
- 2 The system shall notify the merger analyst once the vetting process has been completed.

4.15.9.3.6 Deliberations of the Management

- 1. The system shall enable the DRMA to submit the application for exemption of agreement analysis report to the management for deliberation.
- 2. The system shall enable the Secretary to the commission to schedule a management meeting.
- 3. The system shall notify the management about the scheduled meeting.
- 4. The system shall circulate the application for exemption of agreement analysis report to the management.
- 5. The system shall enable the Secretary to The Commission to initiate a polling to get the management's deliberations on the application for exemption of agreement.

4.15.9.3.7 Deliberations of the Commission

- 1. The system shall enable the Secretary to the Commission to schedule a commission's meeting for deliberations.
- 2. The system shall notify the commissioners.
- 3. The system shall circulate the merger analysis and management's deliberation to the commissioners.
- 4. The system shall enable the Secretary to the Commission to initiate a polling to get the Commission's deliberations on the application for exemption of agreement.

4.15.9.4 Issuance of Exemption Agreement

- 1. The system shall enable the DRMA to initiate the Exemption Certificate and submit it for commission's signature.
- 2. The system shall circulate the Exemption Certificate to all commissioners so that they may sign the certificate.
- 3. The system shall notify the DG, DRMA, MEM and merger analyst once the certificate has been signed by all commissioners.
- 4. The system shall update the status of the application for exemption of agreement to either "Certified" based on the commission's deliberations.
- 5. The system shall enable the DRMA to issue the Exemption Certificate.

4.15.9.5 Issuance of Notice of Refusal to Grant Exemption

- 1. The system shall enable the DRMA to initiate the Notice of Refusal to Grant Exemption and submit it for commission's signature.
- 2. The system shall circulate the Notice of Refusal to Grant Exemption to all commissioners so that they may sign the certificate.
- 3. The system shall notify the DG, DRMA, MEM and merger analyst once the certificate has been signed by all commissioners.
- 4. The system shall update the status of the application for exemption of agreement to either "Not Granted" based on the commission's deliberations.
- 5. The system shall enable the DRMA to issue the Exemption Certificate.

4.15.9.6 Issuance of Notice of Revocation of Exemption

- 1. The system shall enable the DRMA to initiate the Notice of Revocation of Exemption and submit it for commission's signature.
- 2. The system shall circulate the Notice of Revocation of Exemption to all commissioners so that they may sign the certificate.
- 3. The system shall notify the DG, DRMA, MEM and merger analyst once the certificate has been signed by all commissioners.
- 4. The system shall update the status of the application for exemption of agreement to either "Revoked" based on the commission's deliberations.
- 5. The system shall enable the DRMA to issue the Exemption Certificate.

4.15.10 Opinion Management

4.15.10.1 Request for Opinion Application

- 1. The system shall enable opinion applicants to apply for an opinion.
- 2. The system shall generate a bill for the opinion application along with a control number for payments.
- 3. The system shall enable the opinion applicant to view the bill generated.
- 4. The system shall notify the opinion applicant once their payment has been received.
- 5. The system shall enable the opinion applicant to view their payment receipt/
- 6. The system shall enable the opinion applicant to submit their opinion application.

4.15.10.2 Analysis of the Request for Opinion Application

- 1. The system shall enable the merger analyst to view the request for opinion application.
- 2. The system shall enable the merger analyst to create a request for an opinion application analysis report and submit it for vetting.
- 3. The system shall notify the merger analyst once the vetting process is completed.

4.15.10.3 Issuance of Opinion

- 1. The system shall enable the DRMA to sign and issue the opinion to the opinion applicant.
- 2. The system shall update the status of the application for opinion to "Opined".

- 3. The system shall notify the opinion applicant, DG, DRMA, MEM and merger analyst once the opinion has been issued.
- 4. The system shall enable the opinion applicant to view the opinion from the FCC.

4.15.11 Research

4.15.11.1 Mini Study

- 1. The system shall enable the Director of Research, Mergers and Advocacy to assess ideas or proposals for market inquiry electronically.
- 2. The system shall facilitate the preparation and submission of an Intention to Conduct a Mini Study document electronically.
- 3. The system shall allow for the review and approval of the Intention to Conduct a Mini Study document by relevant stakeholders electronically.
- 4. The system shall support the assignment of teams to conduct the mini study electronically.
- 5. The system shall enable the preparation of lead questions and documentation in checklists and/or questionnaires electronically.
- 6. The system shall facilitate field data collection and analysis electronically.
- 7. The system shall allow for the preparation and submission of the Mini Study Report electronically.
- 8. The system shall record details of the mini study in the Studies and Research Register.

4.15.11.2 Initiation of Research Study

- 1. The system shall facilitate the submission and tracking of requests from regulatory bodies or orders from the Minister to initiate research studies electronically.
- 2. The system shall enable the preparation and submission of the View of the Commission on the subject matter and scope electronically.
- 3. The system shall support the preparation, review, and approval of Terms of Reference electronically.
- 4. The system shall allow for engagement with regulatory bodies or ministries electronically.

- 5. The system shall facilitate the preparation and submission of the Strategy Paper electronically.
- 6. The system shall enable the appointment of teams to conduct research studies electronically.

4.15.11.3 Conducting Research Study

- 1. The system shall enable the preparation and submission of checklists and/or questionnaires for data collection electronically.
- 2. The system shall support the review and approval of checklists and/or questionnaires electronically.
- 3. The system shall facilitate the assignment of teams to conduct research studies electronically.
- 4. The system shall enable field data collection and analysis electronically.
- 5. The system shall allow for the preparation and submission of the draft Research Study Report electronically.
- 6. The system shall support stakeholder engagement for validation of study findings electronically.
- 7. The system shall facilitate the review and approval process of the draft Research Study Report electronically.
- 8. The system shall record details of the Final Research Study Report and decision of the Commission in the Studies and Research Register.

4.15.12 Advocacy

4.15.12.1 Review of Policy, Bills, or Legislation

- 1. The system shall enable stakeholders to submit requests for the review of policy, bills, or legislation electronically.
- 2. The system shall support the assignment of reference numbers to requests for review.
- 3. The system shall facilitate the preview and assignment of review tasks by the Director General electronically.
- 4. The system shall allow for the preparation and submission of proposals for review electronically.

- 5. The system shall enable the collection and analysis of desk search information electronically.
- 6. The system shall support stakeholder engagement for additional information gathering electronically.
- 7. The system shall facilitate the preparation and submission of Analysis Reports electronically.
- 8. The system shall record details of the Decision of the Commission and Analysis Report in the Advocacy Database.
- 9. The system shall allow applicant to request for extension of time incase deadline to submit certain application reached

4.15.12.2 Public Awareness Campaigns

- 1. The system shall enable stakeholders or Advocacy Officers to identify the need for public awareness sessions electronically.
- 2. The system shall facilitate the preparation and submission of proposals and execution plans for public awareness sessions electronically.
- 3. The system shall support the review and approval of proposals and execution plans electronically.
- 4. The system shall enable the preparation and distribution of draft Invitation Letters electronically.
- 5. The system shall facilitate the preparation and approval of Presentation Material for public awareness sessions electronically.
- 6. The system shall allow for the conduct of public awareness sessions using approved Presentation Material electronically.
- 7. The system shall support the identification of stakeholders who did not attend public awareness sessions electronically.
- 8. The system shall enable the preparation and submission of Public Awareness Session Reports electronically.
- 9. The system shall record details of the Public Awareness Session in the Advocacy Register.

4.16 Consumer Protection Microservice

4.16.1 Consumer Contracts Management

4.16.1.1 Review of Standard Form Consumer Contracts

- The system shall enable applicants to submit duly filled Standard Form Contracts (SFC and related documents electronically.
- 2. The system shall support the assignment of reference numbers to submitted Standard Form Contracts for tracking purposes.
- 3. The system shall facilitate the preview of submitted Standard Form Contracts by the Director General electronically.
- 4. The system shall allow the Director of Restrictive Trade Practices to assign reviewed Standard Form Contracts to the Consumer Protection Manager electronically.
- 5. The system shall enable Consumer Protection Officers to screen assigned Standard Form Contracts for completeness of related documents electronically.
- 6. The system shall compute payable fees, generate control numbers, and draft acknowledgement letters for approved Standard Form Contracts electronically.
- 7. The system shall notify applicants of missing documents electronically.
- 8. The system shall facilitate the review and approval of draft acknowledgement letters by the Director of Restrictive Trade Practices electronically.
- 9. The system shall receive proof of payment for required fees submitted by the applicant electronically.
- 10. The system shall allow Consumer Protection Officers to prepare Summary Reviews for Standard Form Contracts electronically.
- 11. The system shall enable crosschecking and submission of prepared Summary Reviews by Consumer Protection Managers electronically.
- 12. The system shall facilitate the review and approval of Summary Reviews by the Director General electronically.
- 13. The system shall support the issuance of approved Summary Reviews to applicants for consultation electronically.

- 14. The system shall enable consultation sessions between Consumer Protection Officers and applicants electronically.
- 15. The system shall document agreements reached during consultation sessions electronically.
- 16. The system shall facilitate the submission of corrected versions of Standard Form Contracts by applicants electronically.
- 17. The system shall allow for the preparation and submission of certification documents for reviewed Standard Form Contracts electronically.
- 18. The system shall enable crosschecking and submission of prepared certification documents by Consumer Protection Managers electronically.
- 19. The system shall facilitate the review and approval of certification documents by the Director General electronically.
- 20. The system shall enable the sealing of certificates for approved Standard Form Contracts by the Secretary to the Commission electronically.
- 21. The system shall issue sealed certificates for approved Standard Form Contracts to applicants electronically.
- 22. The system shall update the Register of Standard Form Consumer Contracts electronically.
- 23. The system shall allow applicant to request for extension of time incase deadline to submit certain application reached

4.16.1.2 Tracking Certified Consumer Contracts

- 1. The system shall allow user to search and filter contracts based on various criteria like contract ID, consumer name, certification type, date range, etc.
- 2. The system shall allow user to upload and store relevant documents associated with the contract (e.g., signed agreement, certification documents)
- 3. The system shall allow user to track changes made to contracts and revert to previous versions if necessary.
- 4. The system shall allow user to capture details about the specific consumer certification associated with the contract (e.g., issuing body, expiry date).

- 5. The system shall be able to set up alerts and notifications for approaching certification expiry dates. This could be for consumers or internal teams responsible for renewals.
- 6. The system shall be able to export contract data in various formats (e.g., CSV, Excel) for further analysis or integration with other systems

4.16.2 Consumer and Business Community Awareness

- The system shall allow Consumer Protection Officer identify the need to perform
 Consumer and Business Community Awareness, prepare proposal and execution plan
 and submit for vetting processing
- 2. The system shall allow Director General to approve the proposal to conduct Consumer and Business Community Awareness and its Execution Plan and notification is sent to responsible parties
- 3. The system shall allow Director of Restrictive Trade Practice to preview approved proposal to conduct Consumer and Business Community Awareness and its Execution Plan and provide directives to Consumer Protection Manager anytime when the process is in progress
- 4. The system shall allow Consumer Protection Manager to receive approved proposal to conduct Consumer and Business Community Awareness and its Execution Plan, and assign to Advocacy Officer for implementation
- The system shall allow Consumer Protection Officer prepare draft Invitation Letter for stakeholders to participate in Consumer and Business Community Awareness session, prepare draft Budget and Presentation Material and submit for vetting processing
- 6. The system shall allow Director of Restrictive Trade Practice to review and approve Budget and Presentation Material and notification is sent to Consumer Protection Officer for further processes
- 7. The system shall allow Director General to Sign Invitation Letter electronically (Signature and QR Code Automatically Embedded) and notification is sent to respective stakeholder

- 8. The system shall allow Consumer Protection Officer to identify Stakeholders who did not appear and mark them, so that they will be invited in next Consumer and Business Community Awareness Session
- 9. The system shall allow Consumer Protection Officer to prepare Consumer and
 Business Community Awareness Session Report and submit for vetting processing
- 10. The system shall allow Director General to review Consumer and Business

 Community Awareness Session Report and provide decision

4.16.3 Complaints and Case Management

4.16.3.1 Complaints Management

4.16.3.1.1 Competition Complaints Management

- 1. The system shall enable the Complainant to fill out the Complaint Form (FCC-1) electronically and submit it to the Commission.
- 2. The system shall assign a reference number to each submitted complaint and record it in the system for tracking purposes.
- 3. The system shall facilitate the preview of submitted complaints by the Director General electronically.
- The system shall allow the Director of Restrictive Trade Practices to assign reviewed complaints to the appropriate manager (Anti-Cartels Manager or Anti-Monopoly Manager) electronically.
- 5. The system shall enable the Case Officer to review assigned complaints and prepare draft acknowledgement letters electronically.
- 6. The system shall facilitate the review of draft acknowledgement letters by the Anti-Cartels Manager or Anti-Monopoly Manager and submission to the Director of Restrictive Trade Practices for review and signature electronically.
- 7. The system shall enable the dispatch of signed acknowledgement letters to the complainants electronically by the Records/Registry Officer.
- 8. The system shall allow Case Officers to review assigned complaints and prepare legal opinions electronically.

- 9. The system shall facilitate the documentation of details of assigned complaints in the General Complaint Register by Case Officers electronically.
- 10. The system shall enable the submission of legal opinions by Case Officers to the Anti-Cartels Manager or Anti-Monopoly Manager for review electronically.
- 11. The system shall allow the review of legal opinions by the Anti-Cartels Manager or Anti-Monopoly Manager and submission to the Director of Restrictive Trade Practices electronically.
- 12. The system shall facilitate the review of legal opinions by the Director of Restrictive Trade Practices and submission to the Director General for decision electronically.
- 13. The system shall enable the Director General to attend and decide whether the complaint should be entertained based on the prepared legal opinion electronically.
- 14. If the Director General decides not to entertain the complaint, the system shall facilitate the notification process, including drafting, reviewing, and dispatching notifications to the complainant electronically.
- 15. The system shall document and maintain records of all attended legal opinions and notifications for monitoring and reporting purposes.
- 16. The system shall provide access to an updated General Complaint Register for monitoring and tracking the status of complaints.
- 17. The system shall allow applicant to request for extension of time incase deadline to submit certain application reached

4.16.3.2 Consumer Complaints Management

4.16.3.2.1 Handling of Consumer Complaint Process

- 1. The system shall enable complainants to submit filled Complaints Forms (SFC-2) electronically.
- 2. The system shall assign reference numbers to submitted Complaint Forms for tracking purposes.
- 3. The system shall facilitate the preview of submitted Complaint Forms by the Director General electronically.

- 4. The system shall allow the Director of Restrictive Trade Practices to assign reviewed Complaints to the Consumer Protection Manager electronically.
- 5. The system shall enable Consumer Protection Officers to determine if assigned complaints are consumer protection related electronically.
- 6. The system shall prepare Legal Opinions for complaints not related to consumer protection electronically.
- 7. The system shall facilitate the submission of prepared Legal Opinions to the appropriate authorities electronically.
- 8. The system shall enable the preparation and submission of demand letters to respondents electronically.
- 9. The system shall notify complainants to submit complaints as per approved Legal Opinions electronically.
- 10. The system shall support the preparation and filing of Notifications on Complaints Filed with the Commission (SFC-3) for complaints under Standard Form Consumer Contracts electronically.
- 11. The system shall facilitate the review and approval of Notifications on Complaints Filed with the Commission (SFC-3) by the Director General electronically.
- 12. The system shall receive and process written feedback from both complainants and respondents electronically.
- 13. The system shall document agreements reached during mediation sessions electronically.
- 14. The system shall prepare Mediation Agreements and submit them for signing electronically.
- 15. The system shall archive signed Mediation Agreements electronically.
- 16. The system shall prepare Final Legal Opinions for complaints that require investigation electronically.
- 17. The system shall facilitate the submission and review of Final Legal Opinions by relevant authorities electronically.

- 18. The system shall document details of presented complaints and approved legal opinions in the Complaints Register electronically.
- 19. The system shall allow applicant to request for extension of time incase deadline to submit certain application reached

4.16.3.2.2 Investigation of Consumer Complaint Process

- 1. The system shall enable the Director General to assign approved Legal Opinions and provide directives to the Director of Restrictive Trade Practices electronically.
- 2. The system shall facilitate the assignment of directives from the Director of Restrictive Trade Practices to the Consumer Protection Manager electronically.
- 3. The system shall allow the Consumer Protection Manager to assign the received directives to the Consumer Protection Officer electronically.
- 4. The system shall enable the preparation of draft rejection letters by the Consumer Protection Officer if the complaint should not be entertained electronically.
- 5. The system shall allow for the review of prepared draft rejection letters by the Consumer Protection Manager electronically.
- 6. The system shall facilitate the review and approval of draft rejection letters by the Director of Restrictive Trade Practices electronically.
- 7. The system shall enable the signing of approved rejection letters by the Director General electronically.
- 8. The system shall facilitate the dispatch of signed rejection letters to inform the complainant that their complaint will not be entertained electronically.
- 9. The system shall allow the Consumer Protection Officer to request a complaint number from the Registry Office electronically.
- 10. The system shall facilitate the completion of the Interim Compliance Order process if the complaint poses imminent danger or other good reasons electronically.
- 11. The system shall generate a complaint number from the Registry Office for assigned complaints electronically.
- 12. The system shall enable the preparation of draft Investigation Plans and Costs by the Consumer Protection Officer electronically.

- 13. The system shall allow for the review of draft Investigation Plans and Costs by the Consumer Protection Manager electronically.
- 14. The system shall facilitate the review and approval of draft Investigation Plans and Costs by the Director of Restrictive Trade Practices electronically.
- 15. The system shall enable the approval or rejection of Investigation Plans and Costs by the Director General electronically.
- 16. The system shall allow for the assignment of approved Investigation Plans and Costs to the Consumer Protection Manager for action electronically.
- 17. The system shall enable the conduct of investigations by the Consumer Protection Officer electronically.
- 18. The system shall facilitate the preparation of draft Investigation Reports by the Consumer Protection Officer electronically.
- 19. The system shall allow for the review of draft Investigation Reports by the Consumer Protection Manager electronically.
- 20. The system shall facilitate the review and approval of draft Investigation Reports by the Director of Restrictive Trade Practices electronically.
- 21. The system shall enable the approval of Investigation Reports by the Director General electronically.
- 22. The system shall allow for the assignment of approved Investigation Reports to the Director of Restrictive Trade Practices for further action electronically.
- 23. The system shall document details of the investigation process and approved reports electronically for tracking and reference purposes.

4.16.3.2.3 Consumer Enforcement Process

- 1. The system shall enable the Director General to assign Investigation Reports to the Director of Restrictive Trade Practices for further steps electronically.
- 2. The system shall allow the Director of Restrictive Trade Practices to assign the preparation of a letter informing the Respondent that no further action will be taken to the Consumer Protection Manager electronically.

- 3. The system shall facilitate the preparation of draft letters informing the Respondent that no further action will be taken by the Consumer Protection Officer electronically.
- 4. The system shall enable the review of draft letters by the Consumer Protection Manager electronically.
- 5. The system shall facilitate the review and approval of letters by the Director of Restrictive Trade Practices electronically.
- 6. The system shall allow for the signing of approved letters by the Director General electronically.
- 7. The system shall enable the dispatch of signed letters to inform the Respondent that no further action will be taken electronically.
- 8. The system shall allow the preparation and dispatch of the Statement of the Case by the Director of Restrictive Trade Practices electronically if there is a case to answer.
- 9. The system shall facilitate the submission of approved Investigation Reports to the Commission by the Secretary to the Commission electronically.
- 10. The system shall enable the Commission to review and adopt or reject the Investigation Report electronically.
- 11. The system shall facilitate the preparation of draft Provisional Findings by the Consumer Protection Officer electronically if the Investigation Report is adopted by the Commission.
- 12. The system shall allow for the review of draft Provisional Findings by the Consumer Protection Manager electronically.
- 13. The system shall enable the review and approval of draft Provisional Findings by the Director of Restrictive Trade Practices electronically.
- 14. The system shall facilitate the approval and submission of Provisional Findings to the Commission by the Director General electronically.
- 15. The system shall enable the dispatch of Provisional Findings to the Respondent by the Secretary to the Commission electronically.

- 16. The system shall allow for the receipt of written submissions and non-confidential versions of the provisional findings from the Respondent by the Records Officer electronically.
- 17. The system shall facilitate the review and analysis of written submissions and nonconfidential versions of the provisional findings by the Consumer Protection Officer electronically.
- 18. The system shall enable the review of the analysis of written submissions and non-confidential versions of the provisional findings by the Consumer Protection Manager electronically.
- 19. The system shall allow for the review and approval of the analysis of written submissions and non-confidential versions of the provisional findings by the Director of Restrictive Trade Practices electronically.
- 20. The system shall facilitate the approval and submission of the analysis of written submissions and non-confidential versions of the provisional findings to the Commission by the Director General electronically.
- 21. The system shall enable the dispatch of the analysis of written submissions and nonconfidential versions of the provisional findings to the Respondent by the Secretary to the Commission electronically.
- 22. The system shall allow for the preparation of Final Findings by the Commission electronically.
- 23. The system shall enable the dispatch of Final Findings to the Respondent by the Secretary to the Commission electronically.

4.16.3.2.4 Interim Compliance Order Process

- 1. The system shall enable the Consumer Protection Officer to prepare a report indicating serious or irreparable damage to a person electronically.
- 2. The system shall allow the submission of the report indicating serious or irreparable damage to a person to the Consumer Protection Manager electronically.

- The system shall facilitate the review of the report by the Consumer Protection
 Manager and its submission to the Director of Restrictive Trade Practices electronically.
- 4. The system shall enable the review of the report by the Director of Restrictive Trade

 Practices and its submission to the Director General for approval electronically.
- 5. The system shall allow the Director General to approve the report and submit it to the Commission for decision and Order electronically.
- 6. In case the Commission rejects the report, the system shall enable the preparation of the Order to strike out the application for Interim Compliance Order by the Director of Restrictive Trade Practices electronically.
- 7. The system shall facilitate the assignment of the Secretary of the Commission to serve the Order to strike out the application for Interim Compliance Order to the Respondent electronically.
- 8. The system shall enable the dispatch of the Order to strike out the application for Interim Compliance Order to the Respondent by the Record Officer electronically.
- 9. If the Commission approves the report, the system shall facilitate the summons of the Respondent to defend the allegations electronically.
- 10. The system shall support the conduct of oral hearings and determination on the defense by the Commission electronically.
- 11. If the Commission rejects the defense, the system shall enable the Director General to prepare a draft Interim Compliance Order electronically.
- 12. The system shall allow the Secretary to the Commission to prepare the draft Interim Compliance Order and submit it to the Commission electronically.
- 13. The system shall facilitate the signing of the Interim Compliance Order by the Commission electronically.
- 14. The system shall enable the dispatch of the Interim Compliance Order to the Respondent by the Secretary to the Commission electronically.
- 15. The system shall document details of the order in the Interim Compliance Order Register maintained by the Secretary to the Commission electronically.

16. The system shall provide access to an updated Interim Compliance Order Register for monitoring and tracking purposes.

4.16.3.2.5 Settlement Process

- 1. The system shall enable the Applicant to submit an application for settlement electronically.
- 2. The system shall allow the Director General to receive and submit the application for settlement to the Commission electronically.
- 3. If the Commission rejects the application for settlement, the system shall enable the Secretary to the Commission to generate an Order to strike out the application electronically.
- 4. The system shall facilitate the dispatch of the Order to strike out the application for settlement to the Applicant by the Record Officer electronically.
- 5. If the Commission grants the application for Settlement, the system shall prompt the Commission to order the Applicant to submit a Settlement Plan within a specified period of time electronically.
- 6. The system shall enable the Applicant to prepare and submit the Settlement Plan to the Commission electronically.
- 7. The system shall facilitate the receipt of the Settlement Plan by the Record Officer and its submission to the Director General for review electronically.
- 8. The system shall allow the Director General to review the Settlement Plan and assign it to the Director of Restrictive Trade Practices for further review electronically.
- 9. The system shall enable the Consumer Protection Manager to review the Settlement Plan and assign it to the Consumer Protection Officer for analysis electronically.
- 10. The system shall facilitate the analysis of the Settlement Plan by the Consumer Protection Officer and the submission of the Analysis Report to the Consumer Protection Manager for review electronically

- 11. The system shall allow the Consumer Protection Manager to review the Analysis Report and submit it to the Director of Restrictive Trade Practices for review electronically.
- 12. The system shall enable the Director of Restrictive Trade Practices to review the Analysis Report and submit it to the Director General for approval electronically.
- 13. The system shall facilitate the approval of the Analysis Report by the Director General and its submission to the Commission for determination electronically.
- 14. If the Commission rejects the Settlement Plan, the system shall prompt the Commission to order the Applicant to resubmit a fresh Settlement Plan addressing specific issues as provided in the Order electronically.
- 15. If the Commission accepts the Settlement Plan with conditions, the system shall enable the Director General to constitute a technical team for scrutinization of the Settlement Plan and submission of a report electronically.
- 16. The system shall facilitate the preparation of a Negotiation Plan by the Technical Team electronically.
- 17. The system shall allow the Technical Team to engage in the settlement process with the Applicant and prepare a Settlement Report electronically.
- 18. The system shall enable the submission of the prepared Settlement Report to the Director General for approval electronically.
- 19. The system shall allow the Director General to approve the Settlement Report and submit it to the Commission for determination electronically.
- 20. For rejected Settlement Reports, the system shall initiate the Enforcement Process lifecycle electronically.
- 21. For approved Settlement Reports, the system shall prompt the Commission to direct the Director General to prepare a Settlement Compliance Agreement electronically.

- 22. The system shall enable the Director General to assign the Director of Restrictive Trade Practices to prepare a draft Settlement Compliance Agreement electronically.
- 23. The system shall facilitate the preparation of a draft Settlement Compliance Agreement by the Director of Restrictive Trade Practices and its submission to the Director General for recommendation electronically.
- 24. The system shall allow the Director General to recommend the draft Settlement Compliance Agreement and submit it to the Commission for approval electronically.
- 25. The system shall facilitate the approval of the Settlement Compliance Agreement by the Commission and prompt the Secretary to the Commission to seek Applicant signatures electronically.
- 26. The system shall enable the Secretary to the Commission to seek Applicant signatures electronically and assign the Record Officer to dispatch the Settlement Compliance Agreement to the Respondent electronically.
- 27. The system shall facilitate the dispatch of Settlement Compliance Agreements to the Applicant by the Record Officer electronically.

4.16.3.2.6 Anti-Counterfeits Complaints Management

- 1. The system shall enable the Trademark Holder/Representative or any other person to lodge anti-counterfeits complaints electronically, attaching necessary documents such as the certificate of trademark registration and/or power of attorney.
- 2. The system shall assign a unique reference number to each submitted anti-counterfeits complaint for tracking purposes.
- 3. The system shall allow the Chief Inspector to preview submitted anti-counterfeits complaints and assign them to the Director of Anti-Counterfeits electronically.
- 4. The system shall facilitate the assignment of anti-counterfeits complaints to the Anti-counterfeits Surveillance Manager by the Director of Anti-Counterfeits electronically.
- 5. The system shall enable the Anti-counterfeits Surveillance Officer/Inspector to conduct due diligence on the complaint electronically, with collaboration from the complainant.

- 6. If a complaint is deemed non-authentic, the system shall allow the Anti-Counterfeits Officer/Inspector to prepare a response electronically, informing the complainant of the decision.
- 7. The system shall facilitate the review of responses for declined complaints by the Anticounterfeits Surveillance Manager and Director of Anti-Counterfeits electronically.
- 8. The system shall enable the Chief Inspector to approve and sign responses for declined complaints electronically.
- 9. The system shall assign the Record Officer to dispatch signed responses for declined complaints to the complainant electronically.
- 10. If a complaint is deemed authentic, the system shall enable the Anti-Counterfeits Surveillance Officer/Inspector to prepare a response electronically, instructing the complainant on the next steps.
- 11. The system shall issue a control number to the complainant electronically for tracking purposes.
- 12. The system shall facilitate the submission of proof of payment, product samples, and training presentation by the complainant electronically.
- 13. The system shall enable the accountant to cross check payments made, issue payment receipts electronically, and inform the Anti-Counterfeits Surveillance Officer to proceed further.
- 14. The system shall allow for the submission of product samples for identification and training presentation electronically by the complainant.
- 15. The system shall maintain a Training Register electronically to document details of training sessions and attendance.
- 16. The system shall enable the Lead Inspector to organize training sessions on product identification electronically, with documentation of details and attendance.
- 17. The system shall facilitate the submission of Training Reports on product identification electronically by the Lead Inspector.
- 18. For counterfeiting goods at market, the system shall initiate the Raid process cycle electronically.

- 19. For counterfeiting goods at customs custody, the system shall enable the Anti-Counterfeits Surveillance Officer to fill the Stop Order (Form C) electronically and submit it for review.
- 20. The system shall allow for the preview and recommendation of the filled Stop Order by the Director of Anti-Counterfeits and Chief Inspector electronically.
- 21. The system shall facilitate the electronic signing of the Stop Order by the Chief Inspector.
- 22. The system shall assign the Record Officer to dispatch the signed Stop Order to the Commissioner of Customs, Tanzania Ports Authority, and Joint Port Control Unit (JPCU) electronically.

4.16.3.3 Case Management

4.16.3.3.1 Investigation

- 1. The system shall enable the Director General to assign decisions regarding complaints to the Director of Restrictive Trade Practices for implementation.
- 2. The system shall enable the Director of Restrictive Trade Practices to receive decisions from the Director General and assign them to either the Anti-Cartels Managers or Anti-Monopoly Manager for implementation
- 3. The system shall enable the Anti-Cartels Managers or Anti-Monopoly Manager to assign the decisions to the Case Officer for implementation.
- 4. The system shall allow the Case Officer to request and receive a complaint number electronically and prepare a draft investigation report based on the available information.
- 5. If the available information is not sufficient, the system shall facilitate the Case Officer in initiating further investigation electronically.
- 6. If the complaint poses imminent danger of substantial damage to a person or likely offense is committed or other good reasons, the system shall guide the Case Officer in completing the Interim Compliance Order process.
- 7. The system shall enable the Case Officer to submit the draft investigation report electronically to the Anti-Cartels Managers or Anti-Monopoly Manager for review.

- 8. The system shall allow the Anti-Cartels Managers or Anti-Monopoly Manager to review the draft investigation report electronically and submit it to the Director of Restrictive Trade Practices for further review
- 9. The system shall enable the Director of Restrictive Trade Practices to review the draft investigation report electronically and submit it to the Director General for approval.
- 10. The system shall facilitate the Director General in approving the investigation report electronically, upon which the process of enforcement shall follow.
- 11. In case of a Zonal Office, the system shall enable the Head of Zone to receive submissions from Zonal officers and directives from the Director General directly, and process them accordingly.
- 12. The system shall update the Complaints Register automatically with relevant information regarding each complaint and its investigation status.
- 13. The system shall generate and store approved Investigation Reports electronically for record-keeping and reference purposes.
- 14. The system shall track and count the number of approved Investigation Reports generated over a specified period for performance measurement.

4.16.3.3.2 Enforcement

- 1. The system shall enable the Director General to assign approved investigation reports to the Director of Restrictive Trade Practices for further steps electronically.
- 2. The system shall facilitate the receipt of approved investigation reports by the Director of Restrictive Trade Practices from the Director General electronically.
- 3. The system shall allow the Director of Restrictive Trade Practices to assign tasks to the Anti-Cartels Manager or Anti-Monopoly Manager for the preparation of opinions electronically.
- 4. The system shall enable the Anti-Cartels Manager or Anti-Monopoly Manager to assign Case Officers to prepare opinions electronically.
- 5. The system shall allow Case Officers to prepare and submit draft opinions to the Anti-Cartels Manager or Anti-Monopoly Manager for review electronically.

- 6. The system shall facilitate the review and recommendation of draft opinions by the Anti-Cartels Manager or Anti-Monopoly Manager and submission to the Director of Restrictive Trade Practices electronically.
- 7. The system shall allow the Director of Restrictive Trade Practices to review opinions and submit them to the Director General for determination electronically.
- 8. The system shall enable the Director General to direct further actions based on the outcome of the investigation report electronically.
- 9. The system shall allow for the preparation, review, and dispatch of letters or statements electronically in cases where no action is to be taken.
- 10. The system shall facilitate the preparation, review, and dispatch of case statements or letters to inform respondents of further actions electronically.
- 11. The system shall enable the preparation and submission of draft provisional findings electronically for approval by the Director General.
- 12. The system shall allow for the electronic signing and dispatch of approved provisional findings to respondents.
- 13. The system shall enable the Director General to review written submissions and nonconfidential versions of provisional findings electronically.
- 14. The system shall facilitate the review and analysis of written submissions and nonconfidential versions by designated officers electronically.
- 15. The system shall enable the preparation, review, and approval of draft analysis reports for written submissions electronically.
- 16. The system shall allow for the organization and conduct of oral hearings, including the preparation and circulation of transcripts electronically.
- 17. The system shall enable the preparation, review, and dispatch of final findings electronically.
- 18. The system shall maintain records of all documents and communications exchanged during the enforcement process electronically for auditing and reference purposes.

4.16.3.3.3 Interim Compliance Order

- 1. The system shall enable the Case Officer to prepare reports electronically indicating imminent danger of substantial damage to a person, likely commission of an offense, or other valid reasons.
- 2. The system shall facilitate the submission of reports by the Case Officer to the Anti-Cartels Manager or Anti-Monopoly Manager for review electronically.
- 3. The system shall allow the Anti-Cartels Manager or Anti-Monopoly Manager to review reports and submit them to the Director of Restrictive Trade Practices for further review electronically.
- 4. The system shall enable the Director of Restrictive Trade Practices to review reports and submit them to the Director General for approval electronically.
- 5. The system shall allow the Director General to approve reports and assign the Secretary to the Commission to submit them to the Commission for determination electronically.
- 6. The system shall facilitate the submission of reports to the Commission by the Secretary to the Commission electronically using the submission of papers to the commission process lifecycle.
- 7. If the Commission rejects the report, the system shall enable the Director of Restrictive Trade Practices to prepare the Order to strike out the application for Interim Compliance Order and submit it to the Commission for signatures electronically.
- 8. The system shall facilitate the assignment of the Secretary of the Commission to serve the Order to strike out the application for Interim Compliance Order to the Respondent electronically.
- 9. The system shall enable the Record Officer to dispatch the Order to strike out the application for Interim Compliance Order to the Respondent electronically.
- 10. If the Commission approves the report, the system shall enable the Commission to summon the Respondent to defend the allegations electronically.
- 11. The system shall facilitate the conduct of oral hearings by the Commission and the determination of the defense by the Respondent electronically.

- 12. If the Commission rejects the defense, the system shall enable the Secretary to the Commission to prepare draft Interim Compliance Orders electronically.
- 13. The system shall allow for the electronic signing of the Interim Compliance Orders by the Commission and their dispatch to the Respondent by the Secretary to the Commission electronically.
- 14. The system shall enable the Secretary to the Commission to document details of the Interim Compliance Order in the Interim Compliance Order Register electronically.
- 15. The system shall maintain an updated Interim Compliance Order Register electronically for control points and measurements.

4.16.3.3.4 Settlement

- 1. The system shall enable the Record Officer to receive settlement applications electronically and submit them to the Director General for preview and assignment.
- 2. The system shall facilitate the preview of settlement applications by the Director General and assignment to the Director of Restrictive Trade Practices for preparation of submission papers.
- 3. The system shall allow the Director of Restrictive Trade Practices to assign the Anti-Cartels Manager or Anti-Monopoly Manager to review settlement applications and assign Case Officers for analysis electronically.
- 4. The system shall enable Case Officers to analyze settlement applications, prepare submission papers, and submit them to the Anti-Cartels Manager or Anti-Monopoly Manager for review electronically.
- 5. The system shall allow the Anti-Cartels Manager or Anti-Monopoly Manager to review submission papers and submit them to the Director of Restrictive Trade Practices for review electronically.
- 6. The system shall facilitate the review of submission papers by the Director of Restrictive Trade Practices and submission to the Director General for approval or submission to the commission for approval electronically.

- 7. If the Director General recommends submission to the commission, the system shall enable the Secretary to the Commission to submit the papers to the commission electronically using the submission of papers to the commission process lifecycle.
- 8. If the commission rejects the settlement application, the system shall enable the issuance of an order to strike out the application for settlement electronically, assigning tasks to relevant actors.
- 9. The system shall facilitate the receipt of settlement plans by the Record Officer and submission to the Director General for preview electronically.
- 10. The system shall allow the Director General to preview settlement plans and assign them to the Director of Restrictive Trade Practices for assignment and preparation of analysis reports electronically.
- 11. The system shall enable the Director of Restrictive Trade Practices to assign the Anti-Cartels Manager or Anti-Monopoly Manager to act on instructions provided regarding settlement plans electronically.
- 12. The system shall facilitate the preparation of analysis reports on settlement plans by Case Officers and their submission to the Anti-Cartels Manager or Anti-Monopoly Manager for review electronically.
- 13. The system shall allow the Anti-Cartels Manager or Anti-Monopoly Manager to review analysis reports and submit them to the Director of Restrictive Trade Practices for review electronically.
- 14. The system shall enable the Director of Restrictive Trade Practices to review analysis reports and submit them to the Director General for approval electronically.
- 15. The system shall facilitate the approval of analysis reports by the Director General and submission to the commission for determination electronically.
- 16. If the commission rejects the settlement plan, the system shall enable the issuance of an order for the applicant to resubmit a fresh settlement plan electronically, assigning tasks accordingly.

- 17. If the commission accepts the settlement plan with reservations, the system shall enable the constitution of a technical team for scrutiny, with tasks assigned electronically.
- 18. The system shall allow for the preparation and submission of negotiation plans by the technical team to the Director General for approval electronically.
- 19. The system shall enable the engagement in the settlement process by the technical team and the preparation of settlement reports electronically.
- 20. The system shall facilitate the submission of prepared settlement reports to the Director General for approval electronically.
- 21. The system shall enable the submission of approved settlement reports to the commission for determination electronically.
- 22. If the settlement report is rejected, the system shall initiate the enforcement process electronically.
- 23. If the settlement report is approved, the system shall facilitate the preparation of settlement compliance agreements, with tasks assigned electronically.
- 24. The system shall allow for the review and approval of draft settlement compliance agreements by relevant actors electronically.
- 25. The system shall facilitate the submission of approved settlement compliance agreements to the commission for approval electronically.
- 26. The system shall enable the commission to approve and sign settlement compliance agreements electronically, assigning tasks for further action.
- 27. The system shall facilitate the seeking of applicant signatures on settlement compliance agreements electronically.
- 28. The system shall allow for the dispatch of settlement compliance agreements to the applicant by the Record Officer electronically.
- 29. The system shall maintain records of settlement plans and negotiation plans for control points and measurements electronically.

4.17 Anti-Counterfeits Control Microservice

4.17.1 Anti-Counterfeits Surveillance Management

4.17.1.1 Raids

- 1. The system shall enable the Chief Inspector to provide directives to conduct raids for suspected counterfeits or offending goods electronically.
- 2. The system shall facilitate the assignment of raid directives to the Anti-counterfeits Surveillance Manager by the Director of Anti-Counterfeits electronically.
- 3. The system shall allow the Anti-counterfeits Surveillance Manager to assign directives for raid operations to Counterfeits Surveillance Officers electronically.
- 4. The system shall enable Counterfeits Surveillance Officers to prepare letters requesting assistance from the Director of Criminal Investigation (DCI) electronically.
- 5. The system shall facilitate the review of letters requesting assistance by the Anticounterfeits Surveillance Manager and Director of Anti-Counterfeits electronically.
- 6. The system shall allow the Director of Anti-Counterfeits to submit letters requesting assistance to the Chief Inspector for signature electronically.
- 7. The system shall enable the Chief Inspector to approve and sign letters requesting assistance electronically.
- 8. The system shall assign the Records Officer to dispatch signed letters requesting assistance electronically.
- 9. The system shall facilitate the appointment of Lead Inspectors and formulation of raid teams by the Anti-counterfeits Surveillance Manager electronically.
- 10. The system shall allow for the documentation of raid proceedings electronically by the appointed Inspectors and Police Officers from DCI.
- 11. If counterfeits are not found during the raid, the system shall facilitate the collection of details of the identified premises electronically by the Inspectors.
- 12. If counterfeits are found during the raid, the system shall enable the collection of the goods, recording of their quantity and value in the Notice of Seizure (Form I) electronically by the Inspectors.

- 13. The system shall allow for the electronic signing of the Notice of Seizure by the Inspector(s) and the Owner of Goods/Representative of the Owner.
- 14. The system shall facilitate the issuance of a copy of the signed Notice of Seizure to the Owner of Goods/Representative of the Owner electronically
- 15. If counterfeits are to be secured at a Government Warehouse, the system shall inform the Warehouse Supervisor to start preparations for storage electronically.
- 16. If counterfeit goods are to be secured at places other than a Government Warehouse, the system shall enable the creation of the Order of Detention of Goods (Form E) electronically by the Inspectors.
- 17. The system shall allow for the review of the Order of Detention of Goods by the Anticounterfeits Surveillance Manager and Director of Anti-Counterfeits electronically.
- 18. The system shall enable the electronic submission of the Order of Detention of Goods to the Chief Inspector for signature by the Director of Anti-Counterfeits
- 19. The system shall facilitate the electronic signing of the Order of Detention of Goods by the Chief Inspector.
- 20. The system shall assign the Records Officer to dispatch the signed Order of Detention of Goods to the Owner of Goods/Representative of the Owner electronically.
- 21. The system shall maintain an electronic Seizure Register to record details of the Notice of Seizure
- 22. The system shall enable the preparation of Raid Reports electronically by the Inspectors.
- 23. The system shall allow for the review of Raid Reports by the Anti-counterfeits Surveillance Manager and Director of Anti-Counterfeits electronically.
- 24. The system shall facilitate the submission of Raid Reports to the Chief Inspector for noting electronically by the Director of Anti-Counterfeits.
- 25. The system shall allow user to request for extension of time incase deadline to submit certain application reached

4.17.1.2 Daily Inspection

- 1. The system shall enable the Counterfeits Surveillance Officer to receive the Product Verification List (TANSAD) electronically from TRA for analysis.
- 2. The system shall allow the Counterfeits Surveillance Officer to analyze the Product Verification List and identify products eligible for verification.
- 3. The system shall facilitate the verification process conducted by the Counterfeits Surveillance Officer to check for counterfeit goods according to customs documents.
- 4. If no counterfeit goods are found, the system shall enable the Anti-Counterfeits Surveillance Officer to fill out the Daily Inspection Form electronically.
- 5. The system shall allow the Anti-counterfeits Surveillance Manager to review the filled Daily Inspection Form electronically.
- 6. The system shall enable the Director of Anti-Counterfeits to preview the Daily Inspection Form electronically and submit it to the Chief Inspector for noting.
- 7. If counterfeit goods are found, the system shall enable the Counterfeits Surveillance Officer to fill, sign, and issue the Notice of Seizure electronically.
- 8. The system shall facilitate the service of a copy of the Notice of Seizure to TRA and Clearing & Forwarding Agent by the Counterfeits Surveillance Officer electronically.
- 9. The system shall allow the Counterfeits Surveillance Officer to collect samples of the counterfeit goods or goods with omissions of rules of origin and mark them electronically.
- 10. The system shall enable the Counterfeits Surveillance Officer to register the sampled counterfeit goods in the Sample Register electronically.
- 11. The system shall facilitate the registration of Notice of Seizures in the Daily Inspection Register by the Counterfeits Surveillance Officer electronically.
- 12. The system shall allow the Counterfeits Surveillance Officer to prepare the Inspection Report electronically and submit it to the Anti-counterfeits Surveillance Manager for review

- 13. The system shall enable the Anti-counterfeits Surveillance Manager to review the Inspection Report electronically and submit it to the Director of Anti-Counterfeits for review.
- 14. The system shall facilitate the Director of Anti-Counterfeits to review the Inspection Report electronically and submit it to the Chief Inspector for implementation.
- 15. The system shall allow the Chief Inspector to receive the Inspection Report electronically and provide directives to the Director of Anti-Counterfeits for further steps.
- 16. In case the sampled goods can't be moved, the system shall enable the Counterfeits Surveillance Officer to take photos of the inspected goods and important unique features for identification, and file the inspection report with the evidence of photos electronically.
- 17. In case of a zone, if there is no Director or Manager, the system shall enable the Head of Zone to fulfill the roles electronically, including receiving submissions and directives.

4.17.2 Anti-Counterfeits Enforcement Management

4.17.2.1 Compoundment Procedure

- 1. The system shall enable the Director of Anti-Counterfeits to receive directives from the Chief Inspector regarding the submitted Raid Report and Notice of Seizure electronically.
- 2. The system shall allow the Anti-Counterfeits Enforcement Manager to receive directives from the Director of Anti-Counterfeits electronically and assign tasks to the Enforcement Officer.
- 3. The system shall enable the Enforcement Officer to equip the Culprit with knowledge of laws and available options for settlement electronically.
- 4. If the Culprit chooses to challenge the Seizure Notice, the system shall facilitate the completion of the Challenge of Seizure process electronically.
- 5. If the Culprit chooses to accept the Seizure Notice and requests compoundment, the system shall allow the Culprit to fill and submit the Request for Compoundment (Form F) electronically.

- 6. The system shall enable the Enforcement Officer to receive and instruct the Culprit to submit necessary documents (TANSAD, Parking List, Invoice, Bill of Lading, Manifest, etc.) electronically.
- 7. The system shall facilitate the screening of submitted necessary documents by the Enforcement Officer electronically.
- 8. For partial document submission, the system shall enable the Enforcement Officer to direct the Culprit to perform corrective actions and resubmit all necessary documents electronically.
- 9. For full document submission, the system shall allow the Enforcement Officer to accept the documents for review electronically.
- 10. The system shall enable the Enforcement Officer to review the submitted documents, assess the fine according to the Fine Schedule, fill the Checklist for Complete Seizure Process, sign it, and submit it to the Anti-Counterfeits Enforcement Manager electronically.
- 11. The system shall allow the Anti-Counterfeits Enforcement Manager to review and sign the Checklist for Complete Seizure Process electronically and submit it to the Director of Anti-Counterfeits for approval.
- 12. The system shall enable the Director of Anti-Counterfeits to approve the Checklist for Complete Seizure Process electronically and assign the Enforcement Officer to issue a control number for payment.
- 13. The system shall facilitate the issuance of the Order of Compoundment (Form G) and control number to the Culprit for payment by the Enforcement Officer electronically.
- 14. If the Culprit fails to settle the fine within 30 days, the system shall enable the Chief Inspector to inform the Director of Public Prosecution through a letter to continue with the criminal case electronically.
- 15. If 30 days have elapsed and the Culprit has made partial payment of the fine, the system shall allow the Chief Inspector to inform the Director of Criminal Investigation through a letter to proceed with apprehension electronically.

- 16. If the Culprit has made full payment of the fine and submitted proof of payment to the accountant within 30 days, the system shall enable the accountant to verify fine payment and issue a payment receipt to the Culprit electronically.
- 17. For Counterfeits Offense seized at the port, the system shall facilitate the preparation and submission of the Offloading Letter to the Commissioner of Customs and related parties electronically.
- 18. The system shall enable the Manager of Anti-Counterfeit Surveillance to appoint a Surveillance Officer to participate in the offloading of counterfeit goods seized at the port electronically.
- 19. The system shall facilitate the participation of the Surveillance Officer in the offloading process and inform the Warehouse Supervisor to store counterfeited goods electronically.
- 20. The system shall allow the Surveillance Officer to prepare the Offloading Report and submit it to the Manager of Anti-Counterfeit Surveillance electronically.
- 21. The system shall enable the Anti-Counterfeit Enforcement Manager to review and approve the submitted Offloading Report electronically and submit it to the Director of Anti-Counterfeits for further steps.
- 22. The system shall allow the Director of Anti-Counterfeits to receive the Offloading Report electronically and assign it to the Anti-Counterfeits Enforcement Manager for preparation of the Release Letter.
- 23. The system shall enable the Anti-Counterfeits Enforcement Manager to prepare the Release Letter electronically and assign it to the Anti-Enforcement Officer.
- 24. The system shall facilitate the preparation of the draft Release Letter by the Anti-Enforcement Officer and submission to the Anti-Counterfeits Enforcement Manager for review electronically.
- 25. The system shall allow the Anti-Counterfeits Enforcement Manager to review and submit the draft Release Letter to the Director of Anti-Counterfeits for review electronically.

- 26. The system shall enable the Director of Anti-Counterfeits to review the draft Release Letter and submit it to the Chief Inspector for approval and signature electronically.
- 27. The system shall allow the Chief Inspector to review and sign the Release Letter electronically and assign the Record Officer for dispatch.
- 28. The system shall enable the Record Officer to receive the Release Letter electronically and dispatch it to the Commissioner of Customs and related parties electronically.
- 29. For Counterfeits goods seized at the Market, the system shall facilitate the preparation and submission of the letter to close the Investigation File to the Director of Criminal Investigation electronically.
- 30. The system shall enable the Enforcement Officer to prepare the draft letter to Close Investigation File and submit it to the Anti-Counterfeits Enforcement Manager for review electronically.
- 31. The system shall allow the Anti-Counterfeits Enforcement Manager to review and submit the draft letter to the Close Investigation File to the Director of Anti-Counterfeits for review electronically.
- 32. The system shall enable the Director of Anti-Counterfeits to review and submit the draft letter to the Close Investigation File to the Chief Inspector for approval and signature electronically.
- 33. The system shall allow the Chief Inspector to review and sign the letter to Close Investigation File electronically and assign the Record Officer for dispatch.
- 34. The system shall enable the Record Officer to receive the letter to Close Investigation File electronically and dispatch it to the Director of Criminal Investigation electronically.
- 35. The system shall allow user to request for extension of time incase deadline to submit certain application reached

4.17.2.2 Challenge of Seizure

- The system shall enable the Claimant to fill and submit the Statement of Claim (Form
 L) electronically to the Chief Inspector.
- 2. The system shall allow the Chief Inspector to receive the Statement of Claim (Form L) electronically and assign it to the Director of Anti-Counterfeits for advice.

- 3. The system shall facilitate the assignment of the Statement of Claim to the Anti-Counterfeits Enforcement Manager by the Director of Anti-Counterfeits for legal advice electronically.
- 4. The system shall enable the Anti-Counterfeits Enforcement Manager to prepare Legal Advice electronically and submit it to the Director of Anti-Counterfeits for review.
- 5. The system shall allow the Director of Anti-Counterfeits to review the prepared Legal Advice electronically and submit it to the Chief Inspector for decision.
- 6. The system shall enable the Chief Inspector to receive Legal Advice electronically, provide a decision, and assign it to the Director of Anti-Counterfeits.
- 7. The system shall facilitate the assignment of further actions for accepted claims by the Director of Anti-Counterfeits to the Anti-Counterfeits Enforcement Manager electronically.
- 8. For rejected claims, the system shall enable the Anti-Counterfeits Enforcement Manager to assign the preparation of the Response Letter to the Enforcement Officer electronically.
- The system shall allow the Enforcement Officer to prepare the draft Response Letter to the Claimant electronically and submit it to the Anti-Counterfeits Enforcement Manager for review.
- 10. The system shall enable the Anti-Counterfeits Enforcement Manager to review the draft Response Letter and submit it to the Director of Anti-Counterfeits for review electronically.
- 11. The system shall facilitate the review of the draft Response Letter by the Director of Anti-Counterfeits and its submission to the Chief Inspector for signature electronically.
- 12. The system shall allow the Chief Inspector to review and sign the Response Letter electronically and assign the Record Officer for dispatch.
- 13. The system shall enable the Record Officer to receive the signed Response Letter electronically and dispatch it to the Claimant.
- 14. For accepted claims, the system shall enable the Anti-Counterfeits Enforcement Manager to prepare the draft Advisory Report electronically.

- 15. The system shall allow the Anti-Counterfeits Enforcement Manager to submit the prepared draft Advisory Report and propose names of members of the hearing committee to the Director of Anti-Counterfeits electronically.
- 16. The system shall facilitate the review of the draft Advisory Report and proposed names of members of the hearing committee by the Director of Anti-Counterfeits and its submission to the Chief Inspector for approval electronically.
- 17. The system shall enable the Chief Inspector to review and approve the Advisory Report, names of members of the hearing committee, and assign it to the Director of Anti-Counterfeits to prepare Appointment Letters electronically.
- 18. The system shall allow the Director of Anti-Counterfeits to receive the names of appointed members of the hearing committee and assign it to the Anti-Counterfeits Enforcement Manager to prepare Appointment Letters electronically.
- 19. The system shall facilitate the preparation of Appointment Letters by the Enforcement Officer and their submission to the Anti-Counterfeits Enforcement Manager for preview electronically.
- 20. The system shall enable the Anti-Counterfeits Enforcement Manager to preview the Appointment Letters and submit them to the Director of Anti-Counterfeits for review electronically.
- 21. The system shall allow the Director of Anti-Counterfeits to review the Appointment letters and submit them to the Chief Inspector for signature electronically.
- 22. The system shall facilitate the signing of Appointment Letters by the Chief Inspector electronically and assign the Record Officer for dispatch.
- 23. The system shall enable the Record Officer to receive Appointment Letters electronically and dispatch them to the appointed members of the hearing committee and submit the Claim File to the Chairperson of the Committee.

4.17.2.3 Claim Hearing

1. The system shall enable the Chairperson of the Hearing Committee to receive the appointment letter and claim file electronically.

- 2. The system shall facilitate the scheduling of the hearing date and time by the Chairperson of the Hearing Committee in collaboration with committee members electronically.
- 3. If there is a need for a witness, the system shall enable the Chairperson of the Hearing Committee to issue and serve the Notice of Witness to Appear (Form P) electronically.
- 4. The system shall allow the Chairperson of the Hearing Committee to issue and serve the Notice of Hearing (Form M) to the claimant, inspectors, and brand owner electronically.
- 5. The system shall enable the Chairperson of the Hearing Committee to track and confirm the acknowledgment of the receipt of the Notice of Hearing from the claimant electronically.
- 6. The system shall facilitate the verification of the claimant's appearance before the Committee by the Chairperson of the Hearing Committee electronically.
- 7. If the claimant was duly served with the Notice of Hearing and does not appear before the Committee, the system shall enable the Committee to advise the Chief Inspector to dismiss the Claim electronically.
- 8. Upon receiving advice from the Chairperson of the Hearing Committee, the system shall enable the Chief Inspector to issue and assign the Record Officer to serve the Dismissal Order to the Claimant electronically.
- 9. The system shall allow the Record Officer to dispatch the Dismissal Order to the Claimant electronically.
- 10. If the Claimant chooses to challenge the dismissal, within 14 days, the system shall enable the Claimant to fill and submit the Application to Set Aside Dismissal Order (Form N) to the Chief Inspector electronically.
- 11. The system shall facilitate the submission of the application to the Chief Inspector for preview by the Record Officer electronically.
- 12. The system shall enable the Chief Inspector to receive and review the Application to Set Aside Dismissal Order electronically.

- 13. If the Chief Inspector is satisfied with the reasons submitted, the system shall enable the Chief Inspector to set aside the Dismissal Order and direct the Chairperson of the Hearing Committee to proceed with the hearing electronically.
- 14. If the Chief Inspector is not satisfied with the reasons submitted, the system shall facilitate the Chief Inspector to uphold the Dismissal Order and notify the Claimant electronically.
- 15. The system shall enable the Claimant to present their case before the Committee electronically, if they appear.
- 16. The system shall facilitate the appearance of the Respondent (Inspector) and their Witnesses before the Committee to present their case electronically.
- 17. The system shall enable the appearance of Witnesses summoned by the Committee to give their testimony electronically.
- 18. The system shall allow the Committee to prepare the Proceedings and Ruling of the Claim electronically.
- 19. The system shall enable the Chairperson and Members of the Hearing Committee to sign the Proceedings and Ruling of the Claim electronically.
- 20. The system shall facilitate the delivery of the Ruling of the Claim by the Chairperson of the Hearing Committee to the Parties electronically.
- 21. The system shall enable the Chairperson of the Hearing Committee to assign the signed Proceedings and Ruling of the Claim to the Records Officer for dispatch electronically.
- 22. The system shall allow the Record Officer to dispatch the signed Proceedings and Ruling of the Claim to the Parties electronically.

4.17.2.4 Release of Suspected Goods

- 1. The system shall enable the Chief Inspector to assign the Director of Anti-Counterfeits to prepare the Release Order electronically.
- 2. The system shall facilitate the receipt of directives by the Director of Anti-Counterfeits and assign the Anti-Counterfeits Enforcement Manager to prepare the Release Order electronically.

- 3. The system shall allow the Anti-Counterfeits Enforcement Manager to receive the directives and assign the Inspector to prepare the Release Order electronically.
- 4. The system shall enable the Inspector to prepare the Release Order and submit it to the Anti-Counterfeits Enforcement Manager for review electronically.
- 5. The system shall facilitate the review of the prepared Release Order by the Anti-Counterfeits Enforcement Manager and its submission to the Director of Anti-Counterfeits for review electronically.
- 6. The system shall allow the Director of Anti-Counterfeits to review the Release Order and submit it to the Chief Inspector for signature electronically.
- 7. The system shall enable the Chief Inspector to review, sign, and assign the prepared Release Order to the Director of Anti-Counterfeits electronically.
- 8. The system shall facilitate the receipt of the signed Release Order by the Director of Anti-Counterfeits and its assignment to the Anti-Counterfeits Enforcement Manager electronically.
- 9. The system shall allow the Anti-Counterfeits Enforcement Manager to receive the signed Release Order and assign it to the Inspector for further proceedings and the Warehouse Supervisor for noting electronically.
- 10. The system shall enable the Inspector to receive the signed Release Order and inform the Responsible Party, Police Force, and other applicable witnesses electronically.
- 11. The system shall facilitate the receipt of non-offending goods from the Warehouse Supervisor by the Inspector, along with the signed Issue Note, electronically.
- 12. The system shall allow the Inspector to prepare the Handover Note narrating the list of non-offending goods to be released in accordance with the signed Release Order electronically.
- 13. The system shall enable the Inspector to countersign the Handover Note with the Responsible Party, Police Force, and other applicable witnesses electronically.
- 14. The system shall facilitate the return of non-offending goods to the Responsible Party by the Inspector in the presence of the Police Force and other applicable witnesses electronically.

- 15. The system shall allow the Inspector to prepare the Return of Goods Report and submit it to the Anti-Counterfeits Enforcement Manager for review electronically.
- 16. The system shall enable the Anti-Counterfeits Enforcement Manager to review the Return of Goods Report and submit it to the Director of Anti-Counterfeits for review electronically.
- 17. The system shall facilitate the review of the Return of Goods Report by the Director of Anti-Counterfeits and its submission to the Chief Inspector for noting electronically.
- 18. The system shall enable the Chief Inspector to receive the Return of Goods Report and assign the Record Officer for filing electronically.
- 19. The system shall allow the Record Officer to receive the Return of Goods Report and file it electronically.

4.17.2.5 Disposition of Counterfeits Goods

- 1. The system shall enable the Chief Inspector to assign the approved list of counterfeits goods to be destroyed or donated to the Director of Anti-Counterfeits electronically.
- 2. The system shall allow the Director of Anti-Counterfeits to review the list of approved counterfeits goods to be destroyed or donated electronically and assign tasks to the Anti-Counterfeits Enforcement Manager.
- 3. The system shall enable the Anti-Counterfeits Enforcement Manager to review the list of approved counterfeits goods to be destroyed or donated electronically and assign tasks to the Enforcement Officer electronically.
- 4. The system shall facilitate the preparation of the Disposal Order (Form K) by the Enforcement Officer and submission to the Anti-Counterfeits Enforcement Manager for review electronically.
- 5. The system shall allow the Anti-Counterfeits Enforcement Manager to review the prepared Disposal Order electronically and submit it to the Director of Anti-Counterfeits for review.
- 6. The system shall enable the Director of Anti-Counterfeits to review the Disposal Order electronically and submit it to the Chief Inspector for signature electronically.

- 7. The system shall facilitate the review, signing, and assignment of the Disposal Order to the Director of Anti-Counterfeits by the Chief Inspector electronically.
- 8. The system shall allow the Director of Anti-Counterfeits to receive the signed Disposal Order electronically and assign tasks to the Anti-Counterfeits Enforcement Manager electronically.
- 9. The system shall enable the Anti-Counterfeits Enforcement Manager to receive the signed Disposal Order electronically and assign tasks to the Inspector for further proceedings and Warehouse Supervisor for noting electronically.
- 10. The system shall facilitate the issuance of counterfeits goods from the Warehouse Supervisor to the Inspector along with a signed Issue Note electronically.
- 11. The system shall enable the Inspector to prepare a Handover Note narrating the list of issued counterfeits goods to be disposed electronically.
- 12. For counterfeits to be disposed of, the system shall allow the Inspector to inform the Service Provider, Brand Owner, and Police Force about the Disposal Order electronically.
- 13. The system shall enable the Inspector to countersign the Handover Note with the Service Provider in the presence of the Police Force and other available witnesses for transportation to the Destruction Facility electronically.
- 14. The system shall facilitate the witnessing and signing of the process of destructing counterfeits goods at the Destruction Facility by the Inspector, Police Force, and Brand Owner electronically, and generate a Counterfeits Goods Destruction Note.
- 15. The system shall enable the Service Provider to prepare and sign the Destruction Certificate electronically and submit it to the Inspector.
- 16. The system shall allow the Inspector to prepare a Destruction Report electronically and submit it to the Anti-Counterfeits Enforcement Manager for review.
- 17. The system shall enable the Anti-Counterfeits Enforcement Manager to review the Destruction Report electronically and submit it to the Director of Anti-Counterfeits for review.

- 18. The system shall facilitate the review of the Destruction Report by the Director of Anti-Counterfeits electronically and submission to the Chief Inspector for noting.
- 19. For counterfeits to be donated, the system shall enable the Inspector to inform the selected Organization electronically.
- 20. The system shall allow the Inspector to countersign the Handover Note with the selected Organization in the presence of the Police Force and other available witnesses electronically.
- 21. The system shall enable the Inspector to handover offending goods to the selected Organization in the presence of the Police Force and other available witnesses electronically.
- 22. The system shall facilitate the preparation of a Donation Report by the Inspector electronically and submission to the Anti-Counterfeits Enforcement Manager for review
- 23. The system shall enable the Anti-Counterfeits Enforcement Manager to review the Donation Report electronically and submit it to the Director of Anti-Counterfeits for review.
- 24. The system shall allow the Director of Anti-Counterfeits to review the Donation Report electronically and submit it to the Chief Inspector for noting electronically.

4.17.3 Warehouse Management Service

4.17.3.1 Warehouse Management

- 1. The system shall enable the Warehouse Supervisor to receive information from the Inspector about the time of delivering counterfeits or offending goods at the Warehouse electronically.
- 2. The system shall allow the Inspector to hand over counterfeits goods and a copy of the Notice of Seizure to the Warehouse Supervisor electronically.
- 3. The system shall facilitate the verification of goods details against the Notice of Seizure by the Warehouse Supervisor electronically.
- 4. The system shall enable the Inspector to perform corrective actions to rectify discrepancies if the goods do not tally with the Notice of Seizure electronically.

- 5. The system shall allow the Warehouse Supervisor to accept counterfeited goods and prepare the Goods Received Note if the goods tally with the Notice of Seizure electronically.
- 6. The system shall enable the Warehouse Supervisor and Inspector to sign the prepared Goods Received Note electronically.
- 7. The system shall facilitate the recording of details of received counterfeits goods into the Warehouse Ledger and arranging the received similar counterfeits goods in proper storage equipment by the Warehouse Supervisor electronically.
- 8. The system shall enable the Warehouse Supervisor to prepare a list of counterfeits goods to be disposed of if it is the end of the quarter for the Government financial year and 30 days have elapsed since receipt of counterfeits goods for storage electronically.
- 9. The system shall allow the Warehouse Supervisor to submit the list of counterfeits goods to be disposed to the Anti-Counterfeits Enforcement Manager electronically.
- 10. The system shall enable the Anti-Counterfeits Enforcement Manager to review the list of counterfeited goods to be disposed of and submit it to the Director of Anti-Counterfeits electronically.
- 11. The system shall facilitate the review of the list of counterfeits goods to be disposed of by the Director of Anti-Counterfeits and its submission to the Chief Inspector for approval or rejection electronically.
- 12. The system shall allow the Chief Inspector to approve or reject the list of counterfeits goods to be disposed of, provide reasons for rejection, and assign it to the Director of Anti-Counterfeits electronically.
- 13. The system shall enable the Director of Anti-Counterfeits to assign the approved or rejected list of counterfeits goods to the Anti-Counterfeits Enforcement Manager electronically.
- 14. The system shall facilitate the notification of the Warehouse Supervisor by the Anti-Counterfeits Enforcement Manager to maintain storage status for rejected counterfeits goods electronically.

- 15. The system shall enable the Warehouse Supervisor to maintain storage status for rejected counterfeits goods electronically.
- 16. The system shall allow the Warehouse Supervisor to receive signed Release Orders or signed Disposal Orders from the Anti-Counterfeits Enforcement Manager electronically.
- 17. The system shall facilitate the preparation of Issue Notes by the Warehouse Supervisor in accordance with received orders for release or disposal electronically.
- 18. The system shall enable the Warehouse Supervisor and Inspector to sign the prepared Issue Note electronically.
- 19. The system shall allow the Warehouse Supervisor to issue counterfeits goods and the signed Issue Note to the respective Inspector and update details of the issued counterfeits goods in the Warehouse Ledger electronically.
- 20. The system shall facilitate the performance of stock taking for the available counterfeits goods in the Warehouse by the Warehouse Supervisor if it is the end of the Government financial year electronically.
- 21. The system shall enable the Warehouse Supervisor to prepare a stock taking report and submit it to the Anti-Counterfeits Enforcement Manager electronically.
- 22. The system shall allow the Anti-Counterfeits Enforcement Manager to review the prepared stock taking report and submit it to the Director of Anti-Counterfeits electronically.
- 23. The system shall facilitate the review of the prepared stock taking report by the Director of Anti-Counterfeits and its submission to the Chief Inspector for noting electronically.

4.17.3.2 Warehouse Inventory

- 1. The system shall enable users to input new inventory items into the warehouse system, including details such as item name, description, quantity, location, and expiration date if applicable.
- 2. The system shall allow users to update existing inventory items' information, including quantity adjustments, location changes, or updates to item details.

- 3. The system shall provide search and filtering capabilities to allow users to quickly locate specific inventory items based on various criteria such as item name, location, or category.
- 4. The system shall support barcode or RFID scanning for efficient inventory management, allowing users to quickly identify and track items within the warehouse.
- 5. The system shall automatically update inventory levels in real-time as items are added, removed, or moved within the warehouse, ensuring accurate inventory counts.
- 6. The system shall generate alerts or notifications for low stock levels, expired items, or other inventory-related issues to prompt users to take necessary actions.
- 7. The system shall maintain a complete audit trail of all inventory-related activities, including item additions, modifications, movements, and deletions, along with timestamps and user IDs.
- 8. The system shall allow authorized users to perform physical inventory counts periodically to reconcile system records with actual inventory on hand.
- 9. The system shall integrate with other relevant systems such as procurement, sales, and accounting to ensure consistency and accuracy in inventory management processes.
- 10. The system shall provide reporting and analytics capabilities to analyze inventory data, including inventory turnover, stock aging, and valuation reports.

4.18 Notification Management Microservices

- 1. The system shall be able to send notifications through various channels like email, SMS, mobile push notifications, and web interfaces.
- 2. The system shall be able to handle different notification priorities (e.g., urgent, informational).
- 3. The system shall enable users to subscribe to or unsubscribe from specific types of notifications.
- 4. The system shall enable users to set preferences for how they want to receive notifications (e.g., frequency, channel).
- 5. The system shall enable users to filter notifications based on specific criteria (e.g., sender, keyword).
- 6. The system shall allow FCC Officer to create and edit notification content.
- 7. The system shall be able to include attachments or links within notifications.

- 8. The system shall enable FCC Officer to track notification delivery status (e.g., sent, delivered, opened).
- 9. The system shall be able to provide reports on notification performance (e.g., open rates, click-through rates).
- 10. The system shall enable FCC Officer to schedule notifications for future delivery.
- 11. The system shall be able to integrate with other FCC applications or FCC services to trigger notifications based on events in those applications or FCC services such as Anti-Counterfeits Control, consumer protection, mergers etc.
- 12. The system shall allow for bulk notification delivery to specific user groups.
- 13. The system shall offer a search functionality to allow user to find specific notifications using specific keywords based on notification title, sender, contents etc.
- 14. The system shall be able to interacts/integrate with specific channel providers (e.g., SMS gateways and mail servers) in order to handles delivery and status updates.
- 15. The system shall be able to retry to resend notification in case there is a failure in delivery

4.19 Integration with Third-Party APIs through ESB

- 1. The system shall provide interfaces for data exchange with FCC's external stakeholders' systems through ESB
- 2. The system shall be able to transform data between FCC's internal data formats and the various formats used by external stakeholders through ESB. This may involve mapping data elements, handling different data types, and ensuring data integrity.
- 3. The system shall support industry standards for data exchange, such as XBRL (Extensible Business Reporting Language) for financial data or EDI (Electronic Data Interchange) for business transactions.
- 4. The system with the aid of ESB shall be able to route messages between FCC and external stakeholders based on pre-defined rules and routing configurations.
- 5. The system with the aid of ESB shall support message queuing and retries to handle temporary outages or high message volumes.
- 6. The system shall enforce security policies for data exchange with external stakeholders, including authentication, authorization, and encryption.

- 7. The system shall implement mechanisms to ensure data privacy and comply with relevant regulations for data on transit
- 8. The system shall monitor all data exchanges between FCC and external stakeholders, logging activity and tracking message flows.
- 9. The system shall provide audit trails to support compliance requirements and troubleshooting purposes during exchange of information.
- 10. The system with the aid of ESB shall be scalable to accommodate future growth in data volume and the number of external stakeholders.
- 11. The system with the aid of ESB shall deliver high performance to ensure timely processing of messages and minimize latency.
- 12. The system shall implement mechanisms to ensure non-repudiation of messages, allowing verification of the sender and receipt of data.
- 13. The system shall be interoperable with different technologies and platforms used by FCC and external stakeholders.
- 14. The system shall comply with regulator's data governance policies to manage data ownership, access, and quality during data exchange.

5 Non-Functional Requirements

5.1 Performance Requirements:

Performance-related criteria for the system are specified to ensure optimal system responsiveness and efficiency under various conditions, including:

5.1.1.1 Response Time:

The system shall respond to user requests within 5 seconds under normal operating conditions.

5.1.1.2 Throughput:

The system shall support a minimum of 1000 concurrent users with a response time of 5 seconds

5.1.1.3 Load Testing:

Performance testing shall be conducted to validate system performance under expected workload conditions.

5.2 Security Requirements:

Security measures, including access control, data encryption, and secure coding practices, are detailed to protect the system and its data from unauthorized access, manipulation, or disclosure. Key security requirements include:

5.2.1.1 Access Control:

Users shall be authenticated and authorized based on their roles and privileges. Access to sensitive data and system functionality shall only be restricted to authorized personnel.

5.2.1.2 Data Encryption:

Sensitive data shall be encrypted during transmission and storage to prevent unauthorized interception or tampering.

5.2.1.3 Secure Coding Practices:

The system shall adhere to industry-standard secure coding practices to mitigate common security vulnerabilities, such as SQL injection, cross-site scripting (XSS), and insecure direct object references (IDOR).

5.2.1.4 Security Auditing:

Security auditing mechanisms shall be implemented to monitor and log system activities for detection and investigation of security incidents.

5.3 Reliability Requirements:

The system's reliability expectations are defined to ensure consistent and dependable operation over time. Reliability requirements include:

5.3.1.1 Availability:

The system shall be available for use [specified percentage] of the time during [specified time period], excluding scheduled maintenance windows.

5.3.1.2 Fault Tolerance:

The system shall be resilient to hardware failures, software errors, and network interruptions, with built-in redundancy and failover mechanisms.

5.3.1.3 Data Integrity:

Data integrity shall be maintained at all times, with mechanisms in place to detect and prevent data corruption or loss.

5.4 Scalability Requirements:

Requirements for scaling the system as needed to accommodate growing user demand and data volumes are outlined, including:

5.4.1.1 Horizontal Scalability:

The system architecture shall support horizontal scaling by adding more instances or nodes to distribute workload and increase capacity.

5.4.1.2 Vertical Scalability:

The system shall support vertical scaling by upgrading hardware resources (CPU, memory, storage) to handle increased load or data volume.

5.4.1.3 Elasticity:

The system shall dynamically scale resources up or down based on demand to optimize resource utilization and cost-effectiveness.

5.5 Error Handling:

The approach for handling errors and exceptions within the system is described to ensure graceful degradation and minimal disruption to user experience. Error handling requirements include:

5.5.1.1 Error Logging:

Errors and exceptions shall be logged systematically to facilitate troubleshooting and debugging by system administrators.

5.5.1.2 User Notifications:

Users shall be notified of errors or unexpected conditions through clear and informative error messages displayed within the user interface.

5.5.1.3 Recovery Mechanisms:

The system shall include recovery mechanisms to recover gracefully from errors and restore system stability without data loss or corruption.

5.6 Usability Requirements:

Criteria for the system's ease of use are specified to ensure an intuitive and user-friendly experience for all stakeholders. Usability requirements include:

5.6.1.1 Navigation:

The user interface shall provide intuitive navigation with clear menus, breadcrumbs, and search functionality to help users find information and features easily.

5.6.1.2 Consistency:

To enhance usability and user adoption, the user interface shall maintain consistency in layout, design elements, and terminology across all modules and screens.

5.6.1.3 Accessibility:

The user interface shall comply with accessibility standards (e.g., WCAG) to ensure accessibility for users with disabilities, including support for screen readers, keyboard navigation, and alternative text for images.

5.7 Maintainability Requirements:

Requirements for maintaining and updating the system over time to address evolving needs and technologies are detailed, including:

5.7.1.1 Modularity:

The system architecture shall be modular and loosely coupled to facilitate ease of maintenance and future enhancements.

5.7.1.2 Documentation:

Comprehensive documentation shall be provided for system components, APIs, data models, and configurations to support ongoing maintenance and knowledge transfer.

5.7.1.3 Version Control:

Source code and configuration files shall be managed using version control systems (e.g., Git) to track changes and facilitate collaboration among development teams.

5.7.1.4 Test Automation:

Automated testing suites shall be developed and maintained to validate system changes and ensure regression-free releases.

6 Microservices Architecture

6.1 Overview:

Microservices Architecture is an architectural style that structures an application as a collection of loosely coupled, independently deployable services. Each service is organized around a specific business capability and can be developed, deployed, and scaled independently.

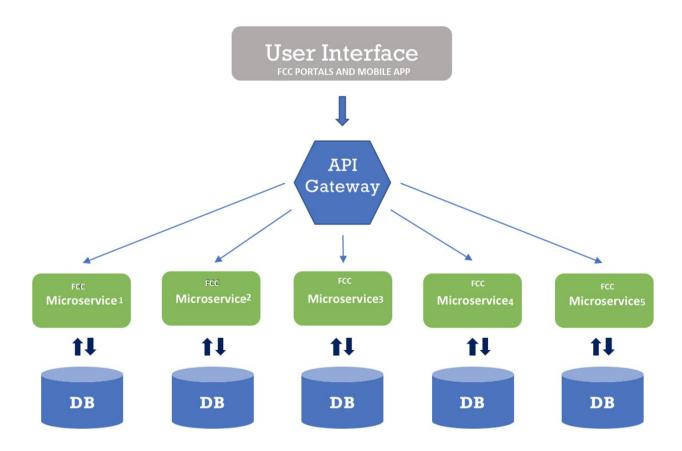


Figure 2: Microservices Architecture Diagram

6.2 Microservices Technology Stack:

The Microservices Technology Stack for FIMS includes;

6.2.1 Programming Languages:

Node.js allows the execution of JavaScript code on both client and server sides, facilitating Microservices development with its asynchronous nature, scalability, and rich ecosystem.

6.2.2 Frameworks:

Express.js is a minimalist web application framework for Node.js, Express.js simplifies building web APIs and Microservices.

6.2.3 Containerization:

Docker packages and deploys Microservices into lightweight, portable containers, ensuring consistency and portability across environments.

Kubernetes automates containerized applications' deployment, scaling, and management, enhancing resource utilization and application resilience.

6.2.4 API Gateway:

NGINX is a high-performance web and API gateway that facilitates routing and managing HTTP traffic to Microservices.

6.2.5 Message Brokers:

Kafka is utilized as the message broker for efficient communication between Microservices within FIMS. It enables real-time data pipelines and event-driven architectures and ensures reliable asynchronous communication.

6.2.6 Database:

MongoDB, a No-SQL database, offers a flexible solution for storing and managing semistructured data, providing high availability and scalability for Microservices architectures.

6.3 Benefits of Microservices:

The advantages of adopting Microservices Architecture are discussed, including:

- Scalability: Enables independent scaling of services to handle varying workloads and user demand.
- ii. **Flexibility:** Facilitates agile development and deployment by decoupling services and teams, allowing for faster iteration and innovation.

- iii. **Resilience:** Improves fault isolation and system resilience, minimizing the impact of failures and enabling continuous operation.
- iv. **Technology Diversity:** Allows for the use of different technologies and frameworks within individual services, optimizing for specific requirements and use cases.
- v. **Continuous Delivery:** Supports continuous integration and delivery practices, enabling frequent releases and rapid feature deployment.

6.4 Communication Protocols:

Key communication protocols used in FIMS Microservices architecture include:

6.4.1.1 HTTP/REST:

Microservices communicate over HTTP using RESTful APIs for synchronous interactions, promoting interoperability and ease of integration.

6.4.1.2 Message Queues:

Asynchronous communication is facilitated using message queueing systems like Kafka or RabbitMQ, ensuring scalability and fault tolerance.

6.4.1.3 gRPC:

gRPC enables efficient bi-directional communication between microservices using protocol buffers (protobufs) and HTTP/2, which are suitable for high-performance applications.

7 Clean Architecture and Test-Driven Development

7.1 Clean Architecture Overview

Clean Architecture emphasizes the separation of concerns by structuring software into distinct layers with specific responsibilities. FIMS employs various architectural patterns, such as Hexagonal Architecture and Onion Architecture, to achieve independence of frameworks and testability. In the context of FIMS, Clean Architecture ensures scalability, adaptability, and ease of maintenance.

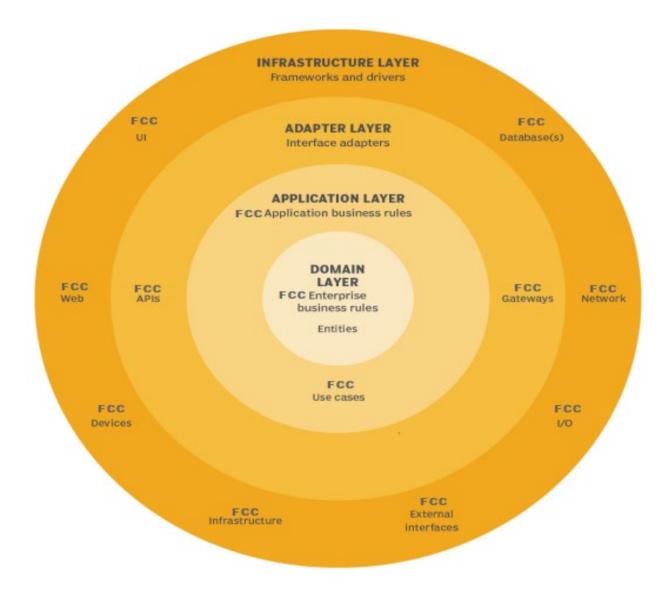


Figure 3: FIMS Clean Architecture Layers Diagram

7.2 Test Driven Development (TDD) Overview:

Test-driven development (TDD) is a methodology in which tests are written before code is written. It promotes writing modular and testable code, improving quality, reducing bugs, and faster development cycles. TDD ensures robustness and reliability in FIMS development.

7.3 Implementation Guidelines:

Implementation of Clean Architecture and TDD in FIMS involves adhering to specific guidelines:

Separation of Concerns: Ensure each component has a single responsibility and is isolated from others.

Dependency Rule: Maintain inward source code dependencies to avoid coupling between layers.

Entities and Use Cases: Define entities encapsulating business rules and implement use cases for application-specific logic.

Interface Adapters: Create adapters for data conversion between internal and external formats.

Frameworks and Drivers: Use frameworks and tools for external details, keeping them in the outermost layer of the architecture.

7.4 Testing Frameworks:

Testing frameworks are crucial in automating testing processes to ensure software meets requirements. Key frameworks and their roles include:

Unit Testing Frameworks: JUnit, NUnit, or pytest for testing individual units.

Integration Testing Frameworks: Mockito, TestNG, or Pytest are used to test interactions between components.

End-to-End Testing Frameworks: Selenium, Cypress, or Protractor are used to test the entire application flow.

These frameworks validate functionality, interactions, and system behaviour, ensuring the reliability and performance of FIMS.

User Acceptance Testing (UAT): User Acceptance Testing (UAT) typically occurs after the development phase and before the software is released to end-users. While UAT is not directly part of the testing frameworks mentioned above, it is a critical phase in the software development lifecycle. During UAT, stakeholders or end-users validate the software against their requirements and expectations to ensure it meets their needs and is ready for deployment. Therefore, UAT is a separate phase conducted outside the scope of testing

frameworks, typically coordinated by project managers or quality assurance teams in collaboration with end-users.

8 DevOps Implementation for FIMS

8.1 Introduction to DevOps

For the Fair Competition Management Information System (FIMS) project, DevOps serves as a foundational framework encompassing practices and cultural principles aimed at fostering collaboration between development (Dev) and operations (Ops) teams. DevOps enables FIMS to deliver high-quality software efficiently and reliably throughout its lifecycle by emphasizing automation, continuous integration, continuous delivery, and feedback loops. Key DevOps principles, such as automation, collaboration, and monitoring, are integral to achieving the project's objectives.

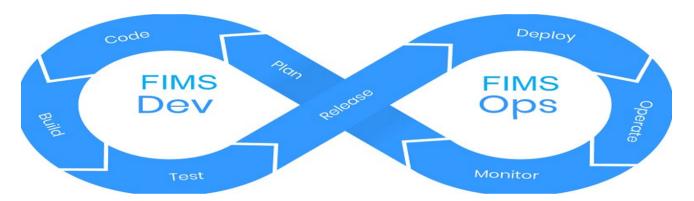


Figure 4: DevOps Implementation for FIMS Diagram

8.2 DevOps Tools and Technologies:

FIMS leverages a suite of DevOps tools and technologies to streamline its development and deployment processes:

Version Control Systems (VCS): Git facilitates code management and collaboration among FIMS developers, ensuring code integrity and version control throughout the project lifecycle.

Continuous Integration Tools: Jenkins automates the integration of code changes, enabling FIMS to detect and address integration errors promptly, thus ensuring code quality and reliability.

Configuration Management Tools: Ansible, Puppet, and Chef automate infrastructure configuration and management tasks, ensuring consistency and repeatability across FIMS environments.

Containerization Tools: Docker enables FIMS to encapsulate applications and dependencies into containers, ensuring consistency and portability across different deployment environments.

Orchestration Tools: Kubernetes orchestrates the deployment and scaling of FIMS containerized applications, improving resource utilization and application resilience in distributed environments.

Monitoring and Logging Tools: Prometheus, Grafana, Loki, and Zabbix provide FIMS with comprehensive monitoring and logging capabilities, enabling proactive issue detection, troubleshooting, and performance optimization.

Deployment Automation Tools: Ansible, Puppet, and Chef automate the deployment of FIMS applications and infrastructure changes, ensuring consistency and reducing manual errors in the deployment process.

8.3 Continuous Integration and Continuous Deployment (CI/CD) Pipeline:

The CI/CD pipeline automates software delivery processes for FIMS, integrating code changes frequently, running automated tests, and deploying code to production environments continuously. By automating these processes, FIMS accelerates software delivery, enhances code quality, and minimizes deployment risks.

8.4 Monitoring and Logging:

Monitoring and logging practices are essential for ensuring the health, performance, and availability of FIMS. Through tools like Prometheus, Grafana, Loki, and Zabbix, FIMS monitors its infrastructure and applications, enabling proactive issue detection, rapid troubleshooting, and optimization of system performance.

8.5 Disaster Recovery and Backup Strategies:

For FIMS, disaster recovery and backup strategies are paramount for maintaining business continuity and data resilience. These strategies involve implementing measures to recover

data and restore services in the event of a disaster, thus minimizing downtime and mitigating risks to the project's operations.

9 System Constraints

In recognition of the critical role that effective system constraints play in shaping the design and implementation FIMS, FCC hereby will establish considerations to address hardware, software, and environmental constraints. Acknowledging the importance of optimizing technological resources to ensure efficient operations, the FCC endeavors to identify and mitigate hardware limitations, software dependencies, and environmental factors that may impact the performance, scalability, and security of its systems. By proactively addressing these constraints, the FCC aims to enhance the reliability, accessibility, and effectiveness of the system

i. Hardware Constraints:

- a) Server Specifications:
 - **Constraints:** Limited budget for infrastructure investment, potentially restricting the choice of servers by considering processing power, RAM, storage capacity to run effectively several microservices within the system.
 - Considerations: Opt for cost-effective server solutions that meet the commission's performance requirements. Consider cloud-based and virtualization solutions for scalability and flexibility without significant upfront investment.

b) Network Infrastructure:

- **Constraints:** Limited bandwidth and network resources may impact system performance, especially during peak usage periods.
- Considerations: Implement network optimization techniques such as data compression, caching, and content delivery networks (CDNs) to minimize bandwidth usage and improve responsiveness.

ii. Software Constraints:

- a) Programming Languages and Frameworks:
 - **Constraints:** Compliance with existing software standards and regulations may limit the choice of programming languages and frameworks.
 - Considerations: Choose widely adopted languages and frameworks with strong community support and proven reliability. Ensure compatibility with existing systems and regulatory requirements.
- b) Database Management System (DBMS):
 - Constraints: Compatibility with existing database systems and data security regulations.
 - Considerations: Select a DBMS that offers robust security features, scalability, and support for structured and unstructured data. Consider no SQL database solutions for flexibility and scalability.
- c) Microservices Framework:
 - **Constraints:** Limited expertise and resources for developing and maintaining microservices architecture.
 - Considerations: Choose a microservices framework that simplifies development, deployment, and management of microservices. Prioritize frameworks with comprehensive documentation, community support, and built-in scalability features.

iii. Environmental Constraints:

- a) Operating Environment:
 - Constraints:

- ➤ Compatibility Requirements: The FCC system must be compatible with various operating systems used by stakeholders, including government agencies, businesses, and consumers.
- ➤ Regulatory Compliance: The system must comply with regulatory standards and guidelines governing operating systems, ensuring adherence to security protocols, data privacy regulations, and interoperability requirements.
- Resource Limitations: Limited hardware resources and technical capabilities of operating systems may constrain system performance, scalability, and functionality.
- > Security Vulnerabilities: Vulnerabilities inherent in certain operating systems pose risks to the security and integrity of the FCC system, necessitating robust security measures and regular updates to mitigate potential threats.

Considerations:

- ➤ Open Standards: Prioritizing open standards and protocols facilitates interoperability and data exchange between the FCC system and external systems, ensuring compatibility with a wide range of operating environments.
- > Security Enhancements: Implementing robust security measures, such as encryption, access controls, and intrusion detection systems, mitigates security risks associated with operating system vulnerabilities, safeguarding sensitive data and system integrity.
- > Scalability and Performance Optimization: Optimizing system architecture and codebase for performance and scalability enhances responsiveness and efficiency across different operating systems, enabling the FCC system to handle increased workloads and user demands effectively. Consider Ubuntu Linux Operating system.

b) Network Conditions:

• **Constraints:** Limited connectivity and unreliable network infrastructure may affect system accessibility and performance, especially in remote areas.

 Considerations: Implement offline capabilities and data synchronization mechanisms to ensure system functionality in low-connectivity environments.
 Prioritize lightweight and efficient communication protocols to minimize network overhead.

c) Security and Privacy Regulations:

- **Constraints:** Strict data protection laws and regulations mandate robust security measures to safeguard sensitive information.
- Considerations: Implement encryption, access controls, and data anonymization techniques to protect confidentiality and integrity of data.
 Conduct regular security audits and compliance assessments to identify and address potential vulnerabilities.

By carefully considering and addressing these hardware, software, and environmental constraints, the FCC can develop a system that meets regulatory objectives while ensuring scalability, reliability, and performance.

10 Assumptions and Dependencies

Let us explore into the assumptions made during the design of the FCC system (FIMS), as well as the dependencies on external systems or services:

i. Assumptions Made During System Design:

- a) Stakeholder Engagement: It is assumed that stakeholders, including government agencies, businesses, and consumers, will actively engage with the FCC system, submitting complaints, providing feedback, and participating in regulatory processes.
- b) Regulatory Compliance: It is assumed that the FCC system will comply with relevant laws, regulations, and industry standards governing competition policy, data protection, and government transparency.

- c) Data Availability: It is assumed that necessary data for regulatory activities, including industry reports, market data, and legal documents, will be available and accessible for integration into the FCC system.
- d) User Adoption: It is assumed that users will adopt and utilize the FCC system effectively, following training and onboarding processes to familiarize themselves with system functionalities and workflows.
- e) System Scalability: It is assumed that the FCC system will be designed to accommodate future growth in data volume, user traffic, and regulatory requirements, ensuring scalability and performance optimization over time.

ii. Dependencies on External Systems or Services:

- a) Government Databases/systems: The FCC system may depend on external government databases for accessing regulatory information, legal precedents, and administrative data relevant to competition policy and enforcement.
- b) Industry Associations: Collaboration with industry associations and regulatory bodies may be necessary for data sharing, industry monitoring, and stakeholder engagement activities within the FCC system.
- c) Legal Databases: Access to legal databases and case law repositories may be required for conducting legal research, interpreting regulations, and informing decision-making within the FCC system.
- d) Communication Platforms: Integration with email, messaging, and notification platforms is essential for facilitating communication with stakeholders, sending alerts, and managing correspondence within the FCC system.
- e) Data Providers: External data providers, such as market research firms, consumer surveys, and economic analysts, may serve as sources of industry data and market intelligence for analysis and reporting within the FCC system.
- f) ISP (Internet Service Provider): The FCC system will rely on stable and reliable internet connectivity provided by ISPs to ensure continuous access to online

- resources, communication platforms, and cloud-based services necessary for system operations.
- g) Data centre service providers: The FCC system will rely on data centre service providers to host its infrastructure, including servers, networking equipment, and storage systems, ensuring reliable access (availability) to computing resources and data storage facilities.

By identifying and acknowledging these assumptions and dependencies, the FCC can proactively manage risks, anticipate challenges, and ensure the successful implementation and operation of the FCC system. Regular monitoring and communication with stakeholders will be crucial for validating assumptions and addressing dependencies throughout the system lifecycle.

11 ICT Unit Organization and Management

The FCC ICT Unit oversees all aspects of technology implementation, maintenance, and support within the Commission. The unit currently have four staff; ICT Manager, 2 Senior ICT Officers, ICT Officer and three Interns. The role played by each of the staff and intern is outlined in the below table;

Position	Responsibility	Remarks
ICT Manager (ICTM)	Responsible for managing all aspects of technology within the Commission and Unit Management	
Senior Information Communication Technology Officers (SICTO)	SITCO 1: Responsible for Library Management SITCO 2: Responsible for supervision and management of ICT Application Development, Database Administration, ICT Systems Analysis, ICT Systems Administration, ICT Security and Standards,	SITCO 1: Masters in Information Technology Skills: Information Management and Information System SITCO 2: Bsc Information Technology Skills: System Analysis, Administration, Technical Support, Hardware Maintenance
Information Technology Officer (ICTO)	Responsible for network management	Bsc in Telecom Engineering Skills: Networking, System Administration, System Security, Back end Infrastructure
Interns	Interns 1 & 2: ICT Application Development, Database Administration, ICT Systems Analysis, ICT Systems Administration Intern 3: Network administration & Support, Help Desk Support	Intern 1: BSc in Information Security Skills: Software Development, IT Security, Business Analysis Intern 2: Bachelor of Business and IT Skills: Software Development, Business Analysis
		Intern 3: Bsc in Information Systems

Position	Responsibility	Remarks
		Skills: Networking, technical support

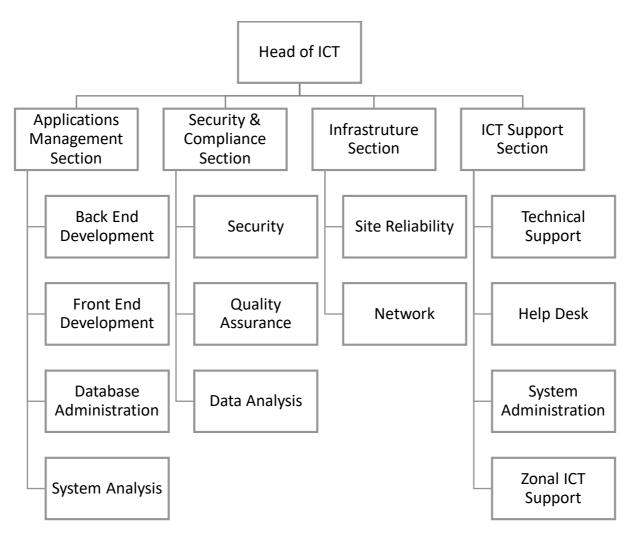
11.1 Roles and Responsibilities:

To fully leverage on the automation of FCC processes, ensure smooth operation, management of infrastructure installed in zonal and peripheral offices and provision of required technical support, the following roles are recommended;

- 1. **Security Engineer:** Ensures the security of the Microservices and the overall system
- 2. Site Reliability Engineer (SRE): Manages the infrastructure and deployment of the Microservices
- 3. Backend Developers: Write and maintain the Microservices code
- 4. **Frontend Developers (if applicable):** Develop the user interface that interacts with the service (if applicable)
- 5. QA Engineers: Test the functionality and performance of the Microservices.
- 6. Data Analyst (if applicable): Analyzes data generated by Microservices to identify trends and improve performance.
- 7. **Technical Support Officer:** Provide support to internal and external stakeholders
- 8. **System Administrator:** Provide System Administration

11.2 ICT Unit Structure

To manage the above team, a standard department management structure is recommended. The below structure is proposed for the ICT is proposed



11.3 Capacity Building:

The existing technical team need to be capacitated to provide some of the required support in their domain following system implementation,

• Networking administration depending on network devices to be procured. For Cisco devices, Cisco certification is essential

- Site Reliability Management training
- Training on tools for development and administration of applications e.g. DevOps
- Training on tools for database administration depending on the final database to be used (e.g. MongoDB certification)
- Information security & audit training such as ECH and SISA

11.4 Equipments

To enable efficient support to peripheral offices at boarder points, it is recommended to have standby ICT unit transport facilities in addition to ICT equipment's outlined in the infrastructure document.

12 Conclusion:

The System Requirements Specification (SRS) for the Fair Competition Commission (FCC) outlines the comprehensive requirements, objectives, and scope of the software system to be developed. It encompasses the needs of various stakeholders, including FCC management and staff, regulatory authorities, legal experts and administrative personnel. The associated process flow diagrams are detailed in Business Process Document (BPD) Attached as Appendix to this document.

The SRS defines the scope of the project, focusing on core business and supporting functionalities, all crucial for supporting the FCC's mandate of enforcing competition policy and regulations in Tanzania. It outlines the regulatory compliance aspects, identifying relevant laws, regulations, and standards that the software must adhere to.

Additionally, the SRS elaborates on the system architecture and technology stack, detailing the high-level architectural design, Microservices, functional components, integration points, data architecture, and technology stack to be utilized. Security considerations, scalability, performance, and compliance requirements as non-functional requirements are also addressed within the SRS, ensuring the system (FIMS) meets the FCC's standards for efficiency, effectiveness, and data integrity.

13 Appendices

13.1 Business Process Document