



ICT

Performance Risk Management Report

Quarter ended October - December (Quarter 2), 2019-2020

Background

The main objective of the established Enterprise Risk Management (ERM) framework is to ensure alignment of strategy, processes, people, technology and funds in order to identify, evaluate and manage opportunities, uncertainties and threats in a structured and disciplined manner and geared towards achieving strategic objectives.

As part of the reporting requirements contained in the Risk Management Policy and Procedures, Management is mandated to report on a periodic basis to the Board on the extent of implementation of risk management strategies. This report presents progress made in the implementation of risk mitigation strategies established under the Enterprise Risk Management Framework that was adopted by the Board in August 2017. Presented below is the risk assessment and ranking methodology adopted;

Risk Impact Rating And Score

Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
An event that, if it occurs would have no effect on the achievement of the targets set	An event that, if it occurs, will cause small cost (and/or schedule) increases that, in most cases, can be absorbed by the activity, project or department	An event that, if it occurred, would cause moderate cost and schedule increases, but important requirements would still be met	An event that, if it occurred, would cause major cost and schedule increases. Secondary requirements may not be achieved	The regulatory or statutory standing of the Authority is brought into serious question or the project is terminated

Opportunity Impact Rating And Score

Insignificant 1	Minor 2	Moderate 3	Major 4	Transformational 5
An opportunity that if it materializes would have no noticeable effect on the achievement of the targets set.	An opportunity that if it materializes would yield a small cost and/or schedule saving to an activity, project or department	An opportunity that if it materializes would yield a moderate cost and/or schedule savings and would enhance the achievement of important requirements	An opportunity that if it materializes would yield a major cost and/or schedule savings and would greatly enhance the achievement of important and secondary requirements	An opportunity that if it materializes would greatly transform the strategic impact of the Authority and the continued realization of its strategic mandate.

Risk/ Opportunity Likelihood Rating and Score

Probability	Description	Risk Score	Opportunity Score	Consideration
Almost Certain	90% or greater chance of the event occurring during the life of the objective	5	5	The risk/ opportunity event has occurred during the last 3-6 months or is certain to occur in the next 3-6 months
Highly Likely	65% to 90% chance of the event occurring during the life of the objective	4	4	There is a history of frequent occurrence. The risk/ opportunity event has occurred during the last 6-12 months or may occur in the next 6-12 months
Likely	35% to 65% chance of the event occurring during the life of the objective	3	3	There is a history of casual occurrence. The risk/ opportunity event has occurred during the last 12-36 months or may occur in the next 12-36 months
Unlikely	10% to 35% chance of the event occurring during the life of the objective	2	2	The risk/ opportunity event occurs from time to time. The event has occurred during the last 36-60 months or may occur in the next 36-60 months
Rare	Less than 10% chance of the event occurring during the life of the objective	1	1	The risk/ opportunity event has not occurred in CMA but has occurred in other similar organizations. The risk event may occur beyond the next 60 months

Overall Risk Rating

Impact	Catastrophic 5	5	10	15	20	25
	Major 4	4	8	12	16	20
	Moderate 3	3	6	9	12	15
	Minor 2	2	4	6	8	10
	Insignificant 1	1	2	3	4	5
		Rare 1	Unlikely 2	Likely 3	Highly Likely 4	Almost Certain 5
		Likelihood				

Risk Treatment Decision

Overall Score	Overall Rating	Risk Treatment Decision
20-25	Very High	Extensive management essential
10-16	High	Management effort required
5-9	Medium	Management effort worthwhile
3-4	Low	Risk may be worth accepting while monitoring
1-2	Very Low	Accept

Overall Opportunity Rating							Opportunity Treatment Decision		
Impact	Transformational 5	5	10	15	20	25	Overall Score	Overall Rating	Opportunity Treatment Decision
	Major 4	4	8	12	16	20	20-25	Very High	Extensive management effort essential to harness opportunity
	Moderate 3	3	6	9	12	15	10-16	High	Management effort required to actualize opportunity
	Minor 2	2	4	6	8	10	5-9	Medium	Management effort worthwhile to pursue opportunity
	Insignificant 1	1	2	3	4	5	3-4	Low	Opportunity worth monitoring
		Rare 1	Unlikely 2	Likely 3	Highly Likely 4	Almost Certain 5	1-2	Very Low	Opportunity worth noting
		Likelihood							

Detailed Activities With Risks:

NO	Strategic Objective	Strategic Outcome	Strategic KPI	Departmental Objective	Related Risk/s	Activity Description	Departmental Activity KPI	Activity Performance Update
1	Ensure optimal institutional efficiency and effectiveness of CMA	-> Institutional Service Delivery, Operational Efficiency and Sustainability	->100 % compliance with applicable Standards and Guidelines.	To guarantee availability of a reliable ICT infrastructure	Network and Server Infrastructure Failures 15	Implement the scheduled preventive maintenance program for Network and client/server equipment 50 %	Quarterly Preventive maintenance on the network and server/client systems	Conducted the preventive maintenance for the network, server and client systems for the second quarter of the FY 2019-2020 (October to December 2019)
2	Ensure optimal institutional efficiency and effectiveness of CMA	-> Institutional Service Delivery, Operational Efficiency and Sustainability	->Increased ICT automation levels by 2 points to 75.5%.	To support Business Continuity process through a robust Disaster Recovery Plan (DRP)	Network and Server Infrastructure Failures 15	Manage and maintain a robust disaster recovery solution 50 %	Bi-annual failover and fallback of critical systems and Internet services to the Disaster Recovery site	1. Maintained a successful backup schedule process 2. Maintained and managed successful data and server level replication to the Disaster Recovery site

3	Ensure optimal institutional efficiency and effectiveness of CMA	-> Institutional Service Delivery, Operational Efficiency and Sustainability	->Cybersecurity framework by June 2020.	To secure ICT systems, Applications and Data	Cyber security threats 20	Implement Multi-Factor Authentication (MFA) on the remote access VPN 25 %	Use of two-factor authentication on remote access VPN by March 2020 Use of two-factor authentication on web-based systems by March 2020	Installed a Proof of Concept (PoC) for the RSA SecurID mutli-factor authentication Configured multi-factor authentication on the remote access VPN and erp.cma.or.ke online portal Conducted a demo to the Chief Executive on the implemented PoC No update for the quarter
								1. Successful bidder awarded the tender to supply and install the Information Repository and Business Intelligence system by the PIU 2. Contract negotiations on going between the successful bidder and the PIU 3. Contract between the National Treasury and the

4	Leveraging technology to drive efficiency in the capital markets value chain	-> Institutional Service Delivery, Operational Efficiency and Sustainability	->Enhanced business intelligence, analytics, policy formulation and decision making process across the Authority.	To initiate the implementation of KMIT Strategy 2019-23Operationalize KMIT Strategy 2019-2023.	Obsolescence of server hardware equipment and systems software at the Authority 25	Acquire and install a Information Repository and Business Intelligence system 35 %	1. Requirements gathering and design by October 2019 2. Installation of the Information Repository and Business Intelligence system by November 2019 3. Setup and configuration of the Financial analysis tools and upload of the portal and market participant components by February 2020	successful bidder Attain Enterprises has been executed 4. Vendor mobilizing resources on their end. 5. CMA-ICT, Attain and Sciencesoft teams met various user departments to gather requirements. 6. Feedback on the Creation of an intelligent Folder Structure collected from Various Departments. 7. Provision of a development Environment for System completed. 8. Sciencesoft Technical team granted Access to the Test Environments of potential Datasources. 9. Review of the Functional Requirements(FRD) document from the Vendor
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							ongoing.
5	Ensure optimal institutional efficiency and effectiveness of CMA	-> Institutional Service Delivery, Operational Efficiency and Sustainability	->Increased ICT automation levels by 2 points to 75.5%.	To secure ICT systems, Applications and Data	Network and Server Infrastructure Failures 15 Cyber security threats 20	Installation of CCTV in strategic locations 70 %	<p>1. Development of the Terms of Reference (TORs) by December 2019</p> <p>2. Acquisition of the CCTV equipment by February 2020</p> <p>3. Installation of the CCTV system by April 2020</p> <p>1. Conducted evaluation of the submitted tenders for the supply and installation of CCTV system 2. Next Technologies was the best evaluated bidder 3. Next Technologies was awarded the contract to supply and install the CCTV system</p>
							<p>1. Contract for the supply of the hardware infrastructure and associated components has been signed between the National Treasury and the successful bidder Computech Limited. 2. Contract for the supply of the operating system software, email and system databases has been signed</p> <p>1. Delivery of the</p>

6	Ensure optimal institutional efficiency and effectiveness of CMA	-> Institutional Service Delivery, Operational Efficiency and Sustainability	->Enhanced business intelligence, analytics, policy formulation and decision making process across the Authority. ->Increased ICT automation levels by 2 points to 75.5%.	To increase automation levels of internal processes through infrastructure, system and applications upgrades	Obsolescence of server hardware equipment and systems software at the Authority 25	Conduct hardware and software server and application upgrades 35 %	respective softwares by October 2019 2. Delivery of the hardware storage system by October 2019 3. Installation of the hardware infrastructure by December 2019 4. Installation and upgrades of the softwares by February 2020	between the National Treasury and the successful bidder Attain Enterprise Solutions. 3. The hardware and software upgrade projects with the Computech Limited and Attain Enterprises respectively were initiated. 4. Review and acceptance of the respective project plans was conducted. 5. Development of the low-level design documents was initiated for both hardware and software 6. Electrical works for the installation of the new UPS system were also conducted.
								Assessment of the new CDS system at CDSC currently ongoing Established

7	Leveraging technology to drive efficiency in the capital markets value chain	-> Institutional Service Delivery, Operational Efficiency and Sustainability	->Increased ICT automation levels by 2 points to 75.5%. ->Enhanced business intelligence, analytics, policy formulation and decision making process across the Authority.	To increase automation levels of internal processes through infrastructure, system and applications upgrades	Market surveillance connectivity failures 8	Integrate the surveillance system with the new Central Depository System (CDS) and Automated Trading Systems (ATS) at NSE 90 %	1. Upgrade of the Market Surveillance System by October 2020 2. Integration of the surveillance system with the new CDS and ATS systems by October 2020	the test environment for the enhanced MSS system to connect to the ATS and CDS systems also on the test environment Established a VPN connection to CDSC for the testing of the different views on the new Perago system ATS and CDS systems went live on 14th October 2019 MSS 3.0 currently undergoing UAT tests The integration of the Market Surveillance System (MSS) with the ATS at NSE and new CDS Perago system is complete. UAT's on the upgraded MSS system are still ongoing for ascertain complete usability
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8	Ensure optimal institutional efficiency and effectiveness of CMA	-> Enhanced financial sustainability and operational efficiency -> Effective capital markets regulator -> Institutional Service Delivery, Operational Efficiency and Sustainability	->100 % compliance with applicable Standards and Guidelines.	To guarantee availability of a reliable ICT infrastructure	Lack of requisite maintenance contracts for critical services 12	Renewal of license of the below appliances and services - Palo Alto Firewall - Enterprise Antivirus - SSL Certificate - Office 365 - Microsoft Dynamics Navision 80 %	i. Renewed and assigned enterprise SSL certificate by December 2019 ii. Valid Palo Alto firewall license by October 2019 iii. Renewed antivirus license by March 2020 iv. Renewed Office 365 license by July 2019 v. Renewed Microsoft Dynamics Navision licenses by March 2020	1. Renewed the Firewall license for URL filtering, Signature updates and maintenance support 2. Renewed the SSL wildcard certificate for email, ERP, HRMIS and PPRMIS
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9	Ensure optimal institutional efficiency and effectiveness of CMA	-> Enhanced financial sustainability and operational efficiency -> Effective capital markets regulator -> Institutional Service Delivery, Operational Efficiency and Sustainability	->Increased ICT automation levels by 2 points to 75.5%.	To provide competent helpdesk support to internal ICT systems and services	Lack of dedicated resource/s to manage the helpdesk	Effective management of the helpdesk through logging of all tickets received through email or phone and provision of effective responses 50 %	i. Number of successfully resolved helpdesk tickets ii. 100% response to all reported cases at the helpdesk iii. Acquire and install a remote management tool 1. Logged all helpdesk support call either through email or phone 2. Timely response to all logged helpdesk tickets 3. Conducted effective and efficient resolution of the logged tickets 4. Onboarded a Temporary Helpdesk assistant 5. Facilitated prompt repair of faulty or broken computing tools for staff 6. Procured additional 13 laptops and 5 desktops to replace obsolete tools and to provision machines for the PSC interns
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10	Ensure optimal institutional efficiency and effectiveness of CMA	-> Institutional Service Delivery, Operational Efficiency and Sustainability	-> Cybersecurity framework by June 2020.	To secure ICT systems, Applications and Data	Cyber security threats 20	Develop a Cybersecurity framework for the Authority 20 %	1. Draft implementation of the cybersecurity framework by December 2019. 2. Review of the cybersecurity framework by management by January 2020. 3. Review, approval and adoption by the board by March 2020 4. Staff sensitization of the Cybersecurity framework by June 2020	No update for the quarter
11	Ensure optimal institutional efficiency and effectiveness of CMA	-> Institutional Service Delivery, Operational Efficiency and Sustainability	-> 100 % compliance with applicable statutory and regulatory requirements.	To operate a controlled ICT environment through appropriate Policies and Governance	Lack of requisite maintenance contracts for critical services 12	Maintain and manage maintenance contracts and service level agreements (SLA's) for the respective ICT services 75 %	1. Maintenance contracts for the respective ICT services in place	1. Executed the maintenance contract for the CMA Intranet and Correspondence Management System 2. Awarded the maintenance contract for Fire suppression for the CMA datacenter. Contract review currently being undertaken by the Legal department

12	Ensure optimal institutional efficiency and effectiveness of CMA	-> Institutional Service Delivery, Operational Efficiency and Sustainability	->Increased ICT automation levels by 2 points to 75.5%.	To increase automation levels of internal processes through infrastructure, system and applications upgrades	Email connectivity and delivery failures 12	Implement an e-learning system during the year, that is in line with identified needs and subject to appropriate accountability that will enable staff to continually access 5 %	Implemented and operationalize E-Learning System	1. The bid response for E-Learning was not successful and the TORS were revised and re-submitted to PIU for re-tendering. 2. No update for the quarter
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