NITDA

Training Needs Analysis for Policy Actors

OUTCOME OVERVIEW

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Co-funded by the European Union

Published by: *Deutsche Gesellschaft für Internationale Zusammenarbeit* (GIZ) GmbH, on behalf of National Information Technology Development Agency (NITDA)

Registered office: National Information Technology Development Agency (NITDA), No. 28 Port-Harcourt Crescent, Abuja, Federal Capital Territory

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Date published: As at: August 2024

Co-funded by: The European Union and German Federal Ministry for Economic Cooperation and Development (BMZ)

URL: GIZ is not responsible for the content of this publication.

The **Digital Transformation Center Nigeria** is, jointly funded by the European Union and the German Federal Ministry for Economic Cooperation and Development (BMZ) and is implemented by *Deutsche Gesellschaft fur Internationale Zusammenarbeit* (GIZ) GmbH. The project focuses on digitalisation, innovation, and entrepreneurship. The main aim is to contribute to the improvement of the capacity of the Nigerian economy to utilise digital innovations for growth, and to build a thriving and inclusive digital innovation ecosystem.

Disclaimer:

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Abbreviations

AI	Artificial Intelligence
AWS	Amazon Web Services
CMD	Centre for Management Development
CBN	Central Bank of Nigeria
CSOs	Civil Society Organisations
DEI	Diversity, Equity, and Inclusion
DQL	Digital Quality of Life
DTC	Digital Transformation Centre
FGoN	Federal Government of Nigeria
FMCIDE	Federal Ministry of Communication, Innovation, and Digital Economy
GDP	Gross Domestic Product
GII	Global Innovation Index
GIZ	Deutsche Gesellschaft fuer Internationale Zusammenarbeit
ICT	Information and Communication Technology
IoT	Internet of things
ISACA	Information Systems Audit and Control Association
LASTVEB	Lagos State Vocational Education Board
LBS	Lagos Business School
LMIST	Lagos State Ministry of Innovation, Science, & Technology
LSETF	Lagos State Employment Trust Fund
M&E	Monitoring & Evaluation
MDAs	Ministries, Departments, and Agencies
NBTE	National Board for Technical Education
NCC	Nigerian Communications Commission
NCS	Nigerian Computer Society
NDE	National Directorate of Employment
NDEPS	National Digital Economy Policy & Strategy
NDPC	Nigerian Data Protection Commission
NEPC	Nigerian Export Promotion Council
NGA	Nigeria
NIMC	National Identity Management Commission
NIPOST	Nigerian Postal Service
NITDA	National Information Technology Development Agency
PPP	Public-Private-Partnership
PWD	Professional Workforce Development
R&D	Research and Development
SMEDAN	Small and Medium Enterprises Development Agency of Nigeria
SON	Standard Organization of Nigeria
SOPs	Standard Operating Procedures
SSA	Sub Saharan Africa
TETFUND	Tertiary Education Trust Fund
TNA	Training Needs Analysis
UNCTAD	United Nations Conference for Trade and Development
UNICEF	United Nations Children's Fund

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Executive Summary

Executive Summary

The training needs analysis (TNA) project was commissioned by GIZ/DTC Nigeria in collaboration with National Information Technology Development Agency (NITDA). The primary objective of the exercise is to identify the policy making knowledge gaps, learning development bottlenecks of the regulator segment of the digital ecosystem and devising training solutions that will mitigate the challenges identified.

The Nigerian innovation and digital economy is valued at over $65 billion as at Q3-2023 on the basis of its contribution to the nation's real GDP. Due to inadequate investments, relatively weak capacity of state policy actors viz-a-viz the fast paced development in the digital and innovation world, and the low readiness of the local ecosystem toward embracing emerging frontier technologies, it becomes imperative for a TNA of this nature to be conducted to support ministries, departments, and agencies (MDAs) involved in digital policy formulation and implementation in Nigeria to bridge possible capacity and learning gaps inherent in the system. These challenges are described concisely in sections 1.2, 3.2, and the survey findings in Section 4 of this report.

182 Policy Actors were engaged across 3 locations in Nigeria – Abuja, Kano, and Lagos. These policy actors participated in a collaborative needs assessment exercise where key innovative and administrative topics which would strengthen their capacity to drive the development of a robust digital innovation ecosystem were identified.

Overview

1. Background

The recently released Global Innovation Index (GII) report for 2023 ranked Nigeria's Government [Digital Policy] Effectiveness at 125 out of 132 economies covered. In addition, the global digital economy was noted to be fast embracing the use of frontier technologies (i.e., Artificial Intelligence (A.I.), Internet of things (IoT), 5G, Blockchain, Robotics, etc.) and Nigeria's readiness for adoption was ranked in the "Low" score group (119 out of 166 countries), according to The Technology and Innovation, 2023 Report released by the United Nations Conference on Trade and Development (UNCTAD). Among other challenges identified in the nation's digital economy, it was clear that there is an urgent need to examine the capacity challenges of State Policy Actors within the digital ecosystem with a view to devising means of providing adequate interventions towards translating these seeming weaknesses into strength, hence the conduct of the training needs analysis (TNA) exercise as commissioned by the GIZ/DTC Nigeria Office in conjunction with the National Information Technology Development Agency (NITDA).

The exercise is diagnostic in its design. It seeks to empirically identify and plug the knowledge and/or capacity gaps of critical State digital Policy Actors (both at the National and Sub-national levels) to enable them attain the DTC's Output – 1 goal of improved innovative digital policy cooperation among key stakeholders in the ecosystem.

As per best practice, the first step in this direction is to conduct a robust TNA which will inform the required training objectives, courses, format of training delivery, and ultimately enhance the alignment of tactical efforts across digital policy formulating Agencies, and departments toward the attainment of a common overarching strategic goal for the ecosystem – *improved capacity, investments, and readiness for digital innovation and advancement in Nigeria.*

2. Approach & Methodology

The methodology adopted for executing this exercise was inspired by the context of the terms of reference (ToR) designed for it, and experiences from TNA works done by reputable international development organizations in developing economies like Nigeria. Details of the approach and methodology are contained in figure-A.

The exercise was conducted across three (3) locations – Lagos, Abuja, and Kano. The Methodology provides insights into the key phases of the TNA Exercise and associated Engagement Sessions conducted with target parties.

APPROACH & METHODOLOGY FRAMEWORK

Table 1: Training Needs Assessment and Policy Actors Engagement Methodology

Understudy the Strategic Mandate of target Policy Actors (NITDA, SMEDAN, Digital Policy Desk Officers, etc.)

Review the National Digital Economy Policy & Strategy (NDEPS) Document (2020-2030)

TRAINING NEEDS ASSESSMENT (TNA) & POLICY ACTORS' ENGAGEMENT METHODOLOGY

STEP-1: Identify Problem & Needs	STEP-2: Determine Design of Needs Analysis	STEP-3: Collect Data	STEP-4: Analyze & Synthesize Data	STEP-5: Provide Feedback & Recommendations
• Determine organizational context (policy, goals, roles & responsibilities) for each participating policy actor • Baseline Problem Analysis & Policy development & Implementation process review • Jointly review the NDEPS with Policy Actors comparing current approach against standard global benchmark(s) • Perform gap analysis • Set training objectives	• Determine target groups to be trained, interviewees, survey methods • Identify Capacity Building champion / lead for each target group undergoing TNA for ease of coordination • Design Questionnaire(s) and focused group discussion template to be fielded during	• Conduct interviews • Administer Questionnaires and Surveys – capacity on stages of policy cycle, change management, and Result based Logical Framework will be assessed among others • Review documents and arrangements on existing / planned trainings	• Conduct Quantitative & Qualitative Analyses collated and synthesized data • Draw-up findings, conclusions, and recommendations on training contents • Generate a Report	• Generate a deck and present feedback to Project Implementing team and participating Policy Actors o *Key recommendations in the feedback will cover areas such as training measures, suggested training institutions, etc.* • Infuse review feedback and secure validation • Determine next step for training preparation

3. Training Needs Survey Participants' Distribution

Online Survey for Non-State Policy Actors

The training needs survey was conducted along two fronts. The first involved the online participation of non-state Actors who are key stakeholders in the digital ecosystem and they include civil society organizations (CSOs), start-ups, members of the Academia, the media, and a host of others drawn from 5 locations – Lagos, Abuja, Kano, Enugu, and Delta States. A sample size of 95 was targeted (N = 95) but only 78 (n = 78) completed the online survey translating to a response rate of 79%. This first category of survey participants were largely asked to provide, on the basis of their engagements with State Policy Actors over the years, the possible training needs of the latter. This approach allowed for inclusivity and balancing of outcomes.

Table 2 :Online Survey for Non-State Policy Actors

Location	Target Sample Size (N)	Completed Questionnaires				Completion Rate (%)
		Male	Female	Persons with Disability	Total (n)	
Lagos	34	18	12	-	30	88%
Abuja	22	11	7	-	18	82%
Kano	15	7	5	-	12	80%
Delta	15	7	5	-	12	80%
Enugu	9	3	3	-	6	67%
	95	**46**	**32**	**-**	**78**	**79%**

Direct Engagement with State Policy Actors

The second frontline of the survey was the direct engagement of State Policy Actors themselves i.e., the ministries, departments, and agencies (MDAs) of Government. In terms of participant distribution, see table below.

Table 3: Physical survey with State Policy Actors

Location	Target Sample Size (N)	Completed Questionnaires				Completion Rate (%)
		Male	Female	Persons with Disability	Total (n)	
Lagos	28	18	17	-	25	89%
Abuja	41	11	25	1	38	93%
Kano	53	7	36	-	41	77%
	122	**46**	**78**	**1**	**104**	**86%**

Abuja had the highest Questionnaire completion rate at 93%, closely followed by Lagos (89%), while Kano recorded 77% completion rate. On average, a completion rate of 86% was recorded across board – a decent outcome by every standard.

4. Training Needs Analysis Outcomes (Highlevel Summary)

4.1 Current Required Skill Inventory for State Policy Actors

The table below provides a summary of the expected competencies of State Policy Actors as provided by respondents as per their job description (JD). These competencies cover both the soft skill and/or Administrative and the technical and / or core-innovative skill requirements.

Table 4: Summary Job competency Requirements by Location

SUMMARY JOB COMPETENCY REQUIREMENTS BY LOCATION			
S/N	**LAGOS**	**ABUJA**	**KANO**
1	Technical Analysis	Project Management	Network Administration
2	Monitoring of Broadband Implementation	Digital advocacy and sensitization	Policy Design and Implementation
3	Supervision of annual reports	Policy analysis, monitoring and evaluation	Research
4	Stakeholder engagements	Stakeholder engagements	Legal Advisory
5	Oversee the development of MSMEs in Lagos state	Trade promotion	Coordination of media strategies
6	ICT network management	ICT network management	Stakeholders' engagements
7	Systems and Software maintenance	Proposal writing	Hardware and software maintenance
8	Research, analysis and presentation of reports	Research, analysis and presentation of reports	Computer operations
9	Relationship Management	Relationship Management	Database Administration
10	Program Planning and Implementation	Program Planning and Implementation	Personal Assistant to the Governor
11	Project Management	IT Strategy development	Data management
12	Policy monitoring and evaluation	Product design	Website development
13	Digital advocacy and sensitization	Digital advocacy and sensitization	Project management
14	Research and Development	Research and Development	
15	Human resource management	Human resource management	
16	Human Resource and Administration	Regulatory compliance	
17	Computer software management	Computer software management	
18	Network infrastructure management	Network infrastructure management	

19	Cybersecurity management	Cybersecurity management	
20	Legal and Corporate Services	Legal and Corporate Services	
21	Systems Audit	Systems Audit	

4.2 Summary Capacity Gaps Identified

For the TNA exercise, capacity gaps were classified into two categories – **Administrative** and **Core Innovation**. The figures below provide insights into the comparative analysis conducted on stakeholders across the three locations (Lagos, Abuja, and Kano).

The Administrative Capacity gaps for Policy Actors across the three locations followed a similar pattern. A closer assessment revealed that a significant proportion of respondents (68%-76%) have challenges when it comes to conducting market research to support decision making. In Kano, close to two-third (63%) apiece of respondents had challenges in "Strategy conceptualization, design, alignment, and execution" and "Diversity, Equity, and Inclusion (DEI)" – the highest among the three locations. Overall, across the 13 competency areas identified, an aggregate competency deficiency of 37%, 39%, and 41% were recorded in Lagos, Abuja, and Kano respectively. See table below.

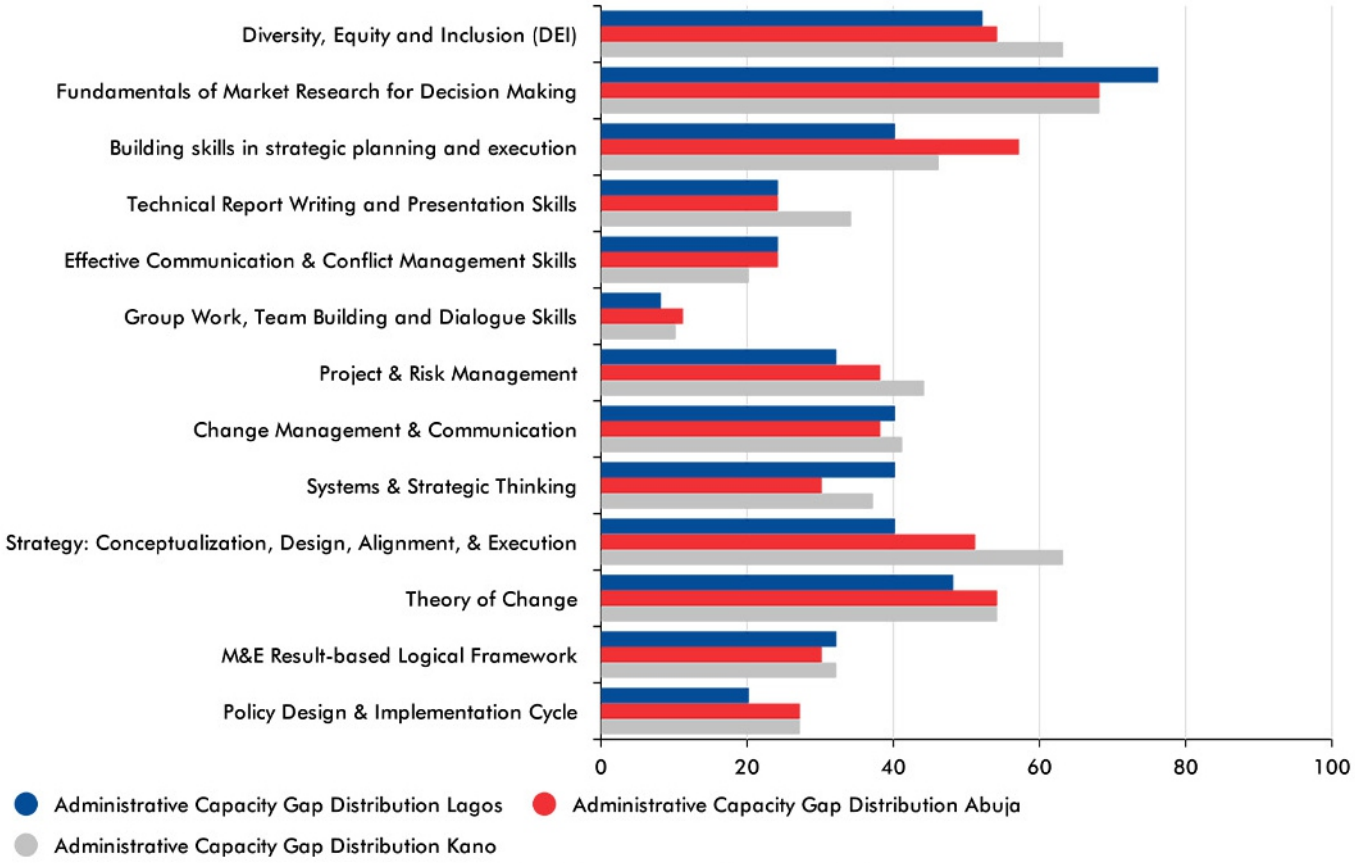

Figure 1 : Administrative Capacity gaps of Policy Actors

Table 5: Administrative Capacity Development Plan

S/N	Capacity Intervention Area	Administrative Capacity Gap Distribution		
		Lagos	Abuja	Kano
1	Policy Design & Implementation Cycle	20%	27%	27%
2	M&E Result-based Logical Framework	32%	30%	32%
3	Theory of Change	48%	54%	54%
4	Strategy: Conceptualization, Design, Alignment, & Execution	40%	51%	63%
5	Systems & Strategic Thinking	40%	30%	37%
6	Change Management & Communication	40%	38%	41%
7	Project & Risk Management	32%	38%	44%
8	Group Work, Team Building and Dialogue Skills	8%	11%	10%
9	Effective Communication & Conflict Management Skills	24%	24%	20%
10	Technical Report Writing and Presentation Skills	24%	24%	34%
11	Building skills in strategic planning and execution	40%	57%	46%
12	Fundamentals of Market Research for Decision Making	76%	68%	68%
13	Diversity, Equity and Inclusion (DEI)	52%	54%	63%
Average		**37%**	**39%**	**41%**

As for the **Core Innovative capacity gaps**, the pattern appears to be similar for Abuja and Kano while Lagos had a bit of divergence when compared to the other two locations. In Abuja and Kano, the gaps in "Robotics" ranged between 73% to 76%. Both locations also accounted for the highest deficiencies in "Coding / Software Engineering / Machine Language" (68% - 71%), and "Drone technology" at 70%-78%. Lagos, however, recorded the highest deficiencies in "Internet of things" at 56%, "Video Conferencing" at 61%, and "Cloud Computing" at 59%.

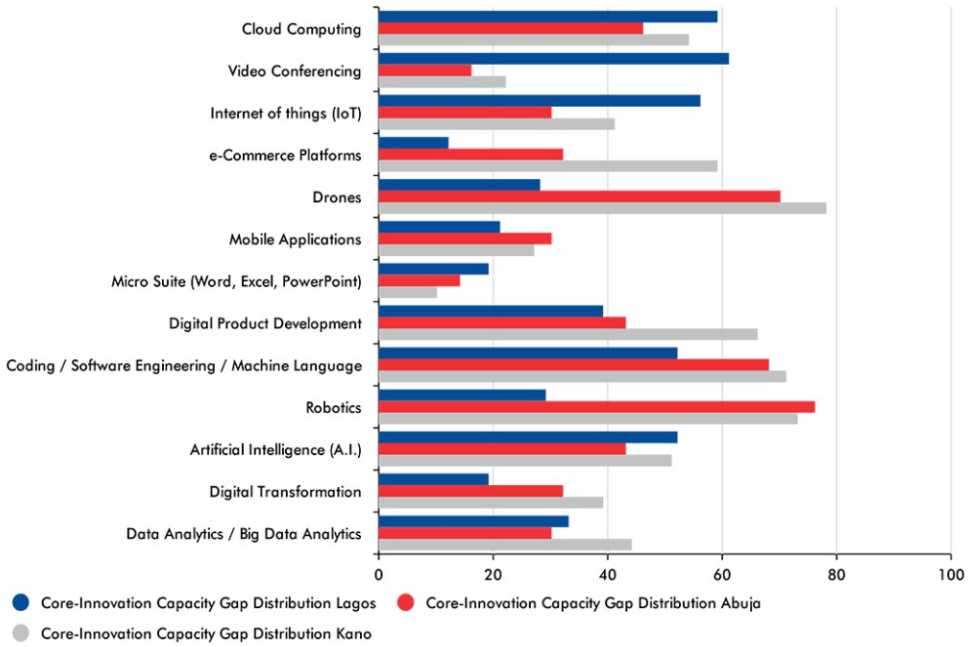

Figure 2 :Core innovation capacity gaps of Policy Actors

Table 6: Core Innovative Capacity Development Plan

S/N	Capacity Intervention Area	Core-Innovation Capacity Gap Distribution		
		Lagos	Abuja	Kano
1	Data Analytics / Big Data Analytics	33%	30%	44%
2	Digital Transformation	19%	32%	39%
3	Artificial Intelligence (A.I.)	52%	43%	51%
4	Robotics	29%	76%	73%
5	Coding / Software Engineering / Machine Language	52%	68%	71%
6	Digital Product Development	39%	43%	66%
7	Micro Suite (Word, Excel, PowerPoint)	19%	14%	10%
8	Mobile Applications	21%	30%	27%
9	Drones	28%	70%	78%
10	e-Commerce Platforms	12%	32%	59%
11	Internet of things (IoT)	56%	30%	41%
12	Video Conferencing	61%	16%	22%
13	Cloud Computing	59%	46%	54%
Average		**37%**	**41%**	**49%**

Policy actor in Lagos State making contributions during the session

These identified deficiency areas – indicated in the figures and tables herein – constitute the critical mass of the training intervention areas captured in the recommended training plan for this exercise.

5. Recommended Capacity Development Plan[1]

Having conducted the training need survey exercises, and engagement sessions with State Policy Actors in the ecosystem, training needs were identified both in terms of soft skill competencies (i.e., administrative topics) which include:

- Diversity Equity and Inclusion (DEI)
- Communications and Stakeholder Engagement
- Monitoring and Evaluation
- Change Management
- Systems and Strategic Thinking

and technical competencies (innovative topics) which include:

- Artificial Intelligence
- Digital Transformation
- Data Analysis
- Robotics
- Cloud Computing
- Internet of Things (IoTs)

This section focuses on the recommended training plans designed to address the capacity gaps as identified in Section-4.

These training plans outline the learning objectives, delivery methodology, expected learning outcomes, timelines, and resources (including pools of potential training institutions) required to achieve specific learning goals. They serve as roadmaps for organizing and implementing training initiatives, ensuring alignment with the core objectives of the target MDAs and participant needs.

These training plans are subject to prevailing circumstances and the inputs so provided are not sacrosanct but should be approached on a flexible basis.

1 For the purposes of this Overview, only sample extracts of the Capacity Development Plan were provided. The detailed plan can however be accessed in the comprehensive TNA Report.

Administrative Capacity Development Plan (Sample Extract)

S/N	Competency / Skill Intervention Areas		Learning Objectives		Training Modules		Delivery Methodology		Expected Learning Outcomes		Duration per Session		Pool of Possible Training Institutions
ADMINISTRATIVE / SOFT SKILL AREAS													
1	Designing and Implementing Evidence-Informed Policies and Programmes	1	Have a broad understanding of the key challenges of designing policies that support digital innovation	1	Foundations of Public Policy		The adopted training format should adopt any or a combination of the following methods:		At the end of this training, participants should be able to:		3-5 days	1	Philips Learning Academy (PLA)
		2	Improve the capacities of State Policy Actors in the design, planning & implementation of policies to support digital innovation	2	Challenges for Public Policy in the 21st Century	1	Learning Exchange / Study tour	1	Build capacity in contemporary concepts in public policy through real-world case studies & applications			2	Centre for Management Development (CMD)
		3	Disseminate knowledge, share best practices and experiences gained	3	Public Policy Processes	2	Classroom / Case Studies					3	McTimothy Associates
				4	Policy Institutions & Actors	3	Problem Simulation	2	Acquire skillsets on the use of real industry data in assessing the need for and mode of policy design and implementation pattern leveraging digital infrastructure			4	ValuEdge Advisory
				5	Assessing and Evaluating Polices							5	KPMG
				6	Policy Communications							6	Deloitte
				7	Public Policy in the Digital Age							7	PWC
				8	Leadership and Ethics for Public Policy Makers							8	London Sch. of Econs & Pol. Sc.
				9	Audience development							9	Lee Kuan Yew School of Public Policy
				10	Coordination & sustainability							10	ASCON
				11	Conclusion & evaluation								
2	M&E Result-based Logical Framework	1	Gain confidence and apply acquired skills and knowledge to their M&E work learning from other country's experiences to strengthen their M&E systems in projects.	1	Introduction to Result Based Project management		The adopted training format should adopt any or a combination of the following methods:		At the end of this training, participants should be able to:		5-7 days	1	Philips Learning Academy (PLA)

		2	An improved understanding of how M&E can improve the quality of projects while promoting accountability.	2	Fundamentals of Monitoring and Evaluation	1	Classroom activities	1	Acquire solid understanding of key M&E concepts, including the purpose of monitoring and evaluation, the importance of result-based approaches, and the role of logical frameworks in M&E processes.		2	Centre for Management Development (CMD)
		3	Learn how to be better managers and consumers of evaluations conducted by others, determine the relevant stakeholders involved in monitoring and evaluation of projects.	3	Design of Results in Monitoring and Evaluation	2	Learning Exchange / Study tour / Group Discussion	2	Be able to develop logical frameworks (LogFrames) for projects, programs, or interventions, including identifying key components such as inputs, activities, outputs, outcomes, and impacts.		3	McTimothy Associates
		4	Clarify key projects results levels, design a project using logical projects and track indicators.	4	M&E Frameworks	3	Case Studies	3	Understand the principles and practices of result-based monitoring and evaluation, including the use of indicators, targets, baselines, and data collection methods to measure progress towards desired results.		4	ValuEdge Advisory
		5	Develop a comprehensive monitoring and evaluation plan	5	M&E Indicators						5	KPMG
				6	Logical Framework Approach						6	Deloitte
				7	M&E Systems and Planning						7	PWC
				8	Baseline Survey in Results based M&E						8	London Sch. of Econs & Pol. Sc.
				9	Project Performance Evaluation			4	Understand the principles and practices of result-based monitoring and evaluation, including the use of indicators, targets, baselines, and data collection methods to measure progress towards desired results.		9	Lee Kuan Yew School of Public Policy

Core-Innovative Capacity Development Plan (Sample Extract)

S/N	Competency / Skill Intervention Areas	Learning Objectives	Training Modules	Delivery Methodology	Expected Learning Outcomes	Duration per Session	Pool of Possible Training Institutions
INNOVATIVE SKILL AREAS							
1	Data Analytics / Big Data Analytics	1 Learn to collect data through automated and traditional methods of data collection	1 Understanding of Data Fundamentals	The adopted training format should adopt any or a combination of the following methods:	At the end of this training, participants should be able to:	3 weeks	1 Alt School Africa
		2 Gain the skills to handle and analyze large volumes of data and identify data gaps	2 Data Manipulation and Transformation	1 Classroom activities	1 Be proficient in data cleaning, data preprocessing, and data transformation techniques.		2 Lagos Data School
		3 Get hands-on experience in using Software such as SQL & SAS for data handling and analysis	3 Statistical Analysis and Modeling	2 Case Studies	2 Be proficient in creating effective visualizations to communicate insights.		3 PWC
		4 Choose appropriate visualization techniques for different types of data.	4 Data Visualization	3 Problem Simulation	3 Understand machine learning algorithms such as linear regression, logistic regression, decision trees, random forests, support vector machines, etc.		4 Bizmarrow Technologies
			5 Machine Learning and Predictive Analytics	4 Learning Exchange / Study tour			5 DataLab Nigeria
			6 Big Data Technologies				6 Aztech Consulting
			7 Communication and Collaboration				7 ASCON
							8 McTimothy Associates
					4 Work with big data platforms and tools for scalable data processing and analysis.		
					5 Handle data responsibly and ethically in accordance with legal and regulatory requirements.		
2	Digital Transformation	1 Develop a greater capability to achieve digital leadership	1 Business Leadership in the Digital Era	The adopted training format should adopt any or a combination of the following methods:	At the end of this training, participants should be able to:	3-5 days	1 National Center for Artificial Intelligence and Robotics (NCAIR)

		2	Understand how to overcome the constraints and challenges of using IT in the organization	2	Technology-Enabled Disruptions	1	Victual Learning	1	Understand the drivers and trends driving digital transformation across industries.		2	Coursera
		3	Learn the linkage between innovation and decision-making which impacts organizational growth	3	Online Business Models	2	Classroom activities	2	Align business and Information Technology (IT) strategies and apply within the workplace, overcoming the constraints and challenges of using Information Technology (IT)		3	Udemy
				4	Designing Information Capabilities for Competitive Advantage	3	Group discussion	3	Awareness of emerging digital technologies such as cloud computing, artificial intelligence (AI), Internet of Things (IoT), blockchain, and big data analytics.		4	Alt School Africa
				5	Social Networks and Enterprise	4	Learning Exchange / Study tour	4	Cultivate a culture of experimentation, learning, and innovation within the organization.		5	Koenig Solutions
											6	TUV-SUD
											7	McTimothy Associates

6. Conclusion

Digital Innovation across economies in the world is expected to be largely powered by frontier technologies with an estimated valuation of $9.5 trillion by the end of 2030. Currently, Nigeria's readiness is rated to be in the "Low" category with a "Government Policy effectiveness" ranking of 125 out of 132 countries. This TNA exercise was conducted in light of these realities and is expected to serve as a veritable tool to support the Nigerian digital State Policy Actors and other ecosystem players in-country in identifying capacity fault lines and recommending a training plan to bridge the gaps so identified.

It is believed that a careful consideration of the findings of this exercise and an intentional implementation of the recommendations contained in this report will be effected by concerned parties i.e., Government MDAs and development partners, for the realization of an innovation inspired economy for Nigeria.

Finally, the importance of inter-agency cooperation from a system perspective cannot be overemphasized. It is believed that with this in mind, the impact of the implementation of recommendations in this document will be far reaching.

Policy actor in Kano State making contributions during the session

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